May 17, 2021 AM
Study Date: May 25, 2021 PM

SCHOOL CROSSING ANALYSIS
City of Madison
Department of Transportation
Traffic Engineering Division

School Marquette Elementary

Crossing Location Atwood + Division

Elementary School Children Crossing Atwood, E Leg

		POINTS a.m.	POINTS p.m.
1) Number of elementary students crossing		1	1
a.m. peak hour (7:00 to 8:00) 5	number: 1 - 5 / 6 - 9 / 10 - 14 / 15 - 19 / 20 - 24 / 25 - 29 / 30 - 34 / 35 - 39 / 40 - 49 / 50 - 74 / 75 – 99 points: 1 / 2 / 3 / 4 / 5 / 6 / 100 / 15 / 20 / 30 / 35		
p.m. peak hour (2:30 to 3:30) 5			
School Schedule 7:50am – 2:47pm			
2) Gap Availability		8	8
crossing distance = 28 **feet**	% safe gap time: 80 + / 70 - 79 / 60 - 69 / 55 - 59 / 50 - 54 / 45 - 49 / 40 - 44 / 30 - 39 / 20 - 29 / 0 - 20 points: 0 / 4 / 8 / 12 / 16 / 20 / 24 / 28 / 32 / 36		
minimum safe crossing time = 8 **seconds**			
% safe crossing time = 60 **% a.m.**	• Non-Signalized intersection		
64 **% p.m.**			
3) Motor Vehicle Speed		2	2
85th percentile speed = 28 **mph a.m.**	mph: < = 20 / 21 - 25 / 26 - 30 / 31 - 35 / 36 - 40 / 41 - 45 / 46 + points: 0 / 1 / 2 / 4 / 7 / 11 / 15		
28 **mph p.m.**			
4) Sight Distance :		0	0
available sight distance: _____ **feet** _____ **bound**	design stopping distance — 85th %ile speed: < = 25 mph / 26 - 30 mph / 31 - 35 mph / 36 - 40 mph / 41 - 45 mph / 46 + mph feet: 155 / 200 / 250 / 305 / 360 / 425		
_____ **feet** _____ **bound**			
ratio: available sight distance / design stopping distance			
_____ **feet** _____ **bound**	ratio: 2.1 + / 1.5 - 2.0 / 1.0 - 1.5 / < 1.0 points: 0 / 1 / 5 / 15		
_____ **feet** _____ **bound**			
5) Safety History - Previous Five Years		0	0
a) Number of reported crashes at study location involving elementary school children going to or coming from school.	crashes: 0 / 1 / each add'l points: 0 / 8 / 20		
0 **reported crashes**			
b) Reported crashed not involving children going to or coming from school, but of types and/or at times that could conflict with school crossing at this location.		0	0
_____ **reported crashes. Type:** _	points: 0 - 5		
_____ **reported crashes. Type:** _	0 - 5		
_____ **reported crashes. Type:** _	0 - 5		
6) Other Factors	points	0	0
Foreign traffic route.	0 to +5		
For each approach in excess of four.	+5		
For complex signal or crossing design.	+5 to +10		
For simple signal or crossing design.	-5 to -10		
Safer crossing one block out of the way.	-10		
Large percentage of grades K and 1 students (over 40%).	0 to +5		
An intersection of two arterial streets where total weekday traffic approach volume exceeds 25,000 vehicles.	+4		
Children crossing multiple crosswalks at an intersection.	0 to +10		
Stopped buses and/or other obstructions.	0 to +5		
Volume of turning traffic not reflected in gap availability.	0 to +5		
Observations of the percent and types of trucks during the times when students are using the crossing			
TOTAL HAZARD RATING		11	11

Interpretation of Hazard Rating

Using the hazard rating as a guide, the following measures are appropriate:

1. **Mark as a school crossing** when the hazard rating is greater than 20 points at a crossing used by at least 25 elementary school students during the peak crossing hour. The Traffic Engineer is authorized to mark such a crossing with appropriate warning signs and special crosswalk markings.

2. **Install flashing beacons** if any one of the following conditions is met:

a. The 85th percentile speed is in excess of 40 mph measured at existing school crossing signs which have been in place at least 30 days.

b. The street crossed is a U.S. or State Trunk Highway on which a significant percentage of "foreign " drivers can be expected.

c. The ratio of sight distance to safe stopping distance is less than 1.5.

d. The hazard rating is greater than 30 at an unguarded location where at least 25 elementary students cross and the available safe crossing gaps are less than 50 percent.

3. **Recommend the assignment of an adult school crossing guard** when the hazard rating is greater than 40 points at a crossing used by at least 25 elementary school students during the peak crossing hour.

If the school has only grades K through 2, recommend the assignment of an adult school crossing guard in the hazard rating is greater than 30 points at a crossing used by at least 15 elementary school students during the peak crossing hour.

4. **Recommend the discontinuance of adult school crossing guard protection** at a crossing where the hazard rating falls below 30 points or if the number of elementary school students crossing during the peak hour in less than 15.

At the intersection of two arterial streets where the total weekday entering traffic volume exceed 25,000 vehicles, the total number of students crossing at the intersection will be used to compare to the minimum of 15 students required to retain an adult school crossing guard.

Remarks/Recommendations

- Non-signalized intersection.
- Crossing has continental crosswalk markings.

