

To: Mayor and City Council

From: Damion Pregitzer, Traffic Engineer

Date: February 9, 2021

SUBJECT: Delaware Avenue Speed Study

BACKGROUND:

On October 27, 2020, City Council referred a request from Dean and Jean Prestemon regarding traffic safety concerns from residents on Delaware Street near North Dakota Avenue. It should be noted that there were also several email correspondences between staff and the resident regarding this issue prior to Council's referral. In response, City Staff conducted an engineering study; this memo summarizes the result of that study.

Speed data were collected by two detectors placed along the Delaware Avenue corridor. One sensor was located at the intersection with Utah Drive, and the other detector was located at the intersection with Dover Drive. These detectors collected vehicle data from Thursday, October 15, 2020, to Thursday, October 22, 2020 (see map - Attachment 1).

STUDY RESULTS:

Engineering practice uses three statistics when analyzing roadway speed data. These statistics are 1) the **85th Percentile Speed**, which is the speed at which 85% of the drivers are traveling at or slower, 2) the **Pace**, which is the 10 MPH range that contains the highest number of drivers, and 3) **Excessive Speed Percentage**, which is the percentage out of the total drivers which were traveling at 10 MPH, or more, above the posted speed limit. The posted speed limit on Ash Ave throughout the study corridor is 25 MPH.

Traffic calming policies of the City involve two steps; 1) compare the consistency (+/- 5 MPH) of the 85th Percentile Speed and the Pace (upper limit) with the posted speed limit, and 2) compare the number of drivers that are in the Excessive Speed range. **As a rule of thumb, below 5% excessive speeding, staff will work with the Police to conduct periodic enforcement or provide additional guidance signs as needed to**

slow traffic. Recommendations may also include non-physical traffic calming measures (paint, dynamic feedback signs, or warning devices, etc.) as warranted. Between 5% and 10%, staff may recommend physical traffic calming measures that force drivers to slow down (speed humps, curb narrowing, horizontal alignment changes, etc.). However, each location is unique, and the study area's context must be considered before making permanent changes to the roadway. It is also a best practice to consider the cost-benefit of those traffic-calming improvements before installation and committing to their long-term maintenance.

Figure 1 (Utah Drive intersection) and **Figure 2 (Dover Drive intersection)** summarize the three significant speed statistics for each detector location and show histograms visualizing the distribution of observed speeds.

