



Traffic Engineering Division

Yang Tao, PhD, PE, City Traffic Engineer

Madison Municipal Building
215 Martin Luther King Jr Blvd
Suite 109
P.O. Box 2986
Madison, Wisconsin 53701-2986
Phone: (608) 266-4761
Fax: (608) 267-1158
www.cityofmadison.com

SUMMARY OF STAFF RECOMMENDATIONS To TRANSPORTATION COMMISSION

February 10, 2021

1. EAST WASHINGTON AVE. & MELVIN CT. & RETHKE AVE.; recommend maintaining current stop control and modifying existing Rectangular Rapid Flashing Beacon (RRFB) to feature accessible pedestrian signal feature, and evaluating a traffic signal in coordination with upcoming Bus Rapid Transit (BRT) project,
2. PACKERS AVE. & SIXTH ST.; recommend maintaining existing stop control and referral as a Pedestrian-Bicycle Enhancement Project for review of appropriate warning devices at the crossing.
3. BLACKHAWK AVE. & JOYCE ERDMAN PL. & UNIVERSITY AVE.; recommend maintaining existing stop control and referral as a Pedestrian-Bicycle Enhancement Project for review of appropriate warning devices at the crossing.
4. HENRY ST. & WEST WASHINGTON AVE.; recommend installing a traffic signal.
5. DARWIN RD. & INTERNATIONAL LN.; recommend maintaining existing stop control, and potential for advanced warning devices, or reduced speed limit on International Lane.
6. BEAR CLAW WAY & OLD SAUK RD.; recommend maintaining existing stop control.

2020 TRAFFIC SIGNAL PRIORITY LIST SPECIAL STUDIES FOR TRANSPORTATION COMMISSION SELECT INTERSECTIONS

Actions completed to date

- 1. East Washington Ave & Melvin Ct. & Rethke Ave.**
Collected 24 hour automatic machine counts and speed data
Manual Delay Study
Collected manual turning movement counts
Review Crash History
- 2. Packers Avenue – 6th Street**
Collected 24 hour automatic machine counts and speed data
Intersection sight-distance field review
Review of crash history
- 3. Blackhawk Ave & Joyce Erdman Pl. & University Ave**
Collected 24 hour automatic machine counts and speed data
Comparison of 2020 volumes to 2019 volumes
Review of crash history
- 4. Henry St. & West Washington Ave.**
Intersection sight-distance field review
Manual Delay Study
Collected manual turning movement counts
Review of crash history
- 5. Darwin Rd. & International Ln.**
Collected 24 hour automatic machine counts and speed data
Collected manual turning movement counts
Intersection sight-distance field review
Review of crash history
- 6. Bear Claw Way & Old Sauk Rd.**
Collected 24 hour automatic machine counts and speed data
Collected manual turning movement counts
Intersection sight-distance field review
Review of crash history

TRAFFIC SIGNAL PRIORITY LIST COMMENTARY

East Washington Avenue & Melvin Court & Rethke Avenue (#1 on List Meeting Minimum Requirements)

The East Washington Avenue & Melvin Court & Rethke Avenue intersection is a 2-way stop controlled intersection located approximately 630 feet northeast of the signalized intersection at East Washington Avenue & WB Aberg Avenue (HWY 30) Ramp and approximately 935 feet southwest of the un-signalized intersection at East Washington Avenue & Lexington Avenue.

The intersection is currently controlled by stop signs on the Rethke Avenue and Melvin Court approaches. The east pedestrian crossing of East Washington Avenue is equipped with a Rectangular Rapid Flashing Beacon (RRFB) and continental crosswalk pavement markings.

