Traffic Engineering Division

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SUMMARY OF STAFF RECOMMENDATIONS
To TRANSPORTATION COMMISSION

February 12, 2020

1. Proudfit Street – W Main Street; Recommend maintaining current stop sign control. Also recommend including this intersection on the 2020 pedestrian and bicycle projects list for review for possible a pedestrian and bicycle activated Rectangular Rapid Flashing Beacon (RRFB) crossing and/or geometric changes to the intersection to improve crossings.
2. NB Packers Avenue – Aberg Avenue; Recommend installation of traffic signal control.
3. Collins Court – E Broadway Service Road – East Broadway; Recommend maintaining the current stop sign control and recommending that drivers attempting to make a NBLT who find the movement difficult to make, take access to E Broadway at the E Broadway & Dutch Mill intersection approximately 750 east.
4. High Crossing Boulevard – Cross Hill Drive; Recommend maintaining existing stop control and re-marking the southbound approach to include a southbound right-turn lane and a southbound left & thru lane.
5. Heartland Trail – Old Sauk Road; Recommend installing traffic signal control and remarking the Heartland Trail approach to include a right-turn only lane in addition to a left & thru lane, and a bike lane.
6. Junction Road – Target Driveway; Recommend maintaining current stop sign control.
7. Old Middleton Road – Old Sauk Road – Rosa Road; Recommend maintaining current stop sign control at each location.
8. Packers Avenue – 6th Street; Recommend maintaining existing stop control. Also recommend including this intersection on the 2020 pedestrian and bicycle projects list for installation of a pedestrian and bicycle activated Rectangular Rapid Flashing Beacon (RRFB) and enhanced crosswalk markings.

2019 TRAFFIC SIGNAL PRIORITY LIST
SPECIAL STUDIES FOR TRANSPORTATION COMISSION SELECT INTERSECTIONS

Actions completed to date

1. **Proudfit Street – W Main Street**
   Performed peak hour gap study
   Performed peak hour pedestrian & bike count
   Review of Crash History

2. **NB Packers Avenue – Aberg Avenue**
   Collected 24 hour automatic machine counts (including NB and WB right turning movements)
   Manually recorded vehicle delay
   Review of crash history

3. **Collins Court – E Broadway Service Road – E Broadway**
   Collected 24 hour automatic machine counts
   Manually recorded vehicle delay
   Collected manual turning movement counts
   Review of crash history

4. **High Crossing Boulevard – Cross Hill Drive**
   Collected 24 hour automatic machine counts and speed data
   Collected manual turning movement counts
   Manually recorded vehicle delay
   Review of crash history

5. **Heartland Trail – Old Sauk Road**
   Collected 24 hour automatic machine counts and speed data
   Collected manual turning movement counts
   Manually recorded vehicle delay
   Review of crash history

6. **Junction Road – Target Driveway**
   Collected 24 hour automatic machine counts and speed data
   Collected manual turning movement counts
   Manually recorded vehicle delay
   Review of crash history

7. **Old Middleton Road – Old Sauk Road – Rosa Road**
   Collected 24 hour automatic machine counts
   Collected manual turning movement counts
   Review of crash history

8. **Packers Avenue – 6th Street**
   Performed peak hour gap study
   Manually record vehicle delay

TRAFFIC SIGNAL PRIORITY LIST COMMENTARY

Proudfit Street & West Main Street (#46 on List)

The Proudfit Street. & West Main Street intersection is a 2-way stop controlled intersection located approximately 430 feet south of the signalized intersection at West Washington Avenue & Proudfit Street and approximately 950 feet north of the un-signalized intersection at Proudfit Street & Brittingham Place.

The intersection is currently controlled by stop signs on the W. Main St. approaches. Recently, green pavement markings had been added to highlight the bike movement.

Crash History

- During the five-year period 2014-2018 there have been a reported eleven (11) crashes; of which, three (3) are of type considered to be correctable by traffic signal control.
- In the most recent 12 months of crash data available, there have been no reported crashes.

Application of Traffic Signal Criteria

- Recent observations and studies do not indicate the intersection meets numerical criteria for traffic signal warrant.
- A recent gap study was performed, the following is a summary of the observations made:
    - AM Peak: 29 gaps present for crossing SB Proudfit St.; 70 gaps present for crossing NB Proudfit St.
    - PM Peak: 52 gaps present for crossing SB Proudfit St.; 47 gaps present for crossing SB Proudfit St.

