

WHAT ARE THE WARRANTS FOR TRAFFIC SIGNALS?

In order to assure that traffic signals are installed only where necessary, a series of 8 warrants has been developed and accepted by traffic engineers throughout the country. Traffic signal warrants are contained in a manual developed by the U.S. Department of Transportation, entitled "Manual on Uniform Traffic Control Devices" (MUTCD). For State approval, a signal must meet at least one of the warrants presented in the MUTCD. A brief summary of the 8 warrants for traffic signals is presented below:

Warrant 1 - Eight Hour Vehicular Volume:

Condition A - Minimum Vehicular Volume and Condition B - Interruption of Continuous Traffic

Condition A or Condition B is satisfied if minimum volumes are met for 8 hours.

Warrant 1 is satisfied if Condition A or Condition B is 100% satisfied. Warrant 1 is also satisfied if both Condition A and Condition B are 80% satisfied.

Warrant 2 - Four Hour Vehicular Volume

This involves plotting 4 volume combinations. If 4 points lie above the appropriate line in a graph, then the warrant is satisfied.

Warrant 3 - Peak Hour

An unusual condition, such as a high volume from a nearby manufacturing plant, is required to justify the use of this warrant.

Warrant 4 - Pedestrian Volume

1. Pedestrian volume crossing the major street is 100 pedestrians/hour or more for each of 4 hours or 190 ped/hour or more for 1 hour.
2. There are fewer than 60 gaps per hour in the major street traffic stream of adequate length for pedestrians to cross during the same period as the pedestrian volume criterion is satisfied.
3. The nearest traffic signal along the major street is located more than 300 feet away. Or the nearest traffic signal is within 300 feet but the proposed traffic signal will not restrict the progressive movement of traffic.

Warrant 5 - School Crossing

1. There is a minimum of 20 students during the highest crossing hour.
2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the crossing than the number of minutes in the same period.
3. The nearest traffic signal along the major street is located more than 300 feet away. Or, the nearest traffic signal is within 300 feet but the proposed traffic signal will not restrict the progressive movement of traffic.

Warrant 6 - Coordinated Signal System

1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.
2. On a two-way street, adjacent signals do not provide the necessary degree of platooning and the proposed, adjacent signals will collectively provide a progressive operation.

Warrant 7 - Crash Experience

This warrant is satisfied if all three of the criteria are fulfilled.

1. One of the warrants a, b or c below is met:
 - a. Warrant 4.1 at 80% of volume requirements: 80 ped/hr for 4 hours or 152 ped/hr for 1 hr.
 - b. Warrant 1, Condition A (80% satisfied)
 - c. Warrant 1, Condition B (80% satisfied)
2. Adequate trial of other remedies has failed to reduce crash frequency.
3. Five or more reported crashes, of types susceptible to correction by signal, within a 12 month period.

Warrant 8 - Roadway Network

This warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the characteristics listed.