



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 27, 2019

1. Commerce Drive– Watts Road; Recommend installing traffic signal control.
2. South Gammon Road – New Washburn Way – McKenna Boulevard; Recommend maintaining current stop sign control. Also recommend installing marked crosswalks and adding the intersection to the 2019 pedestrian and bicycle projects list for review.
3. Packers Avenue – Schlimgen Avenue; Recommend maintaining current stop control and installing marking and signing improvements for the pedestrian crossing of Packers Ave.
4. Prairie Road – Raymond Road; Recommend installation of traffic signal control.
5. South Blount Street – Williamson Street; Install traffic signal with bike diagonal crossing.

2018 TRAFFIC SIGNAL PRIORITY LIST SPECIAL STUDIES FOR TRANSPORTATION COMMISSION SELECT INTERSECTIONS

Actions completed to date

- 1. Commerce Drive – Watts Road**
Collected 24 hour automatic machine counts.
Automatic speed study by hose.
Review of crash history.
- 2. Gammon – New Washburn - McKenna**
Collected 24 hour automatic machine counts.
Manually recorded vehicle delay.
Review of crash history.
- 3. Packers Ave – Schlimgen Ave**
Collected 24 hour automatic machine counts.
Manually counted Pedestrian/Bicycle crossings at intersection.
Manually recorded pedestrian actuation of RRFB signals and motorists responses to RRFB actuations
Review of crash history.
- 4. Prairie – Raymond**
Collected 24 hour automatic machine counts
Manually recorded vehicle delay.
Review of crash history.
- 5. South Blount Street – Williamson Street**
Review of crash history
Review of adopted Blair Street Corridor Report

TRAFFIC SIGNAL PRIORITY LIST COMMENTARY

Commerce Drive – Watts Road (#1 on List)

The Commerce Drive & Watts Road intersection is a 2-way stop controlled intersection located approximately 1,300 feet east of the signalized intersection at Junction Road & Watts Road and approximately 1,980 feet west of the signalized intersection at S High Point Road & Watts Road.

The intersection is currently equipped with a Rectangular Rapid Flashing Beacon on the West leg of the intersection crossing Watts Road.

Crash History

- Between 2014 and November 2018, there have been a total of eight (8) crashes reported, of which five (5), 1.0 per year, are types considered to be correctable by traffic signals.

Application of Traffic Signal Criteria

- Recent counts show that this intersection exceeds the adopted minimum numerical volume for traffic signals.

Staff Recommendation

Given the increased traffic volumes due to recent development in the area, Staff recommends installing a traffic signal at the intersection of Commerce Drive and Watts Road.

S. Gammon Road – New Washburn Way – McKenna Blvd (#9 on List)

The intersection of South Gammon Road–New Washburn Way–McKenna Boulevard is located approximately 1,100 feet south of the signalized intersection at South Gammon Road–Schroeder; and 2,000 feet north of the signalized intersection at Elver Park entrance.

This a one-way stopped controlled “T” intersection with New Washburn Way being stopped controlled and having two lanes on the approach.

Crash History

- Between 2014 and November of 2018, there have been a total of fourteen (14) crashes at this intersection.
- On average, 1.2 crashes per year over this period are types considered to be preventable by installing a traffic signal.
- Four of these 14 crashes involved northbound rear end crashes, which would be expected to increase with the installation of a traffic signal.

Application of Traffic Signal Criteria

- Automatic hose counts show that this intersection is 26% short of meeting the adopted minimum numerical volume for traffic signals.

Staff Recommendation

Staff Recommends maintaining the current stop sign control, add crosswalk pavement markings, and add this intersection, to the Pedestrian and Bicycle improvement project process for evaluating the need for a Rectangular Rapid Flashing Beacon (RRFB) to improve pedestrian crossing of South Gammon Road.

Packers Avenue & Schlimgen Avenue (#35 on List)

The Packers Avenue & Schlimgen Avenue intersection is a 1-way stop controlled "T" intersection located approximately 1,100 feet south of the signalized intersection at Packers Avenue & International Lane; and approximately 4,350 feet north of the signalized intersection at Packers Avenue & Commercial Avenue.

The intersection is currently equipped with a Rectangular Rapid Flashing Beacon on the North leg of the intersection crossing Watts Road installed in 2017 and updated to meet current FHWA interim approval in 2018 by adding a near right RRFB.

