



Agenda Item Summary

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Agenda Item Title

A Motion to Concur with the Transportation Commission's Recommendation to Upgrade the Two-Way STOP Signs to All-Way STOP Signs at the Intersection of Berkshire Street and Grove Avenue and Direct Staff to Prepare the Necessary Ordinance

Overview

The Village of Oak Park received a petition to install all-way STOP signs at the intersection of Berkshire Street and Grove Avenue. The Village conducted crash analysis and traffic studies for the intersection. The Transportation Commission voted four to one to recommend upgrading to all-way STOP signs at the intersection of Berkshire Street and Grove Avenue at its August 22, 2016 meeting. Staff is not in agreement with this recommendation.

Staff Recommendation

Staff has concerns with the Transportation Commission's recommendation to upgrade to all-way STOP signs at the intersection of Berkshire Street and Grove Avenue. The Manual on Uniform Traffic Control Devices lists that STOP signs should not be used for speed control.

Fiscal Impact

Staff estimates it will cost less than \$2,000 to install signage and related pavement markings to upgrade from a two-way to an all-way STOP controlled intersection. There are available funds for this work in the FY 2016 Budget in the General Fund, Public Works - Street Services, account no. 1001-43740-761-550634.

Background

On May 10, 2016, the Village of Oak Park received a petition to install all-way STOP signs at the intersection of Berkshire Street and Grove Avenue. Persons representing 53.7% of the street frontage on the petitioning blocks signed the petition. The petition was certified as a valid petition.

Reasons provided for the petition were: concerns about safety due to a recent crash at the intersection, speed of vehicle traffic on the blocks, and vehicle interaction with the school age children using this intersection to walk to various destinations including Mann School and the Julian Middle School bus stop (northwest corner of Grove Ave & Berkshire St). See Attachment A for a copy of the petition and the original letter of explanation which accompanied the petition. See Attachment B for copies of the written public testimony received by the

Village for this item.

A traffic study of the intersection was conducted on Thursday, June 2, 2016. The results were analyzed and then summarized (see Attachment F). Staff also reviewed the crash history of the intersection and generated a collision diagram based on the results (see Attachment G).

The petition was reviewed by the Transportation Commission at its August 22, 2016 meeting. After hearing Staff's presentation and public testimony, the Transportation Commission deliberated on the item. At this meeting, the Transportation Commission voted 4 to 1 in favor of recommending upgrading from two-way STOP signs to all-way STOP signs at the intersection of Berkshire Street and Grove Avenue.

ANALYSIS SECTION

Geometry of the Intersection and Neighborhood Context (Attachments C, D & E):

See Attachment C for a digital aerial photograph of the Berkshire Street and Grove Avenue intersection and the neighboring area. Attachment D shows the traffic control devices on Berkshire Street between Belleforte and Linden Avenues as well as adjacent east-west streets, Division Street and Greenfield Street. Attachment E is the Safe Walking Route to School map for Mann School. The Mann School walking route indicates at the Berkshire Street and Grove Avenue intersection to walk north or south through the intersection with the protection of the existing traffic control devices (east-west STOP signs).

Mann Elementary School is one block west and Field Park is two blocks west of the Berkshire Street and Grove Avenue intersection. While Lindberg Park is two blocks west and one block north of the Berkshire Street and Grove Avenue intersection. As a result, many people in the area that walk to either the park or the school may have occasion to travel through the Berkshire Street and Grove Avenue intersection.

Traffic Study - Volume and Speed (Attachment F):

A twenty-four hour traffic volume count and speed study was conducted on Thursday, June 2, 2016 for the 800 and 830 blocks of Berkshire Street and the 900 and 1000 blocks of North Grove Avenue.

The average daily traffic on the 800 and 830 blocks of Berkshire Street is 1,201 and 1,175 vehicles, respectively. For Grove Avenue, the average daily traffic is 712 vehicles and 655 vehicles for the 900 and 1000 blocks, respectively. Volumes on all four blocks fall within or below the 800 to 1,200 vehicle range for normal daily traffic volumes on the Village's residential streets according to the Village of Oak Park's 1990 Comprehensive Plan.

Regarding vehicular speeds, it is an accepted traffic engineering practice to set the speed limit to the 5 mile per hour increment above or below the 85th percentile speed. Village Staff holds the opinion that the majority of drivers will drive at or near the posted speed limit. In addition, it is an accepted fact that the speed indicated on speedometers can vary up to 2 percent above or below the actual speed of the vehicle.

