



CITY OF NAPERVILLE
**Road Improvement
Plan Update**

AUGUST 7, 2025

TRANSPORTATION ADVISORY BOARD



Naperville

Outline



**REVIEW YEAR 2050
TRAFFIC PROJECTIONS**



**DEFINE PROPOSED
IMPROVEMENTS**



**IDENTIFY FUTURE
OPERATIONAL CONDITIONS**



NEXT STEPS

Intersection and roadway segments under City jurisdiction



Evaluate existing
traffic conditions
(May TAB meeting)



Project Year 2050
traffic operations



Define capacity-driven improvements
to enhance traffic flow

Inform the City's Capital
Improvement Plan (CIP)

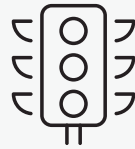
Future input during the
design process

Existing Conditions: DATA REVIEW

ARTERIAL AND COLLECTOR ROADWAYS



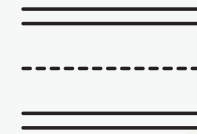
162 intersections



104 signalized



58 unsignalized
(two-way stop control,
all-way stop, yield)



177 roadway
segments

COUNT DATA SOURCES

Year 2020 data not included due to Covid-19



City



IDOT



Replica

SIGNAL TIMING DATA



Naperville



Illinois Department
of Transportation

Existing Conditions: PUBLIC INPUT

Total of
494 comments
organized by categories:

CONGESTION
queues, delay

NEW TRAFFIC CONTROL
signal, stop sign, other

PARKING

PEDESTRIAN/BICYCLE

OTHER

161

comments

33%

*regarding non-City
jurisdiction intersections
or roadways*

66

comments

13%

*focused on pedestrian/
bicycle conditions or
improvements*

4

comments

*where City improvement
is planned or underway*

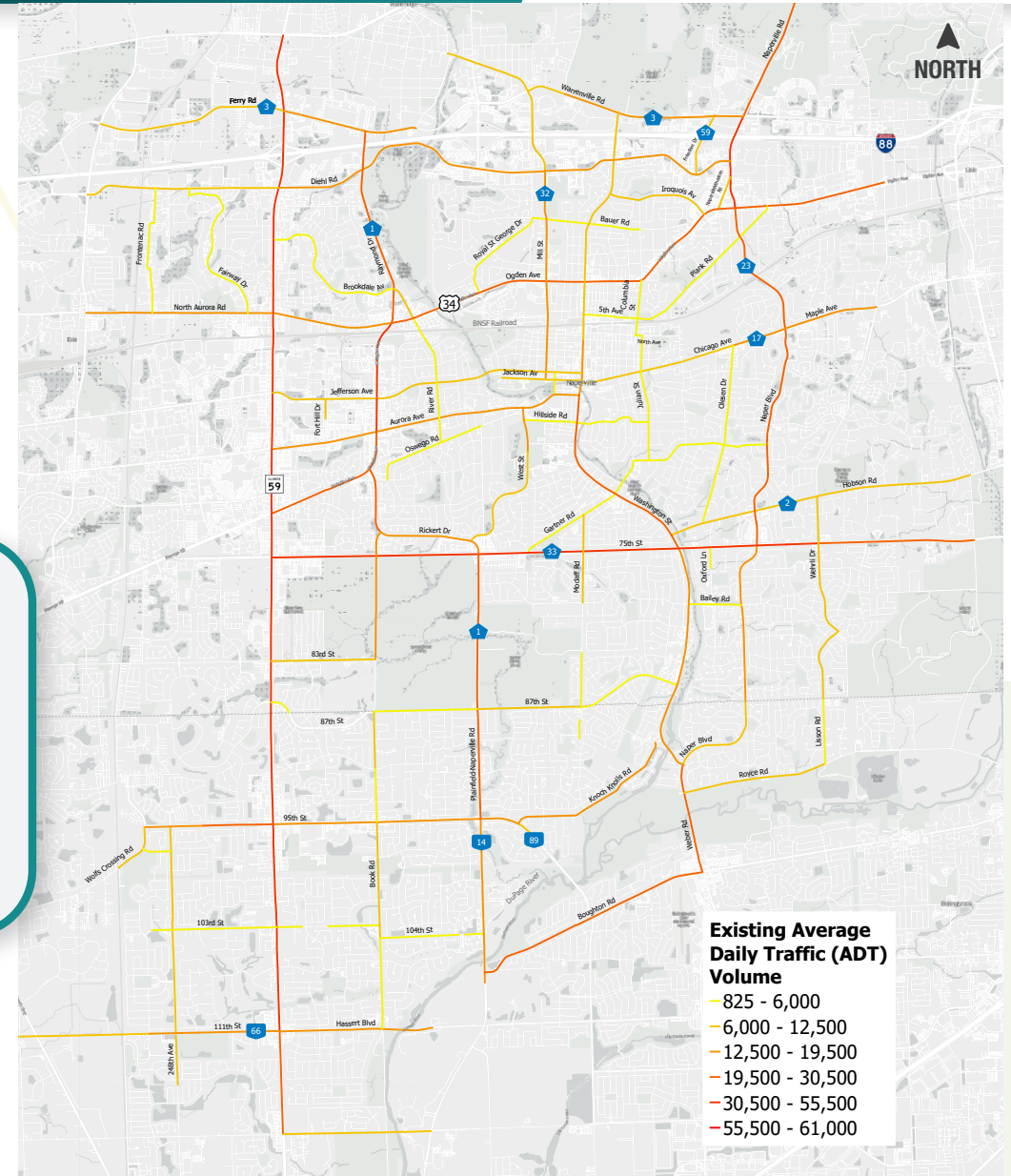
29

comments

*where IDOT improvement
is planned or underway*

Existing Conditions: UPDATE

Updated to reflect newly released
Year 2024 IDOT annual average
daily traffic volumes

