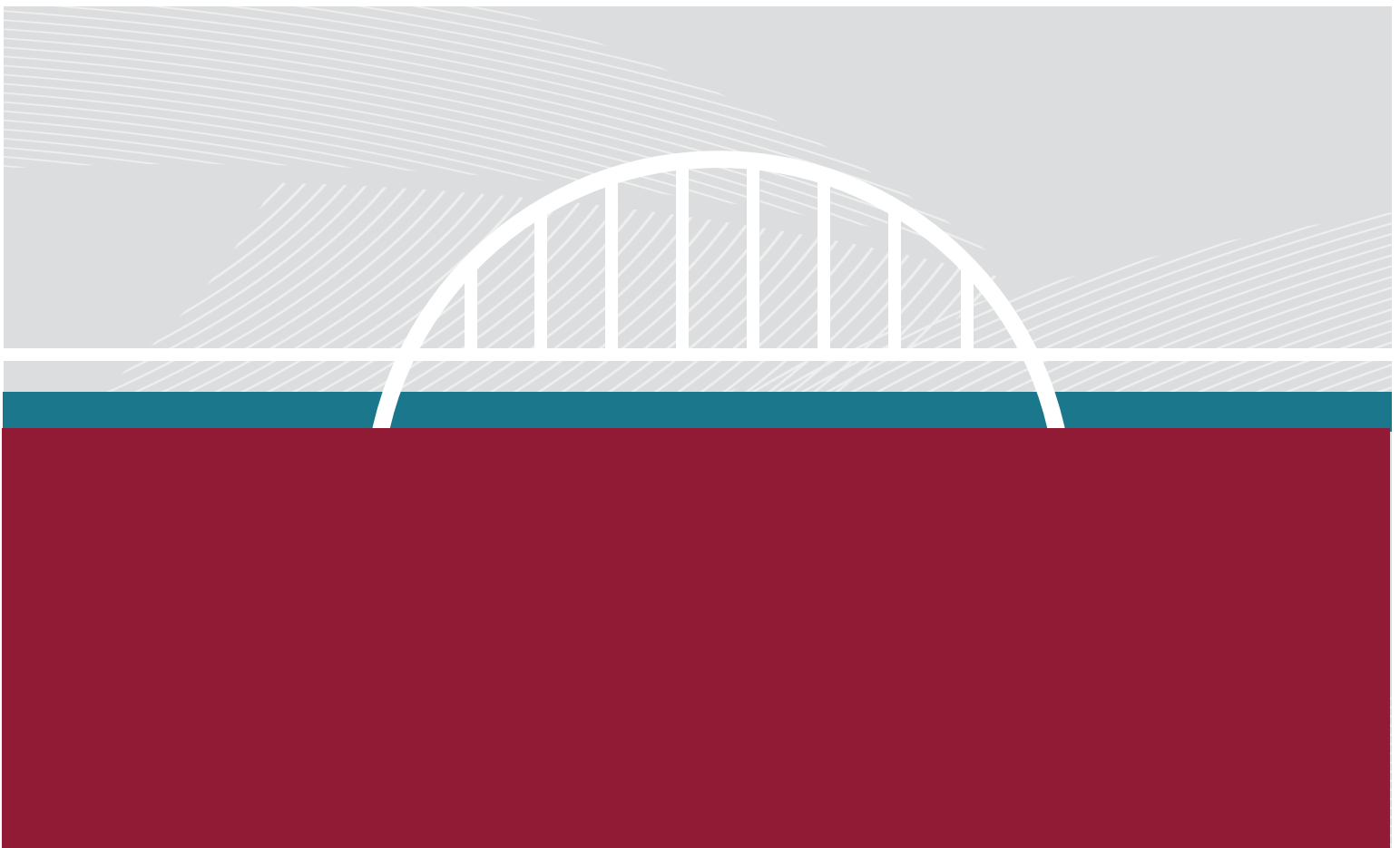


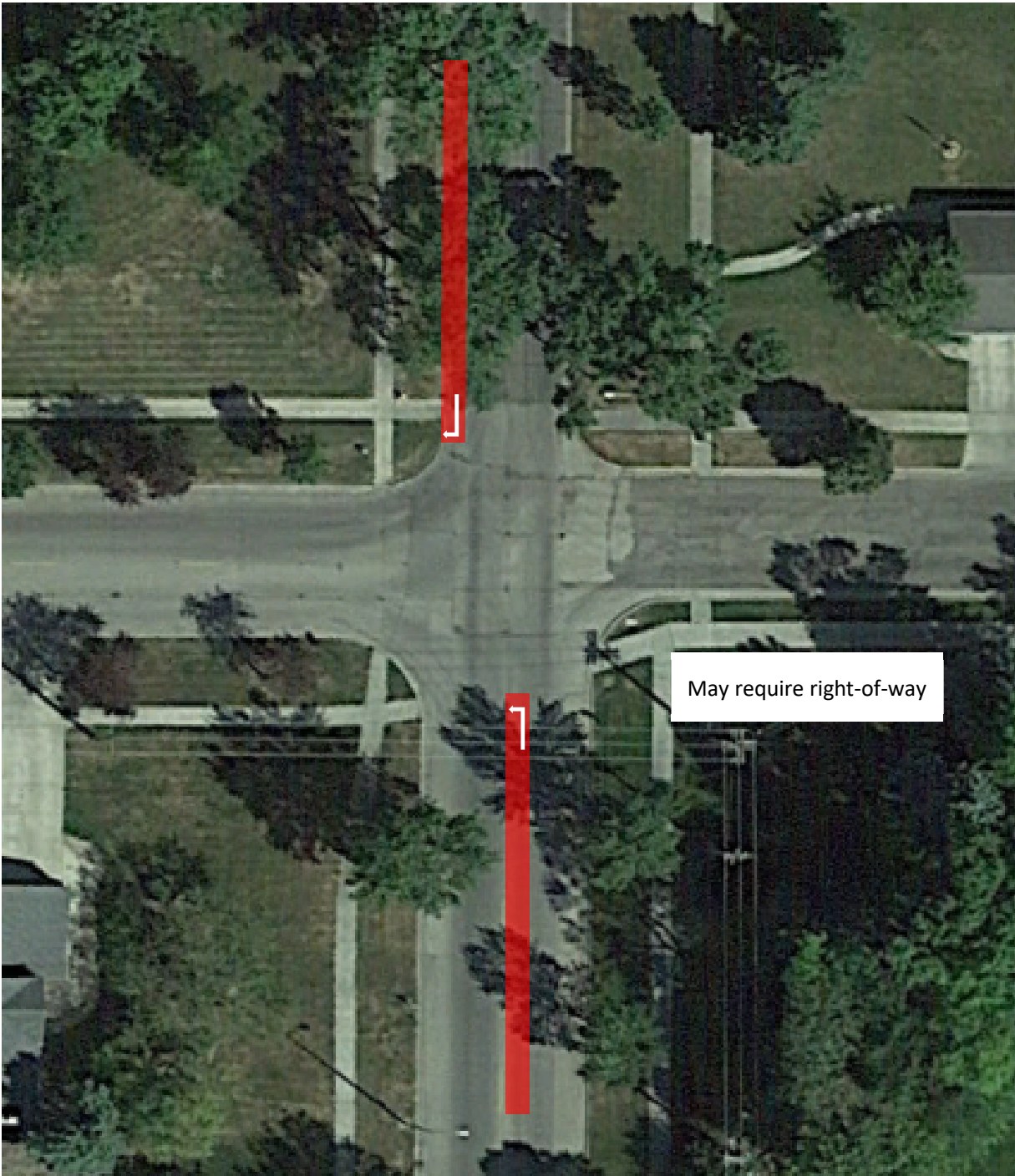
Appendix C

