
Procedure for Analysis of Existing Traffic Signal

Purpose and Objective:

The purpose of this procedure is to establish in writing the process to be followed when considering the need for an existing traffic signal. The objective is to clarify and streamline the process so that it can be completed with improved efficiency and consistency. For convenience, this procedure is designed to be used as a form.

References:

Ohio Manual of Uniform Traffic Control Devices Section Four
Traffic Engineering Manual Section Four
District 7 Traffic Signal Warrants Policy

Process:

- 1) Existing signalized intersection is to be reviewed to ensure that the traffic signal is still justified. (Traffic signals need to be reviewed every 3-5 years. A study or outside request may identify need for additional review.)

Location: _____
Initiator: _____ Date: _____

- 2) Obtain traffic counts for the intersection.

Source of traffic count (i.e. Numetrics, loop detector, ODOT website, etc.): _____
Date count was performed: _____
Type of count (i.e. turning movement count (preferred), roadway ADT, etc.): _____
Length of count (minimum of 8 hours, 12 hours preferred): _____
Intersection ADT: _____ Percent Trucks: _____
 Factorize Right Turns using Form 496-12 in the TEM.

- 3) Run Signal Warrants.

Area Type Urban Rural

Warrant 1: Eight Hour Vehicular Volume	Satisfied <input type="checkbox"/>	Unsatisfied <input type="checkbox"/>
Warrant 2: Four Hour Vehicular Volume	Satisfied <input type="checkbox"/>	Unsatisfied <input type="checkbox"/>
Warrant 3: Peak Hour	Satisfied <input type="checkbox"/>	Unsatisfied <input type="checkbox"/>
Warrant 4: Pedestrian Volume	Satisfied <input type="checkbox"/>	Unsatisfied <input type="checkbox"/>
Warrant 5: School Crossing	Satisfied <input type="checkbox"/>	Unsatisfied <input type="checkbox"/>
Warrant 6: Coordinated Signal System	Satisfied <input type="checkbox"/>	Unsatisfied <input type="checkbox"/>
Warrant 7: Crash Experience (Volume only)	Satisfied <input type="checkbox"/>	Unsatisfied <input type="checkbox"/>
Warrant 8: Roadway Network	Satisfied <input type="checkbox"/>	Unsatisfied <input type="checkbox"/>

The Crash Experience Warrant (Warrant 7) cannot be considered satisfied unless both the volume and crash requirements are satisfied. The crash requirement is addressed in Step 6.

- 4) Evaluate results and refine signal warrant analysis.

Skip to Step 9 – signal warrants met easily, and traffic signal is definitely justified.
 Continue going through worksheet – further study and analysis is needed.

Does a more recent or dependable count need to be taken? Yes No

If yes, perform Steps 2 thru 4 again.

Is there another factor that may have temporarily impacted traffic conditions during the traffic count and skewed the results of the analysis, such as roadway construction? Yes No

If yes, please explain: _____

- 5) Check files for historic data.

When was the traffic signal installed? _____

Why was it installed? _____

Does the reason for installation still exist? _____

6) Analyze crash data.

Crashes must be run for at least the most recent year available. Additional years are beneficial for understanding the long term crash trends. A collision diagram may be made.

Years Ran: _____ Total Crashes: _____
Crashes correctable by traffic signal during the most recent year available: _____

If greater than 5 crashes, then the crash portion of Warrant 7 is satisfied.

If less than 5 crashes, the crash history before the signal was installed should be examined to see if more than 5 crashes would be expected if the intersection was unsignalized.

Is the crash requirement for Warrant 7 satisfied? Yes No

7) Visit proposed traffic signal location in field.

Date of Visit: _____

Take photos (if needed)

Draw Condition Diagram (If already existing, check in field.)

Would sight distance be an issue if signal was removed? Yes No

If yes, please describe: _____

Area Description (i.e. Central Business District, Commercial, Residential, etc.) _____

Is the signal in close proximity to a school, hospital, fire station or other traffic signals? Yes No

If yes, please describe: _____

Other applicable geometric or local conditions: _____

8) Consider any other applicable factors.

Are there any planned changes in development or land use? Yes No

If yes, please explain: _____

Are traffic volumes expected to... Increase Decrease Not Change

Why? _____

9) Make decision.

If the traffic signal is still justified, the signal should be put on list to be reviewed in 3-5 years.

If the traffic signal is no longer justified, it should be studied for removal. (See Procedure for Removal)

Are there any changes or improvements that should be made to the intersection? Yes No

If yes, describe the changes / improvements: _____

Attached Documents:

Initiating letter, study, etc. (if applicable)

Traffic Count Data

Crash Data, including Collision Diagram

Other Information: _____

Signal Warrant Analysis

Condition Diagram (if applicable)

Photos (optional)