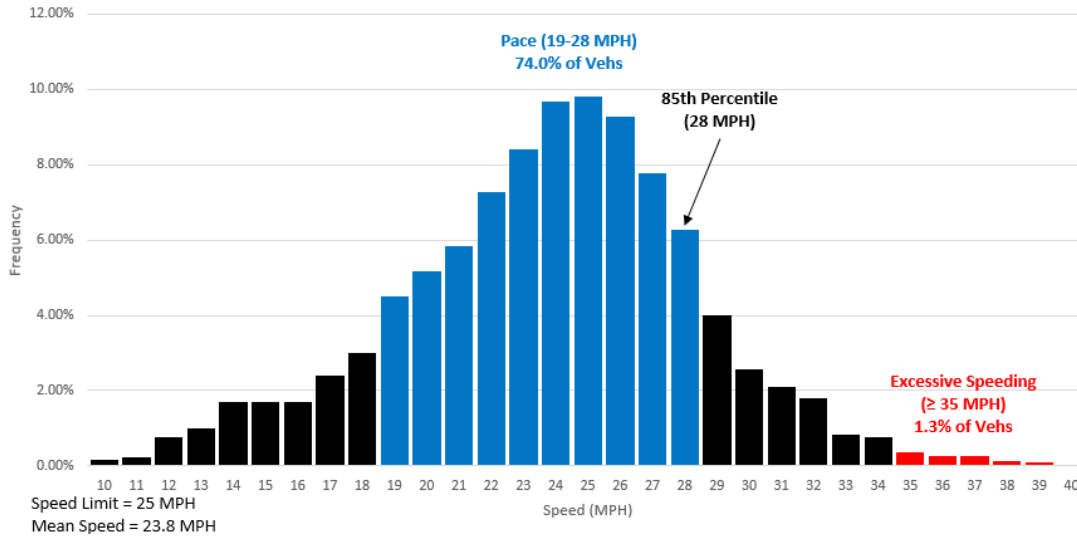


Figure 1: Delaware Ave Detector #1 (Utah Drive) Speed Statistics

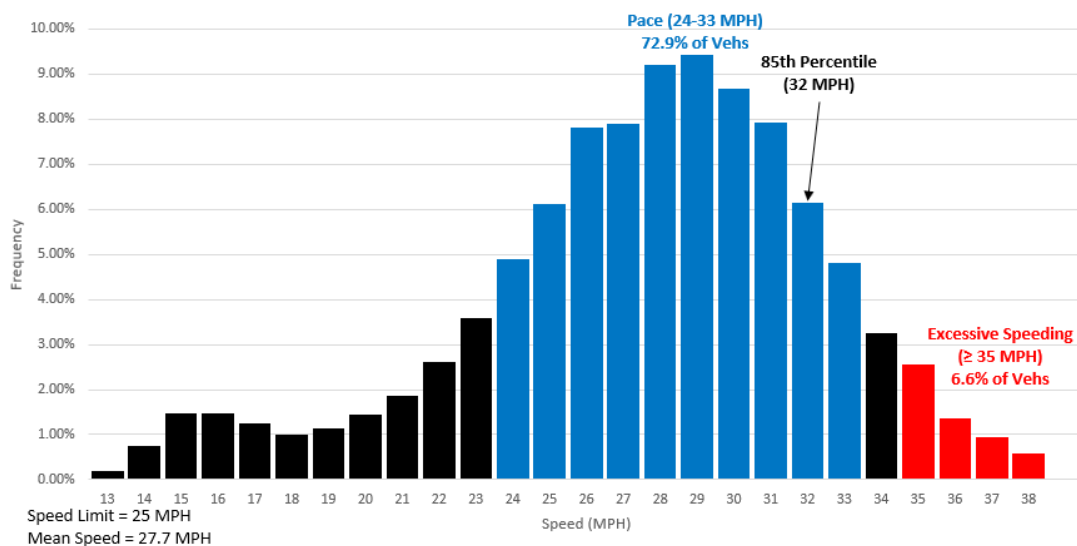


Figure 2: Delaware Ave Detector #2 (Dover Drive) Speed Statistics

For the detector at the intersection of Utah Drive and Delaware Avenue, the 85th percentile speed and upper limit of the pace is 28 MPH. This speed is consistent (within 5 MPH) with the posted speed limit of 25 MPH. The percentage of vehicles excessively speeding (≥ 35 MPH) is 1.3%, which shows no **significant excessive speeding on Delaware Avenue at Utah Drive.**

For the detector at the intersection of Dover Drive and Delaware Avenue, the 85th percentile speed is 32 MPH, and the upper limit of the pace is 33 MPH. These observed speeds are greater than 5 MPH over the posted speed limit of 25 MPH. Additionally, 6.6% of vehicles were excessively speeding (traveling \geq 35 MPH). **These metrics indicate that excessive speeding is noted on Delaware Avenue at Dover Avenue.**

RECOMMENDATIONS:

The study results indicate some excess speeding on Delaware Avenue at the intersection with Dover Avenue. **Before considering any physical changes to the roadway, staff recommends utilizing increased police speed enforcement in this area. Staff will also continue monitoring the effects of increased enforcement on the aggregate speeds in this area by utilizing monthly speed trends taken from the City's data sources. Unless City Council desires additional action, no further Council direction is required.**

The original correspondence expressed concern on the lack of a sidewalk along Delaware, staff did an inventory of the existing sidewalk in the segment of Delaware Avenue. There is a gap in the sidewalk on the west side of the street from around 801 Delaware Ave to Chelsea Ct (approximately 485 feet). On the east side of Delaware there is no sidewalk from North Dakota, north, to 906 Delaware (approximately 1,130 feet).

It should be noted that the City of Ames Complete Streets Policy would require sidewalks on both sides of a residential roadway. Current City Policy would be to accomplish this infill through an assessment project. In the 2025/26 Capital Improvement Program, under the Asphalt Street Pavement Improvements program there is a project along Delaware Avenue from Ontario Street to North Dakota Avenue. It would be a logical to coordinate the sidewalk infill with that project. The sidewalk on the west side of Delaware is estimated to cost \$15,000, and the east side is estimated to be \$35,000. The total expected cost to complete the sidewalk system in this area is \$50,000 (this price includes ADA ped ramp upgrades where needed). **If City Council desires to proceed with sidewalk infill prior to the 2025/26 Asphalt Street Improvements, additional direction can be provided.**