INTERSECTION MITIGATION CONCEPT SKETCHES AND SCHOOL/PEDESTRIAN SAFETY STRATEGIES

FOR FUTURE BRIDGE TRAFFIC IMPACT STUDY
GRAND FORKS-EAST GRAND FORKS



2045 No Build – 32nd Ave and Belmont Rd



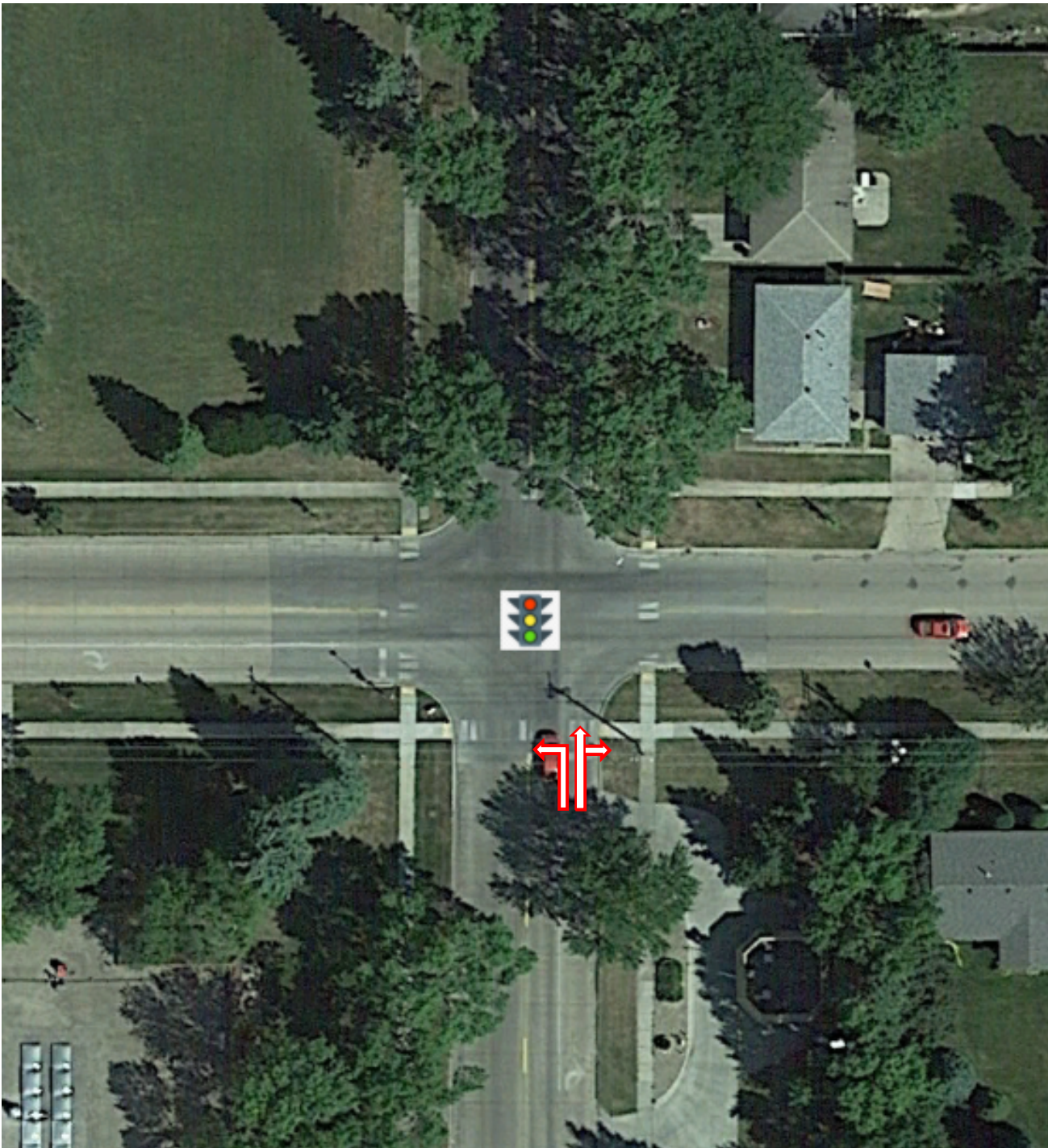


2045 Elks Drive Bridge – 32nd Ave and Belmont Rd



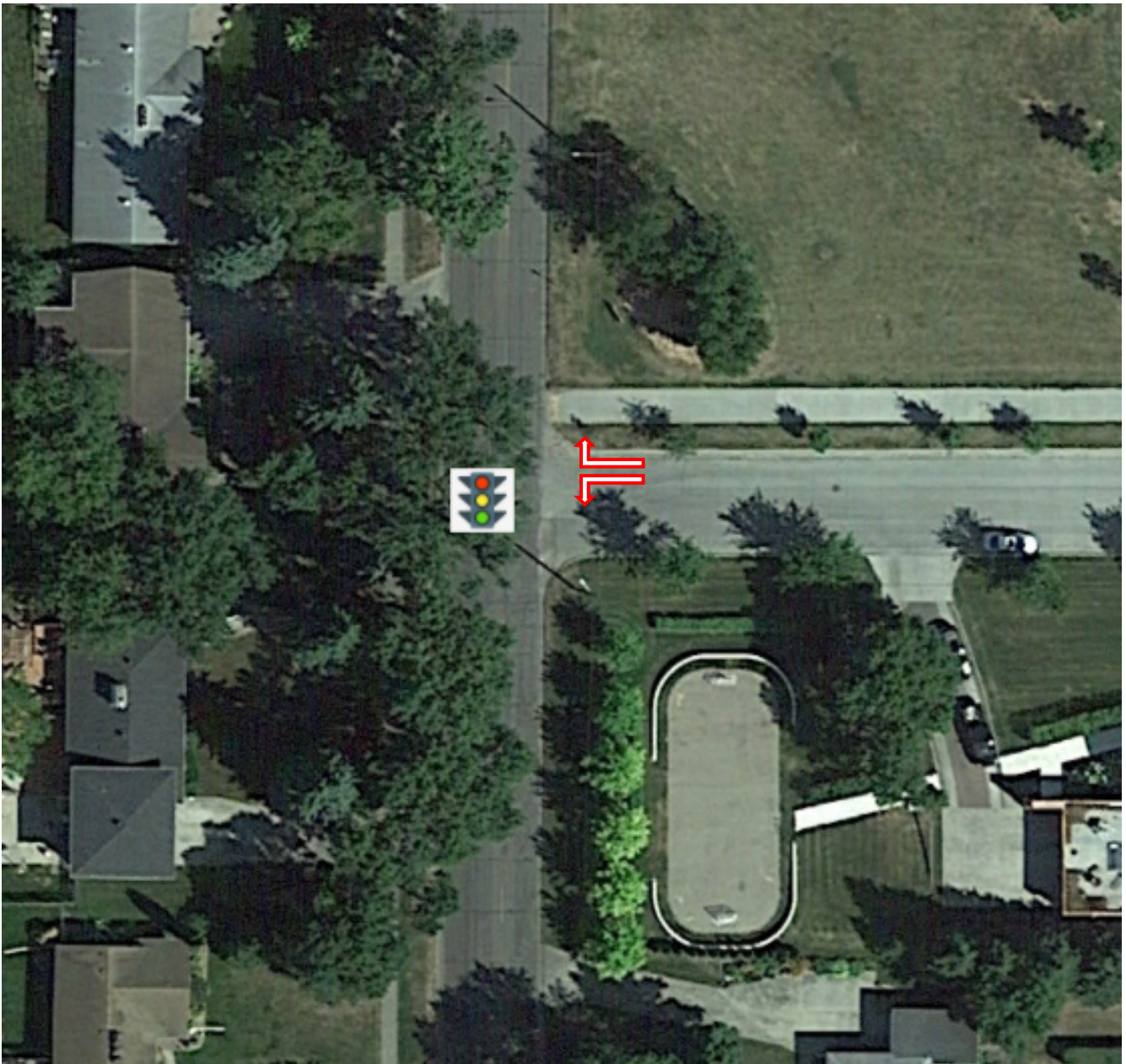


