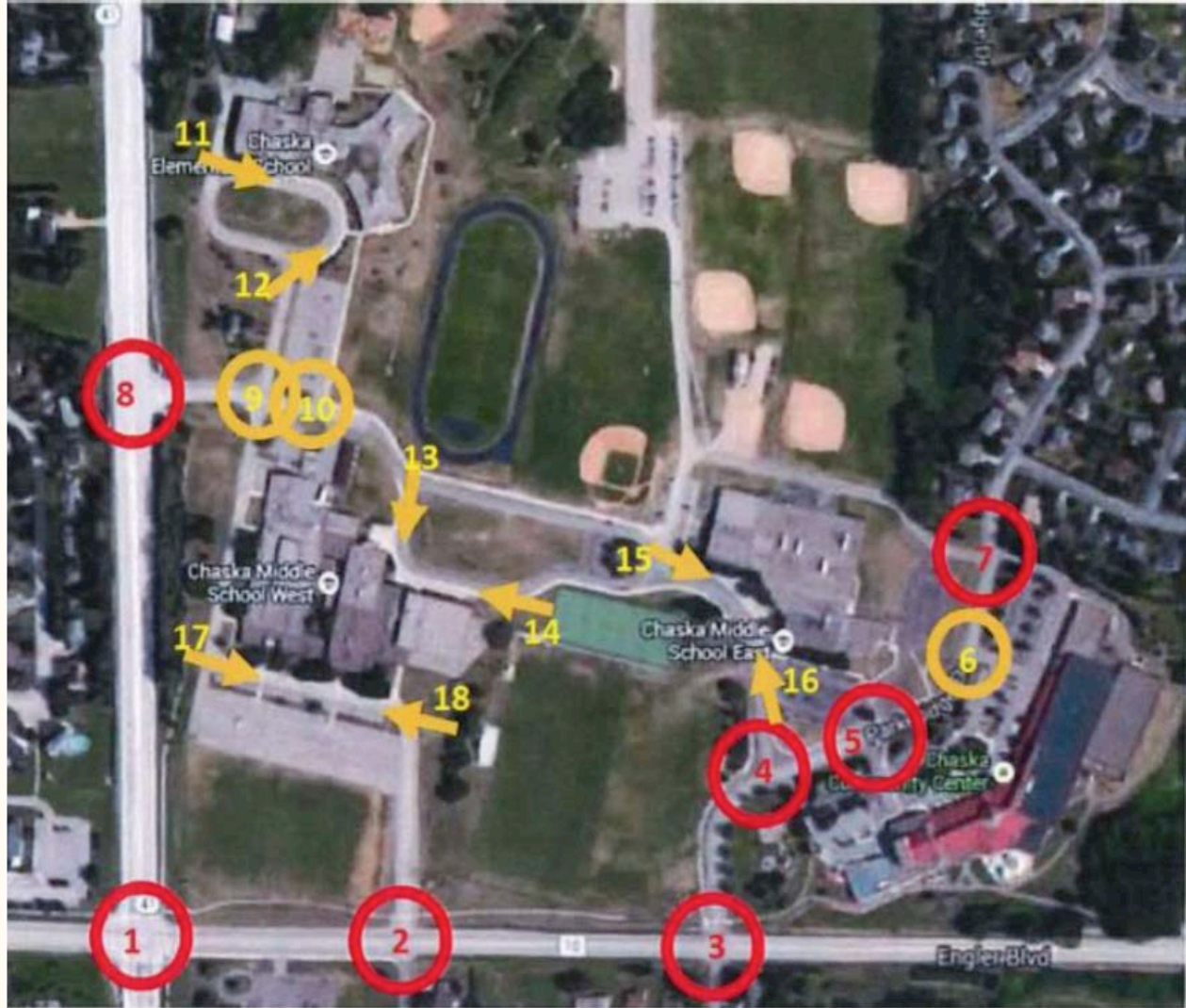


Safe Routes to School: Chaska

Presented by: Katelyn Olson, Alyssa Wolfe, Courtney Wersal, Hussein Hussein and Riley Gordon

