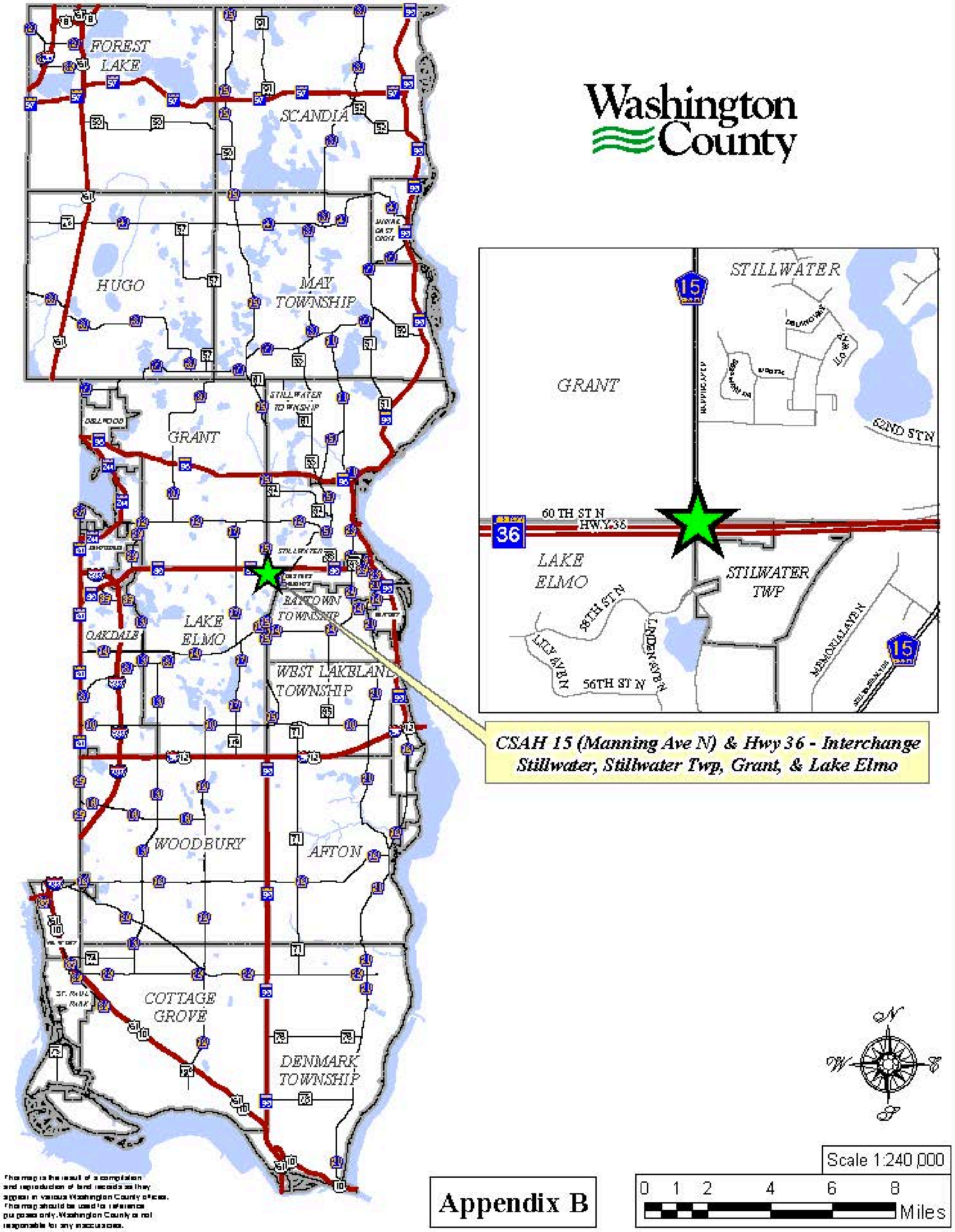
Trunk Highway (TH) 36 and Manning Avenue/County State Aid Highway (CSAH) 15