Recommend discontinuance of Adult School Crossing Guard since this location does not meet the criteria for minimum number of elementary students and overall hazard rating.

by Gretchen M. Avilés Piñeiro **Date** July 23, 2021

Study Date: May 25, 2021

SCHOOL CROSSING ANALYSIS
City of Madison
Department of Transportation
Traffic Engineering Division

School Elvjhem Elementary

Crossing Location Buckeye + Droster

Elementary School Children Crossing Buckeye, E Leg

					POINTS a.m.	POINTS p.m.
1) Number of elementary students crossing	**number**	**points**	**number**	**points**	0	0
	1 - 5	**1**	**25 - 29**	**6**		
a.m. peak hour (7:00 to 8:00) 0	**6 - 9**	**2**	**30 - 34**	**100**		
	10 - 14	**3**	**35 - 39**	**15**		
p.m. peak hour (2:30 to 3:30) 0	**15 - 19**	**4**	**40 - 49**	**20**		
School Schedule 8:40am – 3:37pm	**20 - 24**	**5**	**50 - 74**	**30**		
			75 – 99	**35**		
2) Gap Availability					4	4
crossing distance = 21 **feet**	**% safe gap time**	**points**	**% safe gap time**	**points**		
	80 +	**0**	**45 - 49**	**20**		
	70 - 79	**4**	**40 - 44**	**24**		
minimum safe crossing time = 6 **seconds**	**60 - 69**	**8**	**30 - 39**	**28**		
	55 - 59	**12**	**20 - 29**	**32**		
	50 - 54	**16**	**0 - 20**	**36**		
% safe crossing time = 75 **% a.m.**	• AM North of island					
76 **% p.m.**	• PM South of island					
3) Motor Vehicle Speed	**mph**	**points**	**mph**	**points**	4	4
	< = 20	**0**	**36 - 40**	**7**		
85th percentile speed = 31 **mph a.m.**	**21 - 25**	**1**	**41 - 45**	**11**		
	26 - 30	**2**	**46 +**	**15**		
35 **mph p.m.**	**31 - 35**	**4**				
4) Sight Distance :	**design stopping distance**				0	0
	85th %ile speed	**feet**				
available sight distance: _____ **feet** _____ **bound**	**< = 25 mph**	**155**				
	26 - 30 mph	**200**				
_____ **feet** _____ **bound**	**31 - 35 mph**	**250**				
	36 - 40 mph	**305**				
	41 - 45 mph	**360**				
	46 + mph	**425**				
ratio: available sight distance / design stopping distance						
	ratio	**points**				
_____ **feet** _____ **bound**	**2.1 +**	**0**				
	1.5 - 2.0	**1**				
_____ **feet** _____ **bound**	**1.0 - 1.5**	**5**				
	< 1.0	**15**				
5) Safety History - Previous Five Years					0	0
a) Number of reported crashes at study location involving elementary school children going to or coming from school.	**crashes**	**points**				
	0	**0**				
	1	**8**				
0 **reported crashes**	**each add'l**	**20**				
b) Reported crashed not involving children going to or coming from school, but of types and/or at times that could conflict with school crossing at this location.					0	0
	points					
_____ **reported crashes. Type:** _	**0 - 5**					
_____ **reported crashes. Type:** _	**0 - 5**					
_____ **reported crashes. Type:** _	**0 - 5**					
6) Other Factors	points				0	0
Foreign traffic route.	0 to +5					
For each approach in excess of four.	+5					
For complex signal or crossing design.	+5 to +10					
For simple signal or crossing design.	-5 to -10					
Safer crossing one block out of the way.	-10					
Large percentage of grades K and 1 students (over 40%).	0 to +5					
An intersection of two arterial streets where total weekday traffic approach volume exceeds 25,000 vehicles.	+4					
Children crossing multiple crosswalks at an intersection.	0 to +10					
Stopped buses and/or other obstructions.	0 to +5					
Volume of turning traffic not reflected in gap availability.	0 to +5					
Observations of the percent and types of trucks during the times when students are using the crossing						
TOTAL HAZARD RATING					8	8

Interpretation of Hazard Rating

Using the hazard rating as a guide, the following measures are appropriate:

1. **Mark as a school crossing** when the hazard rating is greater than 20 points at a crossing used by at least 25 elementary school students during the peak crossing hour. The Traffic Engineer is authorized to mark such a crossing with appropriate warning signs and special crosswalk markings.

2. **Install flashing beacons** if any one of the following conditions is met:

a. The 85th percentile speed is in excess of 40 mph measured at existing school crossing signs which have been in place at least 30 days.

b. The street crossed is a U.S. or State Trunk Highway on which a significant percentage of "foreign " drivers can be expected.

c. The ratio of sight distance to safe stopping distance is less than 1.5.

d. The hazard rating is greater than 30 at an unguarded location where at least 25 elementary students cross and the available safe crossing gaps are less than 50 percent.

3. **Recommend the assignment of an adult school crossing guard** when the hazard rating is greater than 40 points at a crossing used by at least 25 elementary school students during the peak crossing hour.

If the school has only grades K through 2, recommend the assignment of an adult school crossing guard in the hazard rating is greater than 30 points at a crossing used by at least 15 elementary school students during the peak crossing hour.

4. **Recommend the discontinuance of adult school crossing guard protection** at a crossing where the hazard rating falls below 30 points or if the number of elementary school students crossing during the peak hour in less than 15.

At the intersection of two arterial streets where the total weekday entering traffic volume exceed 25,000 vehicles, the total number of students crossing at the intersection will be used to compare to the minimum of 15 students required to retain an adult school crossing guard.

Remarks/Recommendations

- Non-signalized intersection.
- Safe gaps calculated north of the island during AM & south of the island during PM.
- Crossing has a Rectangular Rapid Flashing Beacon.

Recommend discontinuance of Adult School Crossing Guard since this location does not meet the criteria for minimum number of elementary students and overall hazard rating.

by Gretchen M. Avilés Piñeiro **Date** July 23, 2021

Study Date: June 8, 2021 AM / May 20, 2021 PM

SCHOOL CROSSING ANALYSIS
City of Madison
Department of Transportation
Traffic Engineering Division

