



# Update on Safety and Operations at CSAH 50/CSAH 60 Roundabout

Dakota County Physical Development Committee of the Whole

June 16, 2026

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# Agenda

- Intersection Background
- Mitigations and Analysis up to this Point
- Option Review
- Options Comparison
- Questions and Discussion



# CSAH 50/60 Background



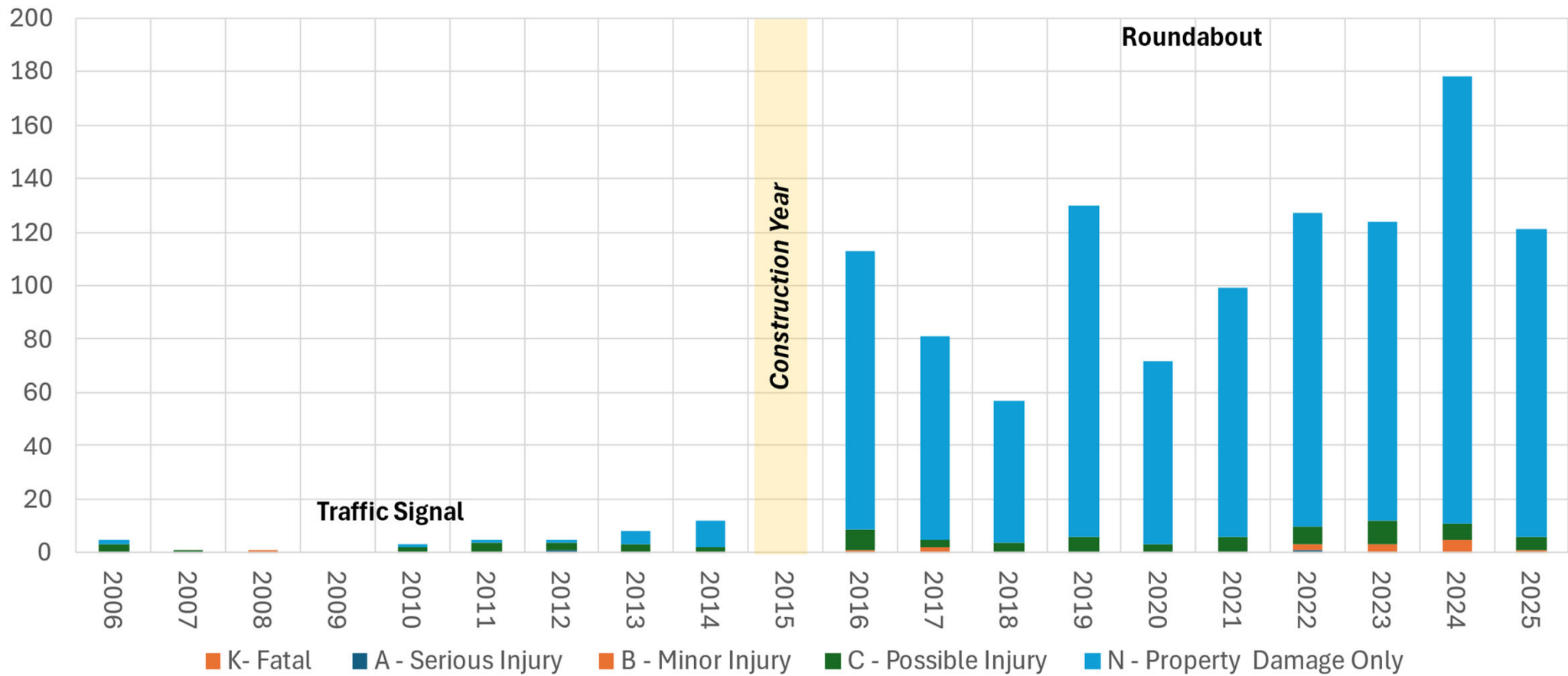
- Roundabout Constructed in 2015
- Highest Crash Rate Index (CRI) of all intersections in County since 2019
- CRI ranges from 5.88 to 8.42 (1.00 or higher suggests crash issue)

Rate Category	Crash	Severity <sup>5</sup>	K/A
Intersection	8.42	9.23	1.40
State Average <sup>3</sup>	0.97	-	0.46
Critical <sup>4</sup>	1.28	-	2.19
Critical Index	6.57	-	0.64