Interchange Study Update

Nathan Arnold
Engineer II

Washington County


FOREST LAKE
SCANDIA
HUGO
MAY TOWNSHIP
STILLWATER TOWNSHIP
GRANT
DELLWOOD
OAKDALE
LAKE ELMO
BAYTOWN TOWNSHIP
WEST LAKELAND TOWNSHIP
WOODBURY
AFTON
ST. PAUL PARK
COTTAGE GROVE
DENMARK TOWNSHIP
STILLWATER
GRANT
LAKE ELMO
STILLWATER TWP
60 TH ST N
HWY 36
62ND ST N
58TH ST N
56TH ST N
LILY AVE N
LINDEN AVE N
MEMORIAL AVE N
15
36
N
W
E
S
Scale 1:240,000
0 1 2 4 6 8
Miles

CSAH 15 (Manning Ave N) & Hwy 36 - Interchange
Stillwater, Stillwater Twp, Grant, & Lake Elmo

This map is the result of a compilation and reproduction of land records as they appear in various Washington County offices. This map should be used for reference purposes only. Washington County is not responsible for any inaccuracies.

Appendix B

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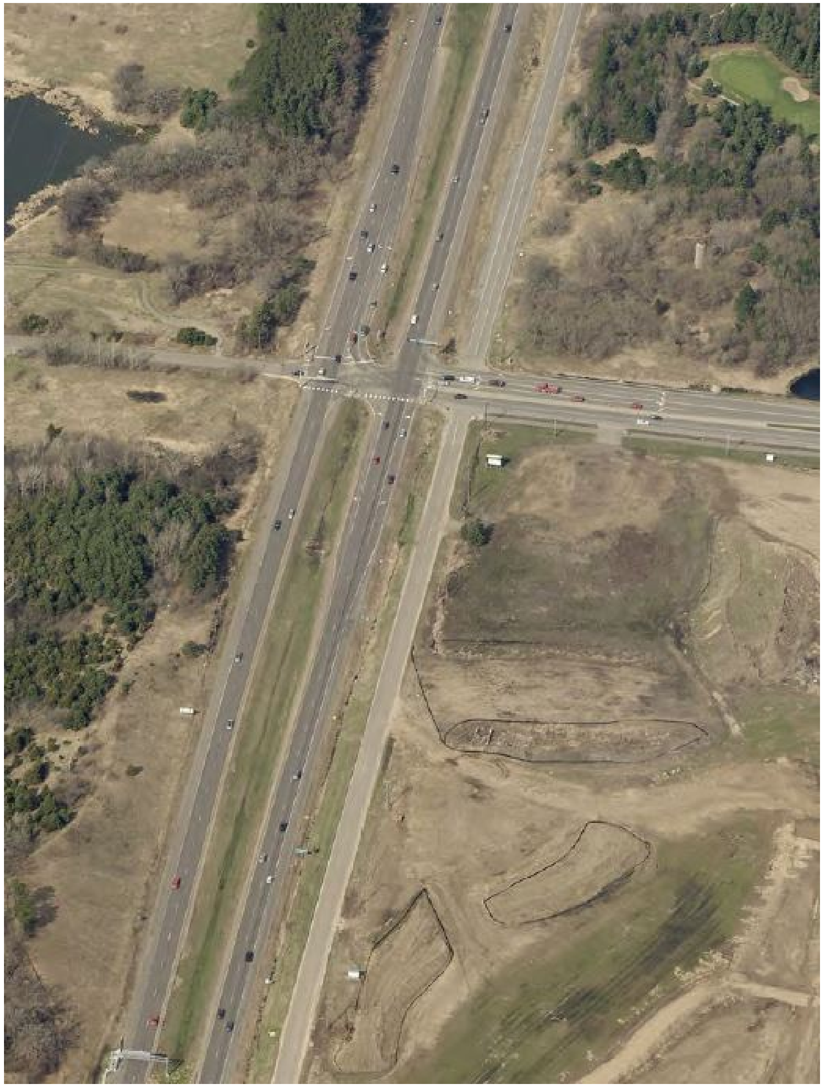
Project Overview



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Project Overview

- TH 36 and CSAH 15 (Manning Avenue)
- Development Opportunities
    - Edge of Current Urban Development
    - Existing Housing, Golf Course, Apple Farm, Commercial Businesses
- Existing system deficiencies
    - Congestion and delays– especially during commute times
    - Unsafe and poorly functioning intersection
        - High Volume
    - Access Management
    - Inadequate intersection spacing
    - Pedestrian facilities
    - Drainage improvement opportunities

Project Overview

Why do we need to do something?

