

Safe Routes To School

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Overview

The safe routes to school project was an evaluation of the chaska middle school and elementary school complex located at highway 41 and Engler Boulevard to recommend improvements that will improve bike and pedestrian safety to the area and enhance circulation within the complex.

Understanding the problem

Item 1

Locate critical traffic circulation and pedestrian access conflicts surrounding the school and community center complex in chaska.

Item 2

Apply the three Es of safe routes to school to improve traffic circulation and the pedestrian environment.

Item 3

Asses the county's corridor study of CSAH 10 and determine what improvements need to be made to reduce conflict, improve site access, and increase pedestrian safety.

Chaska School District and Community Center

A study of non-motorized facilities along county roads identified a number of potential concerns within a two mile radius of the site.

Numerous pedestrian/bicycle crashes along CASH 10.

High traffic volumes and speeds at intersections.

Gaps in the sidewalk network along cash 10.

Circulation challenges for vehicles and pedestrians around the schools and community center.



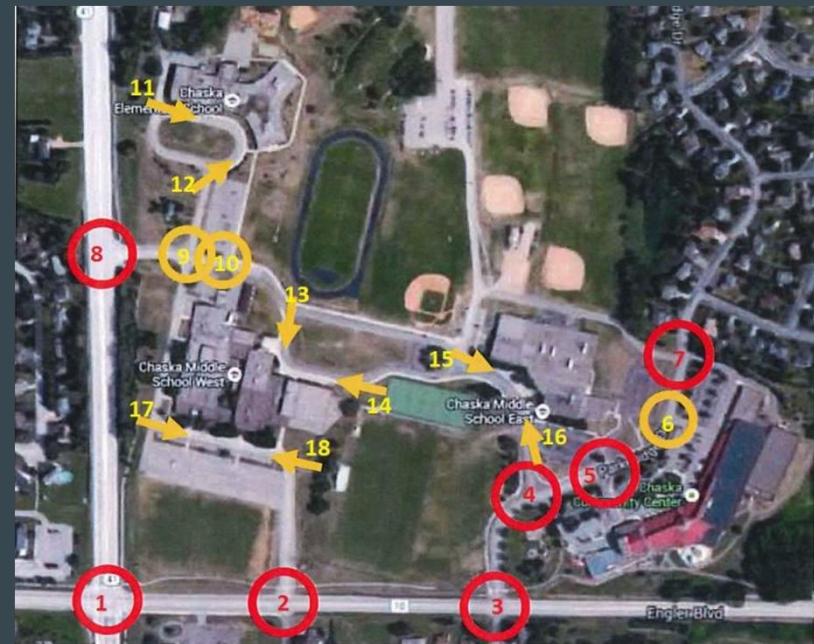
Intersection Analysis

Site 1

Peak Hour	CLV	Peds	LOS
7:15-8:15	1367	11	F
11:30-12:30	751	10	A
16:45-17:45	1258	9	D

A grade of “C” or higher is deemed acceptable,
A “D” or an “E” is worth looking at for potential
solutions.

An “F” is deemed unacceptable.



CLV Data

Site 2

Peak Hour	CLV	Peds	LOS
7:00 - 8:00	510	3	A
11:30 - 12:30	178	8	A
17:00 18:00	430	1	A

Site 4

Peak Hour	CLV	Peds	LOS
7:00 - 8:00	276	0	A
11:30 - 12:30	132	1	A
17:15 18:115	310	3	A

Site 3

Peak Hour	CLV	Peds	LOS
7:00 - 8:00	519	2	A
11:30 - 12:30	192	8	A
17:00 18:00	472	1	A

Site 5

Peak Hour	CLV	Peds	LOS
6:45 - 7:4	230	2	A
11:30 - 12:30	123	2	A
17:00 18:00	203	2	A

CLV Data

Site 6

Peak Hour	CLV	Peds	LOS
7:00 - 8:00	91	0	A
11:30 - 12:30	53	2	A
18:30 19:30	131	5	A

Site 8

Peak Hour	CLV	Peds	LOS
7:15 - 8:15	1340	2	D
11:30 - 12:30	675	9	A
16:45 17:45	1151	5	C

Site 7

Peak Hour	CLV	Peds	LOS
6:45 - 7:45	72	1	A
11:30 - 12:30	28	4	A
17:00 18:00	71	6	A

Site 9

Peak Hour	CLV	Peds	LOS
7:00 - 8:00	253	50	A
10:15 - 11:15	46	126	A
17:15 18:15	212	3	A

CLV Data

Site 10

Peak Hour	CLV	Peds	LOS
7:00 - 8:00	160	60	A
11:30 - 12:30	27	147	A
18:30 19:30	159	3	A

Geographical Changes

Location 1:

Install a connecting median

Makes exit a right-turn exit only.

