



# Traffic Signal Design Manual

ORIGINATOR Director, Bureau of Highway Operations		1-2-1
CHAPTER 1	Introduction	
SECTION 2	Alternatives to Signals	
SUBJECT 1	Alternative Intersection Treatments	

The decision to install a traffic signal at a particular intersection resides in the Regional traffic unit and *should* be made based on a completed signal investigation study of that location. The warrants stated in the *WisMUTCD* *should* be viewed as guidelines to help the traffic engineering staff decide whether a traffic signal *may* be installed, not as a legal requirement for their installation. The decision to install a traffic signal is not based solely on the satisfaction of warrants; rather, it is based on the need for operational improvements at the intersection.

As with all traffic control device analysis procedures, the adequate trial of less restrictive remedies *should* be undertaken, prior to the installation of a traffic signal. If these remedies fail to reduce the crash frequency and/or improve operations at the intersection, a warrant analysis **shall** be completed. Such less restrictive improvements *may* cost less and *may* result in less overall delay than the installation of a traffic signal. These improvements include but are not limited to:

- Addition of exclusive right or left turn lane(s)
- Intersection lighting
- Improvement to pavement markings (left turn arrows, stop lines, etc.)
- Acceleration/deceleration lanes
- Channelization to eliminate certain movements (access restrictions)
- Sight distance improvements
- All-way STOP control
- Installation of rumble strips on STOP sign controlled approaches
- Improved signing (doubling up STOP AHEAD signs, larger STOP signs or route markers)
- Hazard beacons
- Roundabouts
- Grade separations
- Geometric improvements
- Demand management (control of trip arrival times)
- Signal timing changes at nearby intersections