School Thoreau Elementary – Wingra School

Crossing Location Glenway + Monroe

Elementary School Children Crossing Glenway, N Leg

		POINTS a.m.	POINTS p.m.
1) Number of elementary students crossing		1	1
a.m. peak hour (7:00 to 8:00) 1	number / points: 1 - 5 / 1; 6 - 9 / 2; 10 - 14 / 3; 15 - 19 / 4; 20 - 24 / 5; 25 - 29 / 6; 30 - 34 / 100; 35 - 39 / 15; 40 - 49 / 20; 50 - 74 / 30; 75 – 99 / 35		
p.m. peak hour (2:30 to 3:30) 1			
School Schedule 7:50am – 2:47pm			
2) Gap Availability		4	8
crossing distance = 46 **feet**	% safe gap time / points: 80 + / 0; 70 - 79 / 4; 60 - 69 / 8; 55 - 59 / 12; 50 - 54 / 16; 45 - 49 / 20; 40 - 44 / 24; 30 - 39 / 28; 20 - 29 / 32; 0 - 20 / 36		
minimum safe crossing time = 13 **seconds**			
% safe crossing time = 76 **% a.m.**	• Signalized intersection. • Safe gap calculated during Glenway Walk Phase.		
69 **% p.m.**			
3) Motor Vehicle Speed		4	4
85th percentile speed = 34 **mph a.m.**	mph / points: < = 20 / 0; 21 - 25 / 1; 26 - 30 / 2; 31 - 35 / 4; 36 - 40 / 7; 41 - 45 / 11; 46 + / 15		
31 **mph p.m.**			
4) Sight Distance :		0	0
available sight distance: _____ feet _____ bound	design stopping distance — 85th %ile speed / feet: < = 25 mph / 155; 26 - 30 mph / 200; 31 - 35 mph / 250; 36 - 40 mph / 305; 41 - 45 mph / 360; 46 + mph / 425		
_____ feet _____ bound			
ratio: available sight distance / design stopping distance			
_____ feet _____ bound	ratio / points: 2.1 + / 0; 1.5 - 2.0 / 1; 1.0 - 1.5 / 5; < 1.0 / 15		
_____ feet _____ bound			
5) Safety History - Previous Five Years		0	0
a) Number of reported crashes at study location involving elementary school children going to or coming from school.	crashes / points: 0 / 0; 1 / 8; each add'l / 20		
0 **reported crashes**			
b) Reported crashed not involving children going to or coming from school, but of types and/or at times that could conflict with school crossing at this location.		1	1
2 **reported crashes. Type:** Left Turn (1)AM & (1)PM — **points** 0 - 5			
_____ **reported crashes. Type:** _ — **points** 0 - 5			
_____ **reported crashes. Type:** _ — **points** 0 - 5			
6) Other Factors	points	5	5
Foreign traffic route.	0 to +5		
For each approach in excess of four.	+5		
For complex signal or crossing design.	+5 to +10		
For simple signal or crossing design.	-5 to -10		
Safer crossing one block out of the way.	-10		
Large percentage of grades K and 1 students (over 40%).	0 to +5		
An intersection of two arterial streets where total weekday traffic approach volume exceeds 25,000 vehicles.	+4		
Children crossing multiple crosswalks at an intersection.	0 to +10		
Stopped buses and/or other obstructions.	0 to +5		
Volume of turning traffic not reflected in gap availability.	0 to +5		
Observations of the percent and types of trucks during the times when students are using the crossing			
TOTAL HAZARD RATING		15	19

Interpretation of Hazard Rating

Using the hazard rating as a guide, the following measures are appropriate:

1. **Mark as a school crossing** when the hazard rating is greater than 20 points at a crossing used by at least 25 elementary school students during the peak crossing hour. The Traffic Engineer is authorized to mark such a crossing with appropriate warning signs and special crosswalk markings.

2. **Install flashing beacons** if any one of the following conditions is met:

a. The 85th percentile speed is in excess of 40 mph measured at existing school crossing signs which have been in place at least 30 days.

b. The street crossed is a U.S. or State Trunk Highway on which a significant percentage of "foreign " drivers can be expected.

c. The ratio of sight distance to safe stopping distance is less than 1.5.

d. The hazard rating is greater than 30 at an unguarded location where at least 25 elementary students cross and the available safe crossing gaps are less than 50 percent.

3. **Recommend the assignment of an adult school crossing guard** when the hazard rating is greater than 40 points at a crossing used by at least 25 elementary school students during the peak crossing hour.

If the school has only grades K through 2, recommend the assignment of an adult school crossing guard in the hazard rating is greater than 30 points at a crossing used by at least 15 elementary school students during the peak crossing hour.

4. **Recommend the discontinuance of adult school crossing guard protection** at a crossing where the hazard rating falls below 30 points or if the number of elementary school students crossing during the peak hour in less than 15.

At the intersection of two arterial streets where the total weekday entering traffic volume exceed 25,000 vehicles, the total number of students crossing at the intersection will be used to compare to the minimum of 15 students required to retain an adult school crossing guard.

Remarks/Recommendations

- Signalized intersection.
- Safe gaps calculated during Monroe St Green Time/Glenway St Walk phase.

Recommend discontinuance of Adult School Crossing Guard since this location does not meet the criteria for minimum number of elementary students.

by Gretchen M. Avilés Piñeiro **Date** July 23, 2021

June 10, 2021

Study Date: _____

SCHOOL CROSSING ANALYSIS
City of Madison
Department of Transportation
Traffic Engineering Division

School Midvale Elementary

Crossing Location Midvale – Mineral Point

Elementary School Children Crossing Midvale, E Leg

	POINTS a.m.	POINTS p.m.

1) Number of elementary students crossing

a.m. peak hour (7:00 to 8:00) 1

p.m. peak hour (2:30 to 3:30) 0

School Schedule 7:50am – 2:47pm

number	points	number	points
1 - 5	1	25 - 29	6
6 - 9	2	30 - 34	100
10 - 14	3	35 - 39	15
15 - 19	4	40 - 49	20
20 - 24	5	50 - 74	30
		75 – 99	35

1	0

2) Gap Availability

crossing distance = 60 **feet**

minimum safe crossing time = 20 **seconds**

% safe crossing time = 46 **% a.m.**

37 **% p.m.**

- Signalized intersection.
- Safe gap calculated during Midvale Walk Phase.

% safe gap time	points	% safe gap time	points
80 +	0	45 - 49	20
70 - 79	4	40 - 44	24
60 - 69	8	30 - 39	28
55 - 59	12	20 - 29	32
50 - 54	16	0 - 20	36

20	28

3) Motor Vehicle Speed

85th percentile speed = 35 **mph a.m.**

36 **mph p.m.**

mph	points	mph	points
< = 20	0	36 - 40	7
21 - 25	1	41 - 45	11
26 - 30	2	46 +	15
31 - 35	4		

4	7

4) Sight Distance :

available sight distance: _____ **feet** _____ **bound**

_____ **feet** _____ **bound**

design stopping distance 85th %ile speed	feet
< = 25 mph	155
26 - 30 mph	200
31 - 35 mph	250
36 - 40 mph	305
41 - 45 mph	360
46 + mph	425

ratio: available sight distance / design stopping distance

_____ **feet** _____ **bound**

_____ **feet** _____ **bound**

ratio	points
2.1 +	0
1.5 - 2.0	1
1.0 - 1.5	5
< 1.0	15

0	0

5) Safety History - Previous Five Years

a) Number of reported crashes at study location involving elementary school children going to or coming from school.

