

## HERE TO HELP US

The primary purpose of a traffic signal is to assign the right-of-way to vehicles at intersecting streets or highways. Without this control, a continuous flow of traffic on one roadway would cause excessive delay to vehicles and pedestrians waiting on the other.

Traffic signals as we know them began appearing around the U.S. about 1914, eventually replacing the policeman for traffic control. Today, some of our large signalized intersections assign the right-of-way to 50,000 or more vehicles each day, thus providing for the orderly movement of conflicting flows.

Not only can signals increase the traffic handling capacity of an intersection, but they can also be a valuable device for improving the safety and efficiency of both pedestrian and vehicular traffic. A signal at an intersection tends to reduce certain types of accidents, particularly the more severe right angle (broadside) collisions.

## NOT THE CURE-ALL

Traffic engineers look at signals as a vital tool for dealing with many traffic flow situations. But, no tool is perfect for every situation, and the same is true with traffic signals. Although signals may be able to reduce broadside collisions, they many times cause an increase in other types of accidents, especially rear-end collisions. At an intersection that has a limited history of broadside accidents, installing a signal might actually decrease the overall safety of the intersection because of an increase in rear-end collisions.

In addition, improperly timed or unjustified traffic signals can cause excessive delays, breeding frustration and disrespect by motorists for signals and other traffic devices. Unnecessary delays nationwide lead to billions of dollars lost each year as well as adding to the air pollution problem.

This is not to say that all signalized intersections are bad, but rather, not all intersections need signals. In certain



situations, there are better and safer alternatives than installing traffic signals.

Traffic signals are also expensive, generally costing \$200,000 to \$400,000 to install depending on the geometrics and the type of signal design. The traffic engineer seeks to install signals only when other less extreme measures of control have proven to be ineffective.

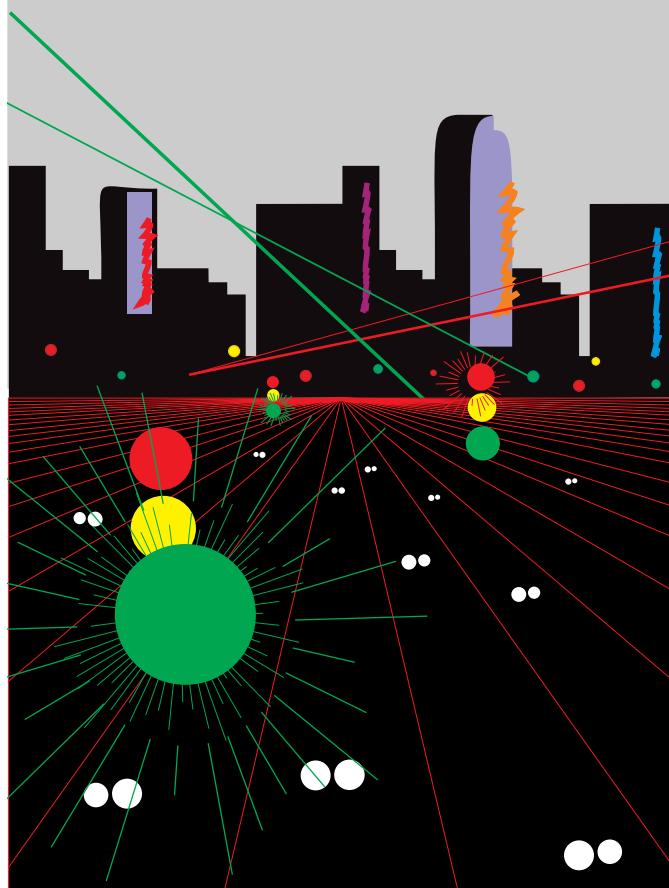
### HOW TO DECIDE WHEN?

To aid the engineer in designing the appropriate control for an intersection, the Manual of Uniform Traffic Control Devices (MUTCD) contains 8 warrants that determine whether the traffic situation at an intersection justifies considering a traffic signal. These warrants consider such factors as:

- ✓ Traffic and pedestrian volumes
- ✓ School crossings
- ✓ Accident history of the intersection
- ✓ Continuous flow of traffic
- ✓ Vehicle delays.

Colorado Law requires a signal warrant study be done before a signal is installed on any public roadway, including city streets and county roads.

Signalization of an intersection can have large payoffs, but only for intersections that truly need to be signalized. No, traffic signals are not "cure-alls"; but they are very valuable tools.



## TRAFFIC SIGNALS

Most drivers are confronted by traffic control signals every day. To some, traffic signals are a source of frustration while others regard them as the solution to all accident and traffic control problems at intersections. Who's right? Are traffic signals really a "cure-all"? Let's see just what the abilities and limitations are of traffic signals.

