

Traffic Signal Installation Criteria:

Criteria #1-A: Minimum Vehicular Volume

The "side street" traffic volume is the principal reason for signals under this criteria. Typical minimum volume thresholds needed for at least **8 hours**:

- Main Street: 600 vehicles each hour
- Side Street: 200 vehicles each hour

Criteria #1-B: Interruption of Continuous Traffic

The high volume on the major street and lack of traffic bunching does not allow enough gaps for side street traffic. Typical minimum volume thresholds needed for at least **8 hours**:

- Main Street: 900 vehicles each hour
- Side Street: 100 vehicles each hour

Criteria #1-C: Combination of Criteria

For **exceptional** cases, criteria 1-A and 1-B are each over 80% of the minimum threshold volumes.

Criteria #2: Four-hour Volumes

Traffic volumes for four hours fall above the threshold lines on the criteria chart. Traffic concentrated within a four-hour period justifies signal control.

Criteria #3-A: Peak-hour Delay

The side street traffic needs to wait too long on average during a one-hour period. Typical **minimum** thresholds:

- Five vehicle-hours of delay for a two-lane side street approach, and
- Side street volume exceeds 150 vehicles during the same hour, and
- Total intersection traffic exceeds 800 vehicles during the same hour.

Criteria #3-B: Peak-hour Volume

Traffic volumes for one hour fall above the threshold lines on the criteria chart. Traffic concentrated within a one-hour period justifies signal control.

Criteria #4: Minimum Pedestrian Volume

The high volume and lack of traffic bunching on the major street does not allow enough gaps for pedestrians to cross. Typical **minimum** volume thresholds needed are as follows:

- 100 pedestrians crossing each hour for any **four hours**.
- The frequency of gaps in major street traffic average less than one per minute.
- The study location must be suitable for maintaining existing platoons of vehicles created by nearby signals.

Criteria #5: School Crossing

The high volume and lack of traffic bunching on the major street does not allow enough gaps for students to cross. Adequate gaps occur less frequently than once a minute or once each signal cycle when adjacent signals create gaps.

Criteria #6: Coordinated Signal System

Traffic signal control is needed to keep traffic bunched (i.e., to keep platoons from getting too spread out). Traffic bunching or platooning is helpful in reducing speeding and allowing gaps at non-signalized intersections.

Criteria #7: Crash Experience

Traffic signal control is determined to be the safer control type. Other measures to maintain safety have not proven effective. This is one of the most controversial criteria to justify signal control. Typical **minimum** thresholds:

- Five or more accidents in the past 12 months of a type that could theoretically have been prevented if signal control had been in operation.
- Criteria 1-A, 1-B or 4 are at least 80% met.
- Progressive traffic flow would not be significantly affected.

Criteria #8: Roadway Network Criteria

Signals are needed to keep traffic on the major streets. Typical **minimum** thresholds:

- Vehicle volume of 1000 vehicles during the peak hour.
- Projected volumes will meet criteria 1, 2, or 3 within five years.