

1. Jefferson Avenue and West Street Intersection

At the December TAB meeting, City staff was asked to bring more information regarding the data behind the decision to not make Jefferson Avenue and West Street an all-way stop.

As with current practice, all-way stop controls for intersections which include a through street (Collector Streets and Arterials) are subject to warrants outlined in the MUTCD (Federal Highway Administration's Manual on Uniform Traffic Control Devices) only, not Naperville's Residential All-Way Stop Policy.

The following criteria (as stated in the MUTCD) should be considered in the engineering study for a multi-way STOP sign installation:

- A. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

Traffic control signals are not justified at this intersection.

- B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.

2020: 1 crash, 0 correctable by a stop sign installation.

2019: 0 crashes

2018: 3 crashes, 2 correctable by a stop sign installation.

2017: 1 crash, 0 correctable by a stop sign installation.

2016: 1 crash, 1 correctable by a stop sign installation.

This intersection does not have five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation.

- C. Minimum volumes:

- 1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and

Data was collected during peak hours of the day (6:00AM – 9:00AM and 2:00PM – 6:00PM). During the peak hours of the day the vehicular volume entering the intersection from the major street approaches (Jefferson Avenue) averaged at least 300 vehicles per hour every hour besides 6:00AM – 7:00AM.

- 2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least

200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but

Data was collected during peak hours of the day (6:00AM – 9:00AM and 2:00PM – 6:00PM). During the peak hours of the day the combined vehicular, pedestrian, and bicycle volumes entering the intersection from the minor street (West Street) approaches did not average at least 200 units per hour for any of the hours when data was collected. West Street averaged about 60 units per hour during the hours in which data was collected. These hours were the peak volume hours of the day.

3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in items 1 and 2.

The 85th percentile approach speed of the major street does not exceed 40 mph.

- D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Only Criteria C.1 is satisfied to 80 percent of the minimum values. Criteria D does not meet.

The intersection of Jefferson Avenue and West Street does not meet the MUTCD criteria to be an all-way stop. The curb bulb outs that are recommended for this intersection will act as a traffic calming tool for Jefferson Avenue along with enhancing safety for the pedestrians that use the crosswalk.

2. Crosswalks around Washington Junior High School (Includes Eagle Street and Spring Avenue)

At the December TAB meeting, City staff was asked to bring back more information on the crosswalks that are being taken out at Spring Avenue and Eagle Street along with Spring Avenue and Big Rail Drive.

With the addition of an all-way stop sign at Spring Avenue and Webster Street, the safest way to cross Spring Avenue is at Webster Street and not at Eagle Street or Big Rail Drive. Changes will also be made to the School Walk Routes for both Washington Junior High School and Naper Elementary School to have children crossing at Spring Avenue and Webster Street. With the crosswalks at Spring Avenue/Eagle Street and Spring Avenue/Big Rail Drive being taken out, it does not mean that pedestrians are not allowed to cross at those intersections. The School District supports the recommendation to take out the two crosswalks and to promote children to cross at Spring Avenue and Webster Street.

3. Douglas Avenue Improvements

Residents who spoke at the December TAB were concerned with the limited recommendations for Douglas Avenue between Mill Street and Jefferson Avenue. TAB asked City staff to bring back more information regarding this.

Douglas Avenue between Mill Street and Jefferson Avenue is labeled a Neighborhood Connector. Neighborhood Connectors in Naperville have a typical volume of 500 – 5,000 vehicles per day. Douglas Avenue had the vehicle counts at four locations between Mill Street and Jefferson Avenue.

Location	Daily Traffic Volume
Ewing Street – Mill Street	1,047
Fremont Street – West Street	969
Parkway Drive – Wilson Avenue	673
Jefferson Avenue – Parkway Drive	637

With these vehicle numbers being in the bottom half of the 500 – 5,000 vehicle range which is typical for Neighborhood Connectors in Naperville, City staff agrees with the recommendations as they are for Douglas Avenue between Mill Street and Jefferson Avenue.

Additionally, Neighborhood Connectors in Naperville have a typical 85th-Percentile Speed range of 29-34 mph. Douglas Avenue had speed data collected at four locations between Mill Street and Jefferson Avenue.

Location	85 th Percentile Speeds NB/EB	85 th Percentile Speeds SB/WB
Jefferson Avenue -Parkway Drive	30 mph	30 mph
Parkway Drive – Wilson Avenue	27 mph	29 mph
Fremont Street – West Street	27 mph	27 mph
Ewing Street – Mill Street	27 mph	24 mph

With these speeds being at or below the typical 85th-percentile range for Neighborhood Connectors, city staff agree with the recommendations of an enhanced speed limit sign at Douglas Avenue/Parkway Drive and Douglas Avenue/Laird Street and the recommendation of targeted speed enforcement/use of speed radar trailer.

4. Douglas Avenue and Parkway Drive Intersection

Douglas Avenue and Parkway Drive was not studied as part of this traffic study. When deciding on locations for the speed and volume studies, city staff sent out a survey monkey in early 2019 to determine which locations the consultants should focus on for the traffic study. Douglas Avenue and

Parkway Drive was not chosen as residents did not imply that it was a priority intersection in the survey.

Safety concerns at the intersection of Douglas Avenue and Parkway Drive were raised by some residents at the December meeting. TAB requested that City staff review this location.

Northbound and southbound Parkway Drive traffic currently stop for vehicles on Douglas Avenue (two-way stop control). The south, east, and west approaches primarily serve neighborhood traffic and residential driveways. The north approach serves two residential driveways and the entrance to the Burlington Park Forest Preserve.

Staff reviewed the crash history at this location. In the past five years, only one reported crash has occurred near this intersection at 1009 Douglas Avenue in 2016. This crash would not have been correctable with an all-way stop at this intersection.