# CSAH 50/60 Background



CSAH 50/CSAH 60 Intersection Crash History



# Mitigations and Analyses

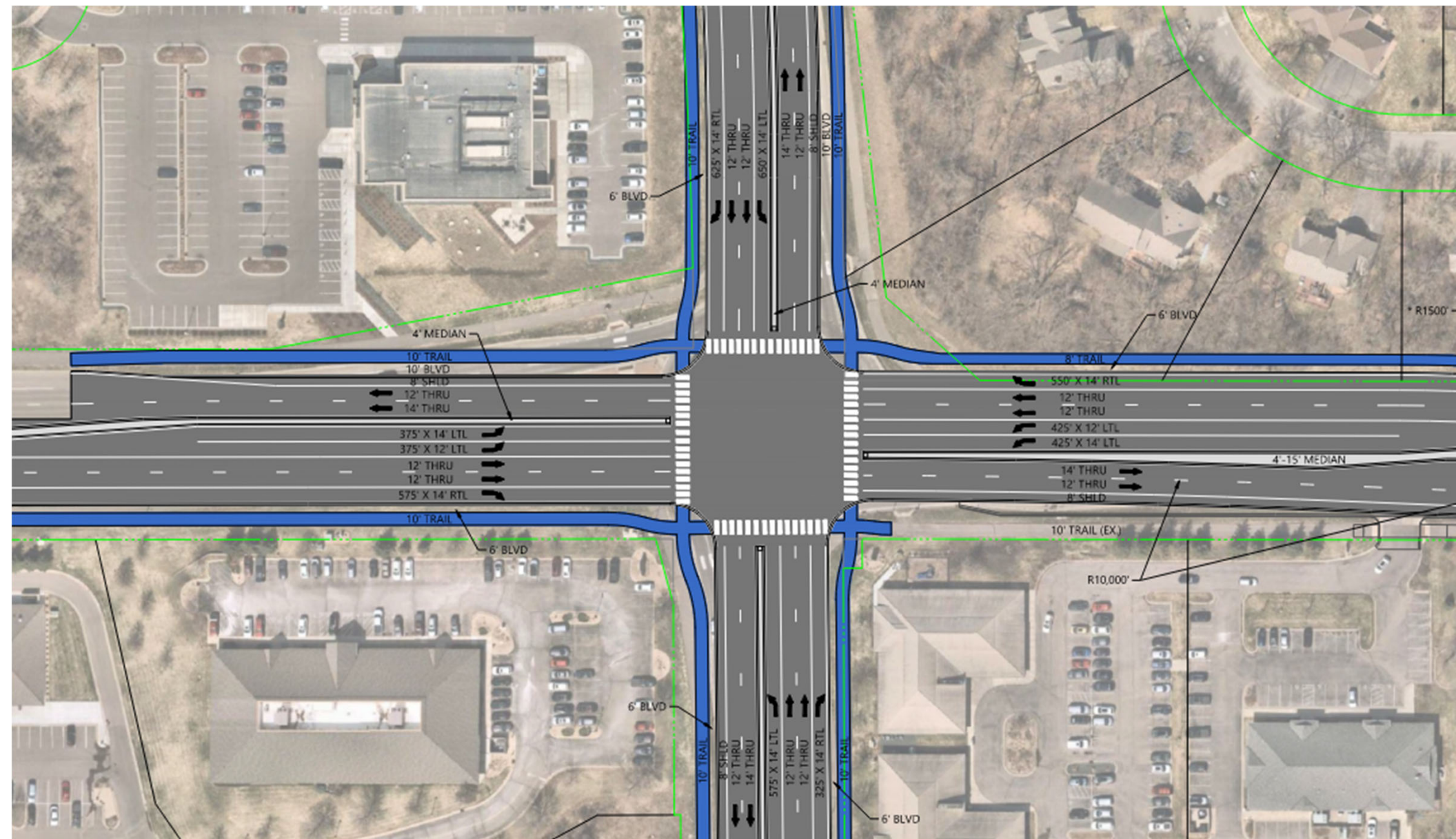


- Public Education Campaigns/Meetings (From City & County) 2016-2018
- Enhanced Police Enforcement Campaign 2018
- Overhead Signage Installation 2018
- Various Signage & Striping Reconfigurations 2016-2021
- MnDOT & FHWA Research Projects 2018 & 2019
- Pedestrian Crossing Study & Improvements 2022
- In-Depth Crash Review Trends Study 2024
- Industry Leader Design Peer Review & Recommendations 2024-2025
- Traffic Control Analysis 2025-2026





# Option 3 Traffic Signal Conversion



How do these options compare against each other?

