WELCOME

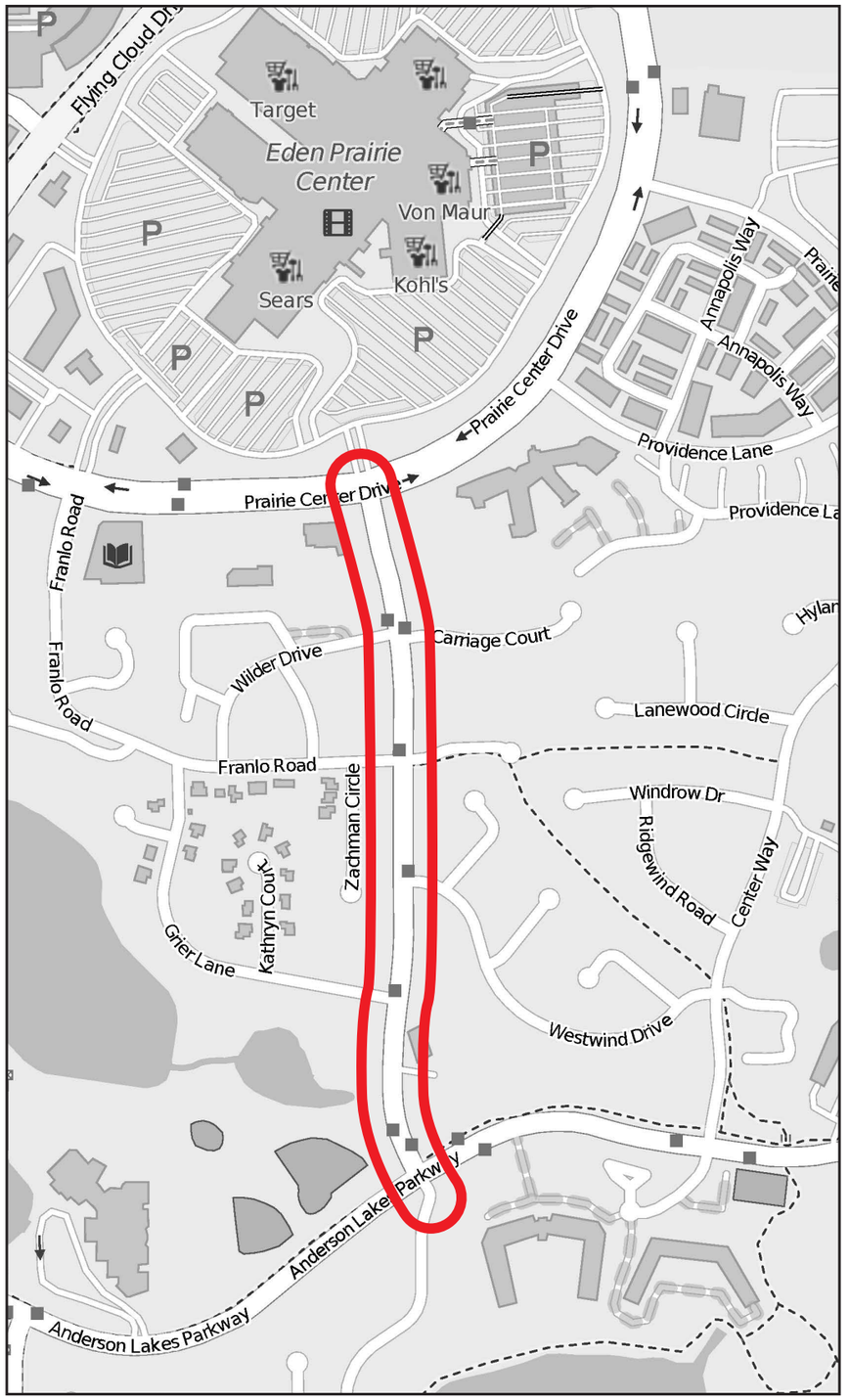
PRESERVE BOULEVARD IMPROVEMENT PROJECT
CITY OF EDEN PRAIRIE

OPEN HOUSE #2

PROJECT PURPOSE

This project will **provide an opportunity** to:

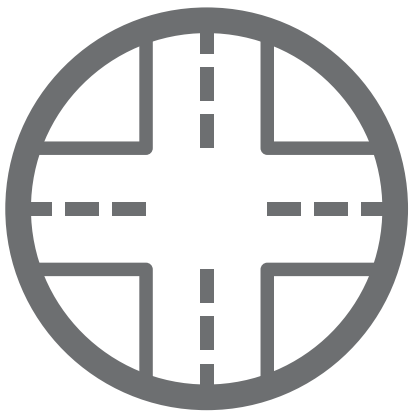
- Improve roadway safety
- Improve pedestrian/bike accommodations
- Improve intersection and roadway vehicular operations
- Evaluate and improve Eden Lake stormwater operations



WHAT WE HEARD

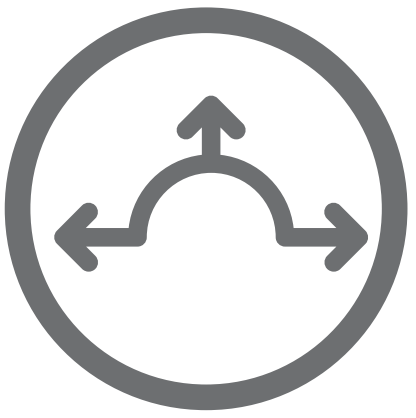
Pedestrians and Bicycles

- Need to improve pedestrian and bicycle crossings along Preserve Blvd



Safety at Intersections

- Concern with the safety of left turns from Preserve Blvd due to the high volume of through vehicles



