



DEPARTMENT OF PUBLIC WORKS
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To: Municipal Services Committee
From: Michael Hardy, Assistant Traffic Engineer
Date: August 21, 2013
Re: Hulke Drive / Johann Drive intersection control

At the request of a concerned citizen, the Traffic Section has reviewed the traffic control at the intersection of Hulke Drive and Johann Drive. This individual had general safety concerns regarding this intersection and felt that changes should be made. This intersection is located east of Telulah Avenue and south of Midway Road. Both roadways are functionally classified as *Local*, with Hulke Drive traffic yielding to Johann Drive traffic. The land use in this area is a residential.

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*.

Based on historical traffic counts at this location, the entering volume for this intersection is approximately 680 vehicles per day.

The most recent five years of crash experience indicates two reportable crashes. The five-year crash rate for this intersection is 1.612 crashes per million entering vehicles, which is above the approximate City-wide average of 0.365 for yield-controlled intersections.

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 4 miles per hour, which is due in large part to the subdivision entrance marker walls located in the northeast and southeast corners, and shrubs that are located in the southeast quadrant. If *stop* control were implemented, it would reduce the impact of sightline restrictions on the approaches and create a safer environment.

While this intersection does not meet the volume-based criterion for two-way stop control, it *does* meet the critical approach speed criteria and meets the crashed-based criteria. Based on this review, stop control is recommended at this intersection.

Based on the results of our investigation, STOP control was implemented immediately as a temporary measure to address safety concern due to the low approach speed of 4 mph. This action would make the changes permanent.

To accomplish this, the following ordinance action is required:

1. **Create:** "Replace Yield signs with Stop signs on Hulke Drive at Johann Drive."