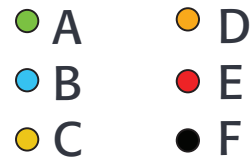


Existing Conditions: UPDATE

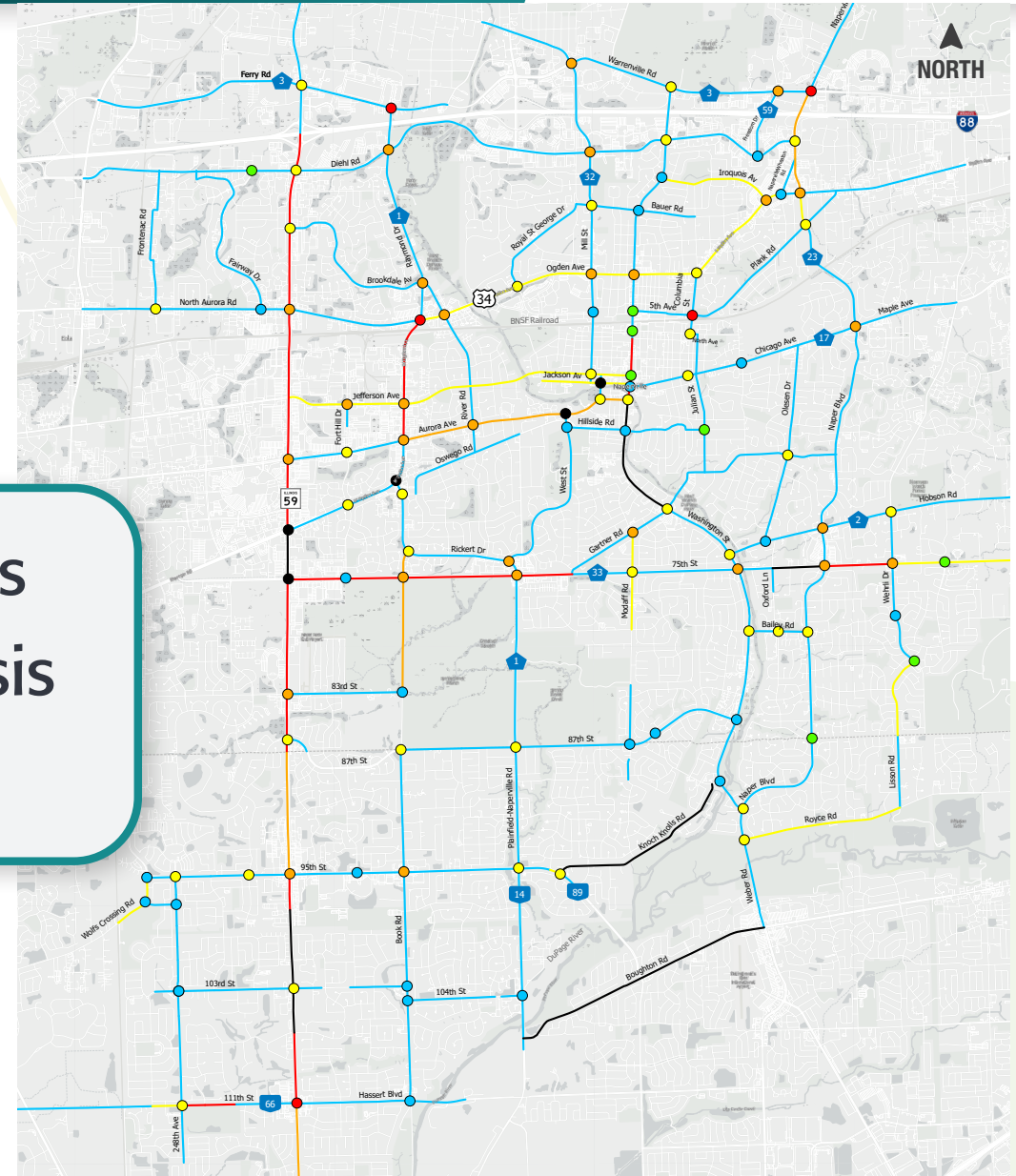
Segment Level of Service



Intersection Level of Service



- ➔ Revised segment capacity analysis
- ➔ No changes to intersection analysis
- ➔ Analysis period is the PM peak hour



Existing Conditions: CRASH HISTORY REVIEW



IDOT CRASH DATA (2019-2023)

- Common crash types at study intersections / segments
 - Front-to-rear
 - Cross-movement
 - Sideswipe



CAPACITY IMPROVEMENT BENEFITS

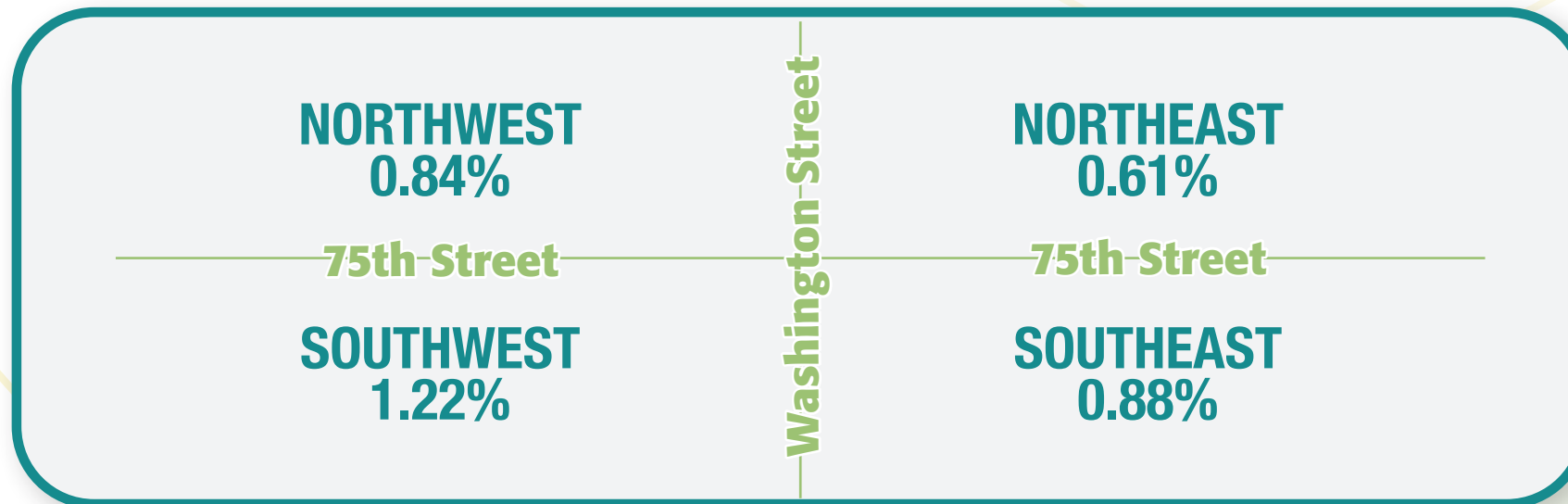
- Turn lanes
 - Reduce queue spillback to through travel lanes
 - Reduce delay
- Signal modifications
 - Protected left-turn phases to minimize conflicts

Future Conditions: TRAFFIC PROJECTIONS

PROJECT YEAR 2050 TRAFFIC VOLUMES

CHICAGO METROPOLITAN AGENCY FOR PLANNING (CMAP) TRAVEL DEMAND MODEL

- Segment volumes
- Average growth rates to develop intersection volumes



Future Conditions: PLANNED IMPROVEMENTS

Assumed completed prior to Year 2050



Naperville

- **248th Av:** widen to 2 lanes in each direction from 103rd St to 95th St



- **75th St:** widen to 3 lanes in each direction



Illinois Department
of Transportation

- **Ogden Av / Naperville-Wheaton Rd:** westbound left-turn protected-permitted phase; modify signal
- **Ogden Av / Rickert Dr:** dual westbound left-turn lanes; extend turn lane storage; modify signal timings

Other

- **Ogden Av / Iroquois Av:** signal modifications for protected-permitted left-turn phase from Iroquois Av
- **Naper Bl / Naperville-Wheaton Rd-Ridgeland Rd:** dual eastbound left-turn lanes; restripe westbound approach for a dedicated left-turn lane and shared through/right-turn lane; northbound right-turn lane; modify storage lanes; modify signal timings



Naperville

Future Conditions: LEVEL OF SERVICE

INTERSECTION ANALYSIS

- Synchro capacity analysis software
- LOS D or better typically acceptable
 - **Minor-leg stop control:** higher delay due to traffic volume on free-flow roadway
 - **Signalized:** higher delay on minor street and protected turn movements due to signal timings
- LOS E acceptable within downtown Naperville

ROADWAY SEGMENT ANALYSIS

- FHWA Simplified Capacity Calculation Method
 - Number of lanes
 - Divided/undivided
 - Traffic control

LEVELS OF SERVICE

FREE FLOW

Low volumes and no delays.

LOS

A



STABLE FLOW

Speeds restricted by travel conditions, minor delays.

LOS

B



STABLE FLOW

Speeds and maneuverability closely controlled because of higher volumes.

LOS

C

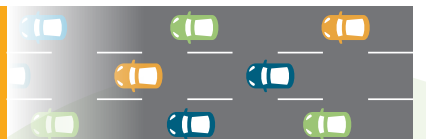


STABLE FLOW

Speeds considerably affected by change in operation conditions. High density traffic restricts maneuverability, volume near capacity.

LOS

D

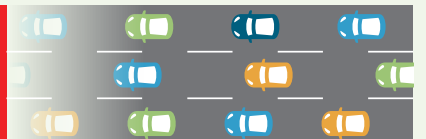


UNSTABLE FLOW

Low speeds; considerable delay; volume at or slightly over capacity.

LOS

E

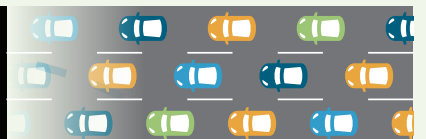


FORCED FLOW

Very low speeds; volumes exceed capacity; long delays with stop-and-go traffic.