Access to Preserve Blvd

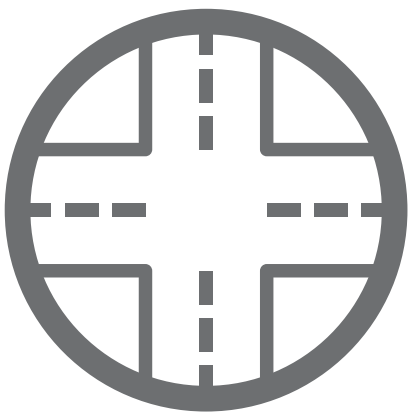
- At times it can be challenging to enter Preserve Blvd from the adjacent streets

Roadway Design (Lane Configuration)

- Safety and operation concerns where there is a reduction in traffic lanes (southbound lane drop)

Water Resources

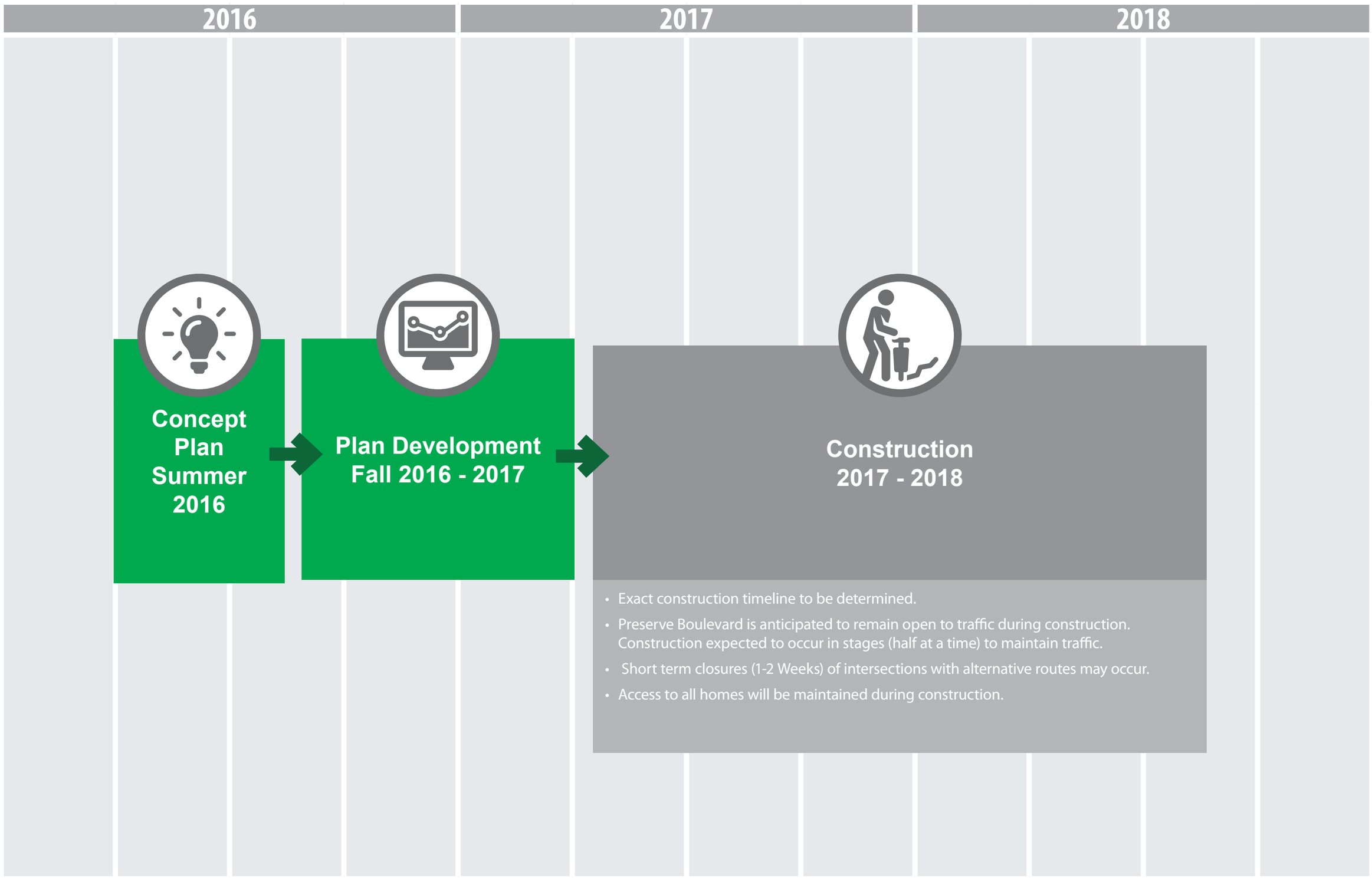
- Concerns about the time it takes for Eden Lake to recede after a storm; desire to maintain a normal water level at Eden Lake



