TRAFFIC SIGNALS

Traffic signals provide the highest level of control that can be achieved at an intersection. However, two misconceptions are common: That a higher level of control is a solution to all traffic problems, and that traffic signals reduce crashes. Both are often false.

ADVANTAGES OF TRAFFIC SIGNALS

By alternately assigning right-of-way to various traffic movements, signals provide for the orderly movement of conflicting traffic flows. They may interrupt extremely heavy flows to permit the crossing of minor movements which could not otherwise move safely through the intersection.

When installed under conditions which justify its use, it can be a valuable device for improving the safety and efficiency of both pedestrian and vehicular traffic. In particular, signals can reduce certain types of accidents, most notably the right-angle collision, sometimes referred to as the broadside or T-bone collision.

DISADVANTAGES OF TRAFFIC SIGNALS

Traffic signals can reduce delay during peak periods but will typically increase delay during all other times of the day. While many people realize that traffic signals can reduce the number of angle collisions, few realize that signals often cause an increase in other types of crashes, most notably rear-end collisions.

Normally, traffic engineers are willing to trade off an increase in rear-end collisions for a decrease in right-angle crashes, which are typically more severe. However, when there is no angle crash problem at an intersection, there is nothing to trade off and the installation of traffic signals can actually cause an increase in the number of crashes. Unjustified traffic signals also cause excessive delay, diversion of traffic onto local streets, increased maintenance and operational costs, and disobedience of signals.

HOW DOES WASHINGTON COUNTY DETERMINE WHERE TO INSTALL TRAFFIC SIGNALS?

Each year, the Washington County Transportation Division Conducts a traffic signal ranking program. The program rates intersections that may be candidates for a traffic signal. The ratings are based on traffic volumes, intersection capacity, and accident rates. The top-ranking intersections are then evaluated in greater detail to determine if a traffic signal would be expected to improve safety and operations.

Traffic signals in Washington County can also be installed in other ways, including as part of a larger development or construction project, or City or State construction on the County system.

WHAT DO THE PEDESTRIAN INDICATIONS MEAN?

Pedestrian signals consist of the illuminated words WALK and DON'T WALK, or the illuminated symbols of a walking person and an upraised hand. The meanings of these indications are as follows:

- A steady, illuminated WALK display, or a steady illuminated symbol of a walking person, means that a pedestrian may enter the roadway and proceed in the direction of the indication.
- A flashing, illuminated DON'T WALK display, or a flashing illuminated symbol of an upraised hand, means that a pedestrian may not start to cross the roadway in the direction of the indication, but that any pedestrian who has began crossing during the WALK indication may continue across to the other side. On some signals, a countdown timer will display the amount of time remaining.
- A steady, illuminated DON'T Walk display or a steady illuminated symbol of an upraised hand, means that a pedestrian should not be in the crosswalk at that time.

FLASHING SIGNS & BEACONS

Flashing signs, or flashing beacons (mounted on a sign or over an intersection), are often requested by communities in the belief that they will reduced vehicle speeds. Unfortunately, this is rarely the case.

WHAT IS THE PROPER USE FOR FLASHERS?

A flasher is sometimes installed at an intersection or in conjunction with a warning sign in advance of a hazard not readily apparent to drivers. Flashers serve a useful purpose where the flashing light can draw attention to such unusual hazards, such as obstructions in the roadway, uncommon roadway conditions, narrow bridges, or unusual conditions hidden from the motorist's view. For any flasher to be effective, it must command the respect of the travelling public. In other words, immediately after seeing the flasher, the driver must consistently see the unusual condition being singled out for attention. Also, the condition that the driver sees must be viewed as serious enough to justify having been alerted.

Flashing beacons can increase the awareness of a sign, but will not increase driver compliance. For example, a stop sign that drivers have been failing to see may be a good candidate for a flasher, but a stop sign where drivers intentionally make rolling stops would not.

WHAT COULD BE WRONG WITH INSTALLING A FLASHER?

When flashers are used improperly and installed at locations where they are not justified, they quickly lose their effectiveness. Improperly installed flashers can result in the following:

- The flasher soon becomes part of the normal driving environment and is ignored.
- The problem intended to be solved by the flasher still exists.
- Other flashers, which *are* justified, become frequently disregarded by drivers conditioned to believe that flashers can be safely ignored.

WHAT COULD BE WRONG WITH INSTALLING A FLASHER? [Continued]

When flashers are properly located, they serve a useful function. When they are used improperly and installed in locations where they are not warranted, they soon lose much, if not all, of their effectiveness. More seriously, improper usage greatly reduces the effectiveness of other flashers installed in areas where there is a real need. Above all, it is essential to prove that there is a problem which can be solved through the installation of a flasher before actually installing one. It is of the utmost importance that flasher usage be held to a minimum in order to maintain a high degree of respect for the flasher installations that are truly needed.

WHAT'S THE BOTTOM LINE?

Both traffic signals and flashing signs and beacons are important and powerful tools for controlling traffic and conveying messages to drivers. However, overuse and misuse can diminish their effectiveness and decrease safety. There is no one solution to any traffic problem. Washington County strives to build and maintain the safest and most efficient transportation system possible. For this reason, each installation of a traffic signal or a flasher is based on an engineering investigation that considers all of these factors. Proper and consistent use of traffic control devices help to make our County Roads safe for all users.

For more information on traffic signals, or if you have questions, requests, or suggestions concerning traffic in Washington County, contact the Transportation Division at (651)-430-4300
Or visit our Web Page at www.co.washington.mn.us

Acknowledgements:
Minnesota Department of Transportation
Arizona Department of Transportation
City of San Bruno, California
ITE Traffic Engineering Handbook

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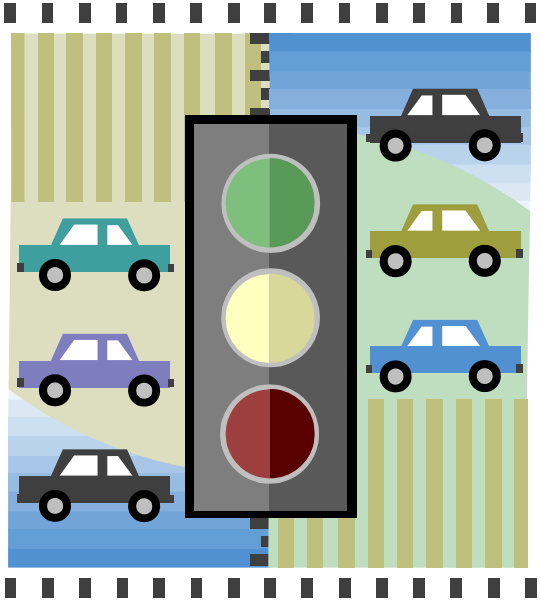
TRAFFIC SIGNALS & FLASHING BEACONS



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