



## Engineering Services

**DATE:** July 9, 2014

**TO:** Vic Pennington, Chairman, PS&T  
Dave Kaplan, Committee member, PS&T  
Jeanette Burrage, Committee member, PS&T  
Dan Brewer, P.E., Planning, Building and Public Works Director  
Tony Piasecki, City Manager

**FROM:** R. Brandon Carver, P.E., P.T.O.E., Engineering Services Manager *RBC 7/9/14*

**SUBJECT:** 8<sup>th</sup> Ave South – North Hill School Zone Flashing Beacons – Evaluation

---

In December of 2013, the City installed school zone flashing beacons for North Hill Elementary on 8<sup>th</sup> Ave South and Aviation School on South 200<sup>th</sup> Street. This memo serves to provide an update as to the effect the school zone flashing lights have on vehicle speeds. The evaluation below is focused on 8<sup>th</sup> Ave South adjacent to North Hill Elementary School. At this time, the Aviation School (former Olympic School site) is not actively used by the school district as a “school”.

8<sup>th</sup> Avenue South has a signed school zone with 20 mph speed plaques along the frontage of North Hill. The posted speed limit is 30 mph. Prior to the installation of the school zone flashing beacons, the school zone signs read “20 MPH – When Children are Present”. Staff did a “before” study of the vehicle speeds during the arrival and dismissal times for the elementary school. Staff used the same time length for arrival times (40 minutes near arrival and 30 minutes near departure) as consistent with the flashing school zone signs for Midway Elementary and Woodmont Elementary. Speeding “violations” were recorded for all speeds greater than 20 MPH, and also speeds 26+ MPH as this is the typical threshold by which the Police Department will enforce a violation in the field. Additionally, only the southbound data was reviewed as this approach has a long stretch of arterial roadway before the school zone as compared to the northbound approach which follows the all-way stop at South 200<sup>th</sup> Street and 8<sup>th</sup> Avenue South. The following “before” data was recorded in April of 2013:

### 2013 - 20+ MPH

8 <sup>th</sup> Avenue South 20+ MPH	312 violations per day
Southbound only 20+ MPH	130 violations per day

### 2013 - 26+ MPH

8 <sup>th</sup> Avenue South 26+ MPH	173 violations per day
Southbound only 26+ MPH	56 violations per day

Flashing beacons were installed in December 2013 along with signs that read “20 MPH – When Flashing” and a follow-up speed study was performed in April 2014. The results and reduction percentages were as follows:

**2014 - 20+ MPH**

8 <sup>th</sup> Avenue South 20+ MPH	191 violations per day (39% reduction)
Southbound only 20+ MPH	86 violations per day (34% reduction)

**2014 - 26+ MPH**

8 <sup>th</sup> Avenue South 26+ MPH	94 violations per day (46% reduction)
Southbound only 26+ MPH	51 violations per day (9% reduction)

In summary, the flashing school zone beacons are very effective at reducing the vehicle speeds within the school zone as compared to the static signs. For both northbound and southbound combined, the flashing lights had about a 40% reduction on the speeds over the posted school zone speed limit of 20 MPH.

The cost of the school zone beacons including installation was approximately \$43,000, this figure represented two school zones. Staff was successful at applying and receiving a grant for \$15,000 to offset these expenses, thus a net expense to the City of approximately \$28,000 for both school zones.

It is recommended, that staff evaluate the vehicle speeds a year from now to see if there is a permanent change in the driving behavior as well as encourage the Police Department to perform some spot enforcement during the flashing times which could provide some additional improvement to 26+ MPH violation numbers (specifically southbound). It is also recommended that staff look at installing school zone flashing beacons at some of the other public elementary schools such as Parkside and Des Moines Elementary (existing or potential future school location). These installations could be partially supported by grant funds if available.