



Agenda Item Summary

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Submitted By

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Reviewed By

LKS

Agenda Item Title

A Motion to Concur with the Transportation Commission's Recommendation to Upgrade the Two-Way, East-West YIELD Signs to Two-Way STOP Signs at the Intersection of Adams Street and Kenilworth Avenue and Direct Staff to Prepare the Necessary Ordinance

Overview

The Village of Oak Park received a petition to upgrade from east-west YIELD signs to all-way STOP signs at the intersection of Adams Street and Kenilworth Avenue. The Village conducted crash analysis and traffic studies for the intersection. The Transportation Commission voted six to one to recommend upgrading to two-way STOP signs at the intersection of Adams Street at Kenilworth Avenue at its March 22, 2018 meeting.

Staff Recommendation

Approve the Motion.

Fiscal Impact

Staff estimates it will cost less than \$1,500 to install signage and related pavement markings to upgrade from a two-way YIELD signs to a two-way STOP controlled intersection. There are available funds in the FY2018 General Fund, Public Works - Street Services, account no. 1001-43740-761-550634 for this work.

Background

On June 26, 2017, the Village of Oak Park received a petition to upgrade to all-way STOP signs at the intersection of Adams Street and Kenilworth Avenue.

Persons representing 42.8% of the street frontage on the petitioning blocks signed the petition. A copy of the petition was sent to the petitioner requesting additional signatures be obtained on the petition to make the petition valid. On November 6, 2017 the petition was resubmitted with additional signatures. Persons representing 52.9% 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: YIELD signs are generally not observed, many near misses were witnessed or heard, concerns about vehicles traveling at excessive speeds on Kenilworth Avenue, safety of the number of families with children in the area. See Attachment A for a copy of the petition and the related letter of explanation.

See Attachment B for copies of the written public testimony received by the Village for this item. There are a total of ten emails included in the written public testimony; all in support of the upgrade to all-way STOP signs at the intersection of Adams Street and Kenilworth Avenue.

A twenty-four hour traffic volume count and speed study was conducted on Tuesday, December 19, 2017 for the 845 and 900 blocks of Adams Street and 600 and 700 blocks of South Kenilworth Avenue. The results were analyzed and then summarized (see Attachment E).

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 March 22, 2018 meeting. Staff gave a presentation on the issue including: background on the petition, history of traffic control devices at the intersection, analysis of the collected traffic data and collision diagram. Area residents provided public testimony on the item. After hearing Staff's presentation and public testimony, the Transportation Commission deliberated on the item. The approved minutes for the March 22, 2018 Transportation Commission meeting are included as Attachment H.

At the March 22, 2018 meeting, the Transportation Commission voted 6 to 1 in favor of recommending to upgrade the intersection of Adams Street and Kenilworth Avenue from two-way, east-west YIELD controlled to two-way STOP controlled intersection.

ANALYSIS SECTION

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

See Attachment C for digital aerial photograph of the Adams Street and Kenilworth Avenue intersection and the neighboring area. Fox Park is three blocks east of the intersection. Attachment D shows the traffic control devices on Adams Street between Harlem Avenue and Oak Park Avenue as well as adjacent east-west streets, Jackson Boulevard and Monroe Street.

Traffic Study - Volume and Speed (Attachments E & F)

Reviewing the 24-hour volumes, the average daily traffic on the 845 and 900 blocks of Adams Street was 391 and 322 vehicles, respectively. For Kenilworth Avenue, the average daily traffic was 181 vehicles and 280 vehicles for the 600 and 700 blocks of South Kenilworth Avenue, respectively. Please see Attachment E for a summary of the vehicle traffic study results. Volumes on all four blocks fall below the 800 to 1,200 vehicle range for typical average daily traffic volume on the Village's residential streets.

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.

By definition, 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. It has already been stated that 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 845 and 900 blocks of Adams Street, the directional speeds for the two blocks range between 24 and 27 miles per hour (mph). The 24-hour survey showed that 10.2% of the eastbound vehicles and 10.3% of the westbound vehicles on the 845 block of Adams Street were traveling faster than the posted 25 mph speed limit. For the 900 block of Adams Street, the percentage of vehicles traveling faster than the posted 25 mph speed limit were 26.7% for eastbound traffic and 12.5% for westbound traffic.