2045 Elks Drive Bridge – 32nd Ave and Cherry St

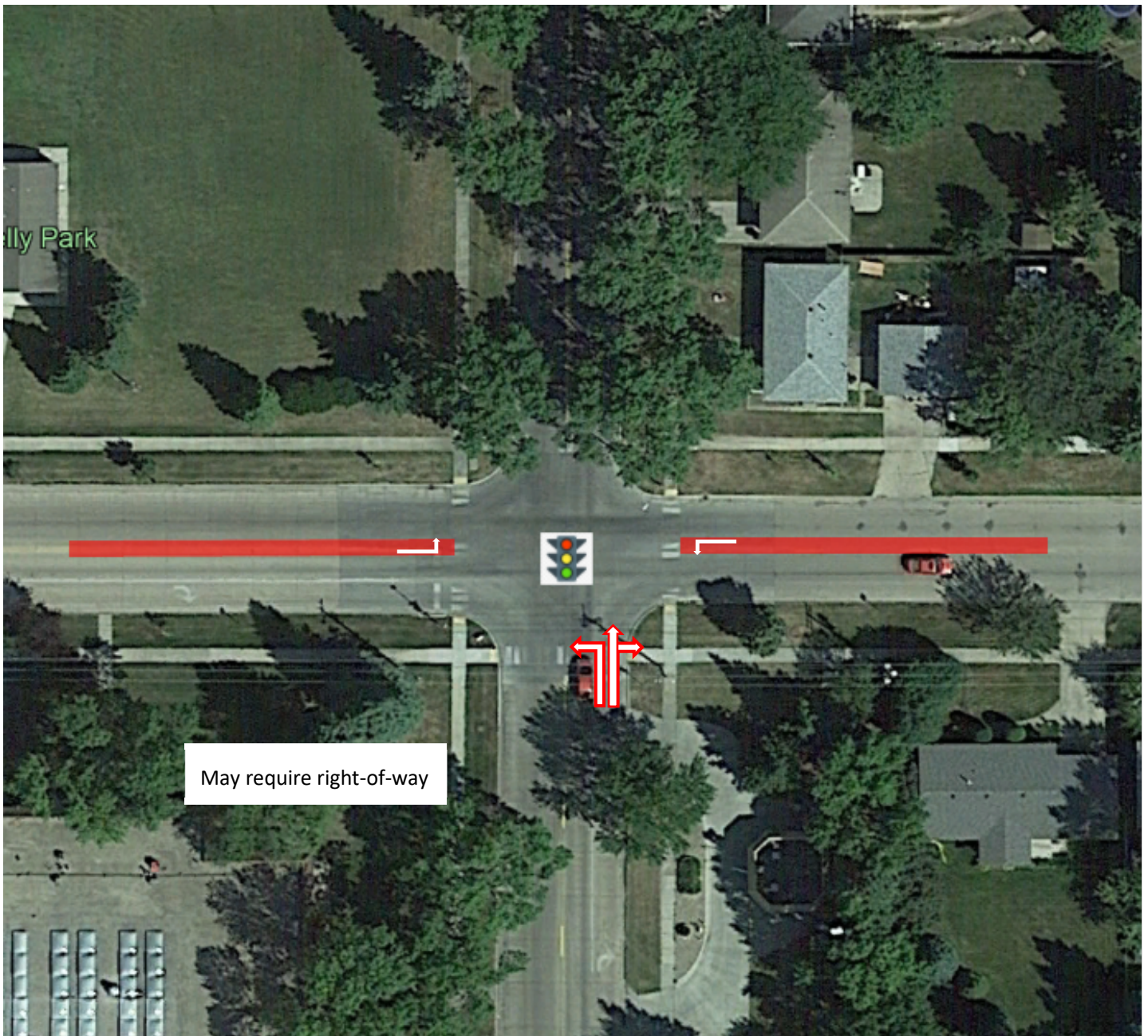