Crash History

- During the five-year period 2015-2019 there have been a reported twenty (20) crashes; of which, seven (7) are of type considered to be correctable by traffic signal control.
- During the five-year period 2015-2019, there have been eleven (11) injuries and one (1) fatality. Seven (7) of the eleven (11) injuries and the one (1) fatality occurred during crashes of types generally considered correctable by traffic signal control. This fatality represents the only crash involving vulnerable road users (pedestrians and bicyclists).
- Since the fatality on November 17th, 2016, the northeast crosswalk crossing East Washington Avenue has been equipped with a continental crossing pavement marking crossing and an RRFB. Since these changes were made, there have been no reported crashes involving people walking or biking at this intersection.

Application of Traffic Signal Criteria

- Automatic hose counts show that this intersection is 11 percent above meeting the adopted minimum numerical volume for traffic signals.

Special Consideration

- The City of Madison is currently pursuing a Bus Rapid Transit (BRT) project that would pass through, and make a stop at this intersection with a proposed station in the west median to allow for bus center-running. To aide in pedestrian access of the median destination, it is highly anticipated that traffic signals will be evaluated as part of the larger set of improvements.

Staff Recommendation

Staff recommends maintaining current stop sign control and RRFB. When the BRT project reconstructs the intersection to install a bus station in the median, staff recommends consideration of a traffic signal at that time.

Henry Street & West Washington Avenue (#20 on List)

The intersection of Henry Street & West Washington Avenue is a 2-way stop controlled intersection located approximately 320 feet west of the signalized intersection of Fairchild Street & West Washington Avenue, and approximately 650 feet east of the signalized intersection at Broom Street & West Washington Avenue.

Crash History

- During the five-year period 2015-2019 there have been a reported twenty three (23) crashes; of which, sixteen (16) are of type considered to be correctable by traffic signal control.
- These sixteen (16) crashes resulted in six (6) injuries out of the total seven (7) injuries which resulted from crashes at this intersection in this time period.
- It was noted that of the sixteen (16) crashes considered to be correctable, five (5) of them occurred during the PM peak hour and another seven (7) occurred after the PM peak hour for a total of twelve (12) of the sixteen (16) correctable crashes occurring between 4:00 PM and 8:00 PM.

Application of Traffic Signal Criteria

- Due to traffic volumes remaining lower than normal during the SARS-CoV-2 pandemic, 2019 volumes and turning movements were used to evaluate this intersection.
- Vehicular volume in 2019 was 44 percent below meeting either warrant 1 or 2.
- Pedestrian crossing counts were obtained in 2019. During the peak hour, it was observed that 95 people crossed West Washington Avenue in the 4PM hour. Pedestrian counts after 4pm were not able to be collected at the time due to visibility issues from the traffic camera being used.
- Due to the crash trends by time-of-day that correspond to the PM peak period, the Peak Hour Warrant was also evaluated. It was observed that the intersection met parts 2 and 3 of part A of the Peak Hour Warrant. A manual delay study was performed in 2020 with volumes being lower than 2019, however this manual study is not believed to be representative due to the lower traffic volumes.

Staff Recommendation

Staff recommends installing a traffic signal and review of any lane configuration to optimize intersection operational performance with the West Washington Avenue resurfacing project in 2021.

Packers Avenue & N. 6th Street (#22 on List)

The Packers Avenue & N. 6th Street intersection is a 2-way stop controlled intersection located approximately 1,500 feet south of the signalized intersection at Packers Avenue & Commercial Avenue, and approximately 2,150 feet north of the un-signalized intersection at Packers Avenue & N. 3rd Street.

The intersection is currently stop controlled on the N 6th St. approaches. The median on Packers is not sufficiently wide enough to install poles for signals or signs, nor is it wide enough to be considered a safe pedestrian refuge.

Crash History

- During the five-year period 2014-2018 there have been a reported ten (10) crashes; of which, three (3) are of type considered to be correctable by traffic signal control.
- Of the ten (10) crashes in the previous 5 years, one (1) involved a person biking eastbound across Packers Avenue hit by a southbound driver on Packers Avenue.

