

To: Mayor and City Council

From: Damion Pregitzer, PE, PTOE; Traffic Engineer

Date: February 9, 2021

**SUBJECT: Ash Avenue Speed Study**

## **BACKGROUND:**

On September 3, 2020, and September 13, 2020, neighborhood comments were received by City Council regarding excessive speeding on Ash Avenue. These comments came from residents living on Ash Avenue. They expressed that speeding vehicles pose a safety risk to pedestrians and cyclists along the corridor between Mortensen Parkway and Storm Street. City staff has already been exploring accessibility improvements to the Ash Avenue cycle track's endpoints, based on discussions with Ames Bicycle Coalition.

Speed data was collected by four detectors placed along the Ash Avenue corridor. These detectors were located along Ash Avenue at 1) 711 Ash Avenue, 2) 1006 Ash Avenue, 3) 2220 Ash Avenue, and 4) Ashmore Drive. These detectors collected vehicle data between Monday, September 21, 2020, and Monday, October 5, 2020 (approximately two weeks). Data collected was for both directions of travel.

## **STUDY RESULTS:**

Engineering practice uses three summary statistics when analyzing roadway speed data. These statistics are 1) the **85<sup>th</sup> 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. It 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 (Attachment 1)** summarizes the three significant speed statistics by detector location. **Figures 2-5 (Attachment 1)** show more detailed data summaries for each detector location, including bar graphs visualizing speeds distribution.

**Two study locations (711 Ash Ave and 1006 Ash Ave), located on a straightaway section of Ash Avenue, showed results indicating excess speeding. Well over 5% of vehicles were traveling at excessive speeds (25 MPH or greater). Also, at these two locations, the 85<sup>th</sup> percentile speed and upper limit of the pace were both above the 5 MPH threshold regarding exceeding the posted speed limit.**

The other two study locations (2220 Ash Ave and Ashmore Dr), located on horizontal curves on the southern end of the corridor, showed less excessive speeding than the straightaway locations. **However, between 2-4% of vehicles were still traveling at an excessive speed at these locations. Also, both the 85<sup>th</sup> percentile speed and upper limit of the pace were at or above the 5 MPH threshold compared to the posted limit.**

### **RECOMMENDATIONS:**

To help mitigate both the excessive speeding and the need for improvements to the bike/pedestrian facilities, staff has prepared the proposed improvements as shown on Attachment 2. These improvements include striping a parking lane and double yellow center line between Mortensen Parkway and Country Club Boulevard to reduce the effective lane width to a standard 11' lane, installing two dynamic feedback signs (one in each direction), and adding traffic control at the intersection of Ash Avenue and Country Club Boulevard by making it an all-way stop condition. Improvements to the existing bike/pedestrian facilities include constructing new pedestrian ramps and an enhanced crossing near 920 Ash Avenue to allow better access to the separated facility along the west side of Ash Avenue.

The bike/pedestrian improvements are estimated to cost \$17,000, while the speed mitigation improvements are estimated to cost \$15,000. **The total project cost is estimated to be \$32,000 and utilize available funding from the available balance in Accessibility Enhancement Program.**



