



DEPARTMENT OF PUBLIC WORKS
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To: Municipal Services Committee
From: Michael Hardy, Assistant Traffic Engineer
Date: July 2, 2014
Re: Drew Street / Frances Street intersection control

At the request of a concerned citizen, the Traffic Section has reviewed the traffic control at the intersection of Drew Street and Frances Street. This individual had concerns regarding this intersection, specifically drivers on Frances failing to yield properly to vehicles and pedestrians on Drew. This intersection is located one block north of Glendale Avenue. Both roadways are functionally classified as *Local*, with Frances Street traffic yielding to Drew Street traffic. The land use in this area is a residential with an elementary school one block away.

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 1220 vehicles per day.

The most recent five years of crash experience indicates three reportable crashes. The five-year crash rate for this intersection is 1.347 crashes per million entering vehicles, which is above the approximate City-wide average of 0.365 for yield-controlled intersections. Two crashes (2014, 2009) involved vehicles failing to yield properly. The third crash (2010) involved an injury, with a westbound traveling vehicle failing to yield to a bicyclist traveling northbound.

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 10 miles per hour, which is due in large part to homes and landscape locating relatively close to the lot corners. The maturity of trees with larger trunks in the terraces also complicates sight lines. If *stop* control were implemented, it would reduce the impact of sightline restrictions on the approaches and create a safer environment.

Both streets are functionally classified as *Local*. However, Drew Street is classified as a collector street south of Glendale Av, one block removed from this intersection.

Drew Street at Frances is a more prominently used route to school for both elementary and middle school children. Franklin Elementary locates one block north of this intersection, and Roosevelt Middle School is a few blocks to the south of Glendale. There is a crossing guard posted one block to the south at the intersection of Drew Street and Glendale Street.

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. And while Drew Street is not classified as a collector street through Frances Street, there is an above average use of Drew Street by kids as a safe walking route to school. Based on this review, stop control is recommended at this intersection.

To accomplish this, the following ordinance action is required:

1. **Create:** "Replace Yield signs with Stop signs on Frances Street at Drew Street."