



DEPARTMENT OF PUBLIC WORKS
Engineering Division – Traffic Section
2625 E. Glendale Avenue
Appleton, WI 54911
TEL (920) 832-5580
FAX (920) 832-5570

To: Municipal Services Committee
From: Michael S. Hardy, Assistant City Traffic Engineer
Date: July 28, 2014
Re: Recommended switch to all-way Stop control at Owaissa Street / Pershing Street intersection

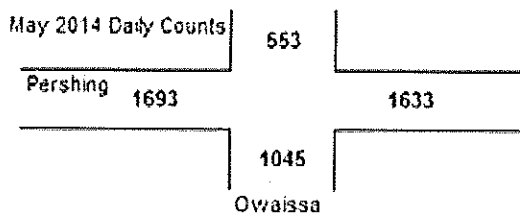
General

The Traffic Section received a request from both Alderperson Croat and Alderperson Lobner to review the control arrangement at the intersection Owaissa Street and Pershing Street. The current control has Pershing Street stopping for Owaissa Street. A review of records indicates the current control has been in place for several decades. This intersection is located 5 blocks north of Glendale Avenue, between Meade Street and Ballard Road. Pershing Street is functionally classified as a *Collector* street, while Owaissa Street is functionally classified as *Local* at this location. The land use in this area is residential with Huntley Elementary School one block away, southeast of this intersection.

Evaluation

The Federal Highway Administration (FHWA) states that certain criteria be met in order to justify the implementation of all-way stop control. This typically involves evaluation of traffic volumes, crash experience, and the functional classification of the roadways. Designated *School Safe Walking Routes* are also considered when appropriate.

Traffic count data was collected in May of 2014. Below is a summary of the daily cross-sectional counts on each leg of the intersection.



The busiest eight hours of the day are used to evaluate FHWA's traffic volume criteria. At the Pershing/Owaissa intersection, the volumes are approximately 42% of the levels necessary to satisfy the all-way stop warrants. While the traffic counts alone do not meet the criteria, it's observed that the higher volume street currently stops for the lower volume street, which runs contrary to established guidelines.

The crash history at this intersection is within acceptable limits (0.800 crashes per million entering vehicles), with four correctable crashes being reported over a five-year period. The FHWA criteria require five correctable crashes in a 12-month period to satisfy the crash warrant. Three of the crashes involved vehicles on Pershing stopping, and then proceeding into a collision with a vehicle traveling on Owaissa. In another crash, the driver noted to the officer they thought Owaissa had a stop sign. The fourth crash involved a child on a bike crossing Owaissa Street being struck by a car traveling north on Owaissa. While the crash frequency does not meet the criteria, all crashes could be considered correctable with all-way stop control.

The need to control vehicle/pedestrian conflicts one of the primary criteria the FHWA uses when developing the warrants. The current control, with Pershing stopping to Owaissa is favorable for safe walking routes to Huntley Elementary as this is the only controlled crossing of Pershing Street between Meade and Ballard. All-way stop would be even more favorable for crossing Owaissa, as the next available controlled crossing of Owaissa Street is 5 blocks to the south at Glendale Avenue.

The FHWA criteria also state that all-way stop control should be considered at the intersection of two residential *Collector* (through) streets that have similar design and operating characteristics when all-way stop would improve the traffic operational characteristics of an intersection. Pershing Street is already functionally classified as a *Collector* street. And, while Owaissa Street is functionally classified as a *Local* street at this intersection, it is classified as a *Collector* street 5 blocks away, south of Glendale Avenue.

Recommendation

Based on this information above, we believe the existing two-way stop control is not adequately serving the neighborhood. The current control has the higher volume street stopping for the lower volume street. However, reversing the control will only solve the imbalance of traffic counts and roadway classifications. The ability of this intersection to accommodate pedestrians and safe walking routes to school would still remain limited.

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

To accomplish this, the following ordinance action is required:

1. **Create:** "Install Stop signs for all approaches to the intersection of Owaissa Street and Pershing Street"