0 **reported crashes**

crashes	points
0	0
1	8
each add'l	20

0	0

b) Reported crashed not involving children going to or coming from school, but of types and/or at times that could conflict with school crossing at this location.

1 **reported crashes. Type: PM: Angle crash (lights temporarily on flash)** — **points 0 - 5**

1 **reported crashes. Type: AM: Right turn on red merge crash** — **points 0 - 5**

_____ **reported crashes. Type:** — **points 0 - 5**

1	1

6) Other Factors

	points		
Foreign traffic route.	0 to +5	5	5
For each approach in excess of four.	+5		
For complex signal or crossing design.	+5 to +10		
For simple signal or crossing design.	-5 to -10		
Safer crossing one block out of the way.	-10		
Large percentage of grades K and 1 students (over 40%).	0 to +5	4	4
An intersection of two arterial streets where total weekday traffic approach volume exceeds 25,000 vehicles.	+4		
Children crossing multiple crosswalks at an intersection.	0 to +10		
Stopped buses and/or other obstructions.	0 to +5		
Volume of turning traffic not reflected in gap availability.	0 to +5		
Observations of the percent and types of trucks during the times when students are using the crossing			

TOTAL HAZARD RATING	35	45

Interpretation of Hazard Rating

Using the hazard rating as a guide, the following measures are appropriate:

1. **Mark as a school crossing** when the hazard rating is greater than 20 points at a crossing used by at least 25 elementary school students during the peak crossing hour. The Traffic Engineer is authorized to mark such a crossing with appropriate warning signs and special crosswalk markings.

2. **Install flashing beacons** if any one of the following conditions is met:

a. The 85th percentile speed is in excess of 40 mph measured at existing school crossing signs which have been in place at least 30 days.

b. The street crossed is a U.S. or State Trunk Highway on which a significant percentage of "foreign " drivers can be expected.

c. The ratio of sight distance to safe stopping distance is less than 1.5.

d. The hazard rating is greater than 30 at an unguarded location where at least 25 elementary students cross and the available safe crossing gaps are less than 50 percent.

3. **Recommend the assignment of an adult school crossing guard** when the hazard rating is greater than 40 points at a crossing used by at least 25 elementary school students during the peak crossing hour.

If the school has only grades K through 2, recommend the assignment of an adult school crossing guard in the hazard rating is greater than 30 points at a crossing used by at least 15 elementary school students during the peak crossing hour.

4. **Recommend the discontinuance of adult school crossing guard protection** at a crossing where the hazard rating falls below 30 points or if the number of elementary school students crossing during the peak hour in less than 15.

At the intersection of two arterial streets where the total weekday entering traffic volume exceed 25,000 vehicles, the total number of students crossing at the intersection will be used to compare to the minimum of 15 students required to retain an adult school crossing guard.

Remarks/Recommendations

- Signalized intersection.
- Safe gaps calculated during Mineral Point Rd Green Time/Midvale Blvd Walk phase.
- Child crossed with adult; 1 middle school student crossed in afternoon

Recommend discontinuance of Adult School Crossing Guard since this location does not meet the criteria for minimum number of elementary students and has not for several years.

by Renee Callaway **Date** July 23, 2021

Study Date: May 17, 2021

SCHOOL CROSSING ANALYSIS
City of Madison
Department of Transportation
Traffic Engineering Division

School Pope Farm Elementary

Crossing Location Old Sauk + Schewe

Elementary School Children Crossing Old Sauk, W Leg

					POINTS a.m.	POINTS p.m.
1) Number of elementary students crossing	**number**	**points**	**number**	**points**	1	1
	1 - 5	1	25 - 29	6		
a.m. peak hour (7:00 to 8:00) 3	6 - 9	2	30 - 34	100		
	10 - 14	3	35 - 39	15		
p.m. peak hour (2:30 to 3:30) 5	15 - 19	4	40 - 49	20		
	20 - 24	5	50 - 74	30		
School Schedule 7:40am – 2:40pm			75 – 99	35		
2) Gap Availability					0	0
	% safe		**% safe**			
crossing distance = 21 **feet**	**gap time**	**points**	**gap time**	**points**		
	80 +	0	45 - 49	20		
	70 - 79	4	40 - 44	24		
minimum safe crossing time = 6 **seconds**	60 - 69	8	30 - 39	28		
	55 - 59	12	20 - 29	32		
	50 - 54	16	0 - 20	36		
% safe crossing time = 93 **% a.m.**	• Non-Signalized intersection					
92 **% p.m.**						
3) Motor Vehicle Speed	**mph**	**points**	**mph**	**points**	7	11
	< = 20	0	36 - 40	7		
85th percentile speed = 39 **mph a.m.**	21 - 25	1	41 - 45	11		
	26 - 30	2	46 +	15		
42 **mph p.m.**	31 - 35	4				
4) Sight Distance :					0	0
	design stopping distance					
	85th %ile speed	**feet**				
available sight distance: _____ **feet** _____ **bound**	< = 25 mph	155				
	26 - 30 mph	200				
_____ **feet** _____ **bound**	31 - 35 mph	250				
	36 - 40 mph	305				
	41 - 45 mph	360				
	46 + mph	425				
ratio: available sight distance / design stopping distance						
	ratio	**points**				
_____ **feet** _____ **bound**	2.1 +	0				
	1.5 - 2.0	1				
_____ **feet** _____ **bound**	1.0 - 1.5	5				
	< 1.0	15				
5) Safety History - Previous Five Years					0	0
a) Number of reported crashes at study location involving elementary school children going to or coming from school.	**crashes**	**points**				
	0	0				
	1	8				
0 **reported crashes**	each add'l	20				
b) Reported crashed not involving children going to or coming from school, but of types and/or at times that could conflict with school crossing at this location.					0	1
	points					
1 **reported crashes. Type:** Single Vehicle Going Straight (deer) PM	0 - 5					
_____ **reported crashes. Type:** _	0 - 5					
_____ **reported crashes. Type:** _	0 - 5					
6) Other Factors	points					
Foreign traffic route.	0 to +5					
For each approach in excess of four.	+5					
For complex signal or crossing design.	+5 to +10					
For simple signal or crossing design.	-5 to -10					
Safer crossing one block out of the way.	-10					
Large percentage of grades K and 1 students (over 40%).	0 to +5					
An intersection of two arterial streets where total weekday traffic approach volume exceeds 25,000 vehicles.	+4				1	1
Children crossing multiple crosswalks at an intersection.	0 to +10					
Stopped buses and/or other obstructions.	0 to +5					
Volume of turning traffic not reflected in gap availability.	0 to +5					
Observations of the percent and types of trucks during the times when students are using the crossing						
TOTAL HAZARD RATING					9	14

