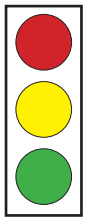
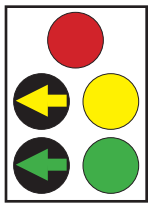
LEFT TURN SIGNALS

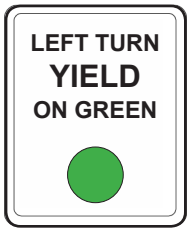
There are three types of left turn phasing: permissive, protected/permissive, and protected only.

In permissive left turn phasing, vehicles are required to wait for an adequate gap in the opposing vehicular and pedestrian traffic prior to making their turn on a green ball indication.

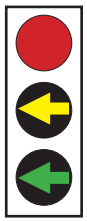


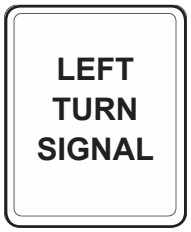
With protected/permissive phasing the vehicles are given a protected phase (green arrow) in which they may turn and opposing vehicles are controlled by stop (red) indications. This is followed by a permissive (green ball) phase. As with the permissive left turn phasing above, drivers must choose an adequate gap in opposing traffic. This type of control is commonly signed "LEFT TURN YIELD ON GREEN (GREEN BALL)".





When an approach is controlled by protected only phasing, drivers may turn only when they receive a green arrow. This type of control is commonly signed "LEFT TURN SIGNAL".





FLASHING TRAFFIC SIGNALS

Traffic signals may operate in a flashing operation during emergencies, night time/ low traffic volume periods, and special events. Flashing signal indications have the following meaning:

* When a red flashing lens is illuminated, drivers shall stop at a clearly marked stop line, but if none, at the point nearest the intersecting roadway where the driver has a view of approaching traffic on the intersecting roadway before entering the intersection, and the right to proceed shall be subject to the rules applicable after making a stop at a STOP sign.

* When a yellow flashing lens is illuminated, drivers of vehicles may proceed through the intersection or past such signal only with caution.

This information is available in alternative accessible formats. To obtain an alternative format, contact the Kansas Department of Transportation, Office of Transportation Information, 2nd Floor-West Wing, Eisenhower State Office Building, Topeka, Kansas, 66603-3745 or phone (785) 296-3585 (Voice)/Hearing Impaired-711.

Are Traffic Signals A Cure-All?

KANSAS
DEPARTMENT OF TRANSPORTATION

Bureau of Transportation Safety and Technology

TRAFFIC SIGNALS

The first electric signal in the United States was installed in Cleveland, Ohio in 1914. From these modest beginnings, traffic signal technology has greatly expanded and has become a critical element in the safe and efficient control of traffic on our streets and highways. Traffic signals are used to assign vehicular or pedestrian right of way. By providing alternate right of way traffic signals exert a profound influence on traffic flow and can operate to the advantage or disadvantage of the vehicles or pedestrians they control.

A careful analysis of traffic operations and other factors at a large number of signalized and unsignalized intersections, coupled with the judgment of experienced engineers, have provided a series of warrants that define the minimum conditions under which signal installations may be justified.

Traffic signals can not be installed unless one of the warrants specified by the Manual on Uniform Traffic Control Devices (MUTCD) has been satisfied. The MUTCD is a document that is published by the Federal Highway Administration and has been adopted by the Kansas Department of Transportation. These warrants are based on a number of factors including: the number of vehicles, pedestrian activity, vehicular speeds, crash history, population of the city, and number of traffic lanes. The satisfaction of a warrant or warrants is not in itself justification for a signal. A traffic engineering study must be conducted to determine if the traffic signal should be installed.

ADVANTAGES OF SIGNALS

Traffic signals are valuable devices for the control of vehicle and pedestrian traffic. Warranted traffic signals, properly located and operated, usually have one or more of the following advantages:

1. They can provide for the orderly movement of traffic.
2. Where proper physical layouts and control measures are used, they can increase the traffic-handling capacity of the intersection.
3. Under favorable conditions, they can be coordinated to provide for continuous or nearly continuous movement of traffic at a definite speed along a given route.
4. They can be used to interrupt heavy traffic to permit other traffic, vehicular or pedestrian, to cross.

DISADVANTAGES OF SIGNALS

It is unfortunate that traffic signals have become regarded by the public as a panacea or “cure-all” for any and all traffic concerns at intersections. The following factors can result from an improper or unwarranted signal installation:

1. Excessive delay may be caused. Even the best designed and operated signals usually increase delay when compared to unsignalized intersections. However, unnecessary delay is a common feature of an unwarranted or an improperly designed traffic signal. This unnecessary delay results in significant fuel waste and higher motorist costs.
2. Disobedience of the signal indications is encouraged. Delay at unwarranted or poorly designed traffic signals can breed gross disrespect toward signals as well as other traffic control devices.
3. The use of less adequate routes may be encouraged in an attempt to avoid such signals.
4. Crash frequency can be significantly increased at unwarranted signals or at locations where installation was not based on sound engineering analysis. Crashes related to signal control may develop during periods of comparatively low volume. Typical crash types are rear-end collisions and angle collisions due to drivers either willfully or unintentionally running the red light.

COST OF SIGNALS

Traffic signals are much more costly than is commonly realized, even though they represent a sound public investment when justified. A modern signal can cost taxpayers between $125,000 and $200,000 to install depending on the complexity of the intersection and the characteristics of the traffic using it.

On top of this, there is a perpetual cost which is almost never considered - the cost of the electrical power consumed in operation a signalized intersection 24 hours a day, and the associated maintenance costs. These costs can be $1,000 to $2,500 a year.