

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.	p.m.	
1) Number of elementary students crossing	<u>number</u>	<u>points</u>	<u>number</u>	<u>points</u>			
a.m. peak hour (7:00 to 8:00) <u>5</u>	1 - 5	1	25 - 29	6			
	6 - 9	2	30 - 34	100			
	10 - 14	3	35 - 39	15			
p.m. peak hour (2:30 to 3:30) <u>5</u>	15 - 19	4	40 - 49	20			
	20 - 24	5	50 - 74	30			
School Schedule 7:50am - 2:47pm			75 - 99	35			
2) Gap Availability					8	8	
crossing distance = <u>28</u> feet	<u>% safe</u>	<u>points</u>	<u>% safe</u>	<u>points</u>			
	80 +	0	45 - 49	20			
	70 - 79	4	40 - 44	24			
minimum safe crossing time = <u>8</u> seconds	60 - 69	8	30 - 39	28			
	55 - 59	12	20 - 29	32			
	50 - 54	16	0 - 20	36			
% safe crossing time = <u>60</u> % a.m.	• Non-Signalized intersection						
<u>64</u> % p.m.							
3) Motor Vehicle Speed	<u>mph</u>	<u>points</u>	<u>mph</u>	<u>points</u>	2	2	
85th percentile speed = <u>28</u> mph a.m.	< = 20	0	36 - 40	7			
	21 - 25	1	41 - 45	11			
	26 - 30	2	46 +	15			
<u>28</u> mph p.m.	31 - 35	4					
4) Sight Distance :			<u>design 85th %ile speed</u>	<u>stopping distance feet</u>	0	0	
available sight distance: _____ feet _____ bound			< = 25 mph	155			
			26 - 30 mph	200			
_____ feet _____ bound			31 - 35 mph	250			
			36 - 40 mph	305			
ratio: available sight distance / design stopping distance			41 - 45 mph	360			
			46 + mph	425			
			<u>ratio</u>	<u>points</u>			
_____ 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.			<u>crashes</u>	<u>points</u>			
			0	0			
<u>0</u> reported crashes			1	8			
			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	
_____ reported crashes. Type: _				<u>points</u>			
				0 - 5			
_____ reported crashes. Type: _				0 - 5			
				0 - 5			
_____ reported crashes. Type: _				0 - 5			
6) Other Factors				<u>points</u>	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

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.	p.m.
1) Number of elementary students crossing	<u>number</u>	<u>points</u>	<u>number</u>	<u>points</u>	0	0
a.m. peak hour (7:00 to 8:00) <u>0</u>	1 - 5	1	25 - 29	6		
	6 - 9	2	30 - 34	100		
p.m. peak hour (2:30 to 3:30) <u>0</u>	10 - 14	3	35 - 39	15		
	15 - 19	4	40 - 49	20		
	20 - 24	5	50 - 74	30		
School Schedule 8:40am - 3:37pm			75 - 99	35		
2) Gap Availability					4	4
crossing distance = <u>21</u> feet	<u>% safe</u>	<u>points</u>	<u>% safe</u>	<u>points</u>		
	gap time		gap time			
	80 +	0	45 - 49	20		
	70 - 79	4	40 - 44	24		
minimum safe crossing time = <u>6</u> seconds	60 - 69	8	30 - 39	28		
	55 - 59	12	20 - 29	32		
	50 - 54	16	0 - 20	36		
% safe crossing time = <u>75</u> % a.m.	<ul style="list-style-type: none"> • AM North of island • PM South of island 					
<u>76</u> % p.m.						
3) Motor Vehicle Speed	<u>mph</u>	<u>points</u>	<u>mph</u>	<u>points</u>	4	4
85th percentile speed = <u>31</u> mph a.m.	< = 20	0	36 - 40	7		
	21 - 25	1	41 - 45	11		
	26 - 30	2	46 +	15		
<u>35</u> mph p.m.	31 - 35	4				
4) Sight Distance :			<u>design stopping distance</u>		0	0
available sight distance: _____ feet _____ bound	<u>85th %ile speed</u>		<u>feet</u>			
	< = 25 mph		155			
_____ feet _____ bound	26 - 30 mph		200			
	31 - 35 mph		250			
ratio: available sight distance / design stopping distance	36 - 40 mph		305			
	41 - 45 mph		360			
	46 + mph		425			
	<u>ratio</u>	<u>points</u>				
_____ 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.	<u>crashes</u>	<u>points</u>				
	0	0				
<u>0</u> reported crashes	1	8				
	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
_____ reported crashes. Type: _	<u>points</u>					
	0 - 5					
_____ reported crashes. Type: _	0 - 5					
_____ reported crashes. Type: _	0 - 5					
6) Other Factors		<u>points</u>			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