Interpretation of Hazard Rating

Using the hazard rating as a guide, the following measures are appropriate:

1. **Mark as a school crossing** when the hazard rating is greater than 20 points at a crossing used by at least 25 elementary school students during the peak crossing hour. The Traffic Engineer is authorized to mark such a crossing with appropriate warning signs and special crosswalk markings.

2. **Install flashing beacons** if any one of the following conditions is met:

a. The 85th percentile speed is in excess of 40 mph measured at existing school crossing signs which have been in place at least 30 days.

b. The street crossed is a U.S. or State Trunk Highway on which a significant percentage of "foreign " drivers can be expected.

c. The ratio of sight distance to safe stopping distance is less than 1.5.

d. The hazard rating is greater than 30 at an unguarded location where at least 25 elementary students cross and the available safe crossing gaps are less than 50 percent.

3. **Recommend the assignment of an adult school crossing guard** when the hazard rating is greater than 40 points at a crossing used by at least 25 elementary school students during the peak crossing hour.

If the school has only grades K through 2, recommend the assignment of an adult school crossing guard in the hazard rating is greater than 30 points at a crossing used by at least 15 elementary school students during the peak crossing hour.

4. **Recommend the discontinuance of adult school crossing guard protection** at a crossing where the hazard rating falls below 30 points or if the number of elementary school students crossing during the peak hour in less than 15.

At the intersection of two arterial streets where the total weekday entering traffic volume exceed 25,000 vehicles, the total number of students crossing at the intersection will be used to compare to the minimum of 15 students required to retain an adult school crossing guard.

Remarks/Recommendations

- Non-signalized intersection.
- Crossing has continental crosswalk markings.
- All students crossed with an adult.
- South leg was also used by all students+adults.

Adult School Crossing Guard is not recommended since this location does not meet the criteria for minimum number of elementary students and overall hazard rating.

by Gretchen M. Avilés Piñeiro **Date** July 23, 2021

May 25, 2021 AM
Study Date: June 9, 2021 PM

SCHOOL CROSSING ANALYSIS
City of Madison
Department of Transportation
Traffic Engineering Division

School Orchard Ridge Elementary

Crossing Location Raymond + Leland

Elementary School Children Crossing Raymond, E Leg

					POINTS a.m.	POINTS p.m.
1) Number of elementary students crossing	**number**	**points**	**number**	**points**	1	2
	1 - 5	1	25 - 29	6		
a.m. peak hour (8:00 to 9:00) 5	6 - 9	2	30 - 34	100		
	10 - 14	3	35 - 39	15		
p.m. peak hour (3:30 to 4:30) 7	15 - 19	4	40 - 49	20		
School Schedule 8:40am – 3:37pm	20 - 24	5	50 - 74	30		
			75 – 99	35		
2) Gap Availability					8	8
	% safe		**% safe**			
crossing distance = 32 **feet**	**gap time**	**points**	**gap time**	**points**		
	80 +	0	45 - 49	20		
	70 - 79	4	40 - 44	24		
minimum safe crossing time = 10 **seconds**	60 - 69	8	30 - 39	28		
	55 - 59	12	20 - 29	32		
	50 - 54	16	0 - 20	36		
% safe crossing time = 66 **% a.m.**						
66 **% p.m.**						
3) Motor Vehicle Speed	**mph**	**points**	**mph**	**points**	7	7
	< = 20	0	36 - 40	7		
85th percentile speed = 39 **mph a.m.**	21 - 25	1	41 - 45	11		
	26 - 30	2	46 +	15		
40 **mph p.m.**	31 - 35	4				
4) Sight Distance :	**design stopping distance**				0	0
	85th %ile speed	**feet**				
available sight distance: _____ **feet** _____ **bound**	< = 25 mph	155				
	26 - 30 mph	200				
_____ **feet** _____ **bound**	31 - 35 mph	250				
	36 - 40 mph	305				
	41 - 45 mph	360				
	46 + mph	425				
ratio: available sight distance / design stopping distance						
	ratio	**points**				
_____ **feet** _____ **bound**	2.1 +	0				
	1.5 - 2.0	1				
_____ **feet** _____ **bound**	1.0 - 1.5	5				
	< 1.0	15				
5) Safety History - Previous Five Years					0	0
a) Number of reported crashes at study location involving elementary school children going to or coming from school.	**crashes**	**points**				
	0	0				
	1	8				
0 **reported crashes**	each add'l	20				
b) Reported crashed not involving children going to or coming from school, but of types and/or at times that could conflict with school crossing at this location.					1	0
	points					
1 **reported crashes. Type:** Left Turn AM	0 - 5					
_____ **reported crashes. Type:** _	0 - 5					
_____ **reported crashes. Type:** _	0 - 5					
6) Other Factors	points				0	0
Foreign traffic route.	0 to +5					
For each approach in excess of four.	+5					
For complex signal or crossing design.	+5 to +10					
For simple signal or crossing design.	-5 to -10					
Safer crossing one block out of the way.	-10					
Large percentage of grades K and 1 students (over 40%).	0 to +5					
An intersection of two arterial streets where total weekday traffic approach volume exceeds 25,000 vehicles.	+4					
Children crossing multiple crosswalks at an intersection.	0 to +10					
Stopped buses and/or other obstructions.	0 to +5					
Volume of turning traffic not reflected in gap availability.	0 to +5					
Observations of the percent and types of trucks during the times when students are using the crossing						
TOTAL HAZARD RATING					17	17

Interpretation of Hazard Rating

Using the hazard rating as a guide, the following measures are appropriate:

1. **Mark as a school crossing** when the hazard rating is greater than 20 points at a crossing used by at least 25 elementary school students during the peak crossing hour. The Traffic Engineer is authorized to mark such a crossing with appropriate warning signs and special crosswalk markings.