Crash History

- Between 2014 and November 2018 there have been a total of fifteen (15) crashes, on average 1.0 crashes per year (5 total) are of types considered to be preventable with a traffic signal over this period.

Application of Traffic Signal Criteria

Recent manual counts show that this intersection is 53% short of meeting the adopted minimum numerical volume for traffic signals.

Field Recorded Observations of Pedestrian Crossings and Motorists Reactions to RRFB Actuations

Staff recorded pedestrian and bicycle crossings of Packers Avenue at Schlimgen Avenue during a two day period. During these observations, we recorded that 81 percent of motorists approaching the crosswalk yield for pedestrians and bicyclists when the RRFB was actuated and only 19 percent yielded when the RRFB was not activated.

Staff Recommendation

Staff recommends maintaining the current stop sign control. In an attempt to further improve the percentage of motorist yielding to pedestrians and bicyclist crossing Packers Avenue, staff also recommends improving the crosswalk pavement marking by installing a continental style crosswalk with advance "Yield here to pedestrian" signs and yield lines.

Prairie Road & Raymond Road (#12 on List)

The Prairie Road & Raymond Road intersection is a 2-way stop controlled intersection located approximately 2,200 feet east of the signalized intersection at Raymond Road & McKenna Boulevard; and approximately 3,200 feet west of the signalized intersection of Raymond Road & South Whitney Way.

Crash History

- Between 2014 and November 2018 there have been a total of twenty two (22) crashes, of which twelve (12) are types considered to be preventable with a traffic signal.

Application of Traffic Signal Criteria

- Automatic hose counts show that this intersection is 32% short of meeting the adopted minimum numerical volume for traffic signals.
- Automatic and manual counts show that the intersection meets the numerical Peak Hour Warrant. A manual delay study showed that the delay is 48% short of meeting the delay warrant but there were observations showing as many as fourteen northbound vehicles queued during a short segment of the morning peak traffic period.
- Due to the long distance between signalized intersections along Raymond Road between McKenna Blvd and Whitney Way (approximately 5,400 feet), adding a traffic signal at the Prairie Road intersection would help create better gaps for vehicles and pedestrians attempting to cross or enter Raymond road at other intersection locations.

Staff Recommendation

Staff recommends installing traffic signal control at the Prairie Road-Raymond Road intersection.

South Blount Street – Williamson Street (#11 on List)

The South Blount Street – Williamson Street is located approximately 730 feet east of the S. Blair–John Nolen–Williamson–Wilson signalized intersection and 190 feet west of the signalized intersection on Williamson at Jenifer Street. The intersection currently operates as a two way stop controlled intersection with S. Blount Street stop controlled.

Crash History

- During the 12 month period in 2017, there have been a total of two (2) crashes of which zero (0) are types considered to be correctable by traffic signals.

2018 Blair Street Corridor Report completed by Strand Associates

- The Strand Associates Blair Street Corridor Report completed in 2018 was recommended for approval by both the Pedestrian Bicycle Motor Vehicle Commission and Board of Public Works and was accepted by the Common Council.
- The report recommended at the Blount Street intersection to provide a diagonal, signalized bicycle crossing connecting to the recommended cycletrack in front of Machinery Row and a recommended cycletrack along Blount Street connecting to the Capital City Trail.
- The Wilson, Williamson and S. Blount Street Reconstruction plan geometrics, including the Blount Street signalized diagonal crossing, was recommended for approval by the Pedestrian Bicycle Motor Vehicle Commission and the Board of Public Works, and approved by the Common Council.

Application of Traffic Signal Criteria

- The planned geometric changes to the southbound Blount Street approach during this year' reconstruction project result in narrowing this approach and as a result, the traffic signal warrant analysis result in Peak Hour warrant criteria being met for two hours of the day.
- The pedestrian and bicycle crossing of Williamson Street at the Blount street intersection are expected to increase significantly after the proposed roadway project and bicycle diagonal crossing is installed. We estimate that due to the increase in volumes, the minimum criteria for multiple traffic signal warrants will be exceeded.

Staff Recommendation

Staff concurs with the adopted recommendation of the Strand Associates Blair Street Corridor Study Report and recommends installing traffic signal control including a signalized bicycle diagonal crossing as part of the approved E. Wilson, Williamson and S. Blount Street Reconstruction project.