Staff Recommendation

Staff recommends maintaining current stop sign control. Also recommend including this intersection on the 2020 pedestrian and bicycle projects list for review for possible a pedestrian and bicycle activated Rectangular Rapid Flashing Beacon (RRFB) crossing and/or geometric changes to the intersection to improve crossings.

Northbound Packers Avenue & Aberg Avenue (#14 on List)

The intersection of NB Packers Avenue & Aberg Avenue is located approximately 450 feet east of the signalized intersection at the southbound Packers Avenue ramp & Aberg Avenue, and 2,040 feet west of the signalized intersection at Aberg Avenue & Shopko Drive.

This a T-intersection with the Ramp approach to Aberg Avenue stop controlled.

Crash History

- During the five-year period 2014-2018 there have been a reported thirty-four (34) crashes; of which, three (3) are of type considered to be correctable by traffic signal control.
- During the six-year period 2013-2018 there have been a reported four (4) crashes involving people biking. All four (4) of these crashes involved northbound right turning drivers and westbound bike movements.

Application of Traffic Signal Criteria

- Automatic hose counts show that this intersection is 36 percent short of meeting the adopted minimum numerical volume for traffic signals.

- Manual delay study showed a 7.8 vehicle-hour delay during the PM peak period which exceeds the minimum vehicle-delay criteria by 56 percent.

Staff Recommendation
Due to the excessive delays and queening of the northbound off-ramp during the pm peak traffic period, Staff recommends installing traffic signal control.

Collins Court & East Stoughton Service Road & East Broadway (#5 on List)

The Collins Ct. & E. Stoughton Service Rd. & E. Broadway intersection is a two-way stop controlled intersection located approximately 750 feet east of the signalized intersection at S. Stoughton Rd. & E. Broadway, and approximately 650 feet west of the non-signalized intersection at E Broadway & Dutch Mill Rd.

East Broadway has a median wide enough to enable turning drivers from Collins Court and East Stoughton Service Road to make two stage crossings if needed; there are no left turn lanes off E. Broadway to the side streets.

Crash History
- During the five-year period 2014-2018 there have been a reported eleven (11) crashes; of which, seven (7) are of type considered to be correctable by traffic signal control.

Application of Traffic Signal Criteria
- Recent manual counts show that this intersection is 36% short of meeting the adopted minimum numerical volume for traffic signals.
- Manual delay study indicated that during the peak hour, the vehicle delay was 61% below meeting peak hour warrant.

Staff Recommendation
Staff recommends maintaining the current stop sign control.

High Crossing Boulevard & Cross Hill Drive (#22 on List)

The High Crossing Blvd. & Cross Hill Dr. intersection is a 2-way stop controlled intersection located approximately 760 feet west of the signalized intersection at High Crossing Blvd. & American Pkwy; and approximately 1,080 feet east of the un-signalized intersection of Benjamin Dr. & High Crossing Blvd.

Crash History

- During the five-year period 2014-2018 there have been a reported one (1) crashes; of which, zero (0) are of type considered to be correctable by traffic signal control.

Application of Traffic Signal Criteria

- Automatic hose counts show that this intersection is 43 percent below meeting the adopted minimum numerical volume for traffic signals.
- Manual vehicle delay study indicates this intersection is 84 percent below meeting the minimum vehicle-delay criteria.

Staff Recommendation

Staff recommends maintaining existing stop control and re-marking the southbound approach to include a southbound right-turn lane and a southbound left & thru lane.

Heartland Trail & Old Sauk Road (#1 on List which meet Minimum Criteria)

The Heartland Trail & Old Sauk Road intersection is located approximately 1,333 feet east of the Pleasant View Road & Old Sauk Road signalized intersection and 490 feet west of the un-signalized intersection of Old Sauk Rd. & Samuel Dr. The intersection currently operates as a two way stop controlled intersection with Heartland Trail and Sauk Ct. (Town of Middleton) being the stop controlled approaches.

Crash History

- During the five-year period 2014-2018 there have been a reported nine (9) crashes; of which, six (6) are of type considered to be correctable by traffic signal control.