The 85th percentile speed is the speed at which 85 percent of the vehicles are traveling at or less than. Conversely, 15 percent of the vehicles will be traveling faster than the 85th percentile speed. Speed limits are typically set to the 5 mile per hour increment above or below the 85th percentile speed. This implies that it is

expected that approximately 15 percent of vehicles will be traveling faster than the speed limit, if the speed limit is the 5 mile per hour increment below the 85th percentile speed.

Looking at the 85th percentile speeds for the 800 and 830 blocks of Berkshire Street, the directional speeds for the two blocks range between 23 and 26 miles per hour (mph). The 24-hour survey showed that 14.8% of the eastbound vehicles and 23.6% of the westbound vehicles on the 800 block of Berkshire Street were traveling faster than the posted 25 mph speed limit. For the 830 block of Berkshire Street, the percentage of vehicles traveling faster than the posted 25 mph speed limit were 5.8% for eastbound traffic and 16.6% for westbound traffic.

Looking at the 85th percentile speeds for the 900 and 1000 blocks of North Grove Avenue, the directional speeds for the two blocks range between 28 mph and 29 mph. The 24-hour survey showed that 43.2% of the northbound vehicles and 31.1% of the southbound vehicles on the 900 block of North Grove Avenue were traveling faster than the posted 25 mph speed limit. For the 1000 block of North Grove Avenue, the percentage of vehicles traveling faster than the posted 25 mph speed limit were 45.5% for northbound traffic and 43.4% for southbound traffic.

Based on the collected data, it appears there may be a speeding issue on the 900 and 1000 blocks of North Grove Avenue as well as westbound traffic on the 800 block of Berkshire Street. Village Staff recommends increased enforcement of the 25 mph speed limit to reduce the number of vehicles that are exceeding the speed limit.

The Manual on Uniform Traffic Control Devices lists that STOP signs should not be used for speed control. Studies have shown there is little or no effect on vehicle speeds on residential roads after the installation of STOP signs. Vehicle speeds are reduced within 150 feet of the intersection otherwise the effect of STOP signs on vehicle speeds is negligible. Some motorists increase their speed to make up for the “inconvenience” of stopping, make a “rolling stop”, or disregard the STOP sign.

Crash History - Collision Diagram (Attachment G):

Thirty-six months of vehicle crash reports covering the period of July 2013 through June 2016 were reviewed for the Berkshire Street and Grove Avenue intersection. The number of reported crashes that occurred at the Berkshire Street and Grove Avenue intersection for the thirty-six months ended June 30, 2016 totaled one. This crash was a right angle collision. According to the report, the brakes on the eastbound vehicle failed.

The average daily traffic for the intersection as determined as part of the 2016 traffic study is 1,857 vehicles. From this data, the 2016 crash rate for the Berkshire Street and Grove Avenue intersection is calculated to be 0.492 Acc/MEV.

This crash rate is then compared to the critical crash rate for the particular section of the Village’s area-wide traffic study. For the north section of the area-wide traffic study (Augusta Street to North Avenue and Harlem Avenue to Austin Boulevard), the critical crash rate is 0.686 Acc/MEV. If an actual accident rate exceeds the critical crash rate then it is highly probable that the accidents were caused by factors other than chance.

The 2016 crash rate is lower than the critical crash as determined in the area-wide traffic study of 1998 (0.686

Acc/MEV). In conclusion, there does not appear to be a problem with vehicle crashes at the Berkshire Street and Grove Avenue intersection.

Alternatives

Deny the recommendation and the intersection remains two-way east-west STOP controlled for Berkshire Street at Grove Avenue.

Previous Board Action

N/A.

Citizen Advisory Commission Action

The Transportation Commission recommended the following:

1. Approve the upgrade from two-way STOP signs to all-way STOP signs at the intersection of Berkshire Street and Grove Avenue with consideration that there may be other alternative traffic calming strategies that could better address the speeding issue.
2. Install continental crosswalks on all four legs of the Berkshire Street and Grove Avenue intersection.

Anticipated Future Actions/Commitments

Subject to consensus of the Village Board, staff will submit an Ordinance to the Village of Oak Park Board for adoption for the installation of the north-south STOP signs at the intersection of Berkshire Street and Grove Avenue at a future Board meeting.

Intergovernmental Cooperation Opportunities

N/A

Performance Management (MAP) Alignment

N/A.