Introduction

- Concerns:
 - Safety
 - Drivers
 - Students walking
 - Congestion
 - Busses
- Areas of Focus:
 - Promoting students walking
 - Perception of safety for parents
 - Functionality of entire site



CLV Analysis

$$CLV_{NB} = \frac{Thru_{NB}}{2} + Left_{SB}$$

$$CLV_{SB} = Thru_{SB} + Left_{NB}$$

$$CLV_{EB} = Thru_{EB} + Left_{WB}$$

$$CLV_{WB} = Thru_{WB} + Left_{EB}$$

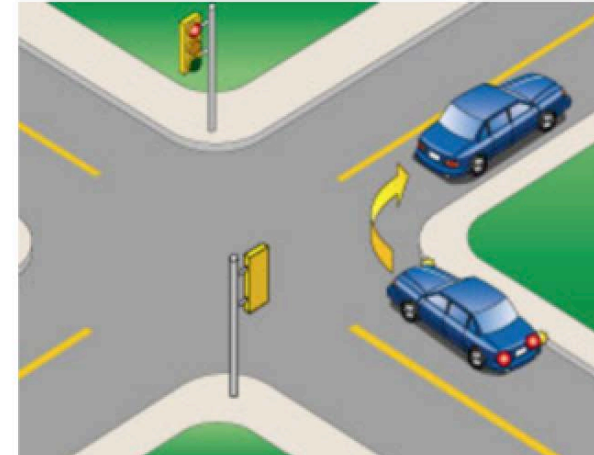
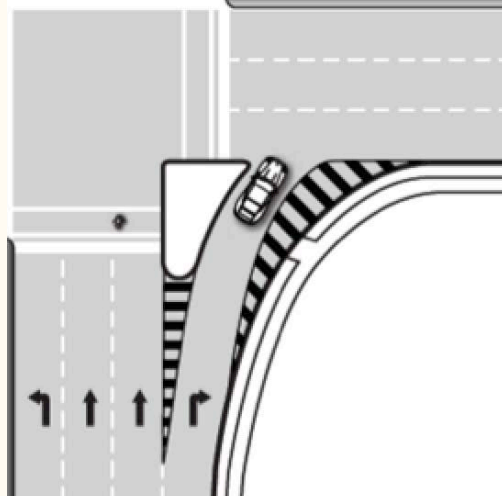
- Evaluates volume of traffic in an intersection
- Hourly volumes
- Chose morning and afternoon time period when students are traveling

- Identify types and number of lanes
- Formulate CLV equations
- Find total CLV for intersection
- Compare against LOS Chart

Level of Service	Range of Capacity (VPH)	
	Low	High
A	—	900
B	901	1,050
C	1,051	1,200
D	1,201	1,350
E	1,351	1,500
F	(Special Case)	1,500