LOS

F



Future Conditions

NORTHWEST QUADRANT

Segment Level of Service

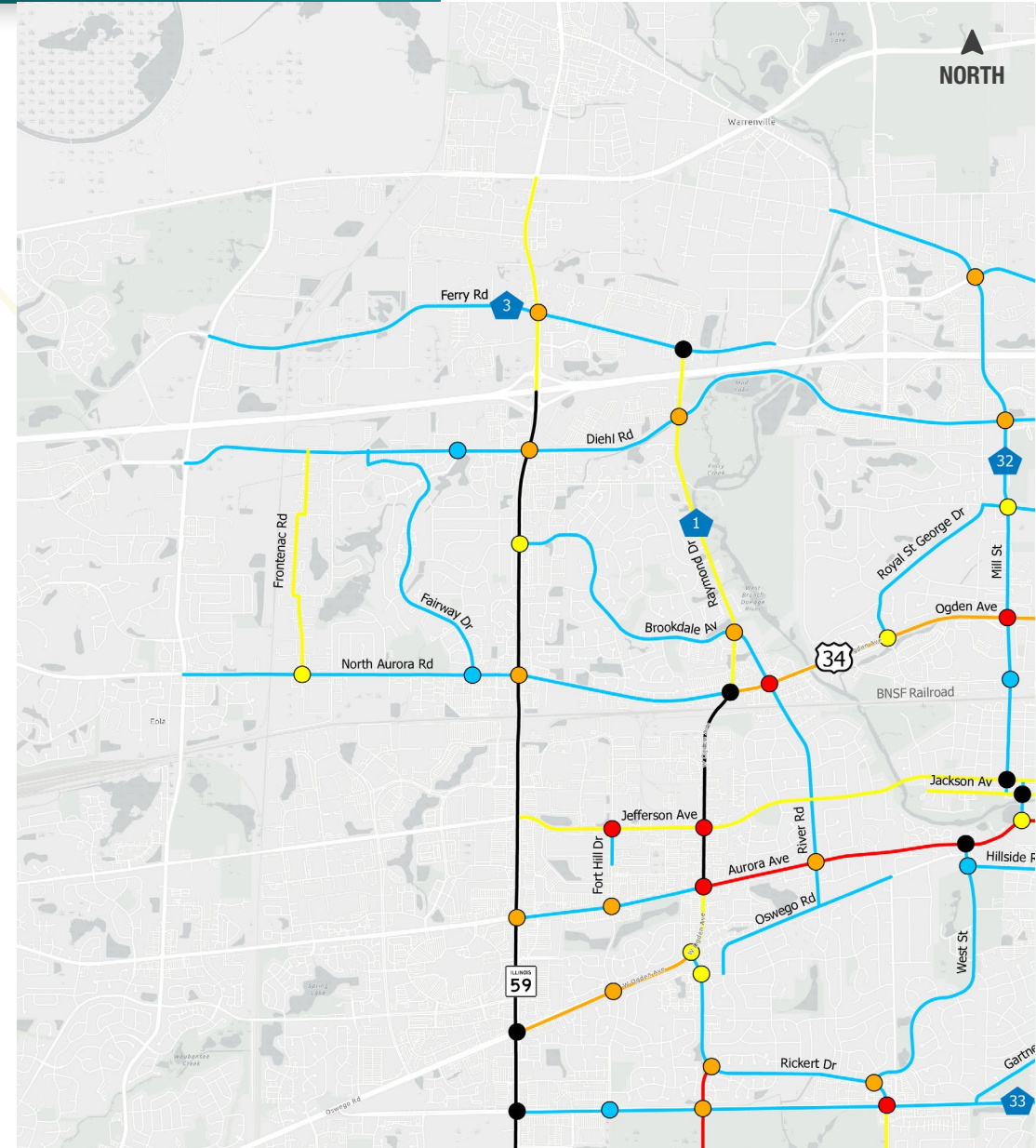
— A	— D
— B	— E
— C	— F

Intersection Level of Service

● A	● D
● B	● E
● C	● F

SEGMENTS AT LOS E OR LOS F

- ➔ Route 59
- ➔ Ogden Avenue
- ➔ River Road



Future Conditions

NORTHWEST QUADRANT

Segment Level of Service

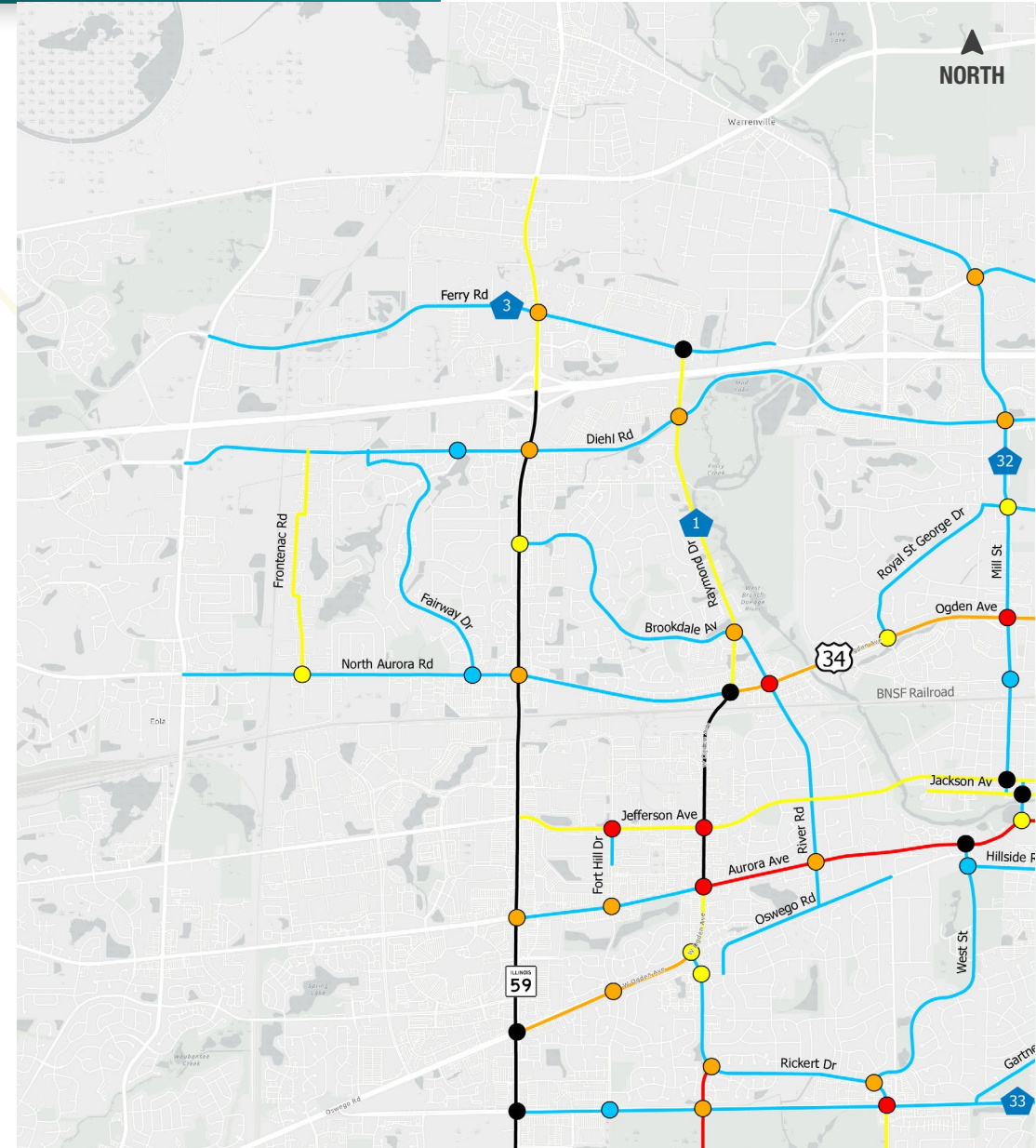
Green line	A	Orange line	D
Blue line	B	Red line	E
Yellow line	C	Black line	F

