BELOIT
Gateway to Wisconsin

MEETING NOTICE AND AGENDA
Traffic Review Committee
June 26, 2017 1:30 P.M.
City Manager's Conference Room, 4th Floor City Hall
Beloit, WI 53511

1. Roll Call.

2. Approval of the minutes from the May 22, 2017 Traffic Review Committee meeting.

3. Public Participation

4. Ordinance to remove the traffic signals at the corner of West Grand/Bluff and replace with 4-way stop signs.

5. Committee Member participation.

6. Next meeting –The next meeting is scheduled for **July 24, 2017.**

7. Adjournment

** Please note that, upon reasonable notice, at least 24 hours in advance, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request this service, please contact the City Clerk's Office at 364-6680, 100 State Street, Beloit, WI 53511.

MINUTES
TRAFFIC REVIEW COMMITTEE
May 22, 2017, 1:30 p.m.
City Manager's Conference Room, 4th Floor City Hall
Beloit, WI 53511

A meeting of the Traffic Review Committee of the City of Beloit, WI was held Monday, May 22, 2017 at 1:30 p.m. in the City Manager's conference room. M. Flesch called the meeting to order at approximately1:30 p.m.

1. Roll Call

Member's present: (Voting): T. Nee, R. Norder, M. Ramsden, C. Fryar, M. Flesch, D. Risse, R. LeFeber, D. Stauffacher

Members absent: (Voting): None

Non-voting members present: S. Blakeley

Non-voting members absent: D. Nord, K. Leavy

Staff: L. West, J. Dupuis, S. El-Amin

Pubic: Allen (Butch) Dix

2. Introduction of Sherry Blakeley and Dave Nord

M. Flesch introduced Sherry Blakeley as a new member of the Beloit city council and the council representative on the Traffic Review Committee. Dave Nord, Interim Public Works Director was unable to attend the meeting.

3. Approval of the minutes from the March 27, 2017 Traffic Review Committee meeting

Minutes of the March 27, 2017 meeting were approved on a motion by T. Nee, second by R. Norder. Motion carried. One small correction was made by J. Dupuis with reference to the minutes from the March 27, 2017 Traffic Review Committee meeting as L. West was not in attendance as previously noted. The correction as noted was approved by a motion from T. Nee, second by R. Norder. Motion carried.

4. Public Participation

Allen (Butch) Dix from the Turtle Creek South subdivision discussed the vehicle speed on Cranston Road from Shopiere Road to Milwaukee Road. He made a suggestion that the speed limit be reduced from 35 mph to 30 mph and discussed the possibility of adding a stoplight at the intersection of Cranston Road and Cobblestone Lane. There have been many accidents at this intersection. Office LeFeber of the Beloit Police Department offered to conduct spot enforcement at this location.

Officer Rich LeFeber of the Beloit Police Department noted that the stoplight at the intersection of Shopiere Road and Cranston Road does not change to green when he is going south on Shopiere between 4 and 4:30 a.m. as he is headed into work. He will share a video with J. Dupuis showing his efforts to change this light. J. Dupuis will look into this problem and see what can be done to have the light adjusted.

5. Old Business – Traffic Study List

J. Dupuis noted that the traffic study with regard to the West Grand Avenue and Bluff Street intersection was completed last week. He is probably about 2 weeks out on final completion. Results should be available at the next committee meeting.

The city-wide stop sign warrant and Index of Special Location update is an ongoing project. J. Dupuis met with the city attorney to review the sign locations and decide whether or not the signs were warranted or not.

6. **Summary review of parking study for City Center Area.**

J. Dupuis discussed the summary of final report for the Downtown Parking Study. The study noted that there was sufficient parking in the City Center Area. It was noted that some improvement could be made to the pathways, signage, and lighting of the parking areas.

7. **Information related to proposed Park Avenue bike lanes.**

The City of Beloit and the City of South Beloit are involved in a joint project to provide bicycle lanes along Park Avenue. The proposal is to convert the outside travel lane to a 5' bike lane with a buffer zone between the bikes and automobiles. The cost of the project will be split proportionally between the City of Beloit and the City of South Beloit.

8. **Downtown Parking Study update.**

The Downtown Parking Study update has been completed.

9. **Committee Member Participation**

Sherry Blakeley noted that many citizens have commented to her with regard to people that are running stop signs. She also stated that she is excited to be a part of the Traffic Review Committee.