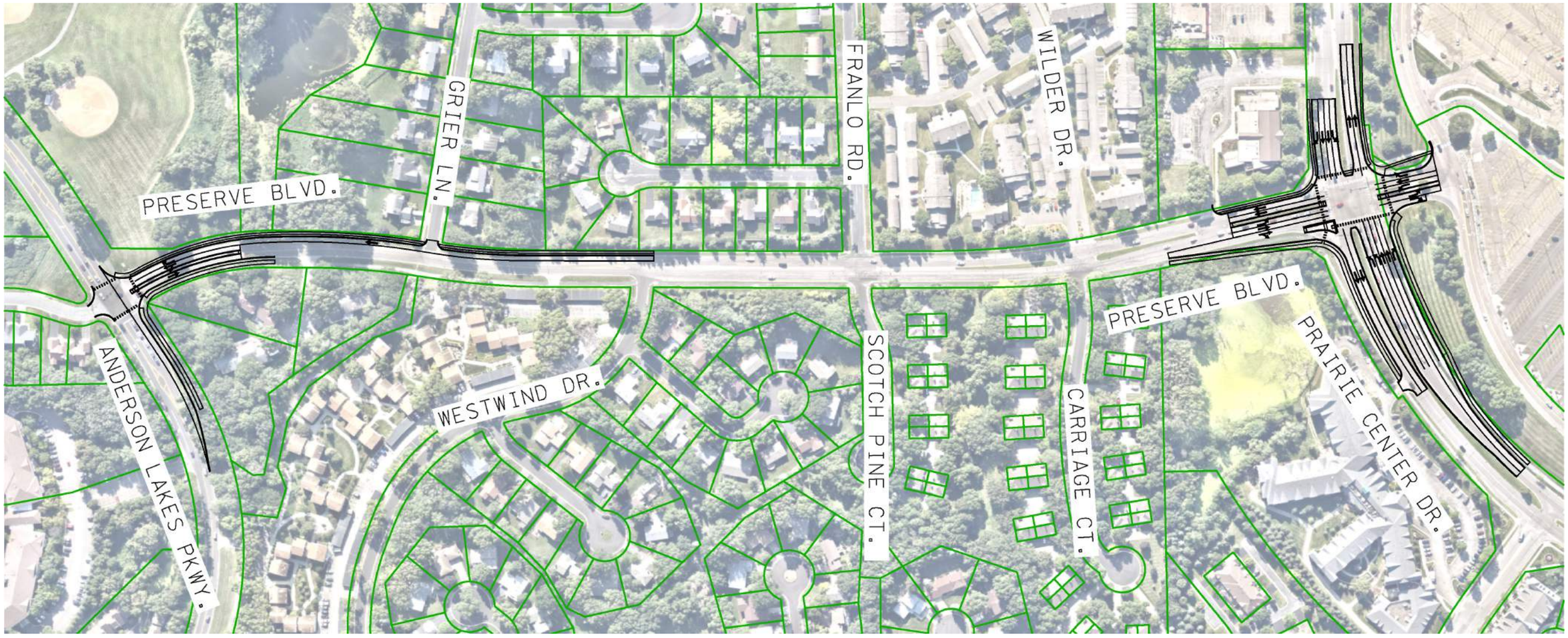
Intersection Design

- Sight lines at Prairie Center Dr/Preserve Blvd intersection
- Lack of left turn phasing on Preserve Blvd