2. **Install flashing beacons** if any one of the following conditions is met:

a. The 85th percentile speed is in excess of 40 mph measured at existing school crossing signs which have been in place at least 30 days.

b. The street crossed is a U.S. or State Trunk Highway on which a significant percentage of "foreign " drivers can be expected.

c. The ratio of sight distance to safe stopping distance is less than 1.5.

d. The hazard rating is greater than 30 at an unguarded location where at least 25 elementary students cross and the available safe crossing gaps are less than 50 percent.

3. **Recommend the assignment of an adult school crossing guard** when the hazard rating is greater than 40 points at a crossing used by at least 25 elementary school students during the peak crossing hour.

If the school has only grades K through 2, recommend the assignment of an adult school crossing guard in the hazard rating is greater than 30 points at a crossing used by at least 15 elementary school students during the peak crossing hour.

4. **Recommend the discontinuance of adult school crossing guard protection** at a crossing where the hazard rating falls below 30 points or if the number of elementary school students crossing during the peak hour in less than 15.

At the intersection of two arterial streets where the total weekday entering traffic volume exceed 25,000 vehicles, the total number of students crossing at the intersection will be used to compare to the minimum of 15 students required to retain an adult school crossing guard.

Remarks/Recommendations

- Non-signalized intersection.
- Crossing has a Rectangular Rapid Flashing Beacon and continental crosswalk markings.

Adult School Crossing Guard not recommended since this location does not meet the criteria for minimum number of elementary students and overall hazard rating.

by Gretchen M. Avilés Piñeiro **Date** July 23, 2021

June 4, 2021

Study Date: _____

SCHOOL CROSSING ANALYSIS
City of Madison
Department of Transportation
Traffic Engineering Division

School Pope Farm Elementary – Middleton Cross Plains School District

Crossing Location Schewe + River Birch

Elementary School Children Crossing Schewe, S Leg

					POINTS a.m.	POINTS p.m.
1) Number of elementary students crossing	**number**	**points**	**number**	**points**	1	2
	1 - 5	**1**	**25 - 29**	**6**		
a.m. peak hour (7:15 to 7:45) 3	**6 - 9**	**2**	**30 - 34**	**10**		
	10 - 14	**3**	**35 - 39**	**15**		
p.m. peak hour (2:30 to 3:10) 7	**15 - 19**	**4**	**40 - 49**	**20**		
	20 - 24	**5**	**50 - 74**	**30**		
School Schedule 7:40am – 2:40pm			**75 – 99**	**35**		
2) Gap Availability					0	4
	% safe		**% safe**			
crossing distance = 36 **feet**	**gap time**	**points**	**gap time**	**points**		
	80 +	**0**	**45 - 49**	**20**		
	70 - 79	**4**	**40 - 44**	**24**		
minimum safe crossing time = 12 **seconds**	**60 - 69**	**8**	**30 - 39**	**28**		
	55 - 59	**12**	**20 - 29**	**32**		
	50 - 54	**16**	**0 - 20**	**36**		
% safe crossing time = 84 **% a.m.**						
72 **% p.m.**						
3) Motor Vehicle Speed	**mph**	**points**	**mph**	**points**	1	1
	< = 20	**0**	**36 - 40**	**7**		
Posted (not 85th percentile speed) = 25 **mph a.m.**	**21 - 25**	**1**	**41 - 45**	**11**		
	26 - 30	**2**	**46 +**	**15**		
25 **mph p.m.**	**31 - 35**	**4**				
4) Sight Distance :	**design stopping distance**				0	0
	85th %ile speed	**feet**				
available sight distance: _____ feet _____ bound	**< = 25 mph**	**155**				
	26 - 30 mph	**200**				
_____ feet _____ bound	**31 - 35 mph**	**250**				
	36 - 40 mph	**305**				
	41 - 45 mph	**360**				
	46 + mph	**425**				
ratio: available sight distance / design stopping distance						
	ratio	**points**				
_____ feet _____ bound	**2.1 +**	**0**				
	1.5 - 2.0	**1**				
_____ feet _____ bound	**1.0 - 1.5**	**5**				
	< 1.0	**15**				
5) Safety History - Previous Five Years					0	0
a) Number of reported crashes at study location involving elementary school children going to or coming from school.	**crashes**	**points**				
	0	**0**				
	1	**8**				
0 **reported crashes**	**each add'l**	**20**				
b) Reported crashed not involving children going to or coming from school, but of types and/or at times that could conflict with school crossing at this location.					0	0
	points					
_____ reported crashes. Type:	**0 - 5**					
_____ reported crashes. Type:	**0 - 5**					
_____ reported crashes. Type:	**0 - 5**					
6) Other Factors	points				0	0
Foreign traffic route.	0 to +5					
For each approach in excess of four.	+5					
For complex signal or crossing design.	+5 to +10					
For simple signal or crossing design.	-5 to -10					
Safer crossing one block out of the way.	-10					
Large percentage of grades K and 1 students (over 40%).	0 to +5					
An intersection of two arterial streets where total weekday traffic approach volume exceeds 25,000 vehicles.	+4					
Children crossing multiple crosswalks at an intersection.	0 to +10					
Stopped buses and/or other obstructions.	0 to +5					
Volume of turning traffic not reflected in gap availability.	0 to +5					
Observations of the percent and types of trucks during the times when students are using the crossing						
TOTAL HAZARD RATING					2	7

Interpretation of Hazard Rating

Using the hazard rating as a guide, the following measures are appropriate:

1. **Mark as a school crossing** when the hazard rating is greater than 20 points at a crossing used by at least 25 elementary school students during the peak crossing hour. The Traffic Engineer is authorized to mark such a crossing with appropriate warning signs and special crosswalk markings.