Intersection Level of Service

Green circle	A	Orange circle	D
Blue circle	B	Red circle	E
Yellow circle	C	Black circle	F

INTERSECTIONS AT LOS E OR LOS F

- City: 4 intersections
 - Jefferson Av/Fort Hill Dr
 - Jefferson Av/Mill St
 - Jackson Av/Eagle St
 - Aurora Av/West St-Private Driveway
- Other (all approaches): 3 intersections
- Other (some approaches): 5 intersections



Future Conditions: IMPROVEMENTS

NORTHWEST QUADRANT

Segment Level of Service

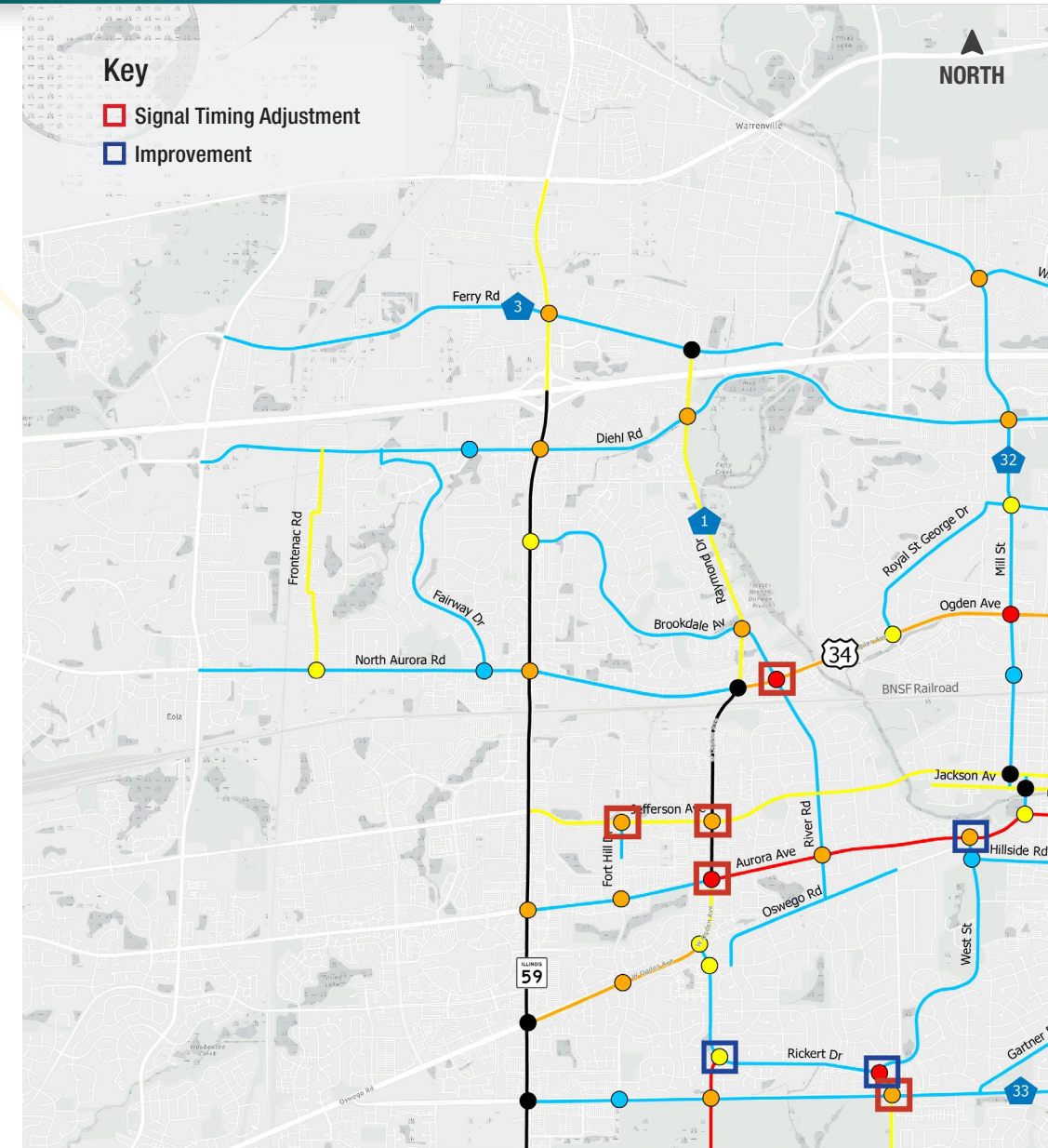
— A	— D
— B	— E
— C	— F

Intersection Level of Service

● A	● D
● B	● E
● C	● F

IMPROVEMENTS

- ➔ Aurora Av/West St-Driveway
- ➔ Book Rd/Rickert Dr
- ➔ West St-Private Drive/Rickert Dr