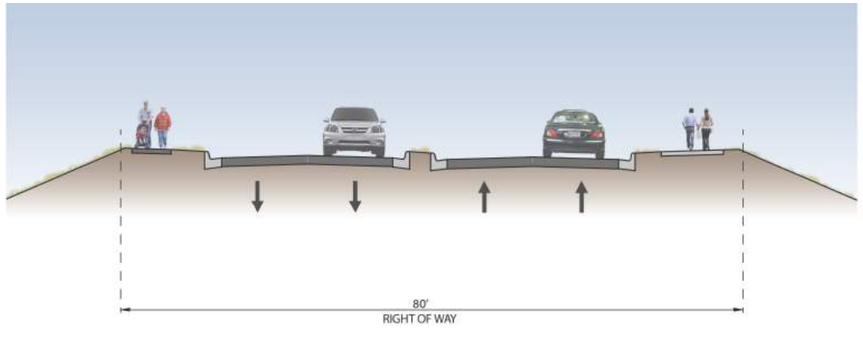
PROJECT SCHEDULE



CORRIDOR ALTERNATIVE 1



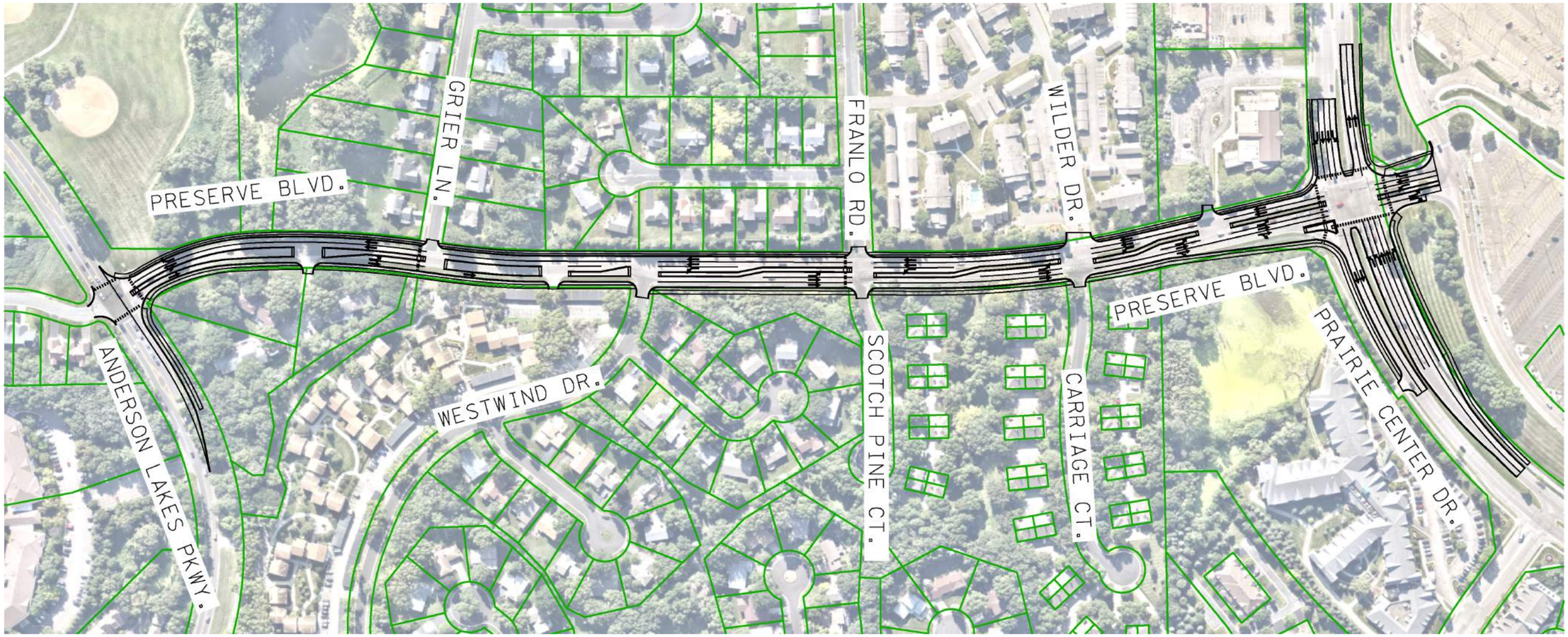
Alternative 1 Layout Plan



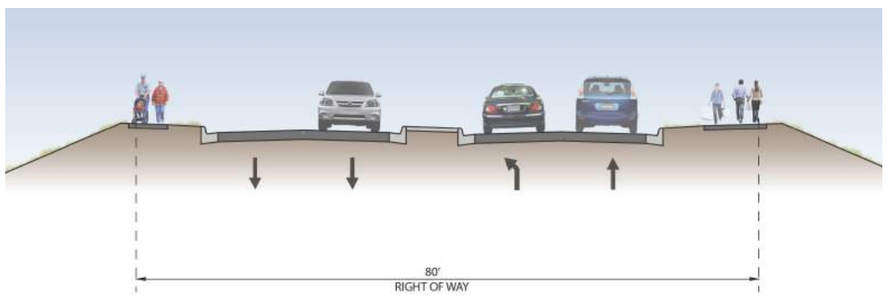
Alternative 1 Cross Section

IMPROVEMENTS	PROS	CONS
• Reconstruct Anderson Lakes Parkway intersection: - Provides median refuge for pedestrians and bicyclists - Lengthens right-turn lane onto Preserve Blvd • Reconstruct Prairie Center Drive intersection: - Provides dual left-turn lanes for westbound-to-southbound traffic - Flattens existing cross slope - Better pedestrian and bicyclist crossings - Lines up left turn lanes on Preserve - Addition of left-turn arrows for Preserve Blvd • Eliminates existing southbound lane drop **Approximate Construction Cost:** $2.0 M	• Lowest cost • Minimal ROW impacts	• Longest side-street delays • Does not provide two northbound lanes for full length of roadway • No change to pedestrian and bicycle accommodations • Left turn lanes not provided