Intersection is approaching its full capacity (long delays/ frustrations)

56
Reported Crashes (2011 to 2015)

1
Fatality

Intersection ranked
75
(out of 8,000) based on statewide crash cost comparisons

20%
increase in traffic expected by 2040

If we do nothing...

Delays will become intolerable

Traffic trying to turn onto Manning will spill back onto Hwy 36

Crashes will likely increase

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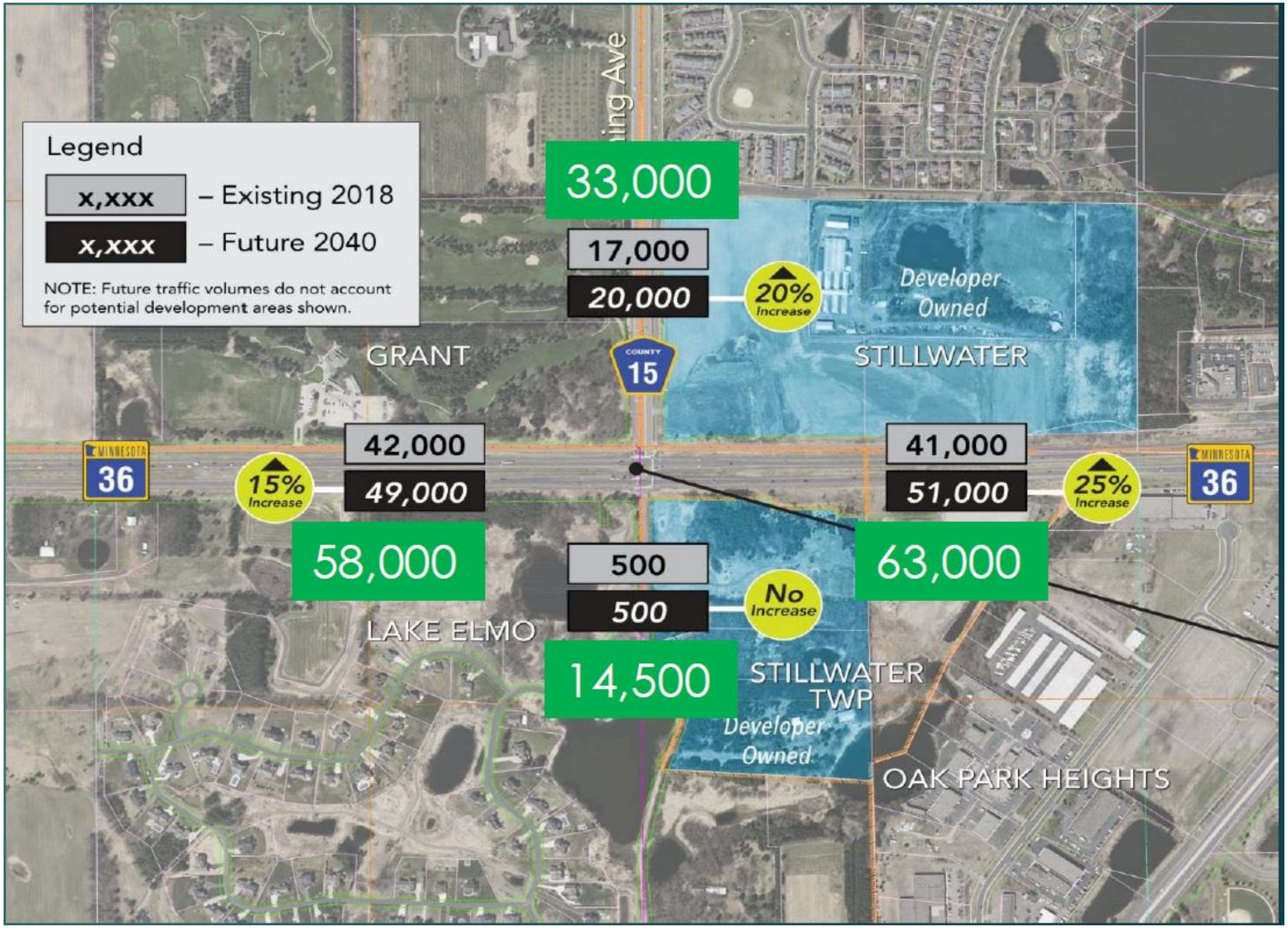
Project Overview