Future Conditions: SIGNAL TIMING

NORTHWEST QUADRANT

Segment Level of Service

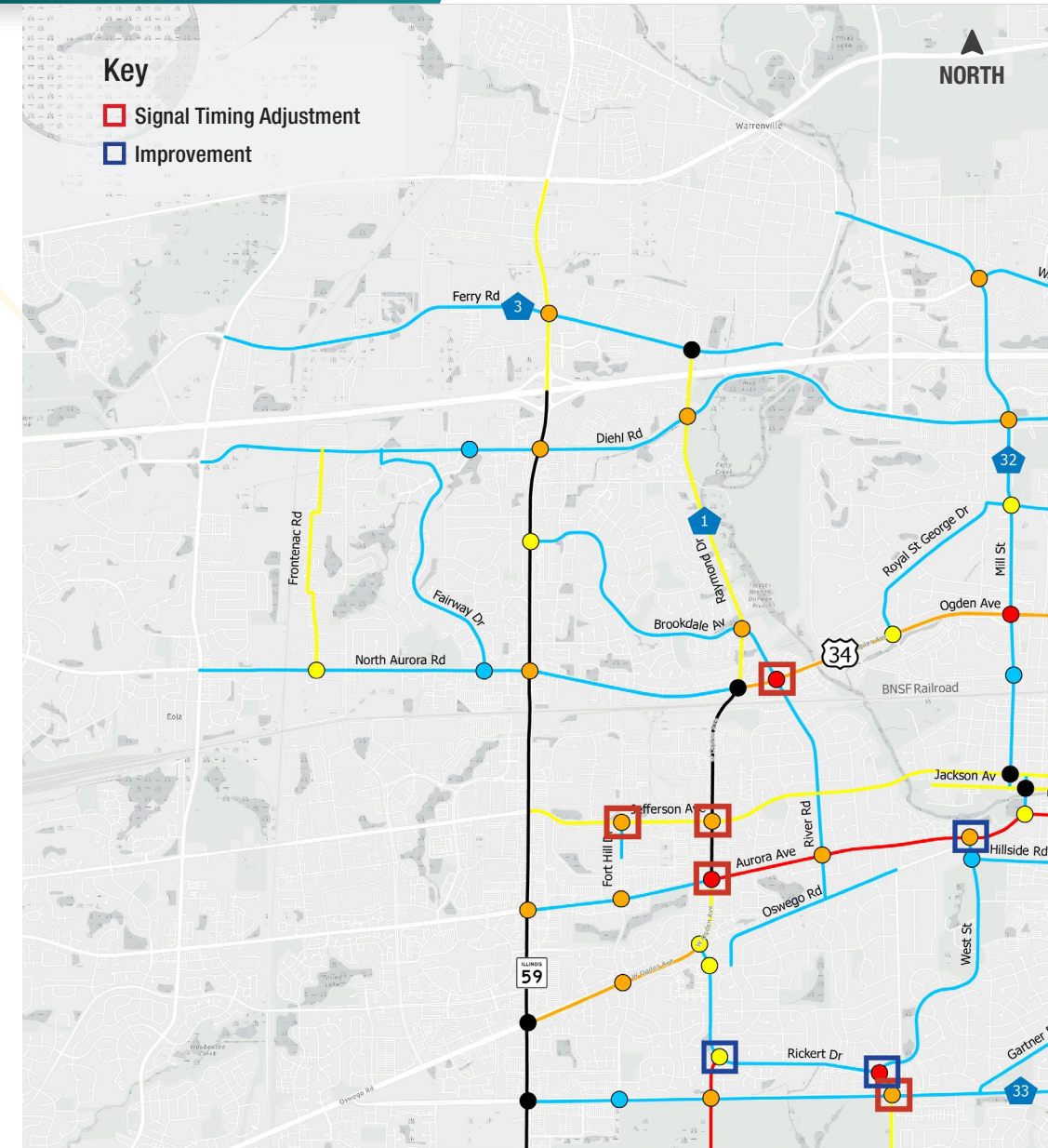
— A	— D
— B	— E
— C	— F

Intersection Level of Service

● A	● D
● B	● E
● C	● F

SIGNAL TIMING

- ➔ Raymond Dr/Diehl Rd
- ➔ Jefferson Av/Fort Hill Dr
- ➔ Ogden Av/River Rd
- ➔ Ogden Av/Jefferson Av
- ➔ Ogden Av/Aurora Av
- ➔ Plainfield-Naperville Rd/Rickert Dr



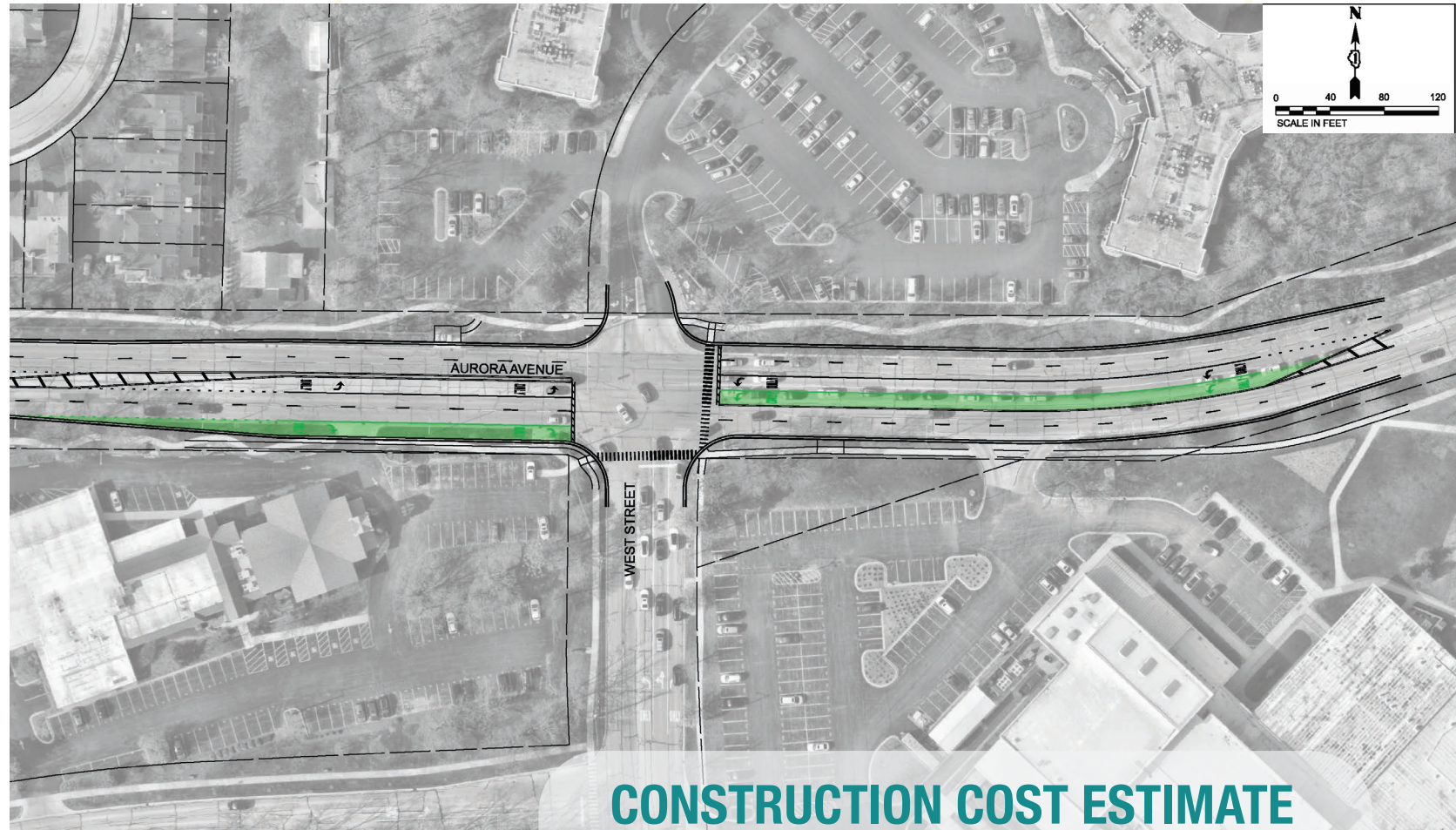
Aurora Av / West St-Private Drive

SCOPE

- Install eastbound right-turn lane
- Provide dual westbound left-turn lanes
- Modify signal

CAPACITY BENEFITS

- Minimize delay and queues
- Reduce westbound left-turn queue spillback to through lane
- Improve overall intersection
 - LOS F → LOS D