CORRIDOR ALTERNATIVE 2 - RECOMMENDED ALTERNATIVE



Alternative 2 Layout Plan

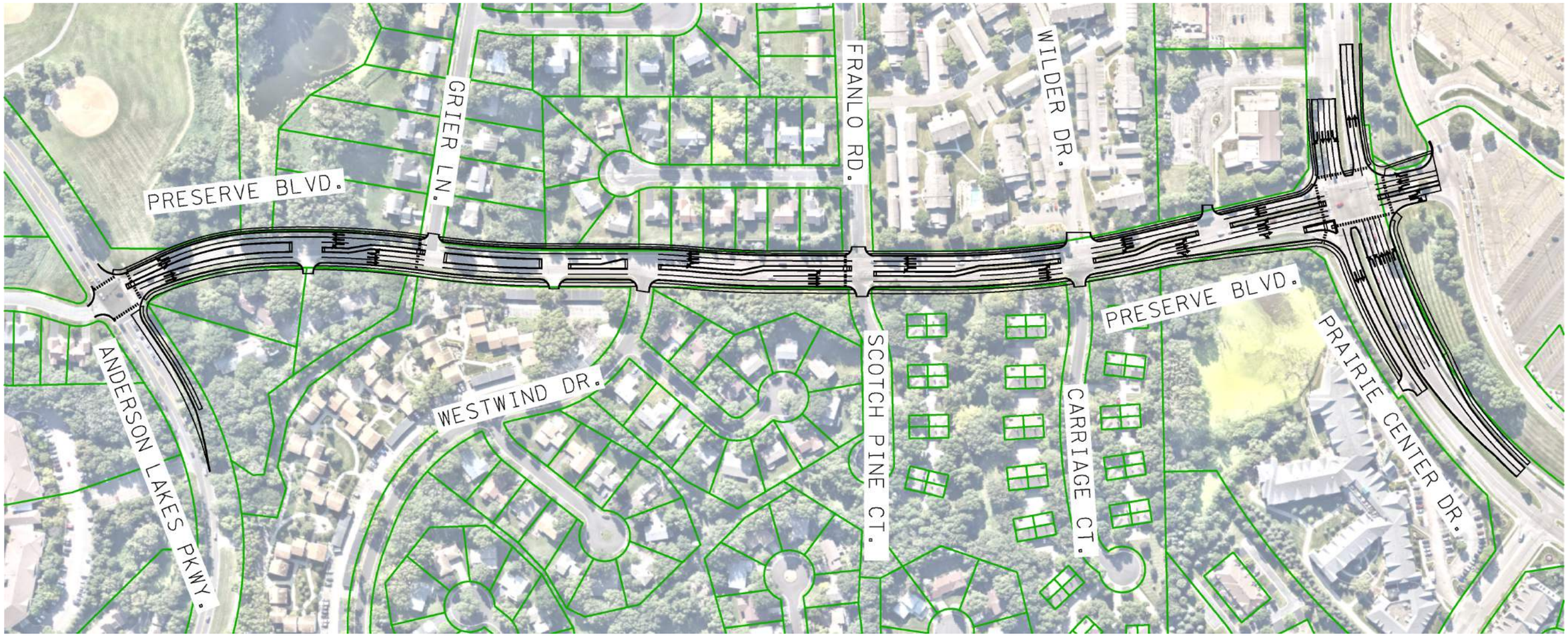


Alternative 2 Cross Section

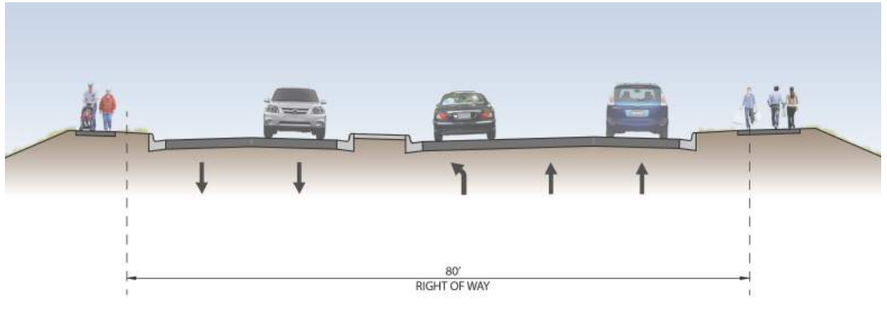
IMPROVEMENTS	PROS	CONS

• Reconstruct Anderson Lakes Parkway intersection:
  - Provides median refuge for pedestrians and bicyclists
  - Lengthens right-turn lane onto Preserve Blvd
• Reconstruct Prairie Center Drive intersection:
  - Provides dual left-turn lanes for westbound-to-southbound traffic
  - Flattens existing cross slope
  - Better pedestrian and bicyclist crossings
  - Lines up left turn lanes on Preserve
  - Addition of left-turn arrows for Preserve Blvd
• Eliminates existing southbound lane drop
• Includes left-turn lanes at all intersections
• Provides median refuge for pedestrian and bicycle crossings at Grier Lane and Franlo Road
Approximate Construction Cost: $2.75 M
	• Moderate cost
	• Moderate ROW impacts
	• Reduced delay for side-streets when compared to Alternative 1
		• Does not provide two northbound lanes for full length of roadway

CORRIDOR ALTERNATIVE 3



Alternative 3 Layout Plan



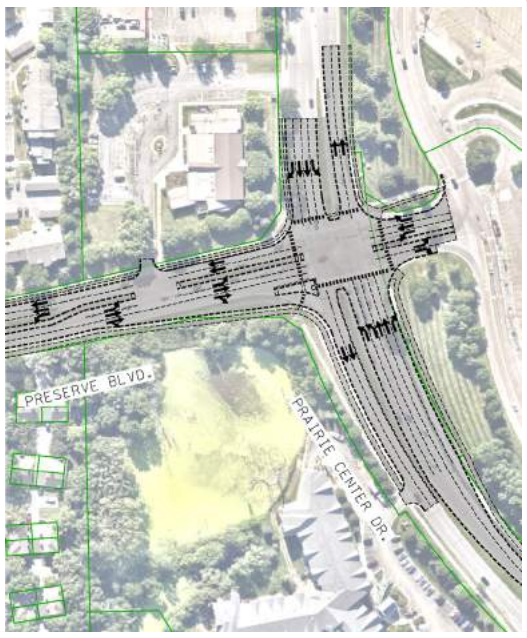
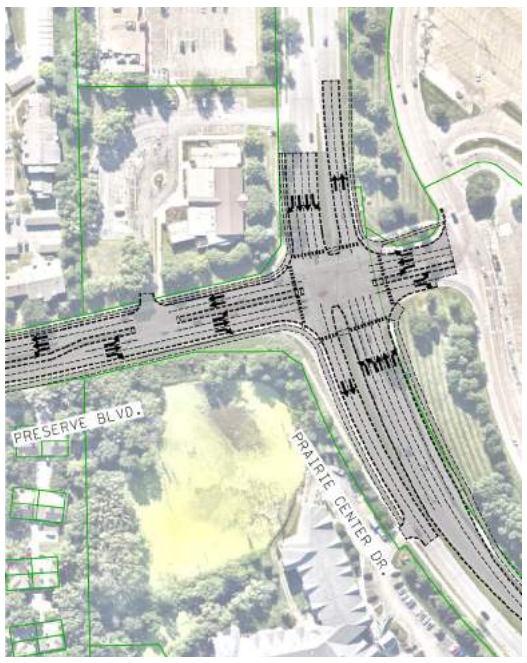
Alternative 3 Cross Section

IMPROVEMENTS	PROS	CONS

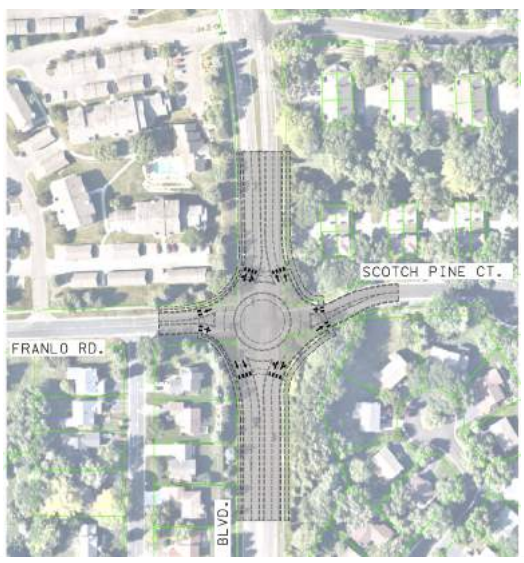
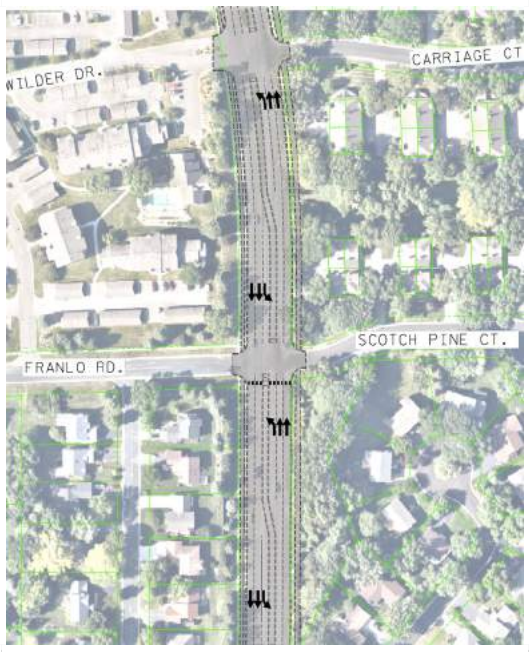
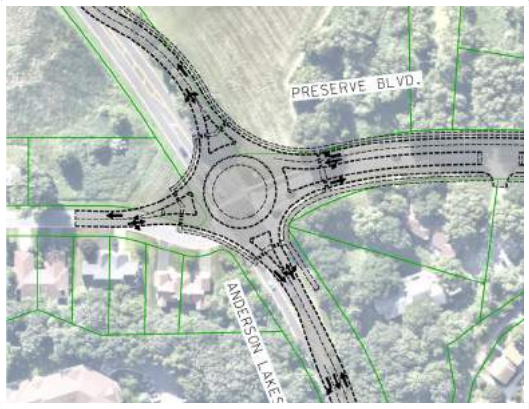
• Reconstruct Anderson Lakes Parkway intersection:
  - Provides median refuge for pedestrians and bicyclists
  - Lengthens right-turn lane onto Preserve Blvd
• Reconstruct Prairie Center Drive intersection:
  - Provides dual left-turn lanes for westbound-to-southbound traffic
  - Flattens existing cross slope
  - Better pedestrian and bicyclist crossings
  - Lines up left turn lanes on Preserve
  - Addition of left-turn arrows for Preserve Blvd
• Eliminates existing southbound lane drop
• Provides two lanes of travel in each direction along Preserve Blvd
• Includes left-turn lanes at all intersections
• Provides median refuge for pedestrian and bicycle crossings at Grier Lane and Franlo Road
Approximate Construction Cost: $3.0 M
	• Reduced delay for side-streets when compared to Alternatives 1 and 2	• Highest Cost
		• Largest ROW Impact