M. Flesch said that he doesn't believe a stoplight is warranted at the intersection of Cranston Road & Cobblestone Lane as there is a lack of cars coming off of Cobblestone Lane.

D. Risse noted that R. LeFeber would be the new representative on the committee from the Beloit Police Department.

R. Norder made a comment that the bus signs are too small. He was asked to contact Transit directly to pass along that information.

It was also noted that there are no left turn lanes at the intersection of West Grand Avenue and Fourth Street. Per J. Dupuis when a study was done approximately 13 years ago, there was not enough traffic to warrant the addition of left turn lanes at that particular intersection.

10. Next Meeting

The next meeting of the Traffic Review Committee is scheduled for Monday, June 26, 2017 in the City Manager's Conference Room (4th floor of City Hall) at 1:30 p.m.

11. Adjournment

The motion to adjourn was moved by C. Fryar and seconded by R. Norder at 2:16 p.m.

Minutes by Lynn West
Water Resources Division
Administrative Assistant I

CITY OF BELOIT

REPORTS AND PRESENTATIONS TO TRAFFIC REVIEW COMMITTEE

Action Required * __X__ **Information Only** _____ **Options Attached**

Date: June 26, 2017
Presenter(s): Jason Dupuis
Departments(s): Public Works-Engineering

Topic / Purpose for Presentation:

Ordinance to remove traffic signals at the intersection of West Grand Avenue/Bluff Street and replace them with 4-way stop signs.

Background Information:

Due to changing land uses and traffic patterns over the past few years, Engineering Staff believes that the signals at the intersection of West Grand and Bluff may no longer meet warrants. A traffic study was performed between March 6 and June 6, 2017

Key Issues (maximum of 5):

1. The signal controller equipment at the intersection of West Grand Avenue and Bluff Street has failed. The signals were put in red/red during the study.
2. See the attached warrant report based on the data collected during the study.
3. None of the 9 signal warrants were met at the intersection of West Grand and Bluff.
4. I received three e-mail comments (see attached) and one comment from a police officer during the last accident (6/1/17) stating that he would like to see the signals remain in place.
5.

Action Required / Recommendation / Evaluation:

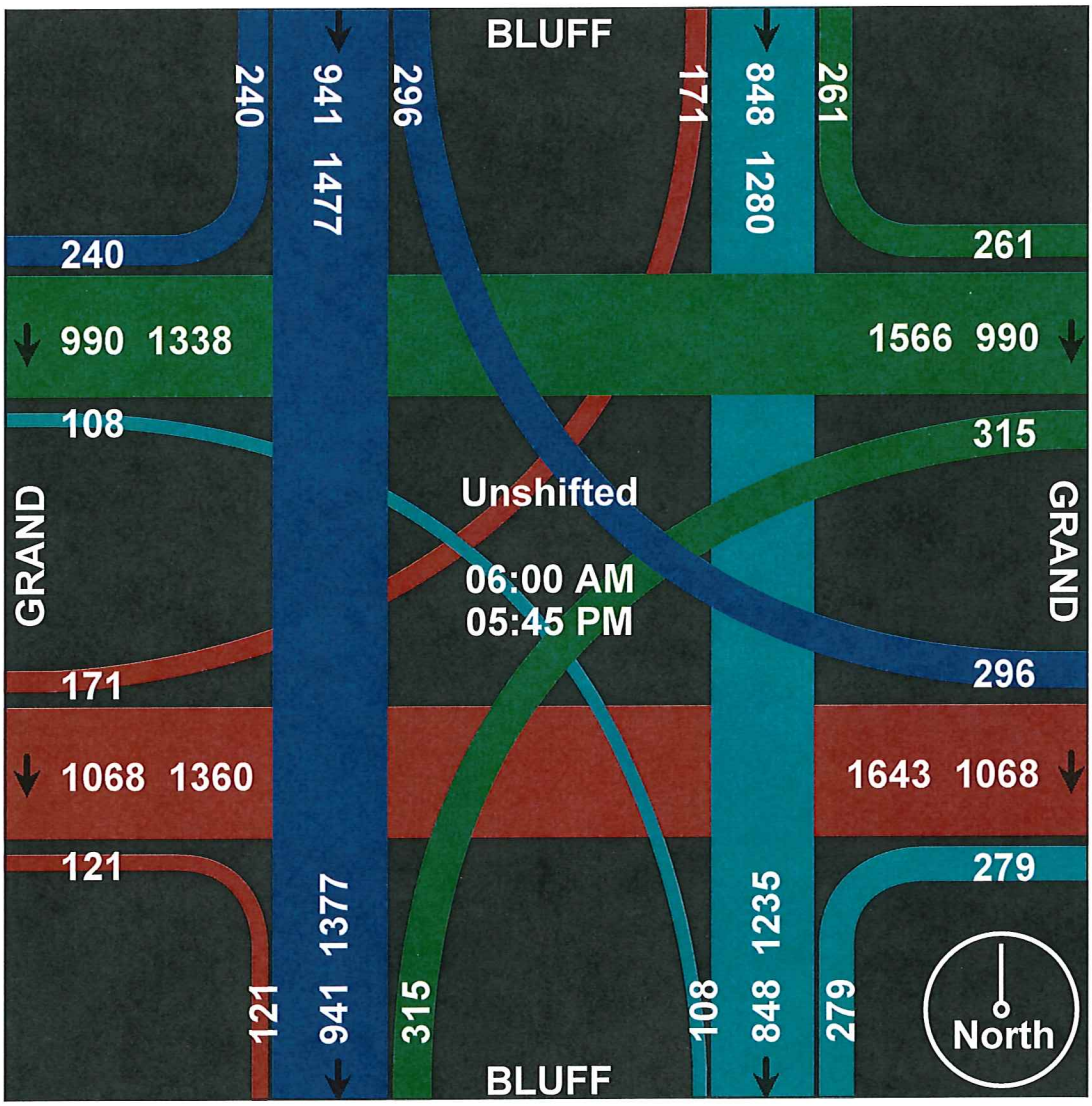
Staff recommendation is to remove the signals at West Grand Avenue/Bluff Street and replace them with 4-way stop signs. The street lighting at the intersection would remain.