CONSTRUCTION COST ESTIMATE

- Aurora Av/West St-Driveway **\$549,000**

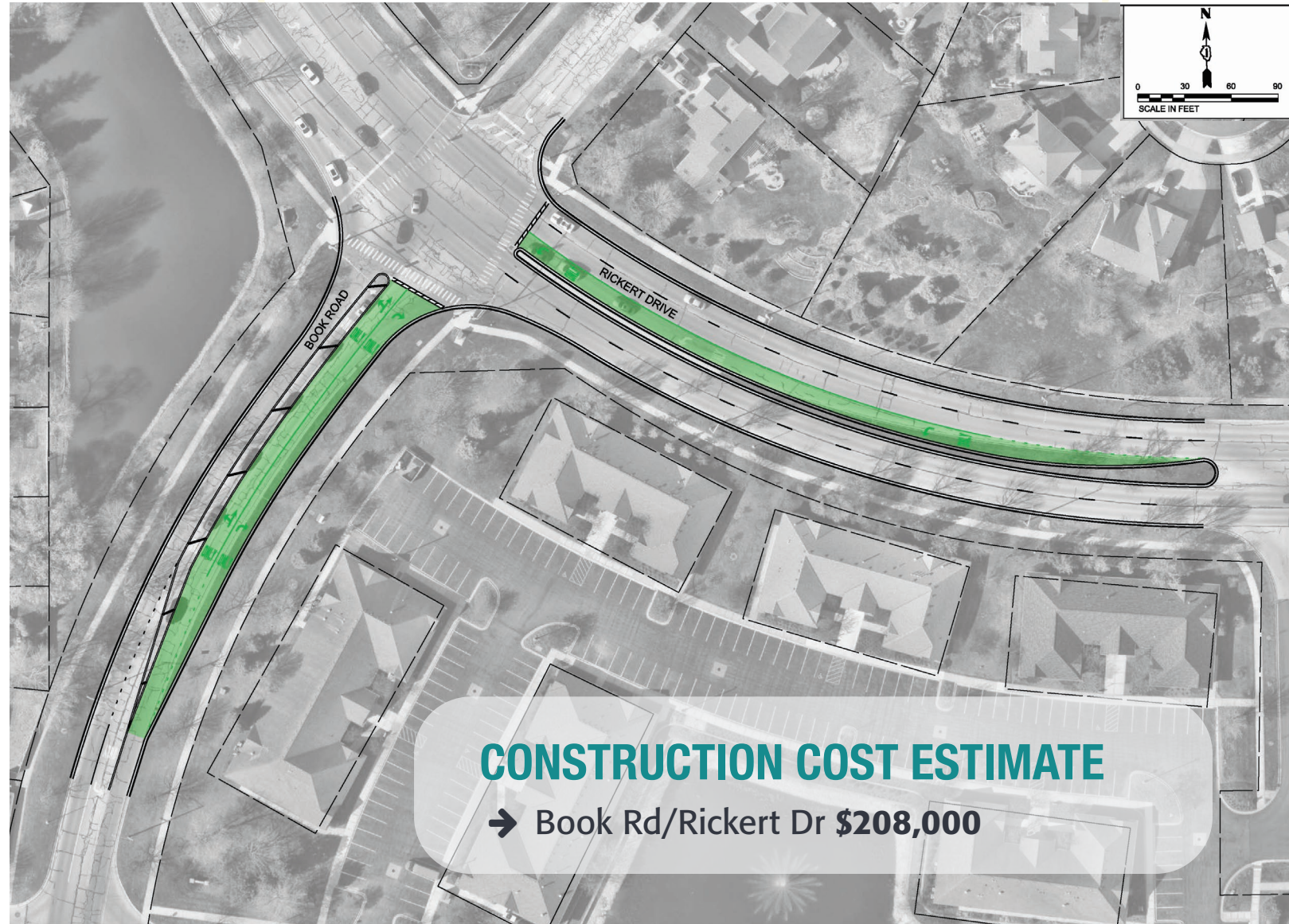
Book Rd / Rickert Dr

SCOPE

- Extend westbound left-turn lane
- Modify northbound approach
- Modify signal
- North-south split phasing
- Eastbound right-turn overlap

CAPACITY BENEFITS

- Minimize delay and queues on northbound approach
 - LOS E → LOS D
- Reduce westbound left-turn queue spillback to through lane



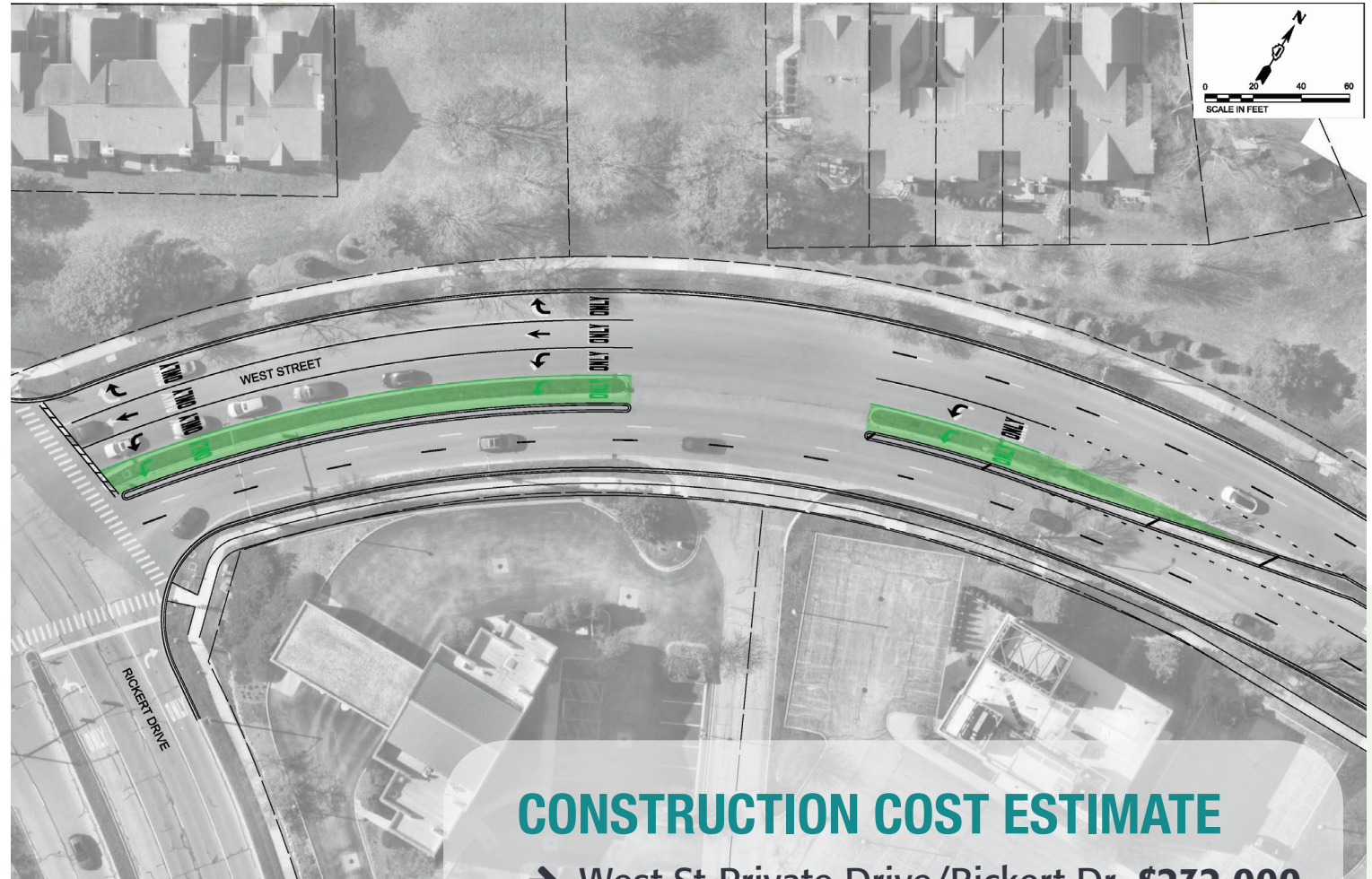
West St-Private Drive / Rickert Dr

SCOPE

- Provide dual southbound left-turn lanes
- Modify signal

CAPACITY BENEFITS

- Minimize delay and queues for southbound left-turn
- Reduce southbound left-turn queue spillback to through lane