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.	p.m.		
1) Number of elementary students crossing					<u>number</u>	<u>points</u>	<u>number</u>	<u>points</u>
a.m. peak hour (7:00 to 8:00) <u>1</u>					1 - 5	1	25 - 29	6
p.m. peak hour (2:30 to 3:30) <u>1</u>					6 - 9	2	30 - 34	100
School Schedule 7:50am – 2:47pm					10 - 14	3	35 - 39	15
					15 - 19	4	40 - 49	20
					20 - 24	5	50 - 74	30
							75 - 99	35
2) Gap Availability					<u>% safe</u>	<u>points</u>	<u>% safe</u>	<u>points</u>
crossing distance = <u>46</u> feet					<u>gap time</u>	<u>points</u>	<u>gap time</u>	<u>points</u>
minimum safe crossing time = <u>13</u> seconds					80 +	0	45 - 49	20
% safe crossing time = <u>76</u> % a.m.					70 - 79	4	40 - 44	24
<u>69</u> % p.m.					60 - 69	8	30 - 39	28
<ul style="list-style-type: none"> Signalized intersection. Safe gap calculated during Glenway Walk Phase. 					55 - 59	12	20 - 29	32
					50 - 54	16	0 - 20	36
3) Motor Vehicle Speed					<u>mph</u>	<u>points</u>	<u>mph</u>	<u>points</u>
85th percentile speed = <u>34</u> mph a.m.					< = 20	0	36 - 40	7
<u>31</u> mph p.m.					21 - 25	1	41 - 45	11
					26 - 30	2	46 +	15
					31 - 35	4		
4) Sight Distance :					<u>design stopping distance</u>			
available sight distance: _____ feet _____ bound					<u>85th %ile speed</u>			
_____ feet _____ bound					< = 25 mph			
ratio: available sight distance / design stopping distance					26 - 30 mph			
_____ feet _____ bound					31 - 35 mph			
_____ feet _____ bound					36 - 40 mph			
					41 - 45 mph			
					46 + mph			
					<u>ratio</u>	<u>points</u>		
					2.1 +	0		
					1.5 - 2.0	1		
					1.0 - 1.5	5		
					< 1.0	15		
5) Safety History - Previous Five Years								
a) Number of reported crashes at study location involving elementary school children going to or coming from school.					<u>crashes</u>	<u>points</u>		
<u>0</u> reported crashes					0	0		
					1	8		
					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.								
<u>2</u> reported crashes. Type: <u>Left Turn (1)AM & (1)PM</u>					<u>points</u>			
					0 - 5			
<u> </u> reported crashes. Type: <u> </u>					0 - 5			
<u> </u> reported crashes. Type: <u> </u>					0 - 5			
6) Other Factors								
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