Application of Traffic Signal Criteria

- Automatic hose counts show that this intersection is 35 percent above meeting the adopted minimum numerical volume for traffic signals.
- Manual Delay study found this intersection to exceed the peak hour warrant by 10 percent during the PM peak.

Staff Recommendation

Staff recommends installing traffic signal control and remarking the Heartland Trail approach to include a right-turn only lane in addition to a left & thru lane, and a bike lane.

Junction Road & Target Driveway (#1 on List)

The Junction Rd. & Target Driveway intersection is located approximately 550 feet north of the Isaac Dr. & Junction Rd. non-signalized intersection and 560 feet south of the un-signalized intersection of Junction Rd. & Pick'n Save driveway. The intersection currently operates as a stop controlled "T" intersection with Target driveway being stop controlled.

Crash History

- During the five-year period 2014-2018 there have been a reported two (2) crashes; of which, zero (0) are of type considered to be correctable by traffic signal control.

Application of Traffic Signal Criteria

- Automatic hose counts show that this intersection is one percent below meeting the adopted minimum numerical volume for traffic signals.
- Manual vehicle delay study indicates this intersection is 84 percent short of meeting the minimum vehicle-delay criteria.

Staff Recommendation

Due to the safe crash history of the intersection and observed low-delays, staff recommends maintaining current stop sign control.

Old Middleton Road & Old Sauk Road (#4 on the All – Way Stop Intersection List)

The Old Middleton Road & Old Sauk Road intersection is located approximately 190 feet north of the two-way stop controlled Rosa Road & Old Middleton Road intersection and 450 feet south of the non-signalized intersection of Old Middleton Road & Lynwood Drive. The intersection currently operates as an All-Way stop controlled "T" intersection.

Crash History

- During the five-year period 2014-2018 there have been a reported three (3) crashes; of which, zero (0) are of type considered to be correctable by traffic signal control.

Application of Traffic Signal Criteria

- Automatic hose counts show that this intersection is 36 percent below meeting the adopted minimum numerical volume for traffic signals.

Staff Recommendation

Staff recommends maintaining existing stop control.

Old Middleton Road & Rosa Road (#6 on the List)

The Old Middleton Rd. & N. Rosa Rd. intersection is located approximately 190 feet south of the Old Sauk Rd. & Old Middleton Rd. All-Way stop controlled intersection and 540 feet west of the un-signalized intersection of Old Middleton Rd. & Glen Hollow Rd. The intersection currently operates as a 2-way stop controlled intersection where Rosa Rd. and Glenthistle Rd. approaches are the stop controlled approaches.

The intersection is equipped with an RRFB on the west pedestrian crossing, and since the installation there have not been any reported crashes involving pedestrians crossing Old Middleton Rd.

Crash History

- During the five-year period 2014-2018 there have been a reported two (2) crashes; of which, one (1) are of type considered to be correctable by traffic signal control.
- Both crashes in the past 5 years involved pedestrians crossing Old Middleton Road, previous to the installation of the RRFB crossing Old Middleton Road.

Application of Traffic Signal Criteria

- Automatic hose counts show that this intersection is 21% below meeting the adopted minimum numerical volume for traffic signals.

Staff Recommendation

Staff recommends maintaining existing stop control.

Packers Avenue & N. 6th Street (#13 on List)

The Packers Avenue & N. 6th Street intersection is a 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 10 crashes in the previous 5 years, 1 involved a person biking southbound across Packers Avenue hit by a southbound driver on Packers Avenue.

Application of Traffic Signal Criteria

- Automatic hose counts show that this intersection is 30 percent below meeting the adopted minimum numerical volume for traffic signals.
- Manual gap study performed and observed approximately 17 percent of the time during the AM Peak acceptable gaps for bicyclists were found; only one acceptable gap found for pedestrians.
- Manual vehicle delay study indicates this intersection is 88 percent below meeting the minimum vehicle-delay criteria.

Staff Recommendation

Staff recommends maintaining existing stop sign control. Also recommend including this intersection on the 2020 pedestrian and bicycle projects list for installation of a pedestrian and bicycle activated Rectangular Rapid Flashing Beacon (RRFB) and enhanced crosswalk markings.