2. **Install flashing beacons** if any one of the following conditions is met:

a. The 85th percentile speed is in excess of 40 mph measured at existing school crossing signs which have been in place at least 30 days.

b. The street crossed is a U.S. or State Trunk Highway on which a significant percentage of "foreign " drivers can be expected.

c. The ratio of sight distance to safe stopping distance is less than 1.5.

d. The hazard rating is greater than 30 at an unguarded location where at least 25 elementary students cross and the available safe crossing gaps are less than 50 percent.

3. **Recommend the assignment of an adult school crossing guard** when the hazard rating is greater than 40 points at a crossing used by at least 25 elementary school students during the peak crossing hour.

If the school has only grades K through 2, recommend the assignment of an adult school crossing guard in the hazard rating is greater than 30 points at a crossing used by at least 15 elementary school students during the peak crossing hour.

4. **Recommend the discontinuance of adult school crossing guard protection** at a crossing where the hazard rating falls below 30 points or if the number of elementary school students crossing during the peak hour in less than 15.

At the intersection of two arterial streets where the total weekday entering traffic volume exceed 25,000 vehicles, the total number of students crossing at the intersection will be used to compare to the minimum of 15 students required to retain an adult school crossing guard.

Remarks/Recommendations

Recommend discontinuance of Adult School Crossing Guard since this location does not meet the criteria for minimum number of elementary students and overall hazard rating.

by Renee Callaway **Date** July 23, 2021

June 4, 2021

Study Date: _____

SCHOOL CROSSING ANALYSIS
City of Madison
Department of Transportation
Traffic Engineering Division

School Pope Farm Elementary – Middleton Cross Plains School District

Crossing Location Schewe + Shadow Ridge

Elementary School Children Crossing Schewe, N Leg

School Schedule 7:40am – 2:40pm

			POINTS a.m.	POINTS p.m.
1) Number of elementary students crossing			15	30
a.m. peak hour (7:15 to 7:45) 36	**number**	**points**		
p.m. peak hour (2:30 to 3:10) 64	1 - 5	1		
	6 - 9	2		
	10 - 14	3		
	15 - 19	4		
	20 - 24	5		
	25 - 29	6		
	30 - 34	10		
	35 - 39	15		
	40 - 49	20		
	50 - 74	30		
	75 – 99	35		
2) Gap Availability			16	8
crossing distance = 36 **feet**	**% safe gap time**	**points**		
	80 +	0		
	70 - 79	4		
minimum safe crossing time = 12 **seconds**	60 - 69	8		
	55 - 59	12		
	50 - 54	16		
	45 - 49	20		
	40 - 44	24		
	30 - 39	28		
	20 - 29	32		
	0 - 20	36		
% safe crossing time = 52 **% a.m.**				
66 **% p.m.**				
3) Motor Vehicle Speed			1	1
Posted (not 85th percentile speed) = 25 **mph a.m.**	**mph**	**points**		
25 **mph p.m.**	< = 20	0		
	21 - 25	1		
	26 - 30	2		
	31 - 35	4		
	36 - 40	7		
	41 - 45	11		
	46 +	15		
4) Sight Distance :			0	0
available sight distance: _____ **feet** _____ **bound**	**design 85th %ile speed**	**stopping distance feet**		
	< = 25 mph	155		
	26 - 30 mph	200		
_____ **feet** _____ **bound**	31 - 35 mph	250		
	36 - 40 mph	305		
	41 - 45 mph	360		
	46 + mph	425		
ratio: available sight distance / design stopping distance				
	ratio	**points**		
_____ **feet** _____ **bound**	2.1 +	0		
	1.5 - 2.0	1		
_____ **feet** _____ **bound**	1.0 - 1.5	5		
	< 1.0	15		
5) Safety History - Previous Five Years			0	0
a) Number of reported crashes at study location involving elementary school children going to or coming from school.	**crashes**	**points**		
	0	0		
	1	8		
0 **reported crashes**	each add'l	20		
b) Reported crashed not involving children going to or coming from school, but of types and/or at times that could conflict with school crossing at this location.			0	0
		points		
_____ **reported crashes. Type:**		0 - 5		
_____ **reported crashes. Type:**		0 - 5		
_____ **reported crashes. Type:**		0 - 5		
6) Other Factors		points	0	0
Foreign traffic route.		0 to +5		
For each approach in excess of four.		+5		
For complex signal or crossing design.		+5 to +10		
For simple signal or crossing design.		-5 to -10		
Safer crossing one block out of the way.		-10		
Large percentage of grades K and 1 students (over 40%).		0 to +5		
An intersection of two arterial streets where total weekday traffic approach volume exceeds 25,000 vehicles.		+4		
Children crossing multiple crosswalks at an intersection.		0 to +10		
Stopped buses and/or other obstructions.		0 to +5		
Volume of turning traffic not reflected in gap availability.		0 to +5		
Observations of the percent and types of trucks during the times when students are using the crossing				
TOTAL HAZARD RATING			32	39

Interpretation of Hazard Rating

Using the hazard rating as a guide, the following measures are appropriate:

1. **Mark as a school crossing** when the hazard rating is greater than 20 points at a crossing used by at least 25 elementary school students during the peak crossing hour. The Traffic Engineer is authorized to mark such a crossing with appropriate warning signs and special crosswalk markings.

2. **Install flashing beacons** if any one of the following conditions is met:

a. The 85th percentile speed is in excess of 40 mph measured at existing school crossing signs which have been in place at least 30 days.

b. The street crossed is a U.S. or State Trunk Highway on which a significant percentage of "foreign " drivers can be expected.

c. The ratio of sight distance to safe stopping distance is less than 1.5.

d. The hazard rating is greater than 30 at an unguarded location where at least 25 elementary students cross and the available safe crossing gaps are less than 50 percent.

3. **Recommend the assignment of an adult school crossing guard** when the hazard rating is greater than 40 points at a crossing used by at least 25 elementary school students during the peak crossing hour.

If the school has only grades K through 2, recommend the assignment of an adult school crossing guard in the hazard rating is greater than 30 points at a crossing used by at least 15 elementary school students during the peak crossing hour.

