



## **Council Request Update**

November 9, 2017

**Council Request: 17-157**

**Requested by:** Mayor Jefferson

**Request:** Request for a traffic study between Quincy and Belleview for speeds. Request for a 4-way stop at Union and Huron. Request for a speed trailer at Huron between Chenango and Tufts.

**Assigned to:** Public Works

**Response:** Please see the response provided by Traffic Engineer Ladd Vostry.

**TO:** City Council

**THROUGH:** Eric A. Keck, City Manager

**THROUGH:** Dave Henderson, Public Works Director

**FROM:** Ladd Vostry, Traffic Engineer

**DATE:** November 8, 2017

**SUBJECT: COUNCIL REQUEST NO. 17-157**

City Council requested information regarding the following:

1. Request for a traffic study of Huron between Quincy and Belleview for speeds.
2. Whether or not instituting a 4-way stop at Union would be feasible.
3. Place the speed trailer on Huron between Chenango and Tufts.

- Huron speed study

The Huron traffic study was completed in October (data were collected on Wednesday and Thursday, October 11 and 12) in the 4700 block, just south of Union Avenue. The study indicates the average speed of 28 MPH for the northbound travel direction and 30 MPH for the southbound direction. The 85<sup>th</sup> percentile speed (speed at which or below 85 percent of all vehicles travel) was 33 MPH for the northbound and 34 MPH for the southbound directions.

Please note that the speed study was also done in 2004 with the similar results - average speed of 29 MPH and 85<sup>th</sup> percentile speed of 35 MPH.

The part of this study was also to collect traffic volume data; the results showed the average volume of traffic about 1,000 vehicles per day on Huron at this location.

- Union 4-way stop feasibility

Huron is presently designated as a through street, Union is controlled by stop signs. All-way stop control can be useful as a safety measure if certain traffic conditions exist. The FHWA Manual on Uniform Traffic Control Devices (MUTCD) outlines the standards commonly used for the application of all-way stops. According to MUTCD, this type of control is recommended when the study determine that minimum traffic volume and/or safety criteria are met (please see below MUTCD Multi-way Stop Applications guidelines).

Since none of the factors necessitate the need for the multi-way stop, installing this control would not benefit the intersection performance, nor improve the intersection safety (our records show no accidents at this location for the past five years). Based on these findings, we do not recommend establishing a 4-way stop control for this intersection at this time.

- Speed trailer placement

The requested speed trailer was installed on Huron by the Police Department in the first week of October. The trailer was placed for several days in each northbound and southbound travel directions.

*MUTCD Multi-Way Stop Applications:*

*Support:*

*Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal.*

*Guidance:*

*The decision to install multi-way stop control should be based on an engineering study.*

*The following criteria should be considered in the engineering study for a multi-way STOP sign installation:*

- A. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.*
- B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.*
- C. Minimum volumes:*
  - 1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and*
  - 2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but*
  - 3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.*
- D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.*

*Option:*

*Other criteria that may be considered in an engineering study include:*

- A. The need to control left-turn conflicts;*
- B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;*
- C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and*
- D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.*

*STOP signs should not be used for speed control.*