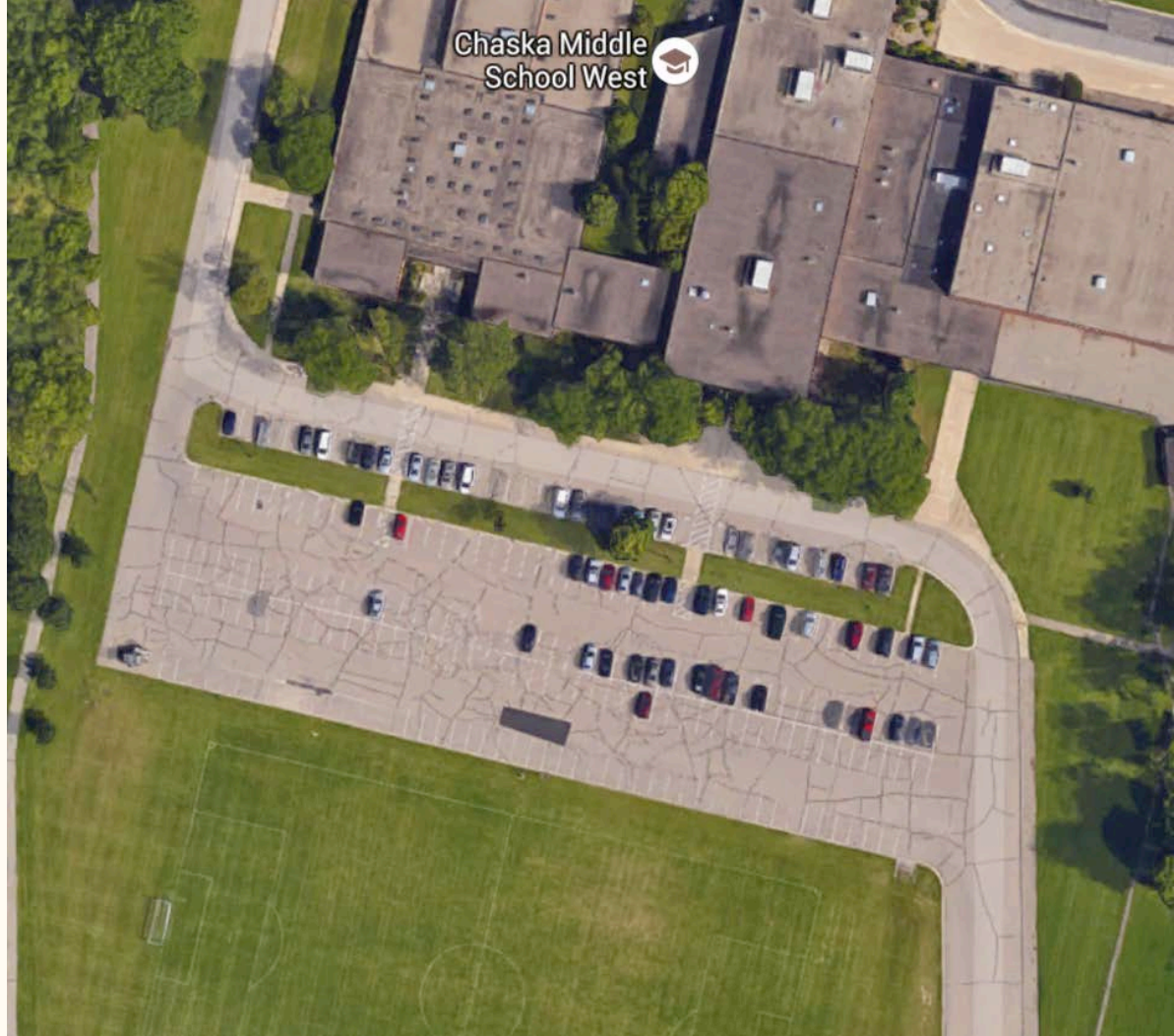
Proposed Changes: Node 1

- Reduce lanes = LOS of D
- Reduce speed limit - 30 mph
- Protected Left Turns - Easier for drivers
- Countdown timer for pedestrians
- Raised intersection
- Sharp right turns
- Pedestrian refuge
- Wider Crosswalks
 - Painted stripe
- Streetlights on sidewalk
- If needed, could add traffic safety guard



Proposed Changes: Node 2

- Reduce speed limit
- Add sidewalks between Node 2 and Node 3
 - Add streetlights
- HAWK signal
- Crest within school complex
 - Allow 2 entrances to lot
 - 2 - way street with markings
 - Include drop off lanes on both sides
 - Crosswalk with pavement markings and signs



Node 3 Proposed changes:

- Extend sidewalk on CSAH 10
- Install appropriate radar speed limit sign pole. (only requires vehicles to slow down during peak hours)
- Set speed limit to 30 mph



Node 4 Proposed changes:

- Widen sidewalk for pedestrians and bicyclists on Park Ridge Dr
- Install a stop sign on Park Ridge Dr