Legend
x,xxx – Existing 2018
x,xxx – Future 2040
NOTE: Future traffic volumes do not account for potential development areas shown.
Manning Ave
33,000
17,000
20,000
20% Increase
Developer Owned
STILLWATER
GRANT
COUNTY 15
MINNESOTA 36
42,000
49,000
15% Increase
58,000
41,000
51,000
25% Increase
63,000
MINNESOTA 36
500
500
No Increase
14,500
LAKE ELMO
STILLWATER TWP
Developer Owned
OAK PARK HEIGHTS

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Project Goals

- Improve Capacity, Safety, and Operations
- Maintain/Improve Local Access
- Constructability/Financially Responsible Project
- Maintain Federal Requirements for Funding
  - North Frontage Road Connection
  - Maintain multiuse trail connection
- Maintain long-term transportation goals

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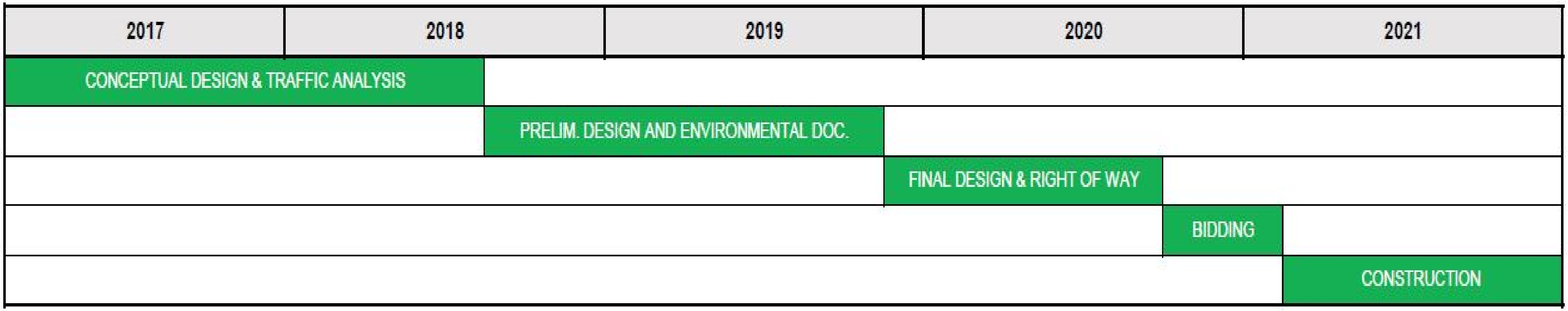
Project Partners/Stakeholders

- Washington County, FHWA, MNDOT
- Grant, Lake Elmo, Oak Park Heights, Stillwater, Stillwater Township, Brown’s Creek Watershed District
- 2 residential neighborhoods
- 2 developers – Legends & Sanctuary
- Applewood Golf Course and Aamodt Apple Farm
- Public – including local and regional users
- Pedestrians and multimodal users

Project Schedule



2017 | 2018 | 2019 | 2020 | 2021

CONCEPTUAL DESIGN & TRAFFIC ANALYSIS

PRELIM. DESIGN AND ENVIRONMENTAL DOC.

FINAL DESIGN & RIGHT OF WAY

BIDDING

CONSTRUCTION

JCT
MINNESOTA
36

Washington
County

Interchange Study

Project Management Team (PMT) Meeting Monthly

Local Advisory Team (LAT) and Stakeholder Meetings at Progress Points

- Identify needs
- Identify high level impacts
- Traffic modeling
- Screen alternatives
- Public feedback
- Identify preferred interchange

Public Open House

Open House Comments

Current/future issues

- Need for an interchange
- Pedestrian/bike access across 36
- Housing development concerns
  - Legends neighborhood
    - Increased traffic from development
    - Signal at 62nd
  - Sanctuary neighborhood
    - Noise impacts