- Safety / Crash Reductions
- Delay and Future Operations
  - Detour Resilience

# Options Comparison

## Safety – RAB vs RAB w/ Bypasses

- Both Roundabout Options see slightly better pedestrian safety
- Small / negligible crash reduction from buffered lane improvements
- Bypasses may make ped crossings slightly harder
- Bypasses expect a max of 2% crash reduction
- Core 2x2 RAB crash issue still exists in each RAB Option



# Options Comparison Safety – Roundabout vs Signals



Roundabouts generally have less severe crashes than traffic signals

2022-2025 Crash Severity Comparison								
Intersection	Type	AADT	K	A	B	C	N	Total
CSAH 50 & CSAH 60	RAB	47,000	0	1	9	22	396	428
CSAH 42 & CSAH 23	Signal	79,700	0	0	4	10	101	115
CSAH 31 & CSAH 42	Signal	57,350	0	2	4	8	53	67

K=Fatal A=Incapacitating Injury B=Minor Injury C=Possible Injury N=Property Damage Only

CSAH 50/60 RAB creates 3x the amount of taxpayer crash costs compared to higher volume signals

# Options Comparison Safety – Roundabout vs Signals



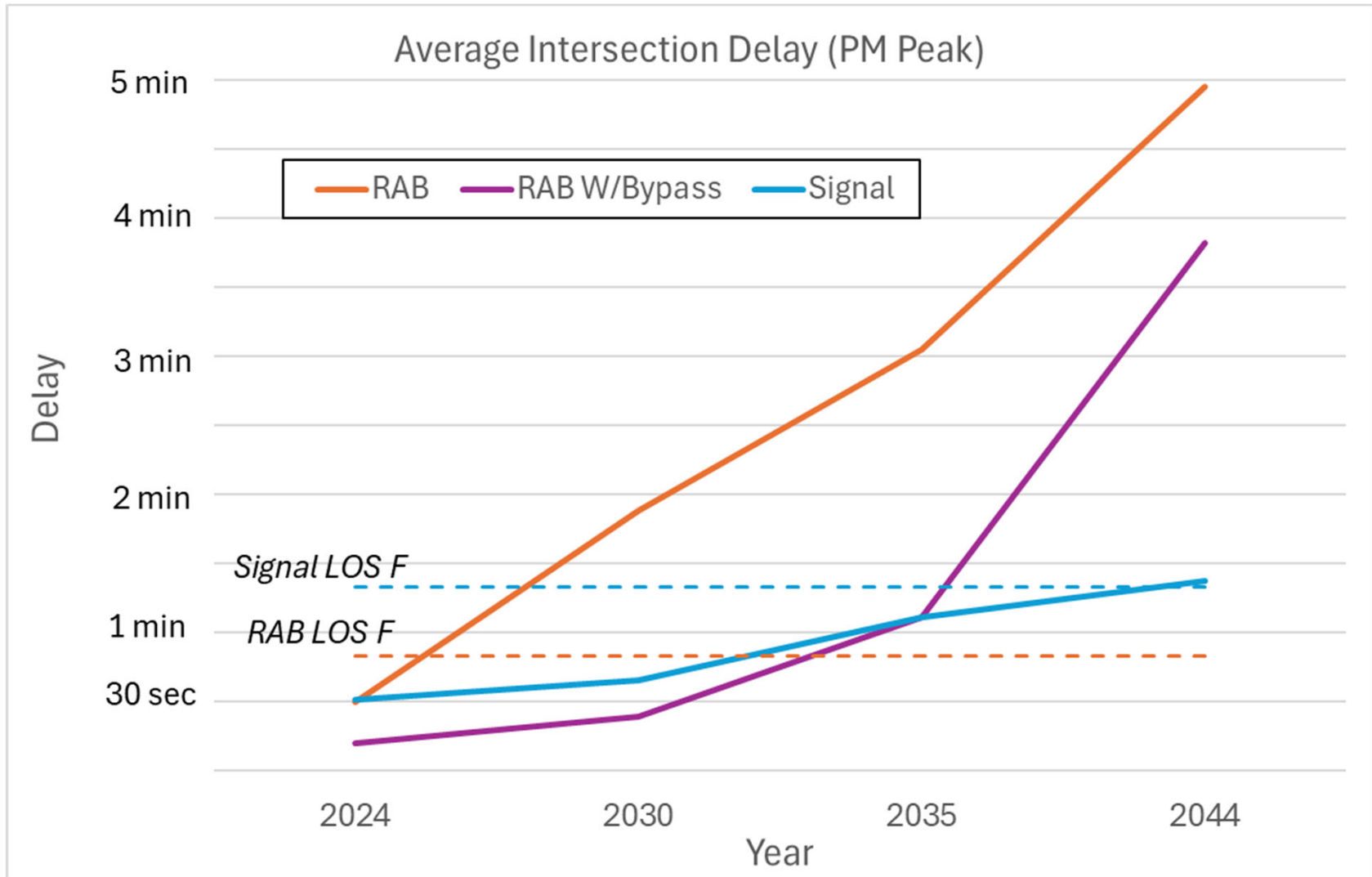
## Current Day Crash Prediction of CSAH 50/60 as a Signal