INTERSECTION ALTERNATIVES

SUB-ALTERNATIVES TO STANDARD INTERSECTION

ALTERNATIVE	EXAMPLE	IMPROVEMENTS	PROS	CONS
PRAIRIE CENTER DRIVE				
CHANNELIZED RIGHT-TURN WITH YIELD		• Includes reconstruction of intersection to improve sight lines, signal phasing, and "bumpy" ride • Includes additional westbound left-turn lane on Prairie Center Dr • Modifies existing design of free right-turn lane	• Improved operations (reduced delays and queue lengths) • Can be designed with better visibility using a slip lane design	• Longer pedestrian crossing distances
NO CHANNELIZED RIGHT-TURN		• Includes reconstruction of intersection to improve sight lines, signal phasing, and "bumpy" ride • Includes additional westbound left-turn lane on Prairie Center Dr • Eliminates short merge on Prairie Center Dr, which includes multiple conflict points	• Most pedestrian friendly design with shorter pedestrian crossing distances • High visibility for driver making the right-turn	• Longer delays and queue lengths for northbound right turn in AM
ROUNDABOUT		• Construction of roundabout at Prairie Center Dr	• Potential to reduce the severity of crashes	• 3-lane roundabout is needed which is more complicated from a driver standpoint and is less pedestrian friendly • More substantial ROW impacts • Introduces a roundabout in otherwise signalized corridor

INTERSECTION ALTERNATIVES

ALTERNATIVE	EXAMPLE	IMPROVEMENTS	PROS	CONS
FRANLO ROAD				
ROUNDABOUT		• Construction of roundabout at Franlo Road	• Potential to reduce the number of crashes and the severity of crashes • Median refuge for all pedestrian crossings • Reduces the amount of delay experienced for drivers on the side-streets • Calms speeds along Preserve Blvd	• ROW impacts • Impacts traffic flow on Preserve Blvd, which is the higher volume roadway
RECOMMENDED/ PREFERRED		• Constructs left-turn lanes on Preserve Blvd • Maintains existing side-street stop control	• Minimal ROW impacts compared to the roundabout • Maintains traffic flow on Preserve Blvd, which is the higher volume roadway • Provides pedestrian refuge for pedestrians and bicyclists crossing Preserve Blvd • Includes left-turn lanes on Preserve Blvd	• Minimal improvement in delays for side-street compared to roundabout
ANDERSON LAKES PKWY				
ROUNDABOUT		• Construction of a roundabout at Anderson Lakes Parkway	• Potential to reduce the number of crashes and the severity of crashes • Median refuge for all pedestrian crossings	• ROW impacts • Substantial increase in scope of work at intersection
RECOMMENDED/ PREFERRED		• Maintains existing traffic signal control • Lengthens westbound right-turn lane on Anderson Lakes Parkway	• Minimal ROW impacts compared to the roundabout • Median refuge for crossing of north leg of Preserve Blvd • Controlled crossing for pedestrian and bicycles	• Potential for queuing during peak periods