Application of Traffic Signal Criteria

- During a manual gap study performed in 2019 it was observed that twenty five (25) gaps sufficient enough for a person biking to cross were observed while one (1) gap sufficient enough for a person walking across Packers Avenue was observed during a 30 minute peak period in the AM peak hour.
 - During this study, one (1) person crossed Packers Avenue on foot waiting 3 minutes before crossing.
- Manual vehicle delay study indicates this intersection is 88 percent below meeting the minimum vehicle-delay criteria (from 2019 study).

Staff Recommendation

Staff recommends maintaining existing stop sign control. Also recommend including this intersection on the 2021 pedestrian and bicycle projects list for consideration to install appropriate control devices, lighting improvements in proximity of the crossing, and/or enhanced crosswalk markings.

Blackhawk Avenue & Joyce Erdman Place & University Avenue (#38 on List)

The intersection of Blackhawk Avenue & Joyce Erdman Place & University Avenue is located approximately 575 feet east of the un-signalized intersection of Highbury Road & University Avenue, and 770 feet west of the signalized intersection of Hill Street & Shorewood Boulevard & University Avenue.

The intersection is currently a 2-way stop controlled intersection with the Joyce Erdman Place and Blackhawk Avenue approaches being the stop controlled approaches. The intersection has a crosswalk on the west side crossing University Avenue using continental crosswalk marking design, and standard marked crosswalks for crossing the side streets.

Crash History

- During the five-year period 2015-2019 there have been a reported twenty two (22) crashes; of which, nine (9) are of type considered to be correctable by traffic signal control.
- During this time period, two (2) crashes involved vulnerable road users; of which one (1) crash was considered correctable with a traffic signal. The other was the result of a northbound right-turning driver and caused in an injury to the person walking westbound across the Blackhawk Avenue.

Application of Traffic Signal Criteria

- Automatic hose counts show that this intersection is 54 percent below meeting the adopted minimum numerical volume for traffic signals.

Staff Recommendation

Staff recommends maintaining existing stop sign control. Also recommend including this intersection on the 2021 pedestrian and bicycle projects list for consideration to install appropriate control devices, lighting improvements in proximity of the crossing, and/or enhanced crosswalk markings and signs.

Darwin Road & International Lane (#90 on List)

The intersection of Darwin Road & International Lane is a 2-way stop controlled intersection located approximately 2,900 feet north of the signalized intersection at Anderson Street & International Lane; and approximately 1,800 feet east of the signalized intersection of Darwin Road and Packers Avenue.

Crash History

- During the five-year period 2015-2019 there have been a reported eleven (11) crashes; of which, three (3) are of type considered to be correctable by traffic signal control.

Application of Traffic Signal Criteria

- Automatic hose counts show that this intersection is 92 percent below meeting the adopted minimum numerical volume for traffic signals for warrants 1A and 1B.

Staff Recommendation

Staff recommends maintaining existing stop control and potential for advanced warning devices, and review speed limit on International Lane due to sight obstructions and roadway geometrics in this area.

Bear Claw Way & Old Sauk Road (#92 on List)

The intersection of Bear Claw Way & Old Sauk Road is located approximately 3,070 feet west of the Pleasant View Road & Old Sauk Road signalized intersection and 1,100 feet east of the un-signalized intersection of Cricket Lane & Old Sauk Road. The intersection currently operates as a 2-way stop controlled intersection with Bear Claw Way approaches being the stop controlled approaches.

Crash History

- During the five-year period 2015-2019 there have been a reported five (5) crashes; of which, five (5) are of type considered to be correctable by traffic signal control. Preliminary review of 2020 crash data returned zero (0) reportable crashes.

Application of Traffic Signal Criteria

- Automatic hose counts indicate that this intersection is 95 percent below meeting the adopted minimum numerical volume for traffic signals for warrants 1A and 1B.

Staff Recommendation

Staff recommends maintaining existing stop control configuration. Crash data will continue to be monitored for future trends that may lead to other actions.

END