Type	K	A	B	C	N	Total
RAB Current Yearly Average	0	1	3	7	132	143
Signal Predicted Yearly Average	0	0	1-2	2-6	23-59	26-67

K=Fatal A=Incapacitating Injury B=Minor Injury C=Possible Injury N=Property Damage Only

Signal may experience 80% to 50% reduction in crashes compared to Roundabout configuration

# Options Comparison Delay and Operations

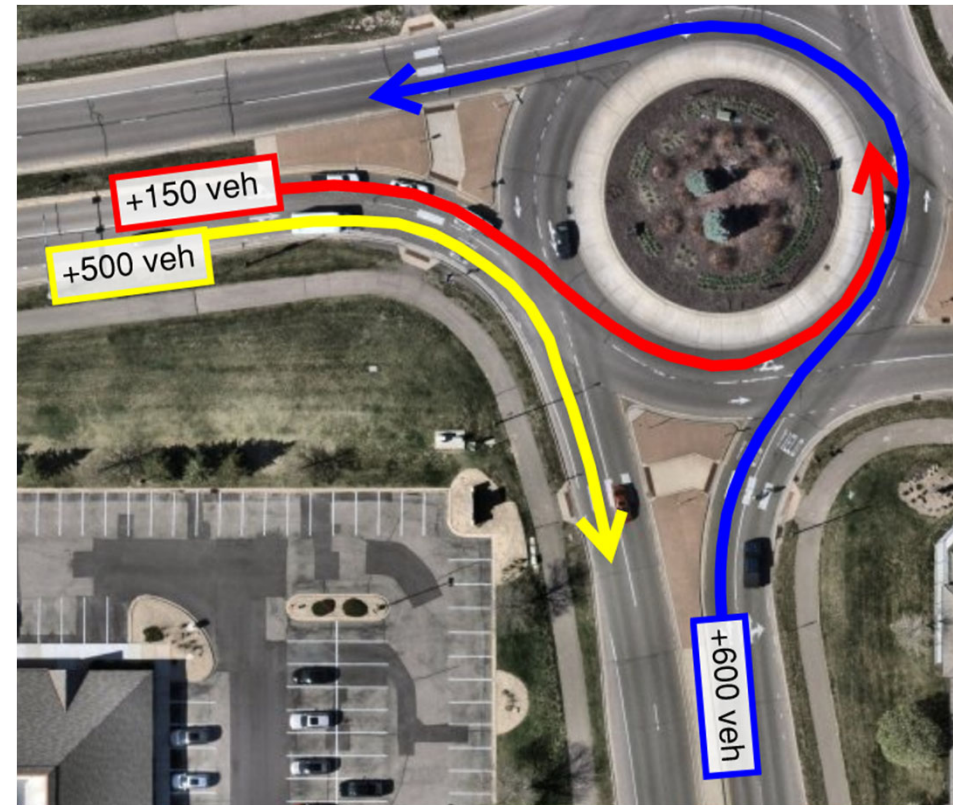


Bypass Option has AM worst-case movements of 5 minutes in 2030

# Options Comparison Detour Operations

Roundabouts are unable to respond to changes in volumes as flexibly as a traffic signal

Construction Detour Delays (PM Peak)			
	Overall Delay (s)	Worst Movement Delay (s)	Worst Movement
2x2 RAB	141 sec	725 sec	NBL
2x2 RAB W/Bypass	124 sec	585 sec	NBT
Traffic Signal	48 sec	74 sec	EBL



# Overall Options Comparison



Option	Safety Improvement	Delay Improvement	Cost	Detour Resilience
Option 1 – Enhanced RAB	* Minor improvements	* No delay improvements	*** \$100,000-200,000	* Major impacts
Option 2 – Enhanced RAB with Right Turn Bypasses	* Minor improvements plus 3% RT crash reduction	** Delay improvements for certain movements	** ~\$500,000	** Major impacts, but Eastbound Right is improved
Option 3 – RAB to Signal Conversion	*** Per signal comparisons, may see 80-50% crash reduction	*** Major delay improvements and ability to adapt to changing traffic	* ~\$3,000,000	*** High adaptability to changing conditions

Key - \* (No to Minor Improvement)      \*\* (Some Improvement)      \*\*\* (Major Improvement)

# Next Steps



- PDC Discussion and Decision (today)
- Present to Lakeville City Council
- Return to County Board for Final Direction
- Develop Public Engagement Plans and Start Design Work for Selected Option

Questions?