PROJECT CORRIDOR

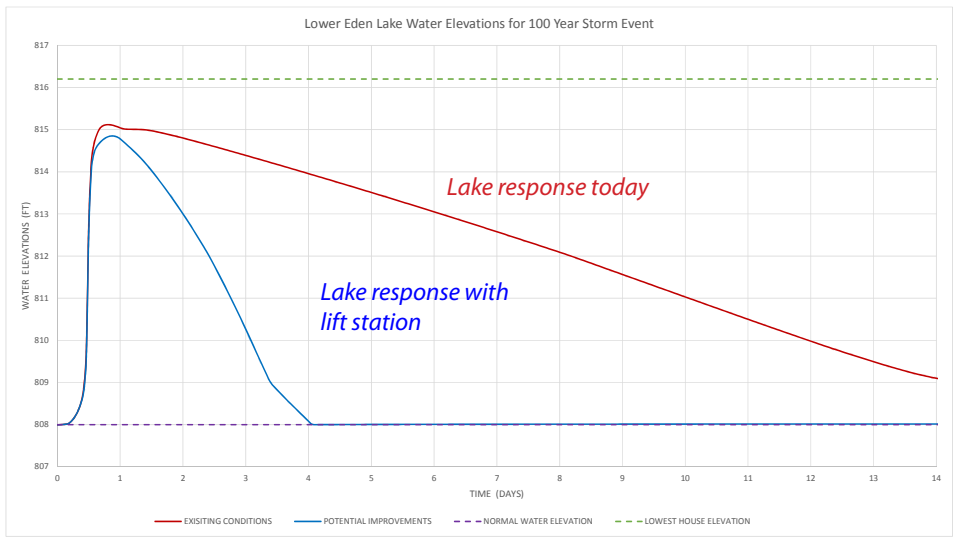
What we heard at Open House #1

EXISTING EDEN LAKE WATER LEVELS

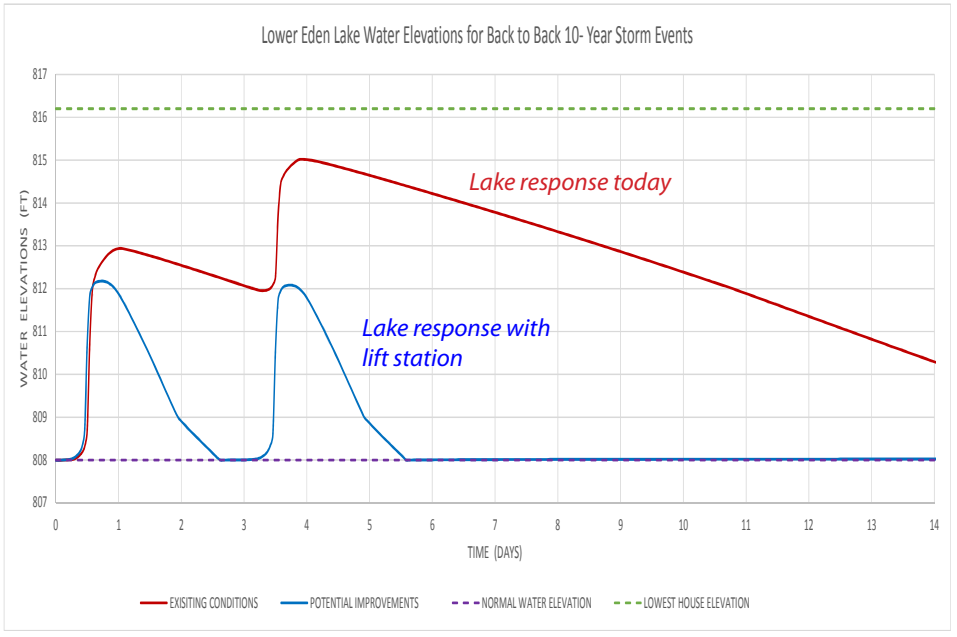
EDEN LAKE OUTLET

- Under existing conditions lake takes over two weeks to return to normal levels
- Potential improvements can significantly decrease time it takes for lake to return to normal water levels leaving the lake less susceptible to high water levels resulting from subsequent rainfall events
- Minimal to no reduction in high water level of Eden Lake

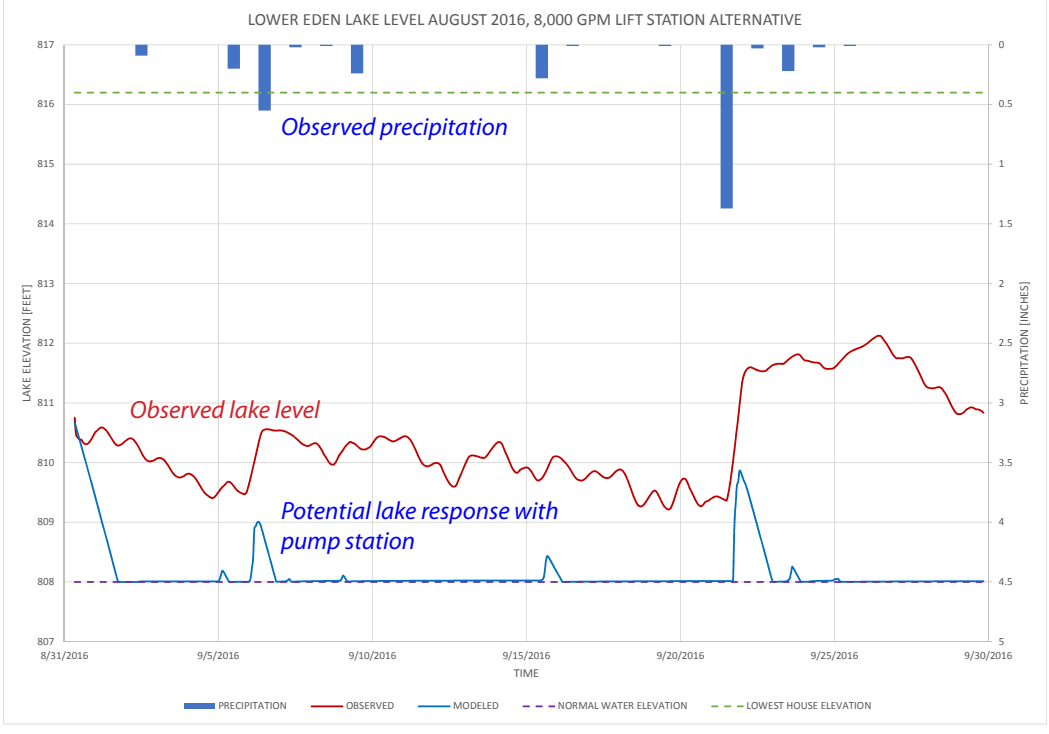
100-YEAR STORM EVENT



BACK-TO-BACK STORM EVENTS



EDEN LAKE LEVELS SEPTEMBER, 2016, PUMP STATION ALTERNATIVE



PRELIMINARY CONCEPT SCREENING

Issues:

- Prolonged high water levels occur in Eden Lake after rainstorms impacting usable property and making the lake more vulnerable to flooding with subsequent rain events
- Peak high water levels from large rain storms encroach very close to a number of homes
- Deteriorating Eden Lake water quality diminishes ability of the lake to effectively remove pollutants and affects downstream water quality