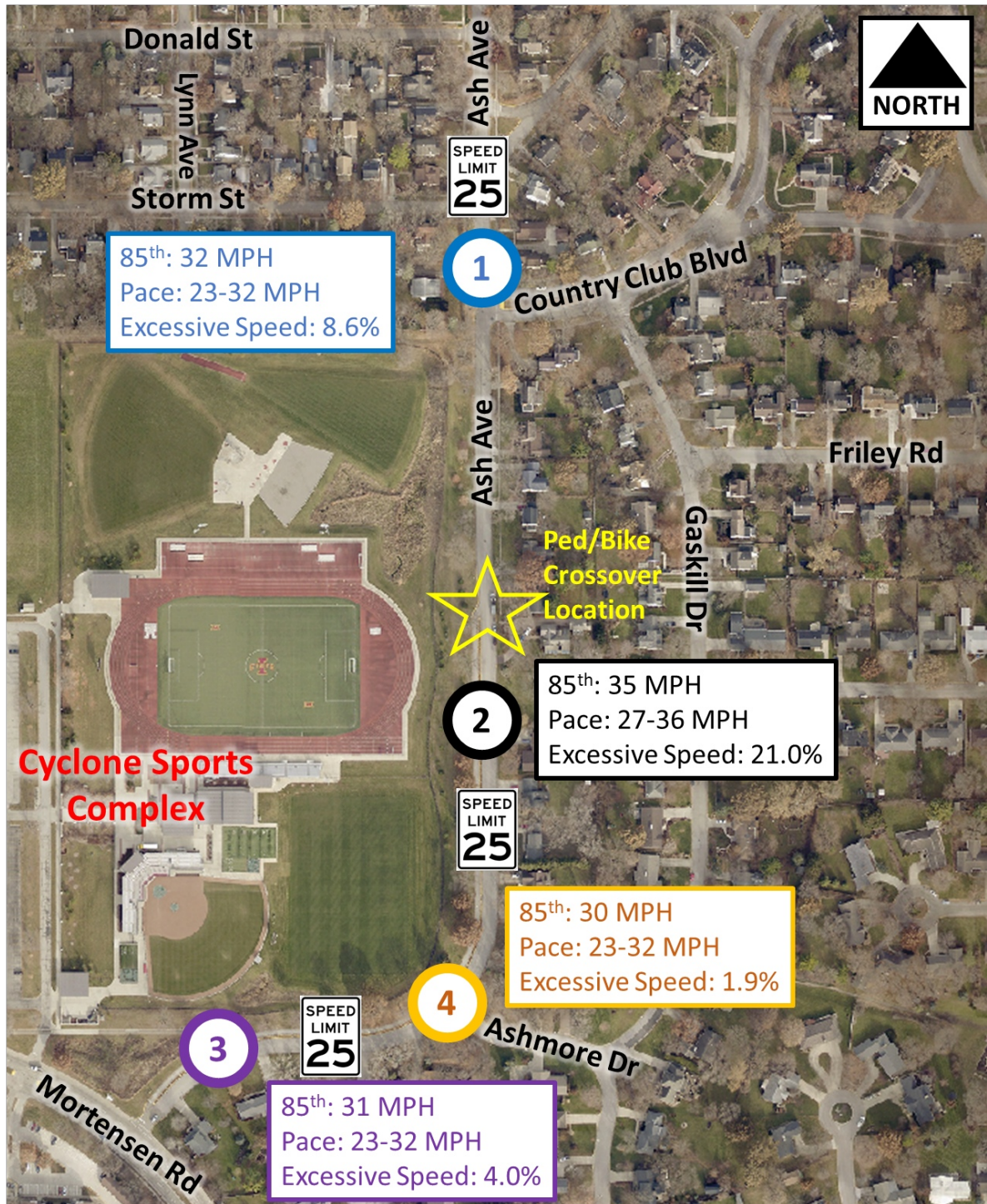


Figure 1: Speed Detector Locations & Statistics

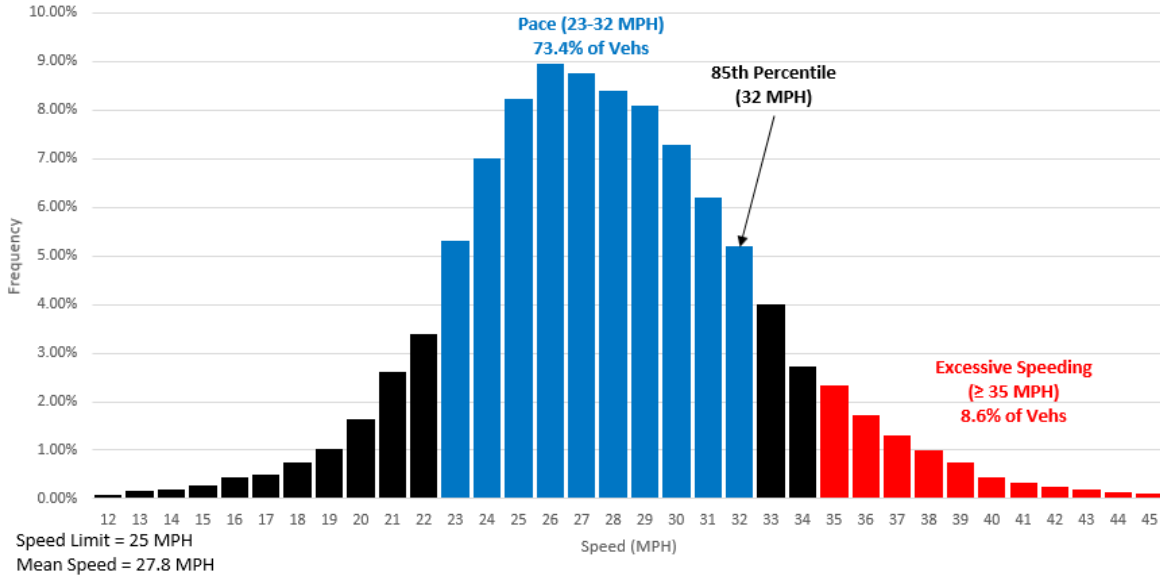


Figure 2: Ash Ave Detector #1 (711 