Allows for less traffic to go through the network.

Vehicles that would take the left turn at location 1 wouldn't be able to cut through the network to get to the community center.

Safer for children to walk since there will be less vehicle traffic.

Reduce any T-bone accidents for vehicles going into and out of the network.



Geographical Changes

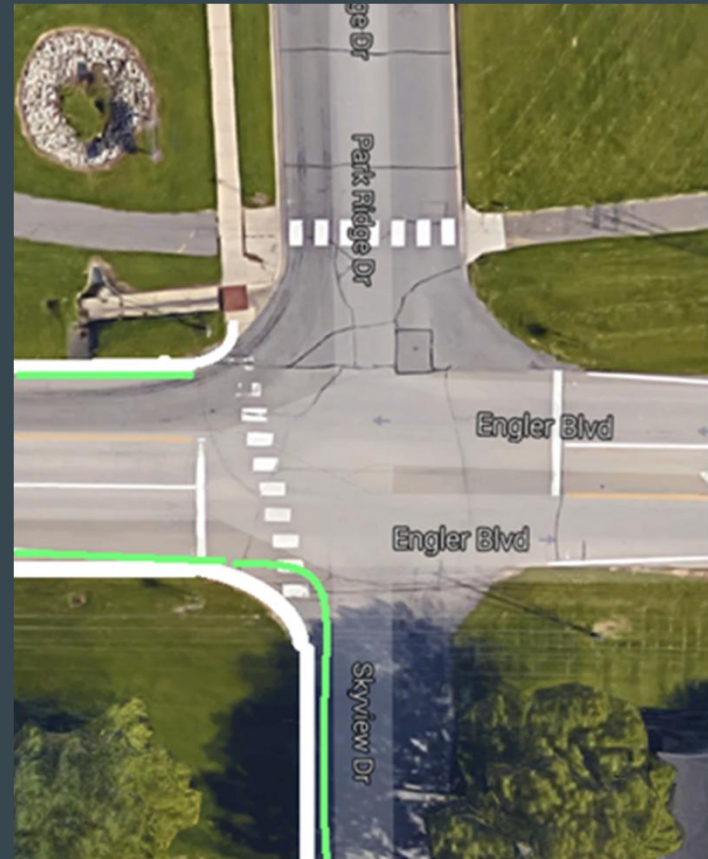
Location 2:

Notice, this is the main location where children would get to the elementary school, yet no crosswalks are in existence; this does not encourage kids to walk to school.

crosswalks will be painted so that the much younger children will be able to safely cross this intersection.

Locations 3 and 4:

Crosswalks and stop signs will be installed so that children from that neighborhood can also walk to school safely.



Intersection Timing

To make walking to school safer, the flow of traffic needs to be regulated such that there are as few cars at intersection 1 as possible. From the data given, we did a Traffic Timing analysis to see what the effective green times, g , and effective red times, r , were.



Intersection 1:

$C = 90$ seconds

Red Times

EB = 70.4 seconds

NB = 19.6 seconds

Green Times

EB = 19.6 seconds

NB = 70.4 seconds

Bus Route Analysis

Because the vast majority of elementary students ride the bus, the main focus will be on how the students can get picked up and dropped off safely in the bus loop.

“Buses only” rule will be implemented from 7:40 AM to 8:00 AM along the bus loop. The same rule will apply during 2:20 PM to 2:40 PM. Parents will need to pick up their children in the parking lot at this time. The following bus route is currently the norm for the area.



Bus Route Analysis



Bus Route Analysis

“Buses Only” regulation from 2:00 to 2:30 along the road that the buses will be parked.

The buses will enter through intersection 8 and 2 and exit out of intersection 3.

There will be signs posted to let parents know where to pick up their children.



Thank You