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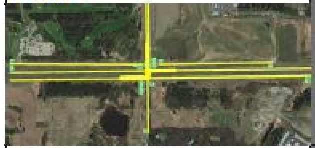
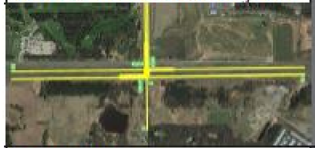
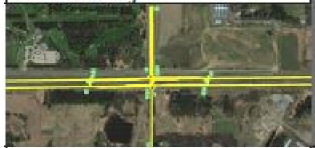
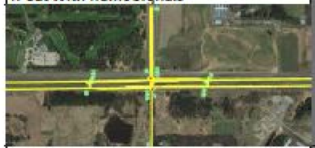
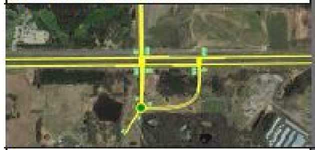
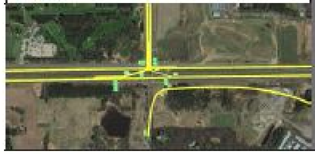
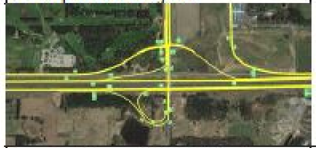
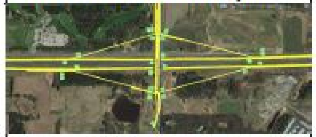
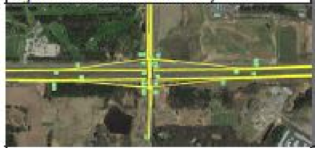
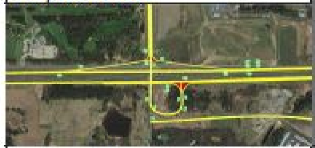
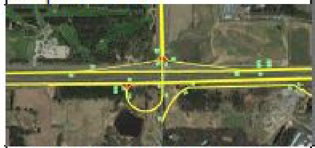
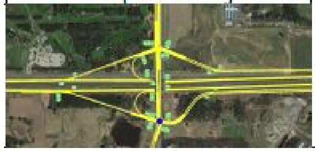
Alternatives

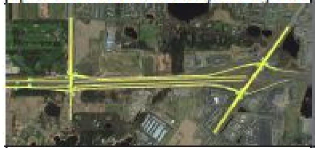
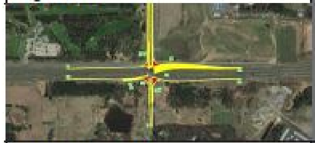
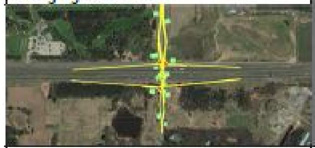
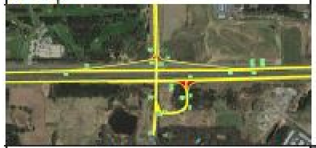
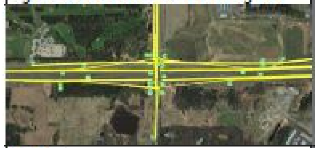
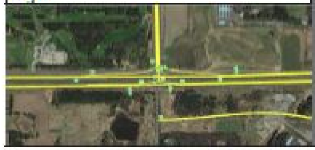
AT-GRADE CONCEPTS

	Dismissed	Continue To Analyze
No Build 	✕	
No Build + Remove North Frontage Road 	✕	
R-Cut Inside Merges 	✕	
R-Cut With Traffic Signals 	✕	
Quad Intersection In SE 	✕	
Green T 	✕	

NOTE: At-grade concepts do not meet traffic demands or improve safety.

GRADE SEPARATED CONCEPTS

	Dismissed	Continue To Analyze
SW Loop With Frontage Rd 		●
Standard Diamond With Auxiliary Lanes 		●
Tight Diamond With Auxiliary Lanes 	✕	
Trumpet In SE Quad 	✕	
Trumpet In SW Quad 	✕	
NW And SW Loops With Frontage Rd 		●

