SEH

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MEMORANDUM

TO: Jean Keely, PE
City of Blaine

FROM: Thomas A. Sohrweide, PE, PTOE TAS

DATE: November 30, 2016

RE: Rice Creek Parkway Traffic Study
SEH No. BLAIN 139035

We have conducted a review of Rice Creek Parkway with regard to neighborhood concerns over traffic speed.

Recommendations
Based on our review, we have the following recommendations:

1. Consider the installation of an all-way stop at 93rd Avenue.
2. Change the dashed yellow centerline to double yellow centerline north of median.
3. Install a white edge line on "no parking" side with and without median.
4. Install a yellow edge/center line adjacent to both sides of median.
5. Increase enforcement at the critical time periods.

Background
Rice Creek Parkway is a central segment to a City of Blaine collector roadway which is also a Minnesota Department of Transportation State Aid Roadway that extends from 85th Avenue on the south to 95th Avenue on the north and includes Xylite Street and Flanders Street. The roadway varies in character and design throughout its length.

- Xylite Street from 85th Avenue to Rice Creek Parkway is a 2 lane roadway with a 45 mph speed limit which curves onto Rice Creek Parkway.
- The speed limit changes at Rice Creek Parkway to 30 mph. Rice Creek Parkway from this point north to 91st Avenue has several curves and a center median with parking prohibited on the west/north side and parking allowed on the east/south side. An all-way stop exists at the intersection of Rice Creek Parkway/90th Lane.
- North of 91st Avenue, the roadway becomes Flanders Street with no median, parking prohibited on the west side and allowed on the east side.

The area of focus for the traffic speed concerns is Rice Creek Parkway/Flanders Street from Xylite Street to 95th Avenue.

Traffic Volume
Traffic volume data was collected at three locations in September 2016.

- Rice Creek Parkway east of 88th Avenue
- Flanders Street south of 92nd Avenue
- Flanders Street north of 93rd Avenue

The weekday daily traffic volume was relatively similar in all three areas at approximately 1,400 vehicles per day (vpd). The weekend daily volume was found to be less with approximately 1,250 vpd on Flanders Street and 950 vpd on Rice Creek Parkway.

The current traffic counts were also compared to past counts collected by the City. In 2010, Flanders Street was carrying approximately 1,600 vpd. While this is higher than the volume counted in 2016, operationally this traffic volume is the same.

These traffic volumes are well within the limits for a collector street which can be expected to carry up to 10,000 vpd.

Traffic counts were also collected on 93rd Avenue for use in evaluating the need for intersection control.

Traffic Speed

Traffic speed data was collected in conjunction with the traffic volume data at the same three locations. These locations each provide a different roadway character. The south segment with the median and influence from the roadway curves and all-way stop, the middle segment with roadway curve and relatively proximate to the median, and the north segment being a straight stretch of road with little to no influence from other factors. Following is a summary of the traffic speed data that was collected.

Location	Average Speed (mph)	85th percentile speed (mph)	% of Vehicles Greater than 30 mph
Flanders Street north of 93rd Avenue	35	39	80.5%
Flanders Street south of 92nd Avenue	33	38	71.1%
Rice Creek Parkway east of 88th Avenue	31	35	57.2%

For comparison purposes, the City collected traffic speed data on Flanders Street north of 93rd Avenue in July 2014. The speed data at that time was, Average = 29 mph, 85th Percentile = 36 mph and greater than 30 mph = 64.1%. Traffic speeds on this roadway have increased and are high for this roadway. The speeds are lower on Rice Creek Parkway which is impacted by roadway curves, a center median for narrowing and stop control at 90th Lane. The speeds are higher in the middle segment which is somewhat influenced by the center median, a roadway curve and a southbound lane with no parking. Speeds are yet higher in the north segment is straight and is only influenced by a southbound lane with no parking.

Traffic Calming Alternatives

When dealing with neighborhood traffic concerns, traffic calming techniques are typically considered. Important concerns with the use of traffic calming is to ensure that whatever is used, maintains the roadway as intended by its design and function and to ensure that whatever is used does not create problems on other streets.

Across the country, the most commonly used techniques are stop signs and speed humps. With both of these techniques, when only one isolated installation is used there is generally little or no impact. However, when used in groups, they are often found to be effective.

Speed humps cannot be used due to State Aid requirements. Other concerns with regard to their use involves snow plowing, street sweeping, impact to school buses and emergency vehicles and vehicle noise to nearby properties.

The all-way stop control at 90th Lane is likely unwarranted, but does appear to have some traffic speed impact along with providing pedestrian access to Kane Meadows Park. As mentioned above, to be effective, traffic calming cannot be isolated. Therefore, traffic counts were also taken on 93rd Avenue to determine if that intersection meets the Minnesota Manual on Uniform Traffic Control Devices warrant for the installation of an all-way stop. To meet this warrant traffic volume thresholds need to be exceed for 8 hours of a day. The traffic volumes at this intersection do not exceed the needed volumes for any hours in a day. Stop signs, while not warranted, can be used, and may have an impact on traffic speed, particularly with the existing stop, curve and median to the south. Consideration should be given to installing an all-way stop at the intersection of Flanders Street/93rd Avenue.

Pavement marking can be used to narrow vehicle lanes to better guide and control traffic flow. In areas with roadway curves, better guidance to keep vehicles in their lane controls their speed. Likewise, narrower traffic lanes can be used to control vehicle speeds. We recommend consideration of modifications to the existing pavement marking in this area as follows:

- Replace the dashed yellow center line north of the median with a double yellow center line.
- Install a white edge line on the "no parking" side of the road both in the median and non-median area.
- Install a yellow edge/center line adjacent to both sides of the median.

The original means for traffic speed control is enforcement. This can be effective when dealing with local traffic when done randomly and can be done efficiently when it can be focused on particular time periods. From the speed data, the greatest percentage of traffic speeds over 35 mph over the length of this roadway, occurs from 7:00 – 8:00 AM and from 4:00 – 6:00 PM. We therefore recommend consideration of traffic speed enforcement during these weekday time periods.

We also reviewed if it would be appropriate to establish more control, such as an all-way stop at the south end of this roadway at the intersection of Xylite Street/Rice Creek Parkway. We do not recommend an all-way stop at this intersection due to the following:

- The in-place speed limit change from 45 to 30 mph.
- Adequate speed limit signing.
- The introduction of a center median.
- A curve in the roadway with a design speed of approximately 35 mph.
- No reported vehicle crashes at this intersection in the last 10 years.