Speed data on Douglas Avenue in the vicinity of Parkway Drive indicated that traffic is moving within or below the Citywide 85th percentile speed range. No significant sight obstruction were found at this intersection. Based on this information, staff found no significant safety concerns with the operations of this intersection.

5. Jefferson Avenue Improvements

At the December TAB meeting, City staff was asked to bring more information regarding the recommended improvements on Jefferson Avenue.

Jefferson Avenue between Eagle Street and Douglas Avenue is labeled a Collector Street. Collector Streets in Naperville have a typical volume of 5,000 – 12,000 vehicles per day. Jefferson Avenue had the vehicle counts at three locations between Eagle Street and Douglas Avenue.

Location	Daily Traffic Volume
Parkway Drive – West Street	6,764
West Street – Ewing Street	6,071
Mill Street – Eagle Street	4,841

With these vehicle numbers being in the bottom half of the 5,000 – 12,000 vehicle range which is typical for Collector Streets in Naperville, City staff agrees with the recommendations as they are for Jefferson Avenue between Eagle Street and Douglas Avenue.

Additionally, Collector Streets in Naperville have a typical 85th-Percentile Speed range of 29-34 mph. Jefferson Avenue had speed data collected at three locations between Eagle Street and Douglas Avenue.

Location	85 th Percentile Speeds NB/EB	85 th Percentile Speeds SB/WB
Parkway Drive – West Street	33 mph	34 mph
West Street – Ewing Street	29 mph	29 mph
Mill Street – Eagle Street	24 mph	24 mph

With these speeds being at or below the typical 85th-percentile range for Collector Streets, city staff agree with the recommendations of an enhanced speed limit signs for both directions at Jefferson/Ewing and Jefferson/Parkway, the recommendation of targeted speed enforcement/use of speed radar trailer, and the recommendation of curb extensions at Jefferson/West.

6. Mill Street and Douglas Avenue Intersection

TAB members noted Mill Street and Douglas Avenue as an intersection that needed to be further looked at by City staff.

As with current practice, all-way stop controls for intersections which include a through street (Collector Streets and Arterials) are subject to warrants outlined in the MUTCD only, not Naperville’s Residential All-Way Stop Policy.

The following criteria (as stated in the MUTCD) should be considered in the engineering study for a multi-way STOP sign installation:

- A. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

Traffic control signals are not justified at this intersection.

- B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.

- 2020: 0 crashes
- 2019: 3 crashes, 2 correctable with a stop sign installation.
- 2018: 2 crashes, 1 correctable with a stop sign installation.
- 2017: 2 crashes, 1 correctable with a stop sign installation.
- 2016: 3 crashes, 1 correctable with a stop sign installation.

This intersection does not have five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation.

C. Minimum volumes:

1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and

Data was collected during peak hours of the day (6:00AM – 9:00AM and 2:00PM – 6:00PM). During the peak hours of the day the vehicular volume entering the intersection from the major street approaches (Mill Street) averaged at least 300 vehicles per hour every hour besides 6:00AM – 7:00AM.

2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but

Data was collected during peak hours of the day (6:00AM – 9:00AM and 2:00PM – 6:00PM). During the peak hours of the day the combined vehicular, pedestrian, and bicycle volumes entering the intersection from the minor street (Douglas Avenue) approaches did not average at least 200 units per hour for any of the hours when data was collected.

3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in items 1 and 2.

The 85th percentile approach speed of the major street does not exceed 40 mph.

- D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Only Criteria C.1 is satisfied to 80 percent of the minimum values. Criteria D does not meet.

The intersection of Mill Street and Douglas Avenue does not meet the MUTCD criteria to be an all-way stop. The curb bulb outs that are recommended for this intersection will act as a traffic calming tool for Mill Street along with enhancing safety for the pedestrians that use the crosswalk.

7. Additional traffic on Mill Street and Webster Street because of one-way conversion at Eagle Street

At the December TAB meeting, City staff was asked to bring back more information on how much additional traffic would be moved to Mill Street, Washington Street and Webster Street because of the recommended one-way conversion southbound at Eagle Street.

Approximately 1,500 to 2,000 vehicles throughout an entire day will have to find alternative routes for northbound traffic. Webster Street was not studied as part of this traffic study. When deciding on locations for the speed and volume studies, City staff sent out a survey in early 2019 to determine which locations the consultants should focus on for the traffic study. Webster Street was not chosen as residents did not imply that it was a priority intersection in the survey. Staff can use City data to find out what the ADT of Webster Street is. From data that was taken in April and June of 2019, Webster Street has an ADT of around 1,000 vehicles from Jefferson Avenue to Benton Avenue, and then an ADT of around 500 vehicles from Benton Avenue to Spring Avenue. The typical ADT range for a local road like Webster Street is 0 – 1,500 vehicles.

Mill Street is a Collector Street with a typical range of 5,000 to 12,000 vehicles a day. From Jefferson Avenue to Benton Avenue, Mill Street has an existing ADT of 9,000 vehicles. The northbound traffic in this segment accounts for about 45 percent of the vehicles. This leaves Mill Street as a possible destination for northbound additional traffic.

The traffic that will be displaced from the one-way conversion southbound at Eagle Street will have Mill Street and Webster Street as potential routes to proceed northbound that will keep both streets within the typical ranges of their street classification.

Northbound Eagle Street serves a mix of through, downtown and neighborhood traffic. Without detailed destination information, the redistribution of northbound Eagle Street traffic can only be estimated. Considering available traffic counts in the area, street classification, and the grid system, staff estimates that northbound Eagle Street will redistribute as follows:

- 60% to Mill Street
- 25% to Webster Street
- 10% to Main Street
- 5% to Washington Street

If implemented, follow up studies will measure the actual redistribution.