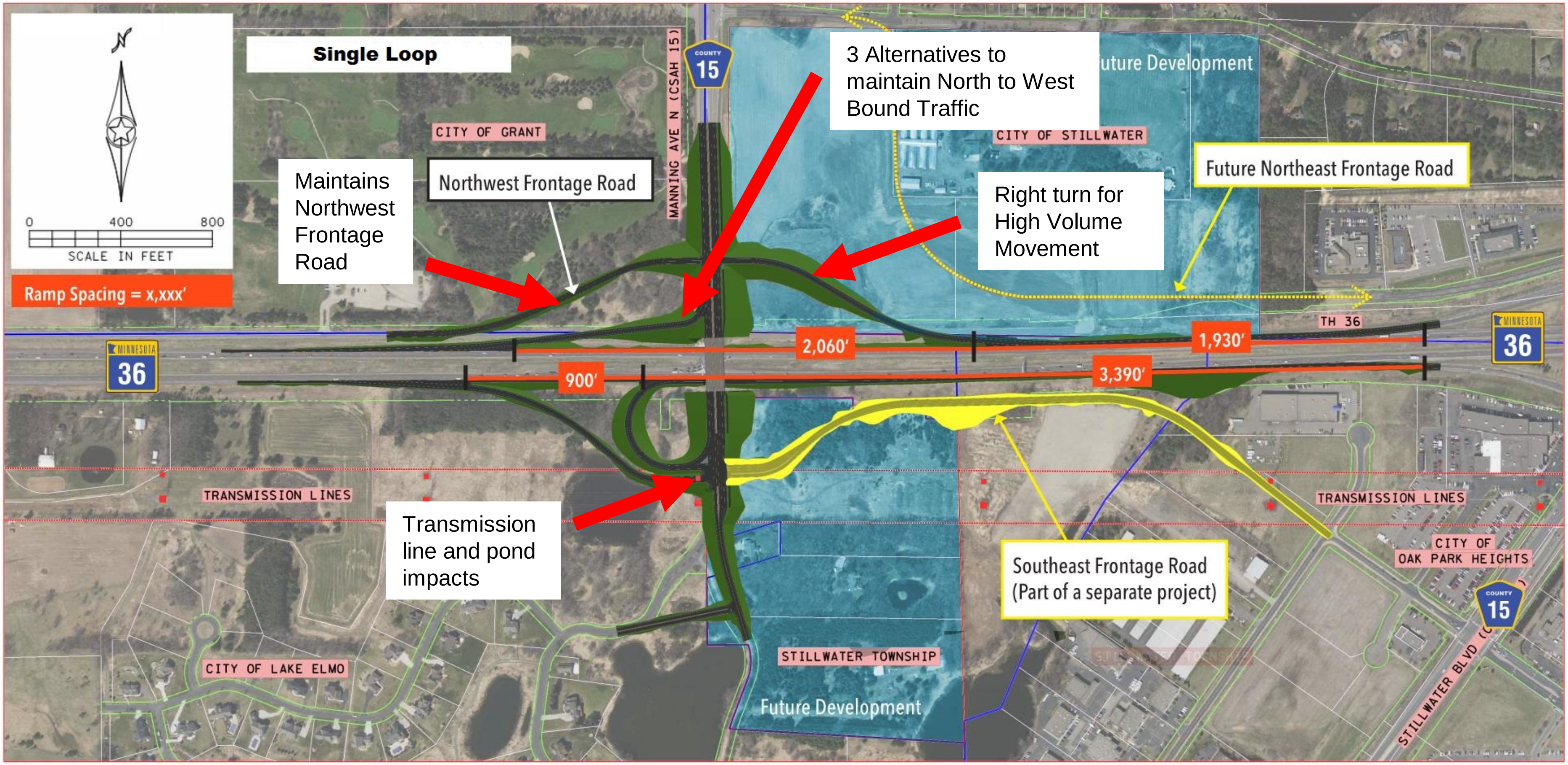
	Dismissed	Continue To Analyze
Split Diamond With Two-Way Frontage Rd 	✕	
Single Point 	✕	
Diverging Diamond 	✕	
SE Loop 		●
Tight Diamond With North Frontage Rd 	✕	
High T 	✕	