CONSTRUCTION COST ESTIMATE

- West St-Private Drive/Rickert Dr **\$232,000**







Future Conditions

NORTHEAST QUADRANT

Segment Level of Service

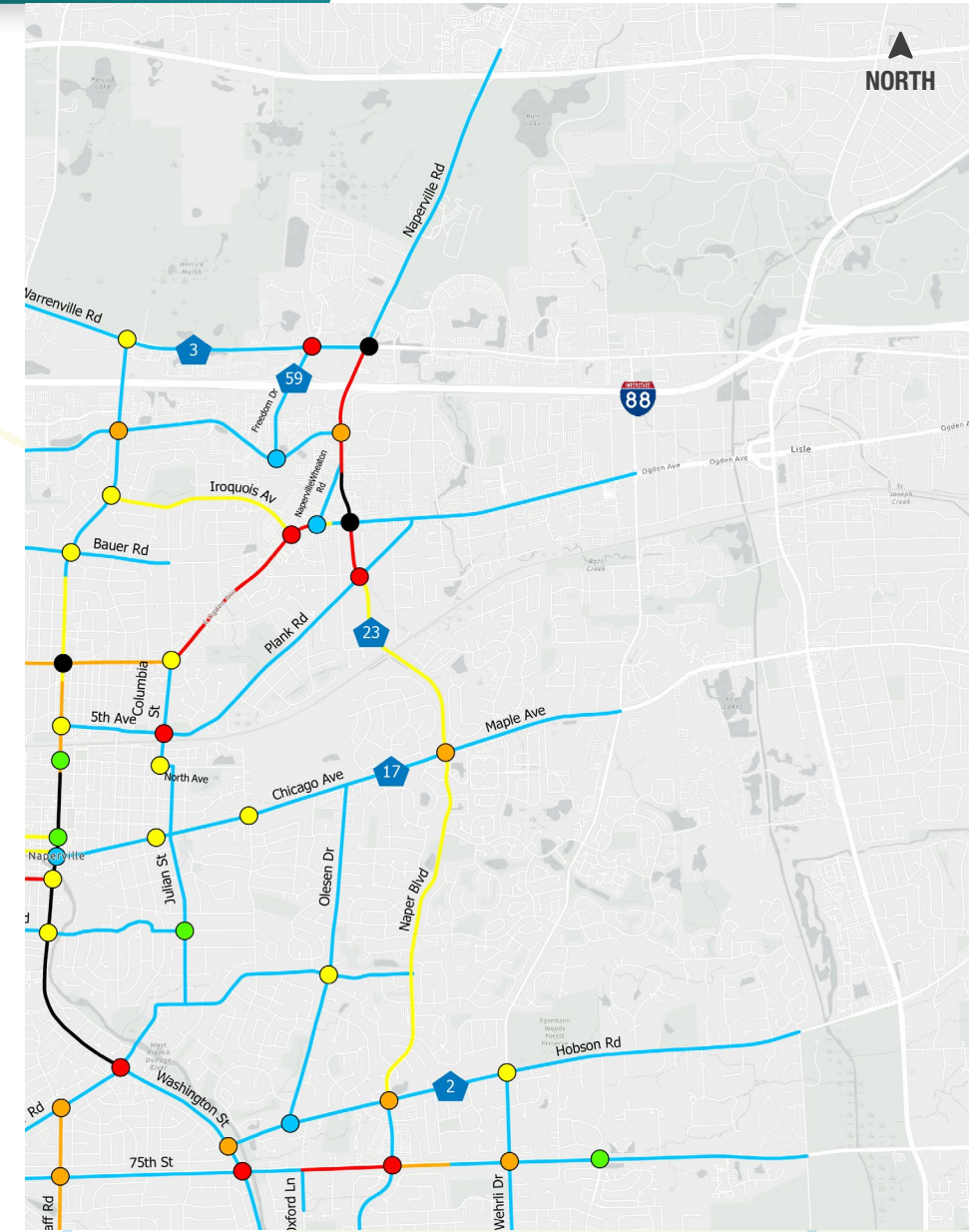
 A	 D
 B	 E
 C	 F

Intersection Level of Service

 A	 D
 B	 E
 C	 F

SEGMENTS AT LOS E OR LOS F

- ➔ Naperville Road
- ➔ Ogden Avenue
- ➔ Washington Street
- ➔ 75th Street



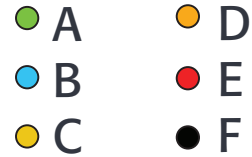
Future Conditions

NORTHEAST QUADRANT

Segment Level of Service

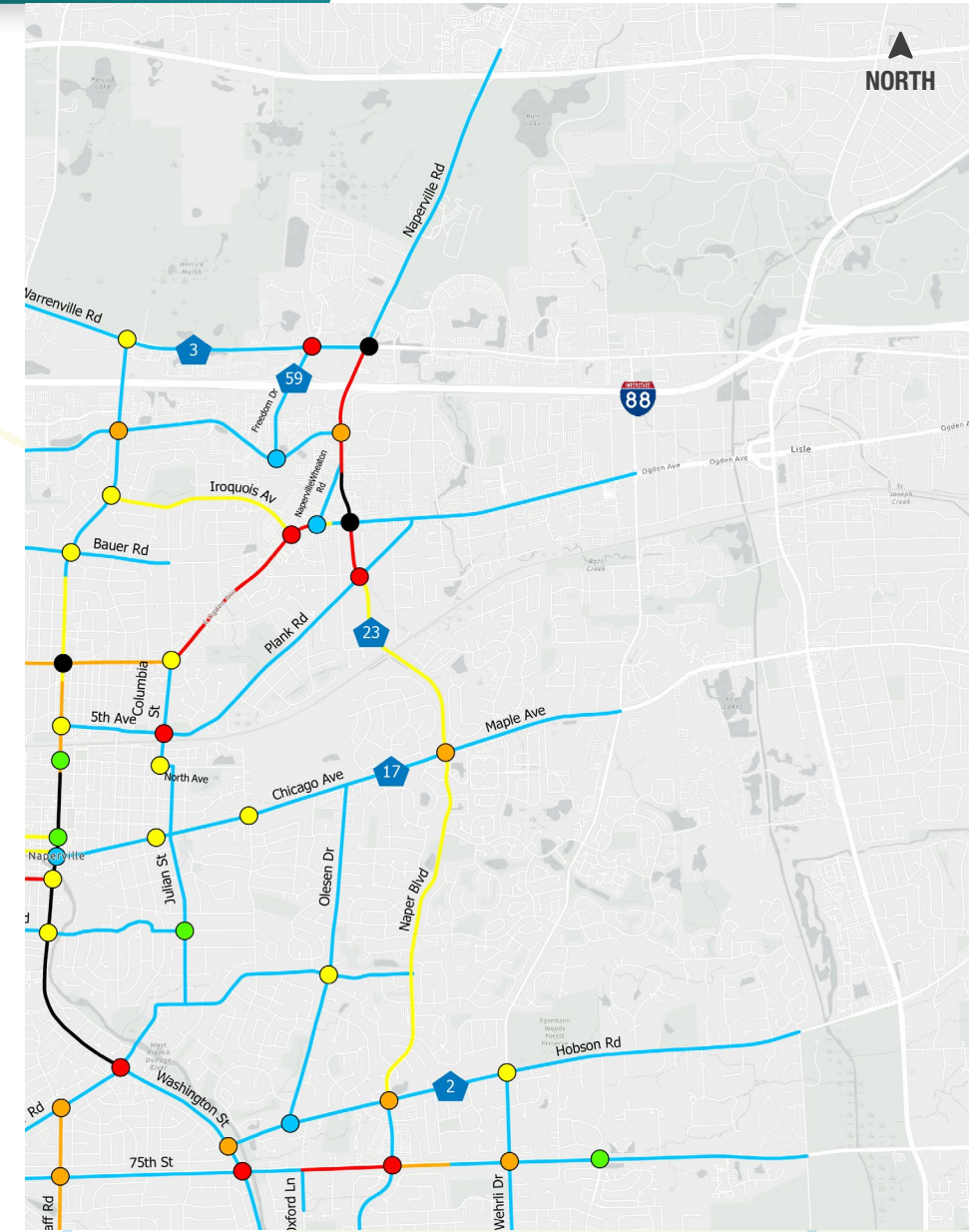


Intersection Level of Service



INTERSECTIONS AT LOS E OR LOS F

- City: 4 intersections
 - Naper Rd/Plank Rd
 - Washington St/Bauer Rd
 - Washington St/Gartner Rd
 - 5th Av-Plank Rd/Columbia St
- Other (all approaches): 3 intersections
- Other (some approaches): 7 intersections



