Review of AWS Request at Todd Drive and McDivitt

Report of the City Traffic Engineer:

Traffic Staff have completed a review of the intersection of Todd Dr and McDivitt and reviewed, as requested, the conversion to All-way Stop control (AWS). When reviewing requests for AWS conversion the City applies adopted criteria as promulgated by the Federal Highway Administration and adopted by the State of Wisconsin. These criteria are enumerated in the Federal Manual on Uniform Traffic Control Devices, or MUTCD for short and can be found on-line if you are interested in reviewing the document. These criteria consider the volume of traffic entering the intersection as well as the intersection's crash history. Engineering Staff have reviewed the intersection with these criterion and report that the intersection at this time does not meet the established criteria.

Background Information:

Todd Dr is classified and operates as a collector street and serves about 6,700 people per average weekday north--near its intersection with the South Beltline Frontage Rd and about 3,600 people per day near its south end near the intersection of Todd and Post Rd. Data was also collected more central to the Todd Dr corridor and just south of McDivitt the volume of traffic on Todd was found to be about 5,200 vehicles per average weekday.

McDivitt is classified and operates as a local street, and carries significantly lower levels of traffic than Todd.

Collector streets fill a primary role of traffic movement while also providing access to abutting properties. In this instance Todd operates as both a nghd business street—serving the properties on the far north end, and also provides a connection between the local streets within the neighborhood and the regional arterial street system.

The speed limit on Todd is posted at 25 mph. A standard crosswalk was recently marked on the north leg of the intersection. Traffic control is currently provided via Stop signs on McDivitt. Existing traffic control in the neighborhood is shown on the attached AWSTODD.pdf

Safety Record/Information:

The intersection was reviewed for its safety record; over the past 3 years there have no reported crashes at McDivitt and Todd Dr.

2013 Speed Data

Speed data was collected in the fall of 2013 at a site immediately south of McDivitt Rd and is reported below:

Average Speed
28.8 mph

85 percentile speed (85 percentile speed is the speed at or below which 85% of the traffic is travelling)
33.0 mph

For comparison purposes previous speed studies were also reviewed. The 85 percentile is reported below:

1995 Speed Data
(only 85 percentile speed is available)

Todd Dr., located North of McDivitt:
85 percentile speed 32.6 mph

Todd Dr., located North of Post R:
85 percentile speed---32.4 mph

From this it is clear that the 2013 85 percentile speed is essentially unchanged from the 1995 data, with a 0.4 mph difference.

Area Land Use

Property in the vicinity of the McDivitt and Todd Dr intersection is a mix of multifamily residential and commercial property to the North. In the NE corner of the intersection proper this property is anticipated to be converted to a Boys and Girls club sometime in 2014. This is expected to increase the number of pedestrians in this area of the neighborhood and intersection.

Stop Sign Discussion

Stop signs are often requested with the goal of reducing traffic speed and/or for improving safety for pedestrians. It appears logical that if you make someone stop then the speeds overall will decrease and gaps to cross will be created.

Stop signs are an important traffic control device, they can improve safety when there is a crash problem or where traffic volumes are so high that people cannot find a safe gap in traffic. When used under the right conditions a Stop sign is a valuable and effective device. At the same time when used incorrectly their use can create problems and worsen conditions.

Stop signs on Todd at McDivitt would be problematic as there is little cross street traffic on McDivitt to balance the Todd Dr approach volumes, in these situations drivers are quick to realize and see what they perceive as "nuisance" stops and compliance becomes poor. In these instances then we expect drivers are less likely to obey the signs message and "run" the stop and roll through the intersection. When drivers start rolling through an intersection in this manner we can begin to see increased crashes. This situation can be particularly problematic for child pedestrians who believe grown-ups behave like adults and comply with the rules of the road and traffic signs, when this is not the case the end result can be a child involved crash. This is a similar situation that other units of government have found, for example one study in Portland, OR found the following.

Table 5.12. Performance of All-Way Stops. (Portland, OR)

STOP Signs	Speed	Accidents	Compliance
Warranted	reduced 2–10 mph	decrease	good
Unwarranted	reduced 2–10 mph	increase	poor

Source: Citizens Advisory Committee, *Evaluation of the Neighborhood Traffic Management Program (NTMP) for Local Service Streets—Report and Recommendations*, City of Portland, OR, March 1992, p. B-4.

On a collector street like Todd, a more sustainable potential option may be the installation of traffic calming. Traffic calming can affect a positive change in the feel of the street and influence drivers to be more aware of their surroundings and speed and also facilitate pedestrian crossings using devices like traffic islands for example. Overall, this can provide the benefit of facilitating crossing while having less impacts than AWS control.