



September 27, 2017

## MEMO

To: John C. Rooney, P.E.

Re: Traffic Study - Intersection Analysis of 17<sup>th</sup> St. and Phillips Avenue

From: Ara P. Molitor, P.E.

Purpose: Determine if there is a warranted change required for the control of the intersection.

Method: Field observation, traffic count and an accident analysis.

### ANALYSIS:

#### Existing Conditions

- 17<sup>th</sup> Street (to the west of Phillips) is 36 foot face to face asphalt over concrete street through an industrial neighborhood with heavy truck traffic. Currently both sides of 17<sup>th</sup> Street do not allow for parking (or restricted parking – max 2 hours). 17<sup>th</sup> Street is “Stop” controlled at Phillips.
- 17<sup>th</sup> Street (to the east of Phillips) is 30 foot face to face concrete street through an industrial neighborhood with heavy truck traffic. Currently the south side of 17<sup>th</sup> Street does not allow for parking (between 6AM – 3PM) and the north side is restricted to a 4 hour maximum parking restriction. 17<sup>th</sup> Street is “Stop” controlled at Phillips.
- 17<sup>th</sup> Street and Phillips Street is an offset intersection creating two separate but related “T” intersections.
- Phillips Ave. is 36 foot face to face concrete street through an industrial neighborhood to the south and residential to the north of the subject intersection. Currently to the south of the offset intersection there is no parking allowed on the east side of the street and 2 hour maximum parking on the west side. North of the intersection there are no posted restrictions for parking although those defined by ordinance apply. Phillips Ave. traffic is not stopped going through the intersection.

#### Traffic Analysis

- Average Daily Traffic: (from tube counts 9/15 – 9/21/17)
  - 17<sup>th</sup> Street – ADT 1023 (w) ADT 793 (e)
  - Phillips Ave. – ADT 741 (s) ADT 831 (n)
  - Intersection ADT – total ADT’s/2 = 1694
- Accident Study 2012-2017 Findings
  - 1 total accidents reported: 5 Injuries 0 Deaths

- The accident reported was weather related at night and **not** correctable.

### **Field Observations**

- The proximity of the Shurpac Inc. & the Ventura Carpentry and Woodworks buildings right up against the west sidewalk create non-desirable vision triangle for the western portion of the intersection. However 17<sup>th</sup> Street is “Stop” controlled and from a stopped position on the west approach of the intersection, as long as there are no illegally parked cars in restricted areas, a vehicle has no problems viewing Phillips Ave. for a safe entry into the intersection.
- All other approaches the vision is fine.

### **Intersection Control Warrants**

- **Two way Stop Sign Control** – warranted if any of the following conditions are met:
  - Safe approach speed (SSSD) < 10mph.
    - Met – 17<sup>th</sup> Street controlled by Stop Sign.
  - Accident experience of 3 or more right angle accidents per year.
    - Not Met
  - A total average daily traffic (ADT): 2000<ADT<8000 (intersection ADT)
    - Not Met – the ADT’s above are roadway counts, not intersection counts, to convert the totals roadway ADT (3388) is divided by 2 = 1694. For example every vehicle the hit a tube counter listed above also hit another tube on its way out of the area, thus twice as many vehicles.
- **Four Way Stop Sign** – warranted if any of the following conditions are met:
  - At the intersection of two major arterial streets.
    - Not Met
  - An accident problem, as indicated by five or more reported accidents of the type susceptible of correction by a four-way stop installation; a less restrictive device should be used first.
    - Not Met
  - Where the traffic volume warrants are met: the total volume must average at least 500 vehicles per HOUR for any 8 hours of an average day, or heavy pedestrian traffic through that same 8 hour period, or with an average delay to minor street vehicular traffic of at least 20 seconds per vehicle during the maximum hour.
    - Not Met
  - At the intersection with low volume urban intersections that have highly restricted visibility. It should only be used if less restrictive devices have proved unsuccessful in reducing accidents.
    - Not Met

### **CONCLUSIONS:**

- It is my opinion to leave the intersection “As-Is”. There is no correction that can be done via geometric changes or additional signage and control that could possible improve this intersection.

**Recommendation: more speed enforcement and monitoring.**