Ash Ave) Speed Statistics

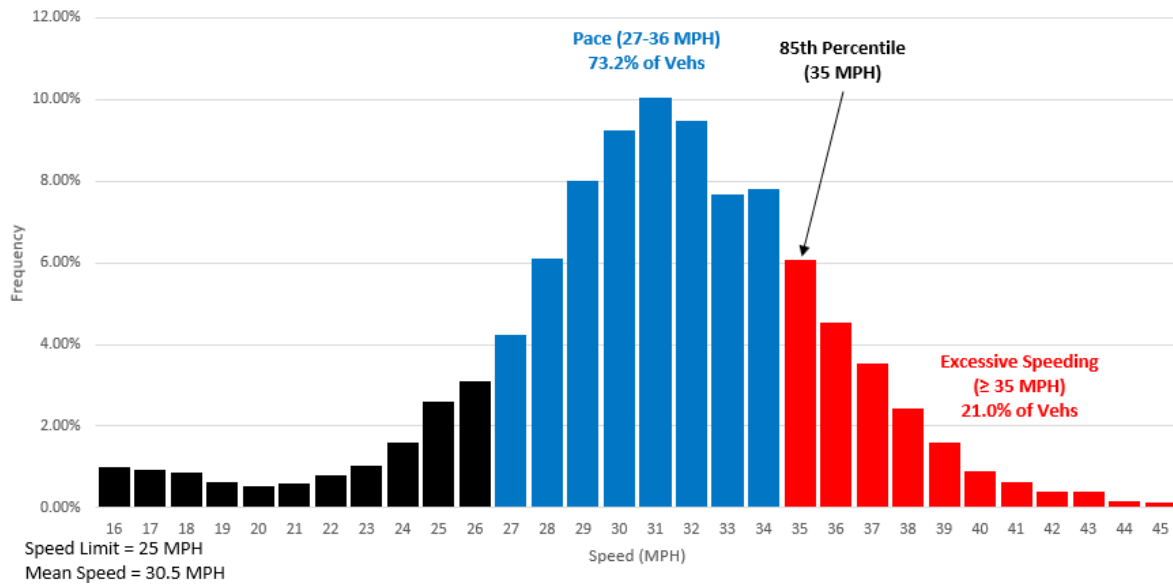


Figure 3: Ash Ave Detector #2 (1006 Ash Ave) Speed Statistics

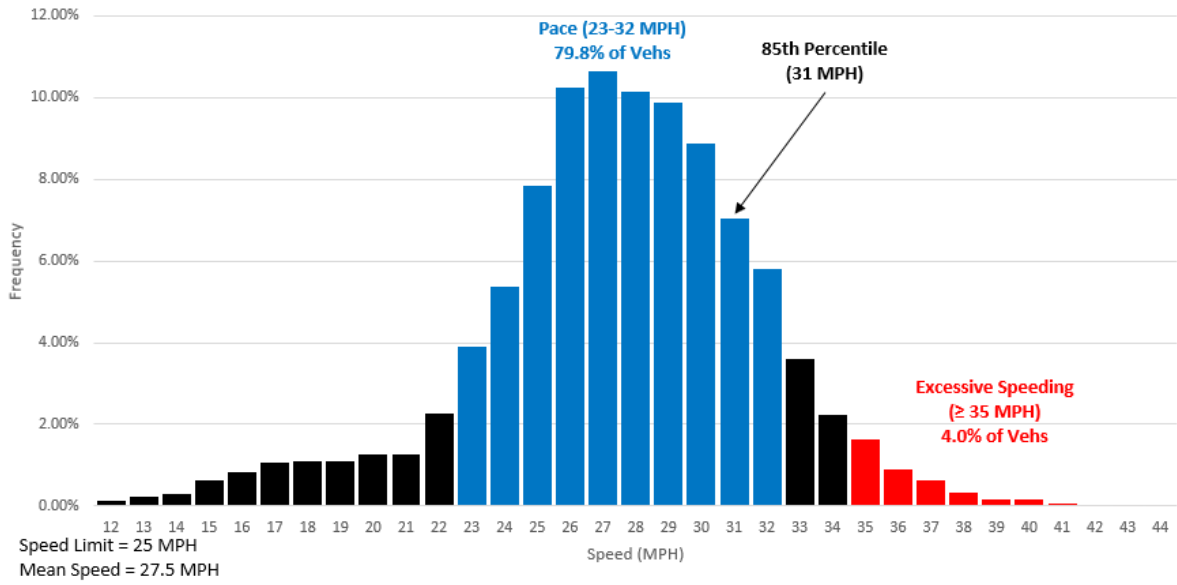


