



Agenda Item Summary

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Agenda Item Title

A Motion to Concur with the Transportation Commission's Recommendations for Traffic Calming at the Intersection of East Avenue and Greenfield Street Including Upgrading from a Two-Way to Four-Way Stop and Installing Bump Outs on the South Side of East Avenue and Direct Staff to Prepare the Necessary Ordinance

Overview

At the April 11th Transportation Commission (TC) meeting, the TC reviewed a traffic calming petition for the intersection of East Avenue and Greenfield Street to address speeds on East Avenue as well as concerns about pedestrian safety as the intersection is one block to the east of St. Giles Church and School which means there's not only more traffic but also more students and people walking through the intersection. The TC recommended upgrading the intersection from 2-way STOP signs to all-way STOP signs at the intersection, upgrading the crosswalk markings on the southern leg from regular to high visibility pavement markings, deploy portable speed radar signs at the intersection, and implement temporary bump outs on the southern leg of the intersection via the paint and post treatment.

Recommendation

Approve the Motion.

Staff Recommendation

Approve the Motion.

Fiscal Impact

Staff estimates it will cost less than \$1,000 to install the additional STOP signs and pavement markings at the intersection. The FY2023 Budget includes funds for this work in the General Fund, Public Works - Street Services, account no. 1001-43740-761-560634. There is minimal costs for the curb bump outs at this location since the Village is already intending on replacing the curbs and sidewalk ramps as part of the upcoming 23-2 Resurfacing of Various Streets Project in order to make the sidewalk ramps compliant with the ADA requirements. These curb and sidewalk costs are included in the project's costs funded through the CIP fund for local street resurfacing.

Background

On November 26, 2019, residents submitted a petition to install a traffic calming measure at the intersection of East Avenue and Greenfield Street and related letter of explanation. Residents representing 69.26% of the street frontage for the intersection of East Avenue & Greenfield Street signed the petition. The petition was certified as a valid petition.

Reasons provided for the East Avenue and Greenfield Street petition includes: concerns about pedestrian safety as motorists speed on East Avenue, drivers on Greenfield Street mistakenly expect the intersection to be all-way STOP controlled, the intersection is one block to the east of St. Giles church and school which means there's not only more traffic but also more students and people walking in the intersection.

See Attachment A, for a copy of the letters of explanation. See Attachment B for copies of the written public testimony received by the Village for this petition.

The petition was reviewed by the Transportation Commission at its April 11, 2023 meeting. Staff gave a presentation on the issues including: background on the petition, history of the area, analysis of the collected traffic data and collision diagrams. The organizers of the petitions provided public testimony on the item. After hearing Staff's presentation and public testimony, the Transportation Commission deliberated on the item. The minutes for the draft April 11, 2023 Transportation Commission meeting are included as Attachment F.

At the April 11, 2023 meeting, the Transportation Commission voted five to zero in favor of the following recommendations for the intersections of East Avenue and Greenfield Street: 1) upgrade the intersection from 2-way STOP signs on Greenfield Street to all-way STOP signs at the intersection of East Avenue and Greenfield Street, 2) upgrade the crosswalk markings on the southern leg from regular to high visibility pavement markings, 3) deploy portable speed radar signs at the intersection, and 4) implement temporary bump outs on the southern leg of the East Avenue and Greenfield Street intersection via the paint and post treatment.

Pending Village Board approval of this Motion, staff will incorporate the improvements at this intersection as part of the 23-2 Resurfacing of Various Streets project which includes the street resurfacing and sidewalk ramp improvements on Greenfield from Columbian to Elmwood Avenues. Staff would not construct the bump outs using the temporary delineator posts and paint as recommended by the Transportation Commission but would make these permanent since the corners will be replaced with this resurfacing project and there is no need for the temporary measures while waiting for an upcoming construction project to construct the physical improvements.

Analysis Section

Traffic Study - Volume and Speed (Attachment C)

A directional twenty-four-hour traffic volume and speed study was conducted on Tuesday, December 13, 2022 for the 1000 and 1100 blocks of North East Avenue and the 527 and 600 blocks of Greenfield Street. Similar data was collected for the intersection on Tuesday, September 19, 2017. See **Attachment C** for a summary of the results of the studies.

Reviewing the 24-hour volumes collected in 2022 for the blocks studied; the two-way average daily traffic (ADT) for the blocks ranged between 754 vehicles and 1,481 vehicles. Volumes for the Greenfield St blocks fall at or below the 800 to 1,200 vehicle range for typical daily volumes on residential blocks within the Village of Oak Park. Vehicle volume results for the East Avenue blocks studied are above the 1,200 vehicles per day threshold. However, East Avenue is classified as a collector street in the Village. Collector streets serve as a feeder from the less-frequently traveled residential blocks to the more heavily traveled arterial roads and are expected to carry more traffic than residential blocks. Therefore, vehicle volume results for the 1000 and 1100 blocks of North East Avenue are not considered excessive.