Fiscal Note:

If the signals remain, the intersection will stay in red/red flash until a new controller cabinet and equipment can be ordered and installed. The cost of a new controller cabinet/equipment is $15,000-$20,000.

Default Comments
Change These in The Preferences Window
Select File/Preference in the Main Scree
Then Click the Comments Tab

File Name : Bluff_Grand
Site Code : 00000000
Start Date : 5/18/2017
Page No : 1



June 26, 2017
Jason Dupuis
City of Beloit

WEST GRAND AVENUE AND BLUFF STREET SIGNAL STUDY:

NOTE The following study was conducted between March 1 and June 1, 2017.

Data:

Major Street – West Grand Avenue (1 lane of traffic in each direction)
Minor Street – Bluff Street (1 lane of traffic in each direction)

12-hour turn count performed on 5/18/17
Bluff (from north)-1477 vehicles and 52 peds.
Bluff (from south)-1235 vehicles and 29 peds
W. Grand (from east)-1566 vehicles and 17 peds
W. Grand (from west)-1377 vehicles and 18 peds

Total Vehicles: 5638
Total Peds: 116

Peak hour:
Vehicles - 2:45-3:45 PM (657 total through int.)
Pedestrians – 5:00-6:00 PM (20 total through int.)

Warrant 1 – 8 Hour Vehicular Volume:

Since both streets have one lane of moving traffic for each leg, we will use the 1st row down for Condition A. Condition B does not apply since continuous traffic was not a factor (4-way stop in place).

Condition A: The total volume of cars on West Grand Avenue would have to average 500 vehicles per hour (VPH) for 8 continuous hours and either the east or west approach of Bluff Street would have to average 150 VPH during the same 8 hour stretch.

The highest 8-hour period occurred between 9:45 AM-5:45 PM. West Grand VPH=292 for both directions and Bluff Street VPH=143 from the north.
WARRANT NOT MET

Warrant 2 – 4 Hour Vehicular Volume:

When plotting the VPH for West Grand Avenue vs. Bluff Street on Figure 4C-1; all points would have to be above the line of "1 Lane & 1 Lane" for any consecutive 4 hour stretch. Please note that 80 VPH is the minimum requirement for Warrant 2.