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.	p.m.
1) Number of elementary students crossing	<u>number</u>	<u>points</u>	<u>number</u>	<u>points</u>		
a.m. peak hour (7:00 to 8:00) <u>1</u>	1 - 5	1	25 - 29	6	1	0
	6 - 9	2	30 - 34	100		
	10 - 14	3	35 - 39	15		
p.m. peak hour (2:30 to 3:30) <u>0</u>	15 - 19	4	40 - 49	20		
	20 - 24	5	50 - 74	30		
School Schedule 7:50am – 2:47pm			75 – 99	35		
2) Gap Availability					20	28
crossing distance = <u>60</u> feet	<u>% safe</u>	<u>points</u>	<u>% safe</u>	<u>points</u>		
	gap time		gap time			
	80 +	0	45 - 49	20		
	70 - 79	4	40 - 44	24		
minimum safe crossing time = <u>20</u> seconds	60 - 69	8	30 - 39	28		
	55 - 59	12	20 - 29	32		
	50 - 54	16	0 - 20	36		
% safe crossing time = <u>46</u> % a.m.	<div style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> Signalized intersection. Safe gap calculated during Midvale Walk Phase. </div>					
<u>37</u> % p.m.						
3) Motor Vehicle Speed	<u>mph</u>	<u>points</u>	<u>mph</u>	<u>points</u>		
85th percentile speed = <u>35</u> mph a.m.	< = 20	0	36 - 40	7	4	7
	21 - 25	1	41 - 45	11		
	26 - 30	2	46 +	15		
<u>36</u> mph p.m.	31 - 35	4				
4) Sight Distance :			<u>design stopping distance</u>		0	0
available sight distance: _____ feet _____ bound	<u>85th %ile speed</u>		<u>feet</u>			
_____ feet _____ bound	< = 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	<u>ratio</u>	<u>points</u>				
_____ feet _____ bound	2.1 +	0				
_____ feet _____ bound	1.5 - 2.0	1				
	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.	<u>crashes</u>	<u>points</u>				
	0	0				
	1	8				
<u>0</u> 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	1
<u>1</u> reported crashes. Type: PM: Angle crash (lights temporarily on flash)	<u>points</u>					
	0 - 5					
<u>1</u> reported crashes. Type: AM: Right turn on red merge crash						
	0 - 5					
_____ reported crashes. Type: <u> </u>						
	0 - 5					
6) Other Factors			<u>points</u>			
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

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.	p.m.
1) Number of elementary students crossing	<u>number</u>	<u>points</u>	<u>number</u>	<u>points</u>		
a.m. peak hour (7:00 to 8:00) <u>3</u>	1 - 5	1	25 - 29	6		
	6 - 9	2	30 - 34	100		
p.m. peak hour (2:30 to 3:30) <u>5</u>	10 - 14	3	35 - 39	15		
	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
crossing distance = <u>21</u> feet	<u>% safe</u>	<u>points</u>	<u>% safe</u>	<u>points</u>		
	80 +	0	45 - 49	20		
minimum safe crossing time = <u>6</u> seconds	70 - 79	4	40 - 44	24		
	60 - 69	8	30 - 39	28		
% safe crossing time = <u>93</u> % a.m.	55 - 59	12	20 - 29	32		
<u>92</u> % p.m.	50 - 54	16	0 - 20	36		
	• Non-Signalized intersection					
3) Motor Vehicle Speed	<u>mph</u>	<u>points</u>	<u>mph</u>	<u>points</u>	7	11
85th percentile speed = <u>39</u> mph a.m.	< = 20	0	36 - 40	7		
	21 - 25	1	41 - 45	11		
<u>42</u> mph p.m.	26 - 30	2	46 +	15		
	31 - 35	4				
4) Sight Distance :			<u>design 85th %ile speed</u>	<u>stopping distance feet</u>	0	0
available sight distance: _____ feet _____ bound			< = 25 mph	155		
_____ feet _____ bound			26 - 30 mph	200		
			31 - 35 mph	250		
ratio: available sight distance / design stopping distance			36 - 40 mph	305		
			41 - 45 mph	360		
			46 + mph	425		
			<u>ratio</u>	<u>points</u>		
_____ feet _____ bound			2.1 +	0		
_____ feet _____ bound			1.5 - 2.0	1		
			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.			<u>crashes</u>	<u>points</u>		
			0	0		
<u>0</u> reported crashes			1	8		
			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
<u>1</u> reported crashes. Type: <u>Single Vehicle Going Straight (deer) PM</u>				<u>points</u>		
				0 - 5		
_____ reported crashes. Type: _				0 - 5		
_____ reported crashes. Type: _				0 - 5		
6) Other Factors				<u>points</u>		
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	1	1
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