A directional twenty-four-hour traffic volume and speed study was conducted in 2017, the Greenfield Street volumes were 1,053 and 788 vehicles which is within the 800 to 1200 vehicle range for typical volumes on Oak Park's residential blocks. The volumes on the East Avenue blocks were 1,558 and 1,673 vehicles. While higher than volumes recorded in 2022, it is still on the low end for collector streets in the Village of Oak Park.

Based on the collected traffic data, it does not appear there is an issue with the volume of vehicles traveling on the blocks of the intersection.

Regarding vehicular speeds, it is an accepted traffic engineering practice to set the speed limit to the 5 mile per hour (mph) 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 mph 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 in the 5 mph increment below the 85th percentile speed.

Based on the review of the vehicle speed data from the December 13, 2022 traffic study results, the 85th percentile speeds for all blocks studied ranged between 24.3 mph and 30.1 mph. Only the western leg of the intersection, the 600 block of Greenfield Street, is at or below the posted speed limit of 25 mph. Consequently, the 85th percentile speeds collected in this 2022 traffic study are slightly higher than expected for blocks with 25 mph speed limit.

Next is the review of the September 19, 2017 vehicle speeds for all legs of the intersection. The 85th percentile speeds for the legs of the intersection ranged between 22 mph and 27 mph. As previously mentioned, it's expected that the majority of motorists will drive at or close to the speed limit and that speeds indicated on speedometers can vary above or below the actual speed of the vehicle. Consequently, the 85th percentile speeds calculated in the 2017 traffic study is what staff would consider within the range of the speed limit.

Based on the 2022 data collected, there appears to be a minor speeding issue at the intersection of

East Avenue and Greenfield Street.

Traffic Study - Turning Movement Counts (Attachment D)

Peak hour turning movement counts (TMC) was collected on Tuesday, December 13, 2022 for the AM and PM peak hours as well as the afternoon (**see Attachment D**). The data provided is for the AM and PM peak hours of vehicle travel as well as during arrival and dismissal time periods of St Giles School. Results include both vehicle movements and pedestrian counts. The AM and afternoon time periods coincide with St Giles School arrival and dismissal times. For the AM and afternoon periods, the majority of pedestrians cross East Ave on the southern leg.

Crash History - Collision Diagrams (Attachment E)

Forty-eight months of vehicle crash reports covering the period of March 1, 2019 through February 28, 2023 were reviewed for the intersection of East Avenue and Greenfield Street. Please see **Attachment E** for the collision diagram.

The number of reported crashes that occurred at the East Avenue and Greenfield Street intersection totaled four crashes. Three of the crashes were right angle collisions; the fourth was an opposite direction sideswipe. The average daily traffic (ADT) for the intersection as determined as part of the Village's 1997 area-wide traffic study was 2,199 vehicles. From this data, the 2023 crash rate for the intersection of East Avenue & Greenfield Street is calculated to be 1.246 accidents per million entering vehicles (Acc/MEV).

The East Avenue and Greenfield Street & Lombard Avenue intersection was part of the north section of the Village's 1997 areawide traffic study (from North Avenue to Augusta Street between Harlem Avenue and Austin Boulevard). The critical crash rate for the north section was calculated to be 0.686 Acc/MEV. The significance of the critical crash rate is if an actual crash rate exceeds the critical crash rate then it is highly probable that the accidents were caused by factors other than chance. This intersection's 2023 crash rate is above the critical crash rate calculated for the north section of the Village.

In conclusion, there seems to be an issue with vehicle crashes at the intersection of East Avenue and Greenfield Street.

Alternatives

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

Previous Board Action

N/A.

Citizen Advisory Commission Action

At its April 11, 2023 meeting, the Transportation Commission recommended the following:

1. Upgrade the intersection from 2-way STOP signs on Greenfield Street to all-way STOP signs at the intersection of East Avenue and Greenfield Street,

2. Upgrade the crosswalk markings on the southern leg from regular to high visibility pavement markings,
3. Deploy portable speed radar signs at the intersection, and
4. Implement temporary bump outs on the southern leg of the East Avenue and Greenfield Street intersection via the paint and post treatment.

The motion passed five to zero.

Anticipated Future Actions/Commitments

There is a separate agenda item at tonight's meeting for an Ordinance to establish all way Stops at the intersection of East Avenue with Greenfield Street.

Intergovernmental Cooperation Opportunities

None at this time.