The highest 4-hour period occurred between 1:45 PM-5:45 PM. West Grand VPH=316 for both directions and Bluff Street VPH=164 from the north.
WARRANT NOT MET

Warrant 3 – Peak Hour Volume:

Typically, the Peak-hour warrant is used where the minor-street suffers undue delay when entering or crossing the major street.

Condition A: All 3 categories must be met.

1. Total stopped time delay experienced on minor leg did not exceed 4-vehicle hours for a one-lane approach (Bluff from north = 1 hr and 23 min)
   NOT MET
2. Volume of minor street equals or exceeds 100 vehicles (Bluff from north=174)
   MEETS
3. Total entering volume equals or exceeds 800 VPH (Total peak hour = 657)

Condition B: When plotting the VPH for West Grand Avenue vs. Bluff Street; all points would have to be above the line of "1 Lane & 1 Lane" for any 1 hour. Please note that 150 VPH is the minimum requirement for Warrant 3.

The Peak hour is between 2:45 PM and 3:45 PM. West Grand VPH=483 for both directions and Bluff Street VPH=174 from the north.
WARRANT NOT MET

Warrant 4 – 4 Hour/Peak Pedestrian Volume:

The pedestrian volume signal warrant is intended for applications where traffic is so heavy, pedestrians experience excessive delay in crossing.

When plotting the VPH vs. PPH for West Grand Avenue vs. Bluff Street on Figure 4C-5; all points would have to be above the line for any consecutive 4 hour stretch. Please note that 107 PPH is the minimum requirement for 4-Hour and 133 PPH is the minimum requirement for Peak Hour volume in Warrant 4.

The highest 4-hour period occurred between 1:45 PM-5:45 PM. West Grand VPH=316 for both directions and West Grand PPH=5.5
WARRANT NOT MET

The Peak hour is between 2:45 PM and 3:45 PM. West Grand VPH=483 for both directions and West Grand PPH=6.
WARRANT NOT MET

Warrant 5 – School Crossing:

The School Crossing signal warrant is intended for application where the fact that schoolchildren cross the major street is the principal reason to consider installing a traffic control signal. For the purposes of this warrant, the word "schoolchildren" includes elementary through high school students.

Hackett school is located approximately 850' to the west of the intersection. The school currently houses 4K-3rd grade students.

There were less than 20 schoolchildren crossing during the highest crossing hour at the intersection.
WARRANT NOT MET

Warrant 6 – Coordinated Signal System:

Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles.

The signals at West Grand Avenue and Bluff Street are not part of a coordinated system
WARRANT NOT MET

Warrant 7 – Crash Experience:

Warrant 7 would be met if alternatives, such as stop signs, do not reduce the frequency of crashes, there were 5 or more crashes at this intersection over a 12 month period, and the 80% columns of Warrant 1 or Warrant 4 are met.

TheBeloit Police Department reported a total of 3 accidents at the intersection over the previous 12 months (6/1/16-6/1/17). Of the 3 accidents only 1 involved another vehicle, the others damaged the signals.
WARRANT NOT MET

Warrant 8 – Roadway Network:

Both of the roadways are on the functional classification system with West Grand Avenue classified as a minor arterial and Bluff Street as a collector road.

The peak hour traffic for the intersection included a total of 657 vehicles which is less than the 1000 VPH needed to meet warrant 8.
WARRANT NOT MET

Warrant 9 – Intersection Near a Grade Crossing:

This intersection is not near an at-grade railroad crossing, so ***Warrant 9 is not applicable***.

Condition B is satisfied, then Warrant 1 is satisfied and an analysis of the combination of Conditions A and B is not needed.

Standard:

04 **The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:**

A. The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

B. The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112
Condition B—Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