Node 7 Proposed Changes:

- Install sidewalks so that NE neighborhood can walk/bike
- Install crosswalks and proper signage to warn drivers
- Could expand sidewalks into neighborhood during another project



Proposed Changes

Node 8 :

- Reduce speed on State Highway 41 during school hours
- Install crosswalk across State Highway 41 with proper signage
- Implement a pedestrian refuge in the center median.
 - Install HAWK signal here to further facilitate pedestrian traffic.
- Build pathway-connects surrounding neighborhoods to the school complex
- Install sidewalk to elementary school in order for safer and easier access to school.



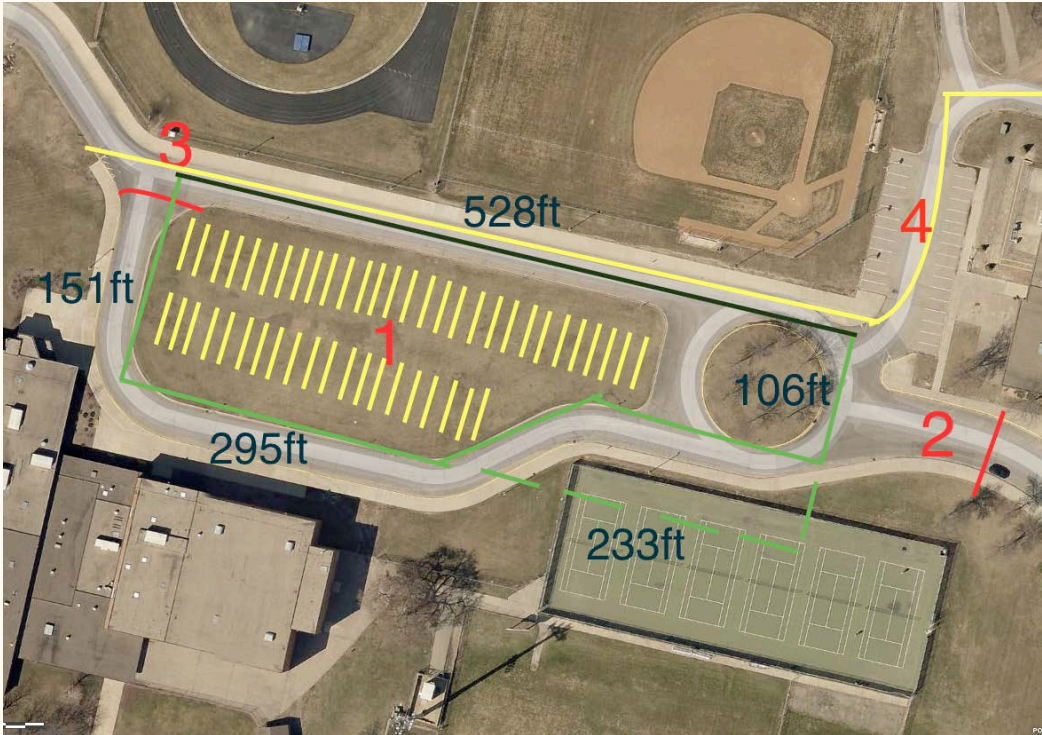
Proposed Changes

Node 9 :

- Install sidewalks in order to make site more accessible and safe.
- Install crosswalks and proper signage to alert drivers



Busing Situation



- Pave grassed island to be idle zone for buses
- Can fit approximately 50 average sized buses with a bus width in between each bus
- Block offs at points 2 and 3 to be “bus only zones” during peak hours
- Zone 4 to be changed to a pick up/drop off area for parents
- Alternate route created for parents behind middle school east connecting to park ridge drive

Summary

Each intersection within this system needed some improvements, but the general consensus for the entire Chaska Middle School and Elementary complex was to implement safe walking zones for children by implementing safety signs, sidewalks, pavement markings, and maybe the use of a safety guard to particularly dangerous intersections or roadways.