Figure 4: Ash Ave Detector #3 (2220 Ash Ave) Speed Statistics

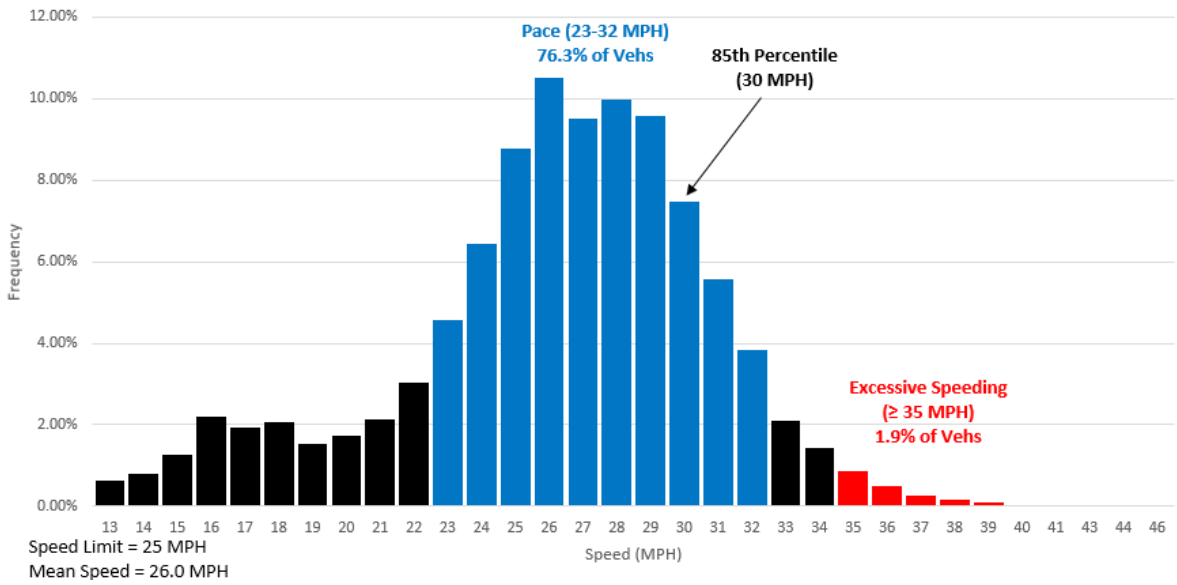


Figure 5: Ash Ave Detector #4 (Ashmore Rd) Speed Statistics