Looking at the 85th percentile speeds for the 600 and 700 blocks of South Kenilworth Avenue, the directional speeds for the two blocks range between 23 mph and 27 mph. The 24-hour survey showed that 22.9% of the northbound vehicles and 11.2% of the southbound vehicles on the 600 block of South Kenilworth Avenue were traveling faster than the posted 25 mph speed limit. For the 700 block of South Kenilworth Avenue, the percentage of vehicles traveling faster than the posted 25 mph speed limit were 8.7% for northbound traffic and 3.8% for southbound traffic.

Based on the collected traffic data, it appears there is not a speeding issue on any of the four blocks studied (845 & 900 blocks of Adams Street and 600 & 700 blocks of South Kenilworth Avenue).

Note: 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, or make a “rolling stop” at the intersection, or disregard the STOP signs.

Attachment F provides a summary of the number of pedestrians crossing any of the Adams Street and Kenilworth Avenue intersection’s four legs during the 7:00AM-9:00AM and 2:00PM-4:00PM time periods. Also included in the summary is the number of vehicles traveling through the intersection during these same time periods. For the morning two hour period, 48 pedestrians crossed one of the legs of the intersection while 97 vehicles traveled through the intersection. In the afternoon two hour period, 34 pedestrians crossed a leg of the intersection while 85 vehicles traveled through the intersection.

Crash History - Collision Diagrams (Attachment G)

Next, thirty-six months of vehicle crash reports covering the period of March 2015 through February 2018 were reviewed for the Adams Street and Kenilworth Avenue intersection. Please see Attachment G for the collision diagram. In 1997, the intersection was studied as part of the Village’s area-wide traffic study. At that time, the number of reported crashes at the intersection in the 36 month period

totaled zero, while the average daily traffic was 881 vehicles. The 1997 crash rate for the Adams Street and Kenilworth Avenue intersection was calculated to be 0.000 accidents per million entering vehicles (Acc/MEV).

The number of reported crashes that occurred at the Adams Street and Kenilworth Avenue intersection for the thirty-six months ended February 28, 2018 totaled three. The average daily traffic for the intersection as determined as part of this traffic study is 587 vehicles. From this data, the 2018 crash rate for the Adams Street and Kenilworth Avenue intersection is calculated to be 4.667 Acc/MEV.

This crash rate is then compared to the critical crash rate as determined for the particular section of the Village's area-wide traffic study. For the south middle section of the area-wide traffic study (South Boulevard to I-290 Expressway and Harlem Avenue to Austin Boulevard), the critical crash rate is 1.029 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 2018 crash rate for the intersection of Adams Street and Kenilworth Avenue (4.667 Acc/MEV) is higher than the critical crash as determined in the area-wide traffic study of 1997 (1.029 Acc/MEV).

Two of the three crashes involved vehicles hitting a parked car. The third crash involved a driver trying to evade the police. None of the reported crashes would have been prevented if the Adams Street and Kenilworth Avenue intersection was an all-way STOP controlled intersection. Thus the 2018 *correctible* crash rate is 0.000 Acc/MEV.

According to the recommendations from the Village of Oak Park's 1997 area-wide traffic study - "At YIELD sign controlled intersections, STOP signs will be installed when the actual crash rate exceeds the critical crash rate." This recommendation from the area-wide traffic study does not differentiate between correctible crashes and crashes that would not be corrected by the installation of STOP signs.

Since the 2018 crash rate for the intersection of Adams Street and Kenilworth Avenue (4.667 Acc/MEV) exceeds the critical crash rate for that area of the Village (1.029 Acc/MEV), Village staff is recommending to upgrade the intersection of Adams Street and Kenilworth Avenue from two-way, east-west YIELD signs to two-way, east-west STOP signs on Adams Street at Kenilworth Avenue.

Alternatives

The alternative to this recommendation could be to delay action to gain additional information.

Previous Board Action

N/A.

Citizen Advisory Commission Action

The Transportation Commission recommended the following:

1. Upgrade from east-west YIELD signs to two-way STOP signs.
2. Add speed radar signs on Kenilworth Avenue between Adams Street and Monroe Street, and based on the number of cars traveling over 26 miles

3. Complete a follow up study.

The motion passed six to one.

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 east-west STOP signs on Adams Street at Kenilworth Avenue at a future Board meeting.

Intergovernmental Cooperation Opportunities

N/A.

Performance Management (MAP) Alignment

N/A.