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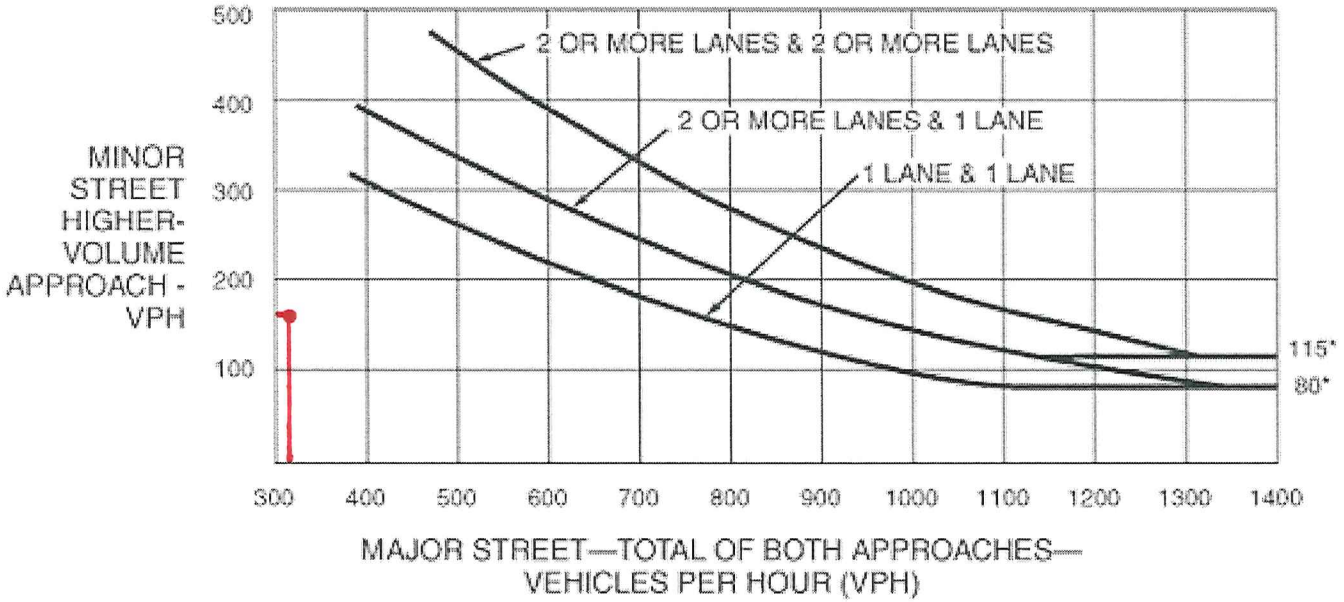
Search 2009 Edition of MUTCD: Go

2009 Edition Part 4 Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume

This figure shows a graph depicting numerical values for Warrant 2, Four-Hour Vehicular Volume (see Section 4C.03 for further details). The figure displays three curves—one for each existing combination of approach lanes: one lane and one lane, two or more lanes and one lane, and two or more lanes and two or more lanes.

The table below shows the approximate vehicles per hour (VPH) on the major street and corresponding VPH on the minor street for each combination of approach lanes.

Table for Figure 4C-1

One lane and one lane		Two or more lanes and one lane		Two or more lanes and two or more lanes	
VPH on the major street (Total of both approaches)	**VPH on the minor street (Higher volume approach)**	**VPH on the major street (Total of both approaches)**	**VPH on the minor street (Higher volume approach)**	**VPH on the major street (Total of both approaches)**	**VPH on the minor street (Higher volume approach)**
1400	80	1400	80 or 115*	1400	115
1300	80	1300	90 or 115*	1300	115
1200	80	1200	100 or 115*	1200	145
1100	80	1100	120	1100	165
1000	100	1000	150	1000	200
900	120	900	175	900	240
800	150	800	200	800	275
700	180	700	250	700	340
600	220	600	290	600	390
500	260	500	340	500	460
400	310	400	390	400	Not available

* Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

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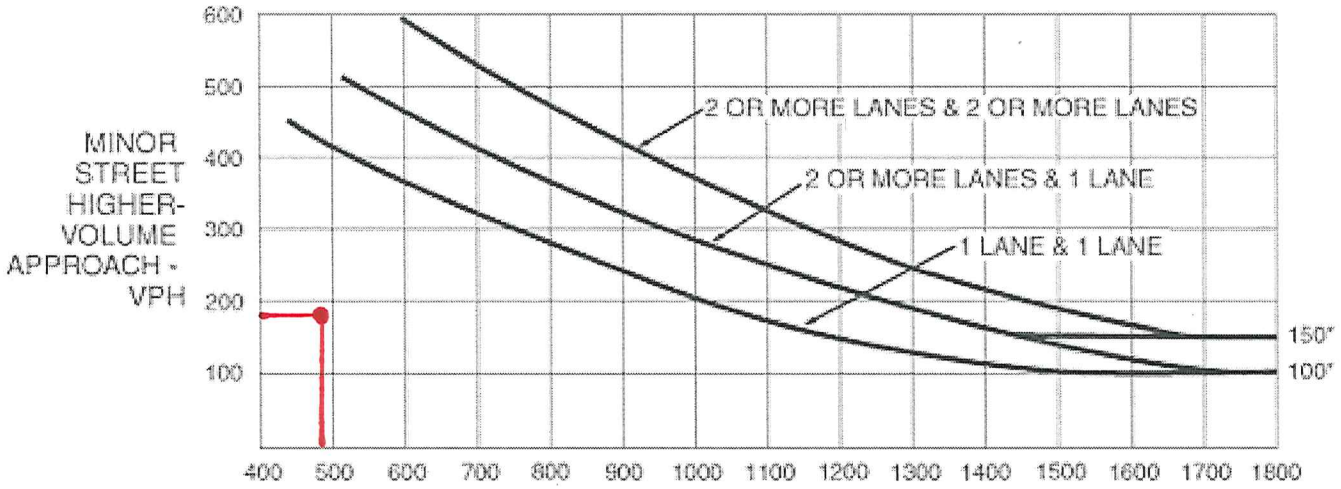
2009 Edition Part 4 Figure 4C-3. Warrant 3, Peak Hour

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Knowledge

Figure 4C-3. Warrant 3, Peak Hour

This figure shows a graph depicting numerical values for Warrant 3, Peak Hour (see Section 4C.04 for further details). The figure displays three curves—one for each existing combination of approach lanes: one lane and one lane, two or more lanes and one lane, and two or more lanes and two or more lanes.

The table below shows the approximate VPH on the major street and corresponding VPH on the minor street for each combination of approach lanes.

Table for Figure 4C-3

One lane and one lane		Two or more lanes and one lane		Two or more lanes and two or more lanes	
VPH on the major street (Total of both approaches)	**VPH on the minor street (Higher volume approach)**	**VPH on the major street (Total of both approaches)**	**VPH on the minor street (Higher volume approach)**	**VPH on the major street (Total of both approaches)**	**VPH on the minor street (Higher volume approach)**
1800	100	1800	100 or 150*	1800	150
1700	100	1700	100 or 150*	1700	150
1600	100	1600	120 or 150*	1600	170
1500	100	1500	145 or 150*	1500	180
1400	120	1400	155	1400	220
1300	130	1300	190	1300	250
1200	150	1200	220	1200	285
1100	175	1100	250	1100	340
1000	200	1000	285	1000	370
900	245	900	325	900	425
800	285	800	360	800	475
700	325	700	420	700	540
600	360	600	460	600	590
500	420	500	Not available	500	Not available

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

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2009 Edition Part 4 Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume

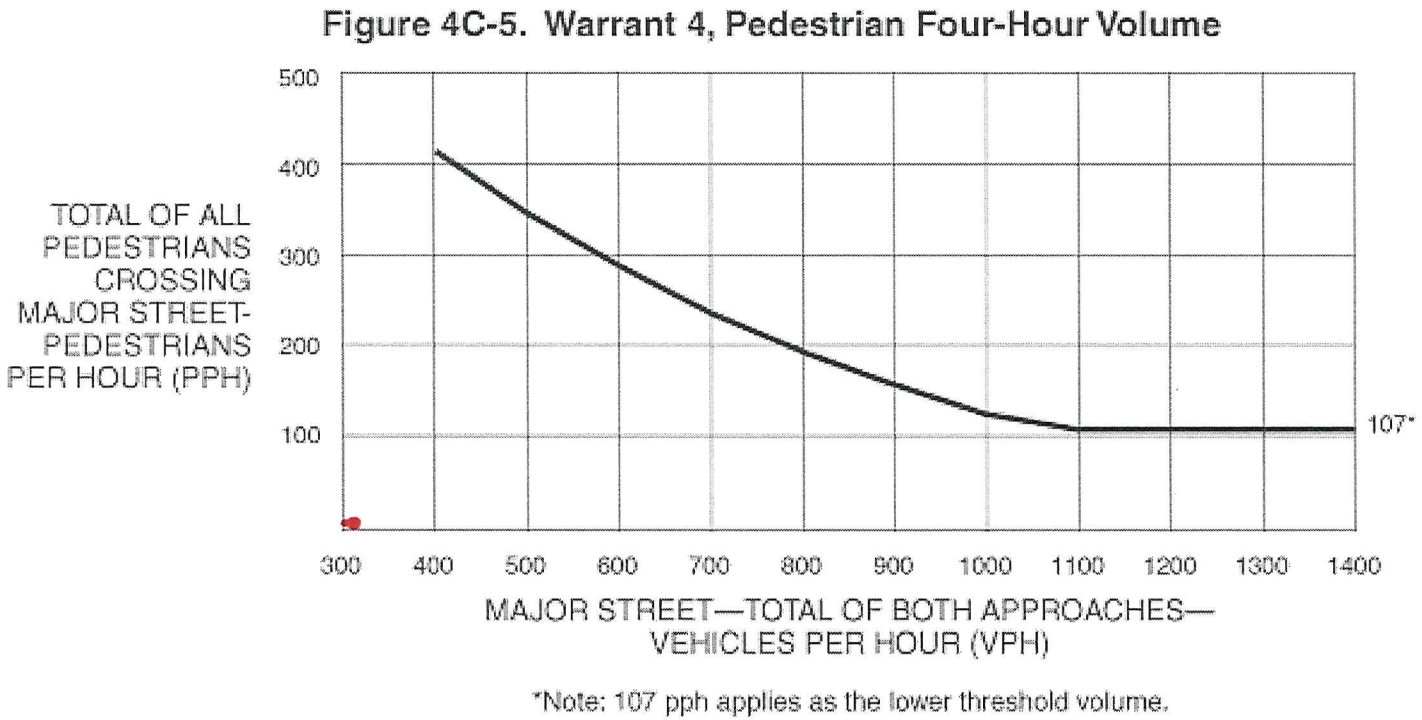

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume

This figure shows a graph depicting numerical values for Warrant 4, Pedestrian Four-Hour Volume. The figure displays one curve.

The table below shows the approximate vehicles per hour (VPH) on the major street and corresponding pedestrians per hour (PPH) for the total of all pedestrians crossing the major street.

Table for Figure 4C-5

Pedestrian Four-Hour Volume	
VPH on the major street (Total of both approaches)	**PPH for the total of all pedestrians crossing the major street**
1400	107*
1300	107*
1200	107*
1100	107*
1000	125
900	150
800	200
700	225
600	300
500	350
400	400

* Note: 107 pph applies as the lower threshold volume.

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2009 Edition Part 4 Figure 4C-7. Warrant 4, Pedestrian Peak Hour