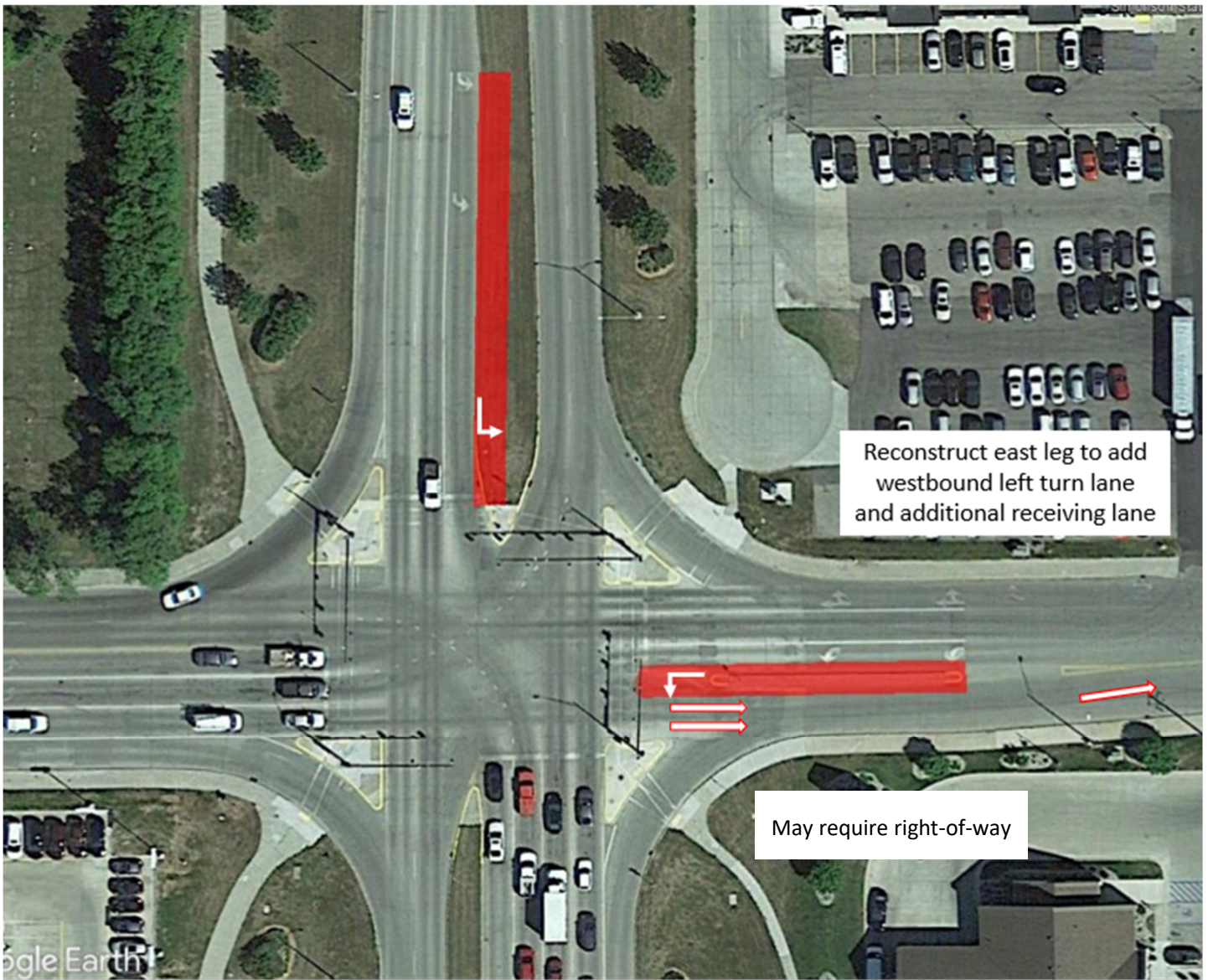
2045 Elks Drive Bridge – Belmont Rd and Elks Dr



