

**COUNCIL ACTION FORM**

**SUBJECT:**                   **SPEED STUDY FOR DUFF AVENUE  
(6<sup>TH</sup> STREET TO 10<sup>TH</sup> STREET)**

**BACKGROUND:**

On June 10, 2014, staff presented to City Council the findings of a speed study conducted on the 600 to 1000 blocks of North Duff Avenue in the Historic Old Town Association (HOTA) neighborhood. During the meeting, staff provided a summary of the speed data, by block, and outlined the criteria used in Ames to evaluate the need for traffic calming devices. At that time, members of the HOTA expressed concern in not having enough time to review the report in advance of the meeting to provide feedback. Therefore, the City Council directed staff to hold an additional meeting with the HOTA neighbors and bring back the study with options at a later date.

On August 11, 2014, staff met with members of the HOTA at one of their homes to discuss the report in greater detail. **To address the higher speeds seen along North Duff, the majority the neighbors supported the idea of installing dynamic feedback signs in the area of the 600 to 800 blocks, as supported by the data. In addition, those in attendance supported creating a high visibility pedestrian crossing for east-west pedestrians at the 8<sup>th</sup> Street and Duff Avenue intersection to accommodate the high number of people accessing the CyRide bus stop along the east side. Staff and neighbors also agreed that increased traffic enforcement would be needed in the early time period following installation of any dynamic feedback signs to reinforce good driving habits related to the signs.**

It should be noted that the neighbors felt that, if this approach is not successful in reducing those higher range speeds, the City should entertain other options. Those could include programming more costly physical improvements to calm traffic or adopting an ordinance to reduce the posted speed limit.

The cost to install a pair of dynamic feedback speed signs, poles, and power is estimated to be approximately \$9,200. The \$9,200 would be added to the adjusted 2014/15 Traffic Sign Maintenance budget (Road Use Tax Fund). Modern dynamic feedback signs have the flexibility to be set to any posted speed limit, and come with built-in “before-and-after” study data collection capabilities that staff can use to evaluate their affect. Any additional cost to sign and paint a high-visibility crossing at 8<sup>th</sup> Street and Duff Avenue can be accounted for using existing maintenance budgets.

One additional issue that was discussed involved the traffic signal timing plan in the North Duff Avenue corridor, specifically concerning the fact that the signals are coordinated to promote efficient traffic flow along North Duff Avenue at the posted

speed limit of 30 MPH. Typical engineering practice when creating traffic signal timing plans is to coordinate the offset of the green phases in the major directions of travel along a coordinated street segment to minimize delay experienced by stopping vehicles. By following this national practice, cities create reliable travel corridors throughout their communities and minimize environmental impacts due to vehicle emissions.

**During the neighborhood meeting, a concern was expressed that the 30 MPH signal coordination contributes to the higher speeds shown by the previous study data.** That data showed that the 85<sup>th</sup> Percentile Speed for this corridor is 4 to 5 MPH over the posted speed limit of 30 MPH. (Refer to the attached North Duff Speed Study Report dated 6/10/14.) The 85<sup>th</sup> Percentile Speed is a common speed metric used in traffic engineering practice, which is defined as the speed at which 85% of the vehicles are travelling at or below. This is used as a benchmark to determine the speed at which the large majority of motorists feel they can safely travel.

It is possible to design traffic signal timing plans to use various types of transportation performance measures to maximize the benefit to its users. An example of using unique performance measures comes from a project conducted along Valencia Street in San Francisco. The project included retiming of traffic signal progression along the corridor to be set less than the posted speed limit for a traveling speed of 13 MPH. This was done to accommodate the high percentage of cyclists in that area.

**In the case of North Duff Avenue, it would be possible for staff to retime the traffic signals at 25 MPH, which would be less than the posted speed limit of 30 MPH.** The 25 MPH speed would be similar to the speed limits along residential streets across the city, and would be 8-9 MPH slower than the 85<sup>th</sup> Percentile Speed of traffic through this area. Were this option to be selected, signs would be posted along the street stating that signal timing is set at 25 MPH, thereby reinforcing that this is the expected speed along this section of Duff Avenue. This low-cost solution could be implemented rather quickly, and would be analyzed by staff to see how effective it is on slowing speeds. Because staff has no experience using this technique, the traffic impact on the surrounding neighborhood is unknown and would need to be closely monitored.

It should be noted that, as one of five north-south arterials in Ames, this segment of Duff Avenue is travelled by approximately 11,700 vehicles per day.

### **ALTERNATIVES:**

1. Direct staff to take the following actions:
  - a. Install two dynamic feedback signs along North Duff Avenue, at a total estimated cost of \$9,200, with funding to come from unobligated Road Use Tax funds.
  - b. Sign and mark an east-west high-visibility crossing at 8<sup>th</sup> Street and Duff Avenue.

- c. Temporarily increase traffic enforcement activities by the Ames Police Department after the installation of the dynamic feedback sign.
2. Direct staff to take the following actions:
  - a. Install two dynamic feedback signs along North Duff Avenue, at a total estimated cost of \$9,200, with funding to come from unobligated Road Use Tax funds.
  - b. Sign and mark an east-west high-visibility crossing at 8<sup>th</sup> Street and Duff Avenue.
  - c. Temporarily increase traffic enforcement activities by the Ames Police Department after the installation of the dynamic feedback sign.
  - d. Direct staff to modify the traffic signal timing plan along North Duff Avenue to be set for 25 MPH, while retaining the 30 MPH speed limit.
3. Direct staff to pursue other options.
4. Direct staff to maintain the current conditions.

**MANAGER’S RECOMMENDED ACTION:**

Duff Avenue is one of Ames’ few north-south arterial streets. This requires balancing the mobility needs of the overall community with those of the various neighborhoods through which Duff Avenue passes. The approach outlined in Alternative 1 provides several awareness tools that will help reinforce the appropriate character of this section of Duff Avenue as a residential area. The impacts to the surrounding neighborhood and the success of these measures could then be monitored and analyzed.

**Therefore, it is the recommendation of the City Manager that the City Council accept Alternative No. 1, thereby directing staff to conduct the noted measures.**

Under this alternative, a traffic study will be conducted after these three measures are implemented to determine their success in reducing speeds along Duff Avenue without negatively impacting the adjoining neighborhoods or creating other challenges to the City-wide transportation system. **Should the measures under Alternative No. 1 not prove successful, staff will bring this item back to Council for consideration of other options such as a change in the traffic signal timing plan.**