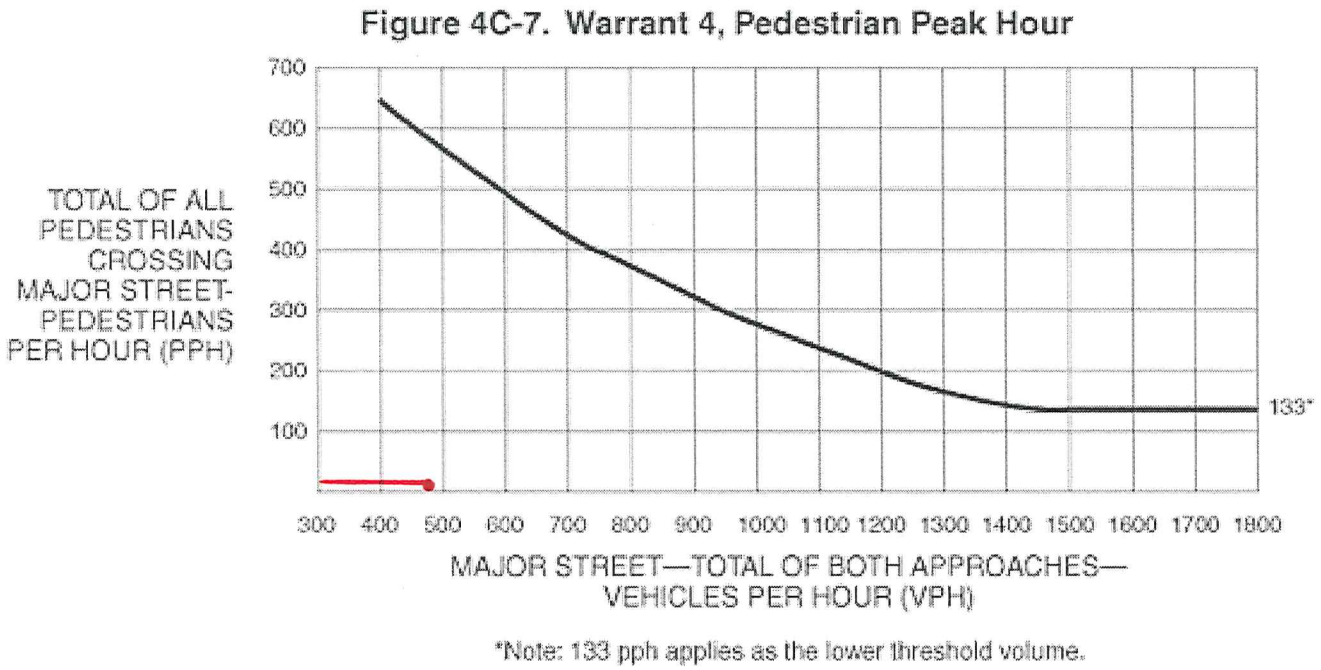

Figure 4C-7. Warrant 4, Pedestrian Peak Hour

Knowledge

This figure shows a graph depicting numerical values for Warrant 4, Pedestrian Peak Hour. The figure displays one curve.

The table below shows the approximate vehicles per hour (VPH) on the major street and corresponding pedestrians per hour (PPH) for the total of all pedestrians crossing the major street.

Table for Figure 4C-7

Pedestrian Four-Hour Volume	
VPH on the major street (Total of both approaches)	**PPH for the total of all pedestrians crossing the major street**
1800	133*
1700	133*
1600	133*
1500	133*
1400	150
1300	175
1200	200
1100	225
1000	280
900	325
800	375
700	420
600	500
500	575
400	650

* Note: 133 pph applies as the lower threshold volume.

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Dupuis, Jason

From: Lathrop, Pam
Sent: Monday, March 06, 2017 8:24 AM
To: Flesch, Michael; Dupuis, Jason
Subject: FW: Eric Wells II commented on City of Beloit, Wisconsin - Government's post. re: Bluff & Grand

More comments (see below) received via the Facebook page.
Thanks-

Pam Lathrop
Executive Assistant to the City Manager
City of Beloit
100 State Street
Beloit, WI 53511
Phone: 608-364-6614
Fax: 608-364-6756
Follow us on Facebook
E-mail: lathropp@beloitwi.gov

From: Facebook [mailto:update+kjdmujm1w_ji@facebookmail.com]
Sent: Saturday, March 4, 2017 10:55 AM
To: Lathrop, Pam
Subject: Eric Wells II commented on City of Beloit, Wisconsin - Government's post.

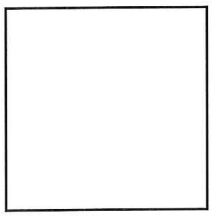
Facebook

Eric Wells II commented on City of Beloit, Wisconsin - Government's post.

Eric Wells II
March 4 at 10:55am

How many accidents were there when it was flashing red on Grand and yellow on Bluff?

View on Facebook

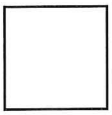


Dupuis, Jason

From: Lathrop, Pam
Sent: Monday, March 06, 2017 8:20 AM
To: Flesch, Michael; Dupuis, Jason
Subject: Facebook comments re: Grand & Bluff stoplights

Please see comments (below) received via Facebook. If you want me to reply, please let me know.

Pam



Sheree Penewell Butler
March 4 at 2:10pm

Oh my goodness people go fast along but Bluff and Grand! Putting in stop signs could be deadly!

Dupuis, Jason

From: Lathrop, Pam
Sent: Monday, March 06, 2017 8:16 AM
To: Flesch, Michael; Dupuis, Jason
Subject: Facebook Feedback on post re: Bluff & Grand Stoplights

Please see comments received via Facebook. If you want me to reply, please let me know.

if they remove the light and only make it a 4 way stop can you please use the stop lights with the flashing red lights...do not make it only a 2 way stop like Bluff and St Lawrence since no one follows that and there have been many wrecks there because people either run the stop sign on St Lawrence or just don't pay enough attention to it. If the sign flashes red it would help a lot

Pam Lathrop
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