Study Date: _____

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.	p.m.
1) Number of elementary students crossing	<u>number</u>	<u>points</u>	<u>number</u>	<u>points</u>	1	2
a.m. peak hour (8:00 to 9:00) <u>5</u>	1 - 5	1	25 - 29	6		
	6 - 9	2	30 - 34	100		
p.m. peak hour (3:30 to 4:30) <u>7</u>	10 - 14	3	35 - 39	15		
	15 - 19	4	40 - 49	20		
	20 - 24	5	50 - 74	30		
School Schedule 8:40am - 3:37pm			75 - 99	35		
2) Gap Availability					8	8
crossing distance = <u>32</u> feet	<u>% safe</u>	<u>points</u>	<u>% safe</u>	<u>points</u>		
	80 +	0	45 - 49	20		
minimum safe crossing time = <u>10</u> seconds	70 - 79	4	40 - 44	24		
	60 - 69	8	30 - 39	28		
% safe crossing time = <u>66</u> % a.m.	55 - 59	12	20 - 29	32		
<u>66</u> % p.m.	50 - 54	16	0 - 20	36		
3) Motor Vehicle Speed	<u>mph</u>	<u>points</u>	<u>mph</u>	<u>points</u>	7	7
85th percentile speed = <u>39</u> mph a.m.	< = 20	0	36 - 40	7		
	21 - 25	1	41 - 45	11		
<u>40</u> mph p.m.	26 - 30	2	46 +	15		
	31 - 35	4				
4) Sight Distance :			<u>design stopping distance</u>		0	0
available sight distance: _____ feet _____ bound	<u>85th %ile speed</u>		<u>feet</u>			
_____ feet _____ bound	< = 25 mph		155			
	26 - 30 mph		200			
ratio: available sight distance / design stopping distance	31 - 35 mph		250			
_____ feet _____ bound	36 - 40 mph		305			
_____ feet _____ bound	41 - 45 mph		360			
	46 + mph		425			
	<u>ratio</u>	<u>points</u>				
	2.1 +	0				
	1.5 - 2.0	1				
	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.	<u>crashes</u>	<u>points</u>				
<u>0</u> reported crashes	0	0				
	1	8				
	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
<u>1</u> reported crashes. Type: <u>Left Turn AM</u>	<u>points</u>					
	0 - 5					
_____ reported crashes. Type: _____	0 - 5					
_____ reported crashes. Type: _____	0 - 5					
6) Other Factors			<u>points</u>		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

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.	p.m.
1) Number of elementary students crossing	<u>number</u>	<u>points</u>	<u>number</u>	<u>points</u>		
a.m. peak hour (7:15 to 7:45) <u>3</u>	1 - 5	1	25 - 29	6	1	2
	6 - 9	2	30 - 34	10		
	10 - 14	3	35 - 39	15		
p.m. peak hour (2:30 to 3:10) <u>7</u>	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
crossing distance = <u>36</u> feet	<u>% safe</u>		<u>% safe</u>			
	<u>gap time</u>	<u>points</u>	<u>gap time</u>	<u>points</u>		
	80 +	0	45 - 49	20		
minimum safe crossing time = <u>12</u> seconds	70 - 79	4	40 - 44	24		
	60 - 69	8	30 - 39	28		
% safe crossing time = <u>84</u> % a.m.	55 - 59	12	20 - 29	32		
	50 - 54	16	0 - 20	36		
<u>72</u> % p.m.						
3) Motor Vehicle Speed	<u>mph</u>	<u>points</u>	<u>mph</u>	<u>points</u>		
Posted (not 85th percentile speed) = <u>25</u> mph a.m.	< = 20	0	36 - 40	7	1	1
	21 - 25	1	41 - 45	11		
<u>25</u> mph p.m.	26 - 30	2	46 +	15		
	31 - 35	4				
4) Sight Distance :			<u>design stopping distance</u>		0	0
available sight distance: _____ feet _____ bound			<u>85th %ile speed</u>	<u>feet</u>		
_____ feet _____ bound			< = 25 mph	155		
			26 - 30 mph	200		
ratio: available sight distance / design stopping distance			31 - 35 mph	250		
_____ feet _____ bound			36 - 40 mph	305		
_____ feet _____ bound			41 - 45 mph	360		
			46 + mph	425		
			<u>ratio</u>	<u>points</u>		
			2.1 +	0		
			1.5 - 2.0	1		
			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.	<u>crashes</u>	<u>points</u>				
	0	0				
<u>0</u> reported crashes	1	8				
	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
_____ reported crashes. Type: _____	<u>points</u>					
	0 - 5					
_____ reported crashes. Type: _____	0 - 5					
_____ reported crashes. Type: _____	0 - 5					
6) Other Factors			<u>points</u>		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