2045 32nd Ave Bridge – 32nd Ave and Cherry St



2045 32nd Ave Bridge – 32nd Ave and Washington St



School Traffic Safety

Today

- Safe access to schools for children and families is a priority
- School survey results by Safe Kids Grand Forks show current concerns about traffic volumes, speeds, and safety
 - ▶ These issues can be addressed today

Future Bridge

- There are 6 schools in Grand Forks and 2 in East Grand Forks in study area
- A new bridge in either location would better balance traffic near these schools
- Safety and traffic calming features near schools would be included with bridge design

Draft Evaluation Results							
Evaluation Criteria	Measure	Alternatives					
		No New Bridge		Elks Drive		32nd Ave	
		Measurement	Rating	Measurement	Rating	Measurement	Rating
Traffic change on study corridors adjacent to schools	Based on traffic exposure at all schools in study area (see measures below)	55,170		-3%		-0%	
Phoenix Elementary School	2045 AADT on adjacent road (4th Ave S)	8,010	C	-32%	A	-32%	A
	2045 AADT on adjacent road (Belmont Rd)	9,210	B	-39%	A	-32%	A
Lewis & Clark Elementary School	2045 AADT on adjacent road (13th Ave S)	5,546	A	-2%	A	-2%	A
Holy Family-St. Mary's Private School	2045 AADT on adjacent road (17th Ave S)	5,184	A	+3%	A	+1%	A
Viking Elementary School	2045 AADT on adjacent road (24th Ave S)	3,690	A	+49%	A	-0%	A
Kelly Elementary School	2045 AADT on adjacent road (Cherry St)	3,340	A	-17%	A	-29%	A
	2045 AADT on adjacent road (32nd Ave S)	5,330	A	+27%	A	+74%	C
Schroeder Middle School	2045 AADT on adjacent road (Cherry St)	3,340	A	-17%	A	-29%	A
	2045 AADT on adjacent road (32nd Ave S)	5,330	A	+27%	A	+74%	C
South Point Elementary School	2045 AADT on adjacent road (13th St SE)	3,740	A	-3%	A	-4%	A
Central Middle School	2045 AADT on adjacent road (Bygland Rd)	2,450	A	+46%	A	-20%	A

Level of Service

A
 B
 C
 D
 E or F

Pedestrian Safety and Traffic Calming Strategies

These are examples of improvements that could be installed near schools to calm traffic and improve pedestrian safety.

- **High-Visibility Crosswalk Markings:** A marked crosswalk alerts approaching motorists as to where pedestrians may be crossing the street.
- **Median Refuge Island:** Median refuge islands are raised areas in the center portion of a roadway that can serve as a place of refuge for pedestrians to wait for motorists to stop or for an adequate gap in traffic before crossing the second half of the street.
- **In-Lane Pedestrian Sign:** An in-lane pedestrian sign can alert drivers of the crosswalk placement.



- **Curb Extensions:** Curb extensions narrow the roadway and reduce crossing distance/vehicle exposure for pedestrians.
- **Rectangular Rapid Flashing Beacon (RRFB):** A rectangular rapid flashing beacon (RRFB) has two rapidly and alternatively flashing rectangular yellow indications attached to supplement a pedestrian warning sign at a crosswalk.
- **Mini Roundabout:** A mini roundabout can be used as a traffic calming device to improve pedestrian safety.



Source: Star Tribune