

Transportation Interim

September 18, 2024

Traffic Signal Warrant Criteria



Purpose of a Traffic Signal

- Traffic signals control the flow of vehicle and pedestrian traffic at intersections
- Traffic signals must provide more benefit than the negative impact they bring
- Engineering reasons for traffic signals
- User psychology of traffic signals
- Important to have consistency across jurisdictions (cities, states, etc.)

When is it Appropriate to Install a Traffic Signal

- The Manual on Uniform Traffic Control Devices (MUTCD) defines nationwide standards for installing traffic signals on highways. State statute requires UDOT to conform with the MUTCD where possible.
- The MUTCD has nine guidelines—called **warrants**—that establish minimum thresholds that must be met before a traffic signal is installed.
- When determining whether a traffic signal is warranted, UDOT conducts a **traffic signal warrant study**.
- Installing traffic signals where not warranted may present a significant safety hazard to the public, and the state may be liable for crashes involving a traffic signal that is not warranted.

Reasons for a Traffic Signal Warrant Study

A traffic signal warrant study may be triggered by one of the following:

- UDOT conducts a study as part of a project
- New accesses for developments are permitted
- UDOT responds to concerns expressed by local jurisdictions and the public
- UDOT identifies the need by monitoring our systems for safety or capacity concerns

Traffic Signal Warrant Study

Nine guidelines of a traffic signal warrant study:

- Warrant 1, Eight-Hour Vehicular Volume
- Warrant 2, Four-Hour Vehicular Volume
- Warrant 3, Peak Hour
- Warrant 4, Pedestrian Volume
- Warrant 5, School Crossing
- Warrant 6, Coordinated Signal System
- Warrant 7, Crash Experience
- Warrant 8, Roadway Network
- Warrant 9, Rail Crossing

As part of the warrant study, UDOT also determines whether another solution would be more efficient, less costly, and safer than a traffic signal.