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

					POINTS	
					a.m.	p.m.
1) Number of elementary students crossing	<u>number</u>	<u>points</u>	<u>number</u>	<u>points</u>		
a.m. peak hour (7:15 to 7:45) <u>36</u>	1 - 5	1	25 - 29	6	15	30
	6 - 9	2	30 - 34	10		
p.m. peak hour (2:30 to 3:10) <u>64</u>	10 - 14	3	35 - 39	15		
	15 - 19	4	40 - 49	20		
School Schedule 7:40am – 2:40pm	20 - 24	5	50 - 74	30		
			75 - 99	35		
2) Gap Availability					16	8
crossing distance = <u>36</u> feet	<u>% safe</u>		<u>% safe</u>			
	<u>gap time</u>	<u>points</u>	<u>gap time</u>	<u>points</u>		
	80 +	0	45 - 49	20		
minimum safe crossing time = <u>12</u> seconds	70 - 79	4	40 - 44	24		
	60 - 69	8	30 - 39	28		
% safe crossing time = <u>52</u> % a.m.	55 - 59	12	20 - 29	32		
	50 - 54	16	0 - 20	36		
<u>66</u> % p.m.						
3) Motor Vehicle Speed	<u>mph</u>	<u>points</u>	<u>mph</u>	<u>points</u>		
Posted (not 85th percentile speed) = <u>25</u> mph a.m.	< = 20	0	36 - 40	7	1	1
	21 - 25	1	41 - 45	11		
<u>25</u> mph p.m.	26 - 30	2	46 +	15		
	31 - 35	4				
4) Sight Distance :			<u>design stopping distance</u>		0	0
available sight distance: _____ feet _____ bound	<u>85th %ile speed</u>		<u>feet</u>			
_____ feet _____ bound	< = 25 mph		155			
	26 - 30 mph		200			
ratio: available sight distance / design stopping distance	31 - 35 mph		250			
_____ feet _____ bound	36 - 40 mph		305			
_____ feet _____ bound	41 - 45 mph		360			
	46 + mph		425			
	<u>ratio</u>	<u>points</u>				
	2.1 +	0				
	1.5 - 2.0	1				
	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.	<u>crashes</u>	<u>points</u>				
<u>0</u> reported crashes	0	0				
	1	8				
	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
_____ reported crashes. Type: _____	<u>points</u>					
	0 - 5					
_____ reported crashes. Type: _____	0 - 5					
_____ reported crashes. Type: _____	0 - 5					
6) Other Factors			<u>points</u>		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

