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DEPARTMENT OF PUBLIC WORKS  
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To: Municipal Services Committee  
From: Michael Hardy, Assistant Traffic Engineer  
Date: October 13, 2015  
Re: Mason Street & Pine Street - Intersection Control

At the request of a concerned citizen, the Traffic Section has reviewed the traffic control at the intersection of Mason Street and Pine Street. This individual had concerns regarding this intersection, specifically that drivers headed west on Pine Street arriving at the intersection of Mason Street do not have a good view of vehicles and pedestrians along Mason Street. This person noted they almost collided with a child biking to the school.

This intersection is located at the southwest corner of Pierce Park, south of Jefferson Elementary School. The Pine Street intersection with Mason Street is not a typical intersection. The east approach of Pine Street is approximately 20 feet north of the west approach. The existing control at this intersection has Pine Street yielding to Mason Street. Both roadways are functionally classified as *Local* at this intersection. The land use in this area is residential, with Pierce Park and Jefferson Elementary located in the northeast corner.



Aerial Photo, Intersection of Mason Street & Pine Street

The procedure for evaluating *stop* control was applied. Based on City policy, as well as state and federal standards, we consider traffic volumes, crash experience, critical approach speeds, and the functional classification of the roadways when performing a typical intersection control study. Designated *school safe walking routes* are also

considered when appropriate.

The City of Appleton policy states that *stop* control *may* be appropriate at a four-legged intersection when:

1. Entering volumes are greater than 3,000 vehicles per day, OR
2. There has been at least one preventable-type crash in the past 12-months, OR
3. The critical approach speed is less than 15 miles per hour, OR
4. If the roadway is intersecting with a roadway which is functionally classified as a *Collector* or *Arterial*.

Historical traffic counts at this intersection revealed volumes of 900 vehicles per day along Mason Street, and over 200 vehicles per day on Pine Street heading west. Pine Street to the east is estimated to carry less than 100 vehicles per day. These daily counts do not meet the volume criteria for a stop controlled approach.

The most recent five years of crash experience indicates zero reportable crashes at this intersection.

The *critical approach speed* is the speed that a vehicle may approach the intersection and safely stop if an opposing vehicle is sighted. The critical approach speed for this intersection was measured to be less than 5 miles per hour on east Pine Street approach, which is due in large part to the unusual intersection alignment. If *stop* control were implemented, it would create a safer situation.

All intersecting streets are functionally classified as *Local*. With a close proximity to Jefferson Elementary, the sidewalks along Mason Street are an active part of the safe walking routes to this school.

While this intersection do not meet the volume or crash criterion for *stop* control, it *does* meet the critical approach speed criteria based criteria. The sightline of vehicles and pedestrians on the east Pine Street approach is very poor.

Based on this review, stop control is recommended at this intersection.

Due to the immediate concerns of sightlines, and the anticipated qualification due to the offset in roadway alignment and the safe walking routes to school, stop signs were implemented by our Department on October 01, 2015.

**To accomplish this, the following ordinance action is required:**

1. **Create:** "Replace Yield signs with Stop signs on Pine Street at Mason Street."