Comparison Category	Description	TH 36/Manning Ave Interchange Alternatives				
		SINGLE LOOP	**DOUBLE LOOP**	**LOOP IN SE QUAD**	**STANDARD DIAMOND**	**DOUBLE ROUNDABOUTS**
Interchange Operations	Meets acceptable overall LOS/delay	● NR - 5 sec/veh SR - 5 sec/veh	◑ NR - 10 to 15 sec/veh SR - 5 sec/veh	● NR - 5 sec/veh SR - 5 sec/veh	◔ NR - 15 to 20 sec/veh SR - 15 to 20 sec/veh	◔ NR - 15 to 20 sec/veh SR - 15 to 20 sec/veh
Hwy 36 Operations	Yields acceptable operations along Hwy 36 relative to Stillwater Blvd interchange	◕ EB - longer distance	● EB/WB - longer distance	◔ B - closer distance, lower entry speed	◑ EB/WB - avg weave areas	◑ EB/WB - avg weave areas
Overall Safety	Minimizes vehicle to vehicle conflict points on heavy moves	● Limited conflicts (+)	◔ EB left/SB Thru conflict (-) WB off ramp loop (-)	◕ Limited conflict points (+) EB off ramp loop (-)	◑ EB left/SB right conflict (-)	◕ Reduced crash severity (+) Multilane, potential sideswipe (-)
Connection to Stillwater Blvd	Allows for natural connection and continuity of Manning Av (pulls trips off Hwy 36)	● Natural connection	● Natural connection	◔ Difficult connection	◑ Difficult connection	◕ Less conventional connection
Traffic Ranking		#1	#2	#4	#5	#3
Local Access (NW Quad)	Allows for convenient local access and adequate space for developable land	● Better access than existing	○ No access to Manning	○ No access to Manning	○ No access to Manning	● Better access than existing
Local Access (NE Quad)	Allows for convenient local access and adequate space for developable land	◑ Use 62nd St	● Direct access	◑ Use 62nd St	◑ Use 62nd St	◑ Use 62nd St
Local Access (SE Quad)	Allows for convenient local access and adequate space for developable land	● Direct access	● Direct access	◔ Difficult access, less space	◑ Difficult access, less space	◕ Good access, less space
Local Access Ranking		#1	#2	#5	#4	#3
Cost	Minimize construction costs (base cost is $10 to $12 Million)	◑ Impacts powerlines & pond	◑ Impacts powerlines and pond	● Avoids SW quad	◕ Avoids powerlines & pond	◔ Requires large/long walls
Right-of-Way	Minimize Right-of-Way needs	◕ Three quadrants	● Two quadrants	◕ Three quadrants	◑ Four quadrants	◑ Four quadrants
Cost/Impact Ranking		#3	#2	#1	#4	#5

Legend:

Less Favorable		Moderately Favorable		Most Favorable
○	◔	◑	◕	●

Single Loop


N
0
400
800
SCALE IN FEET
Ramp Spacing = x,xxx'
MANNING AVE N (CSAH 15)
COUNTY 15
CITY OF GRANT
Northwest Frontage Road
Future Development
CITY OF STILLWATER
Future Northeast Frontage Road
TH 36
MINNESOTA 36
2,060'
1,930'
900'
3,390'
TRANSMISSION LINES
CITY OF OAK PARK HEIGHTS
Southeast Frontage Road
(Part of a separate project)
STILLWATER TOWNSHIP
Future Development
CITY OF LAKE ELMO
STILLWATER BLVD
COUNTY 15