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.	p.m.
1) Number of elementary students crossing	<u>number</u>	<u>points</u>	<u>number</u>	<u>points</u>	3	
a.m. peak hour (8:00 to 8:45) <u>10</u>	1 - 5	1	25 - 29	6		
	6 - 9	2	30 - 34	100		
p.m. peak hour (2:40 to 3:55) <u>12 in 2019</u>	10 - 14	3	35 - 39	15		
	15 - 19	4	40 - 49	20		
	20 - 24	5	50 - 74	30		
School Schedule 8:40am - 3:37pm			75 - 99	35		
2) Gap Availability					20	
crossing distance = <u>88</u> feet	<u>% safe</u>		<u>% safe</u>			
	<u>gap time</u>	<u>points</u>	<u>gap time</u>	<u>points</u>		
minimum safe crossing time = <u>29</u> seconds	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		
2019 % safe crossing time = 14 % 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.					
3) Motor Vehicle Speed	<u>mph</u>	<u>points</u>	<u>mph</u>	<u>points</u>	2	
Posted (not 85th percentile speed) = <u>30</u> mph a.m.	<= 20	0	36 - 40	7		
	21 - 25	1	41 - 45	11		
<u> </u> mph p.m.	26 - 30	2	46 +	15		
	31 - 35	4				
4) Sight Distance :			<u>design stopping distance</u>		0	
available sight distance: <u> </u> feet <u> </u> bound	<u>85th %ile speed</u>		<u>feet</u>			
<u> </u> feet <u> </u> bound	<= 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	<u>ratio</u>	<u>points</u>				
<u> </u> feet <u> </u> bound	2.1 +	0				
<u> </u> feet <u> </u> bound	1.5 - 2.0	1				
	1.0 - 1.5	5				
	< 1.0	15				
5) Safety History - Previous Five Years					0	
a) Number of reported crashes at study location involving elementary school children going to or coming from school.	<u>crashes</u>	<u>points</u>				
	0	0				
<u>0</u> reported crashes	1	8				
	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.						
<u> </u> reported crashes. Type: <u> </u>	<u>points</u>					
	0 - 5					
<u> </u> reported crashes. Type: <u> </u>						
	0 - 5					
<u> </u> reported crashes. Type: <u> </u>						
	0 - 5					
6) Other Factors			<u>points</u>		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					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

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.	p.m.
1) Number of elementary students crossing	<u>number</u>	<u>points</u>	<u>number</u>	<u>points</u>	3	
a.m. peak hour (8:00 to 8:45) <u>10</u>	1 - 5	1	25 - 29	6		
	6 - 9	2	30 - 34	100		
p.m. peak hour (2:40 to 3:55) <u>12 in 2019</u>	10 - 14	3	35 - 39	15		
	15 - 19	4	40 - 49	20		
	20 - 24	5	50 - 74	30		
School Schedule 8:40am - 3:37pm			75 - 99	35		
2) Gap Availability					20	
crossing distance = <u>88</u> feet	<u>% safe</u>		<u>% safe</u>			
	<u>gap time</u>	<u>points</u>	<u>gap time</u>	<u>points</u>		
minimum safe crossing time = <u>29</u> seconds	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		
2019 % safe crossing time = 14 % 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.					
3) Motor Vehicle Speed	<u>mph</u>	<u>points</u>	<u>mph</u>	<u>points</u>	2	
Posted (not 85th percentile speed) = <u>30</u> mph a.m.	<= 20	0	36 - 40	7		
	21 - 25	1	41 - 45	11		
	26 - 30	2	46 +	15		
<u> </u> mph p.m.	31 - 35	4				
4) Sight Distance :			<u>design stopping distance</u>		0	
available sight distance: <u> </u> feet <u> </u> bound	<u>85th %ile speed</u>		<u>feet</u>			
	<= 25 mph		155			
<u> </u> feet <u> </u> bound	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	<u>ratio</u>	<u>points</u>				
<u> </u> feet <u> </u> bound	2.1 +	0				
	1.5 - 2.0	1				
<u> </u> feet <u> </u> bound	1.0 - 1.5	5				
	< 1.0	15				
5) Safety History - Previous Five Years					0	
a) Number of reported crashes at study location involving elementary school children going to or coming from school.	<u>crashes</u>	<u>points</u>				
	0	0				
<u>0</u> reported crashes	1	8				
	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.						
<u> </u> reported crashes. Type: <u> </u>	<u>points</u>					
	0 - 5					
<u> </u> reported crashes. Type: <u> </u>						
	0 - 5					
<u> </u> reported crashes. Type: <u> </u>						
	0 - 5					
6) Other Factors			<u>points</u>		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					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

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