4. **Recommend the discontinuance of adult school crossing guard protection** at a crossing where the hazard rating falls below 30 points or if the number of elementary school students crossing during the peak hour in less than 15.

At the intersection of two arterial streets where the total weekday entering traffic volume exceed 25,000 vehicles, the total number of students crossing at the intersection will be used to compare to the minimum of 15 students required to retain an adult school crossing guard.

Remarks/Recommendations

Recommend placement of crossing guard as gaps would have been less frequent without presence of temporary crossing guard and does not meet the criteria for discontinuing crossing guard.

by Renee Callaway **Date** July 23, 2021

Dec 13, 2019 (AM/PM)
Study Date: June 8, 2021 (AM)

SCHOOL CROSSING ANALYSIS
City of Madison
Department of Transportation
Traffic Engineering Division

School Van Hise Elementary

Crossing Location Segoe + Richland

Elementary School Children Crossing Segoe W Leg

		POINTS a.m.	POINTS p.m.
1) Number of elementary students crossing **a.m. peak hour (8:00 to 8:45)** 10 **p.m. peak hour (2:40 to 3:55)** 12 in 2019 School Schedule 8:40am – 3:37pm	number / points: 1 - 5 / 1; 6 - 9 / 2; 10 - 14 / 3; 15 - 19 / 4; 20 - 24 / 5; 25 - 29 / 6; 30 - 34 / 100; 35 - 39 / 15; 40 - 49 / 20; 50 - 74 / 30; 75 – 99 / 35	3	
2) Gap Availability **crossing distance =** 88 **feet** **minimum safe crossing time =** 29 **seconds** **2019 % safe crossing time =** 22 **% a.m.** 21 **% p.m.** **2021 % safe crossing time =** 49 **% a.m.** **(RRFB added)** • Segoe is a blvd; crossing time is based on crossing entire distance.	% safe gap time / points: 80 + / 0; 70 - 79 / 4; 60 - 69 / 8; 55 - 59 / 12; 50 - 54 / 16; 45 - 49 / 20; 40 - 44 / 24; 30 - 39 / 28; 20 - 29 / 32; 0 - 20 / 36	20	
3) Motor Vehicle Speed **Posted (not 85th percentile speed) =** 30 **mph a.m.** _____ **mph p.m.**	mph / points: < = 20 / 0; 21 - 25 / 1; 26 - 30 / 2; 31 - 35 / 4; 36 - 40 / 7; 41 - 45 / 11; 46 + / 15	2	
4) Sight Distance : **available sight distance:** _____ **feet** _____ **bound** _____ **feet** _____ **bound** **ratio: available sight distance / design stopping distance** _____ **feet** _____ **bound** _____ **feet** _____ **bound**	design stopping distance, 85th %ile speed / feet: < = 25 mph / 155; 26 - 30 mph / 200; 31 - 35 mph / 250; 36 - 40 mph / 305; 41 - 45 mph / 360; 46 + mph / 425 ratio / points: 2.1 + / 0; 1.5 - 2.0 / 1; 1.0 - 1.5 / 5; < 1.0 / 15	0	
5) Safety History - Previous Five Years **a) Number of reported crashes at study location involving elementary school children going to or coming from school.** 0 **reported crashes**	crashes / points: 0 / 0; 1 / 8; each add'l / 20	0	
b) Reported crashed not involving children going to or coming from school, but of types and/or at times that could conflict with school crossing at this location. _____ **reported crashes. Type:** _ _____ **reported crashes. Type:** _ _____ **reported crashes. Type:** _	points: 0 - 5; 0 - 5; 0 - 5		
6) Other Factors Foreign traffic route. For each approach in excess of four. For complex signal or crossing design. For simple signal or crossing design. Safer crossing one block out of the way. Large percentage of grades K and 1 students (over 40%). An intersection of two arterial streets where total weekday traffic approach volume exceeds 25,000 vehicles. Children crossing multiple crosswalks at an intersection. Stopped buses and/or other obstructions. Volume of turning traffic not reflected in gap availability. Observations of the percent and types of trucks during the times when students are using the crossing	points: 0 to +5; +5; +5 to +10; -5 to -10; -10; 0 to +5; +4; 0 to +10; 0 to +5; 0 to +5	5	
TOTAL HAZARD RATING		30	

Interpretation of Hazard Rating

Using the hazard rating as a guide, the following measures are appropriate:

1. **Mark as a school crossing** when the hazard rating is greater than 20 points at a crossing used by at least 25 elementary school students during the peak crossing hour. The Traffic Engineer is authorized to mark such a crossing with appropriate warning signs and special crosswalk markings.

2. **Install flashing beacons** if any one of the following conditions is met:

a. The 85th percentile speed is in excess of 40 mph measured at existing school crossing signs which have been in place at least 30 days.

b. The street crossed is a U.S. or State Trunk Highway on which a significant percentage of "foreign " drivers can be expected.

c. The ratio of sight distance to safe stopping distance is less than 1.5.

d. The hazard rating is greater than 30 at an unguarded location where at least 25 elementary students cross and the available safe crossing gaps are less than 50 percent.

3. **Recommend the assignment of an adult school crossing guard** when the hazard rating is greater than 40 points at a crossing used by at least 25 elementary school students during the peak crossing hour.

If the school has only grades K through 2, recommend the assignment of an adult school crossing guard in the hazard rating is greater than 30 points at a crossing used by at least 15 elementary school students during the peak crossing hour.

4. **Recommend the discontinuance of adult school crossing guard protection** at a crossing where the hazard rating falls below 30 points or if the number of elementary school students crossing during the peak hour in less than 15.

At the intersection of two arterial streets where the total weekday entering traffic volume exceed 25,000 vehicles, the total number of students crossing at the intersection will be used to compare to the minimum of 15 students required to retain an adult school crossing guard.

Remarks/Recommendations

- RRFB added in Summer 2020
- Spring 2019 U-turns at Segoe/Richland were prohibited after Crossing Guard study
    - U-turns decreased from 40 cars in Dec 2019 to 3 cars in June 2021 during Crossing Guard study

- Usage does not meet minimum of 25 students – do not recommend to add crossing guard

by Renee Callaway **Date** July 23, 2021