Maintains Northwest Frontage Road

3 Alternatives to maintain North to West Bound Traffic

Right turn for High Volume Movement

Transmission line and pond impacts

CONCEPT - NOT FOR CONSTRUCTION

03-12-2018

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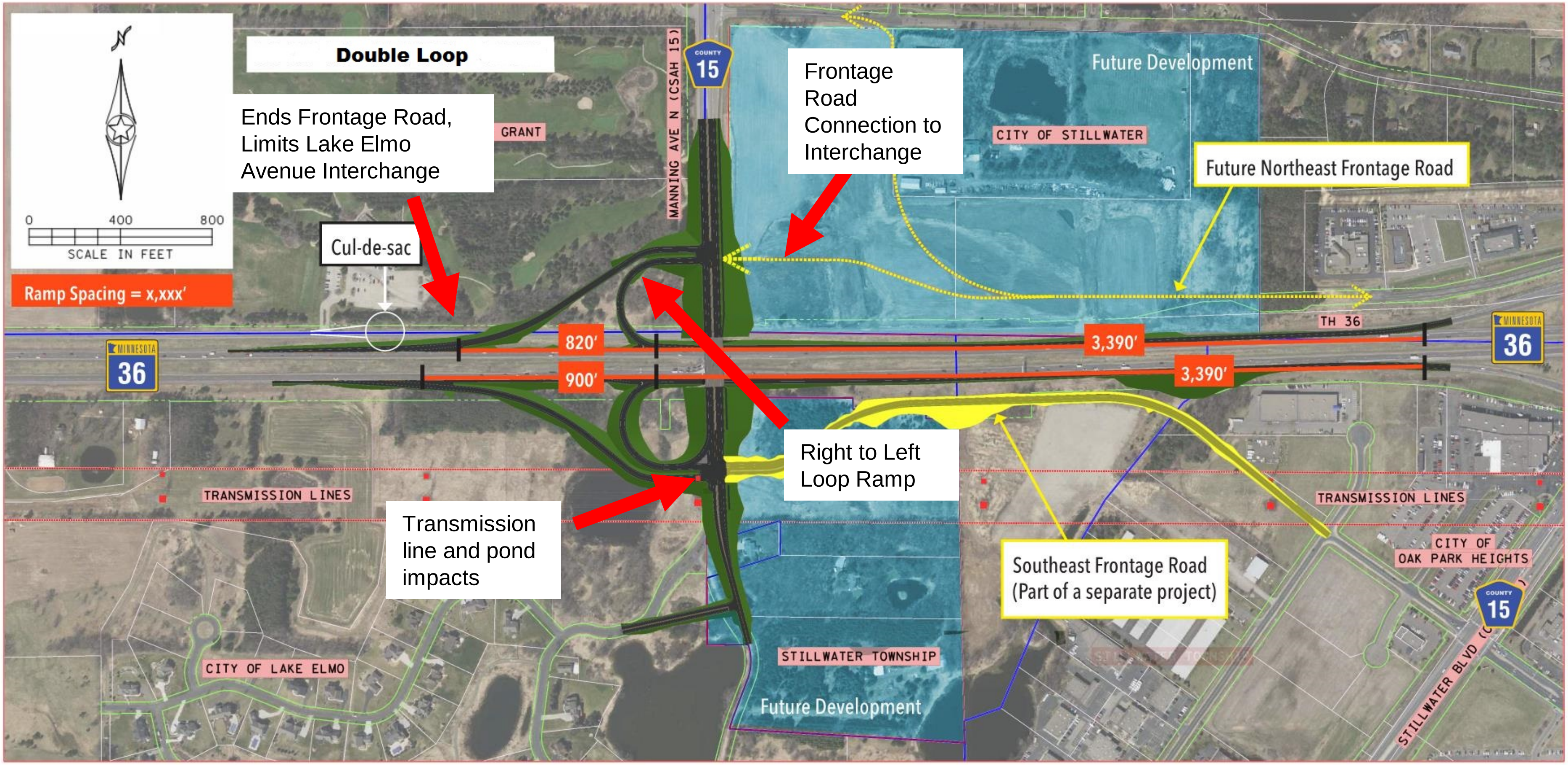
Double Loop



Ends Frontage Road, Limits Lake Elmo Avenue Interchange

Cul-de-sac

Frontage Road Connection to Interchange

Future Northeast Frontage Road

Right to Left Loop Ramp

Transmission line and pond impacts

Southeast Frontage Road (Part of a separate project)

Ramp Spacing = x,xxx'

0
400
800
SCALE IN FEET
GRANT
MANNING AVE N (CSAH 15)
COUNTY 15
Future Development
CITY OF STILLWATER
MINNESOTA 36
820'
900'
3,390'
3,390'
TH 36
TRANSMISSION LINES
TRANSMISSION LINES
CITY OF OAK PARK HEIGHTS
STILLWATER BLVD
CITY OF LAKE ELMO
STILLWATER TOWNSHIP
Future Development

CONCEPT - NOT FOR CONSTRUCTION

03-12-2018

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Project Funding

- Expense
  - – $25-30 million
- Anticipated Funding
  - – $7 million in federal funding – Regional Solicitation
  - – 10-20% local contributions per the county cost participation policy
  - – Currently no State funding
    - Requested State Bonding
  - – Will continue to seek additional funding

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Potential Local Costs

- Relocation/reconstruction of local access
- Sound/noise barrier
- Cost of signal legs at local streets
- Future/potential frontage roads local/developer
- % of construction cost for mobilization, engineering services, traffic control
- Retaining wall to minimize impacts
- 50% of trails
- 50% of curb and gutter
- Right of way

Next Steps

- Investigate Single and Double loop options
  - Further design, geotechnical, environmental impacts/documentation, construction limits, costs
- Work with Partners/Stakeholders
  - Maximize benefits and minimize impacts
  - Identify preferred interchange design and develop Layout
  - Resolution of support

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Questions?

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