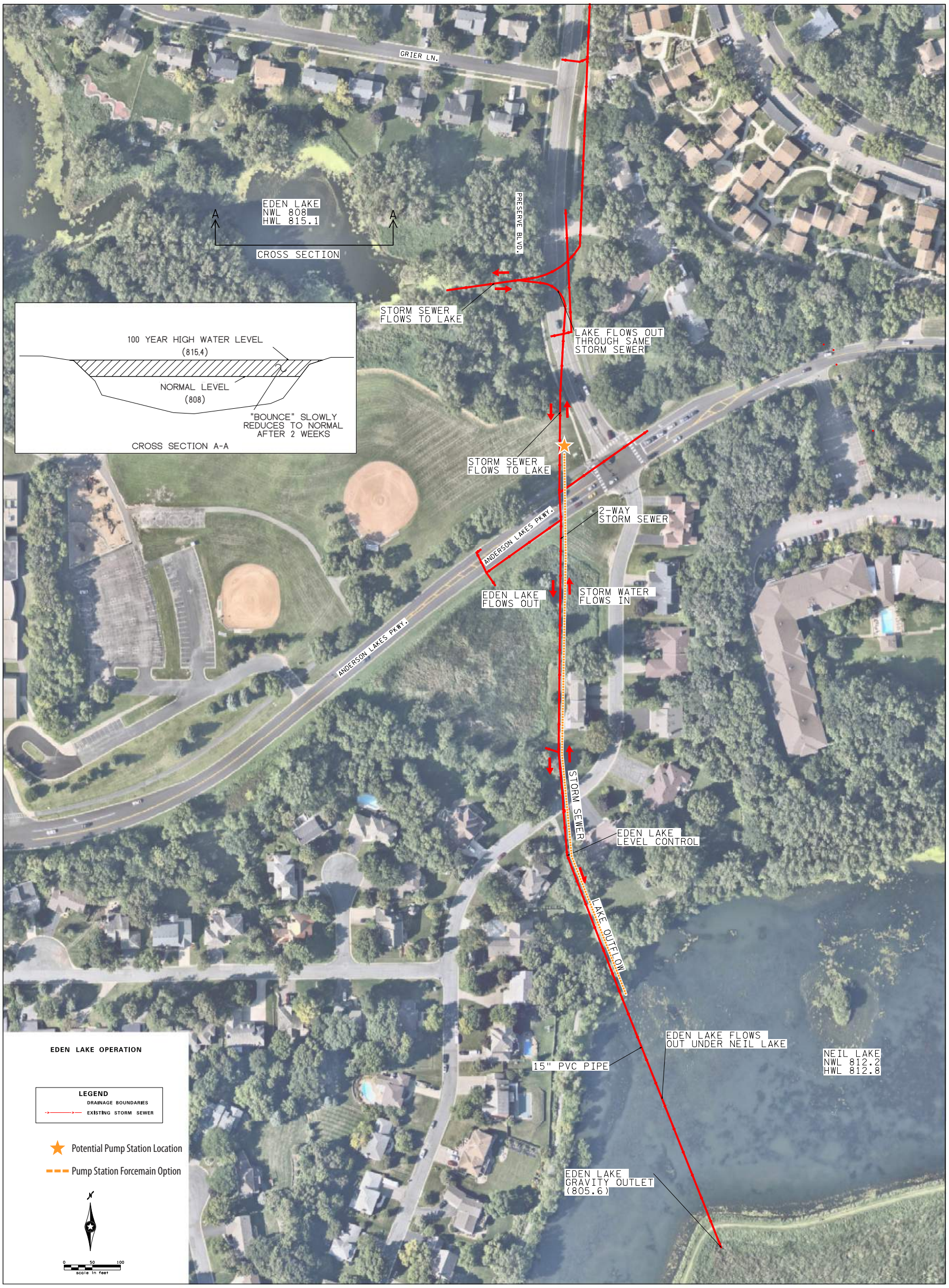
Goals:

- Reduce time of Eden Lake high water levels
- Improve aging storm water infrastructure

CONCEPT	COMMENTS
REPLACE AND INCREASE STORM SEWER SIZE Replace existing 15" storm sewer underneath Neill Lake and into Neill Lake Marsh with larger pipe and replace aging storm sewer along Preserve Boulevard. Cost Range: $800,000 - $1 million	• 4 to 5 day drawdown for 100-year storm • Technically very challenging (specialized equipment needed) • Pipe under Neill Lake is difficult to maintain • Minimal decrease in Eden Lake high water level • Small rise in Neill Lake Marsh high water elevations for the 100-year storm • May cause downstream affect on Purgatory Creek
PUMP STATION Place approximately 8,000 gallon per minute pump station, pump water into Neill Lake through 1,200 foot force main. Cost: $800,000 *Preliminary recommendation subject to Environmental Review*	• 5 - 6 day drawdown for 100-year storm depending on pump sizes • Provides control of Eden Lake normal water level if necessary • Minimal decrease in Eden Lake high water level • Minimal downstream affect on Neill Lake, Neill Lake Marsh, and Purgatory Creek • Ongoing operation and maintenance costs
SUB-ALTERNATIVE: PREDICTIVE/ADAPTIVE SYSTEM Predictive/ adaptive system uses rainfall predictions to begin lowering Eden Lake before precipitation begins. Can be used on either a pump station or storm sewer. Cost: Adds approximately $50,000 to pump station or storm sewer system capital costs	• Reduces drawdown time for 100-year storm by about 1 day • Adaptive system provides a greater degree of control on normal lake level • Ongoing data management costs (up to $10,000 per year) • May cause additional rise to Neill Lake or Neill Lake Marsh high water levels • Limited benefit for amount of capital and operation costs

In addition, the City will work to improve water quality and limit peak flows to Eden Lake. As opportunities arise and through the use of volume limiting Best Management Practices (under-ground storage, rain gardens, tree trenches, storm water collection and reuse, etc.) a reduction to Eden Lake high water level and an improvement to its water quality may be achieved.

EDEN LAKE OPERATION



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EDEN LAKE & PRESERVE BLVD DRAINAGE OVERVIEW MAP