

## TRAFFIC AND SAFETY INFORMATIONAL SERIES FREQUENTLY ASKED QUESTION #11

### Could traffic signals be timed so I have a green light at every intersection?

Because of the complexity of most transportation systems, it would be nearly impossible to orchestrate traffic patterns and traffic signal timing so that everyone could receive green lights at every intersection. Here are some of the factors that determine when traffic signals change and why drivers can't always get green lights:

#### **Green times vary for minor and major streets**

Because major streets carry the largest volumes, traffic signals give a longer green light to the traffic on these streets. This usually minimizes the delay for the majority of the traffic crossing an intersection. However, the smaller volume of traffic on the minor street may sometimes experience larger delays as a result. The minimum *total* delay is the goal.

#### **Traffic signal timing at isolated intersections**

Many traffic signals, especially those at isolated intersections, are designed on an individual basis to change at cycles that are best for that particular intersection. These traffic signal timings are controlled and change either on a pretimed schedule or by adjusting to current traffic conditions.

*Pretimed signals* have preset cycle lengths (that is, the length of the green light is fixed), either for specified times of the day or for the entire day. Pretimed signals do not adjust to traffic flow. Therefore, the optimum cycle lengths for a particular flow pattern at the intersection must be determined so that the ideal signal timings can be set. An example of one of the many factors that determine how long a green light will last is whether or not there is a pedestrian crossing at the intersection.

*Actuated signals*, on the other hand, vary their cycle lengths, based on the traffic flow. When a vehicle approaches these intersections, it is detected and the information is sent to an electronic signal controller. The controller adjusts the length of the green light to be optimal for the current traffic conditions.

#### **Some traffic signals are timed as a system**

Many signals, especially when closely spaced, are also timed as a system so that some vehicles can travel a segment of roadway and receive a green light at each intersection.

#### **Reducing the delay**

In general, traffic signals are timed to reduce the delay for the most vehicles and help traffic flow more smoothly.

#### **For more information**

For more information, please contact \_\_\_\_\_.