Future Conditions: IMPROVEMENTS

NORTHEAST QUADRANT

Segment Level of Service

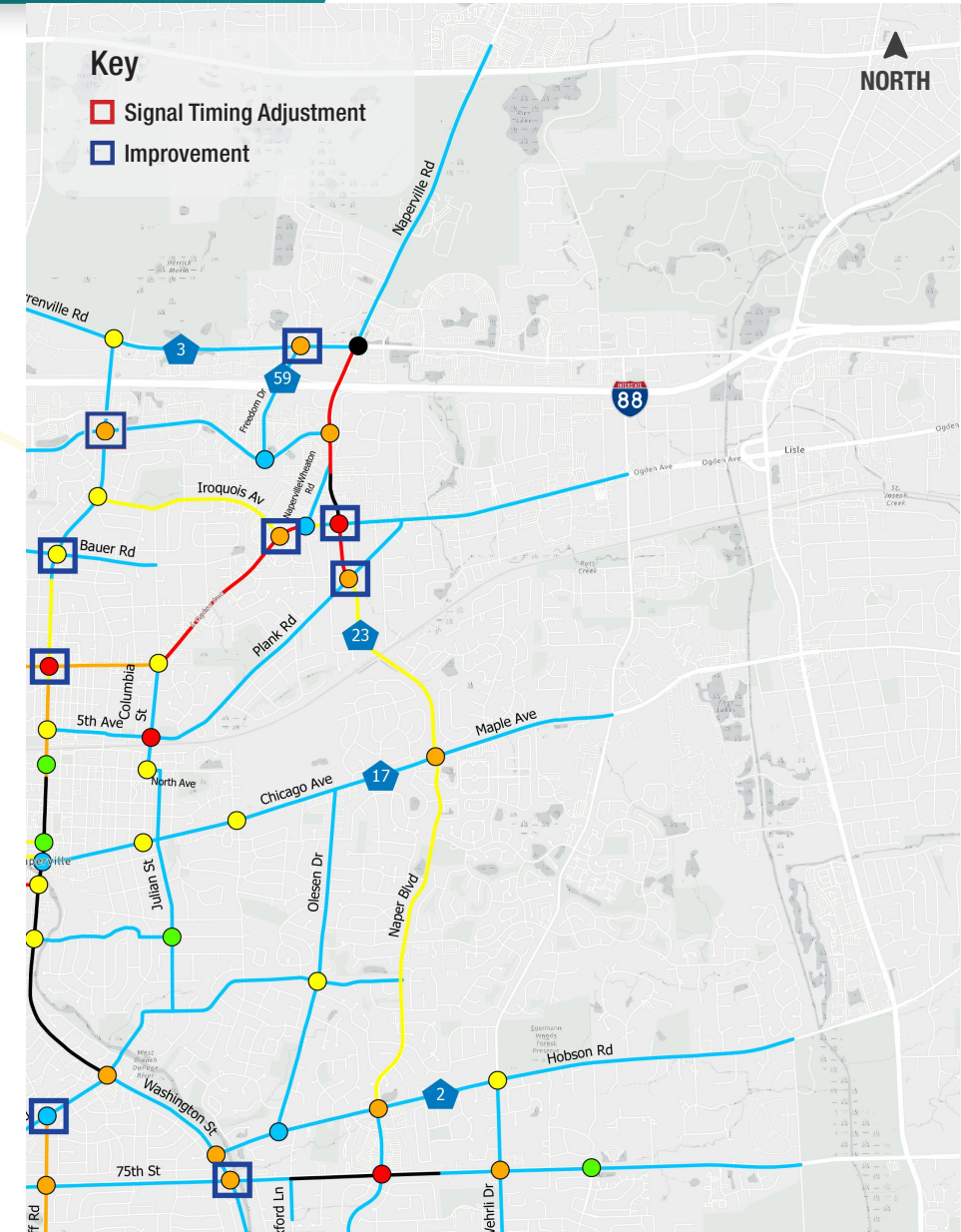
— A	— D
— B	— E
— C	— F

Intersection Level of Service

● A	● D
● B	● E
● C	● F

IMPROVEMENTS

- ➔ Washington St/Diehl Rd
- ➔ Washington St/Bauer Rd
- ➔ Washington St/Ogden Av
- ➔ Modaff Rd-Magnolia Ln/Gartner Rd



Washington St / Diehl Rd

SCOPE

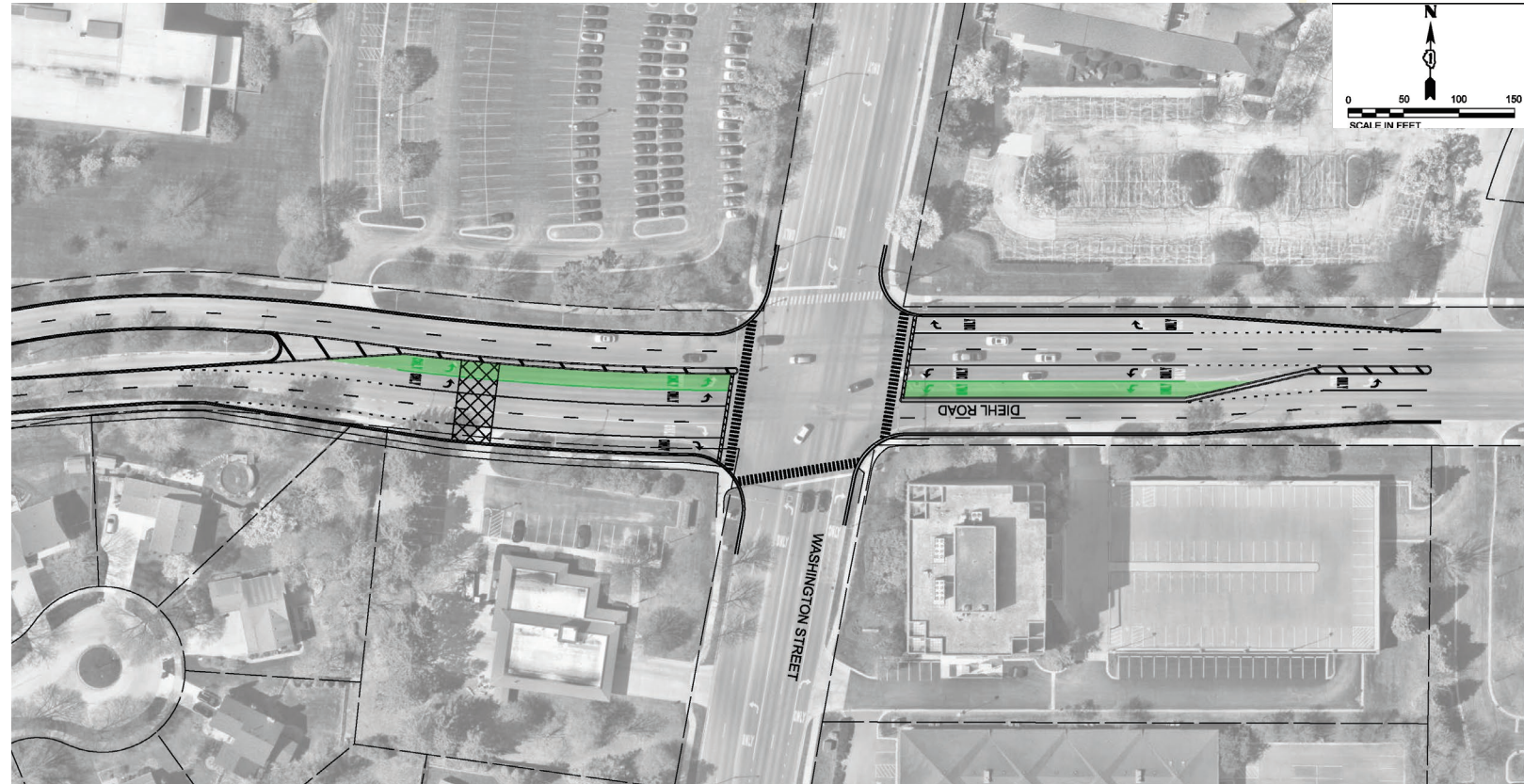
- Install dual westbound left-turn lanes; mirror turn lanes on eastbound approach
- Modify traffic signal

CAPACITY BENEFITS

- Address westbound left-turn queue spillback

NOTE

- DuDOT coordination required
(*west leg jurisdiction*)



CONSTRUCTION COST ESTIMATE

- Washington St/Diehl Rd **\$372,000**

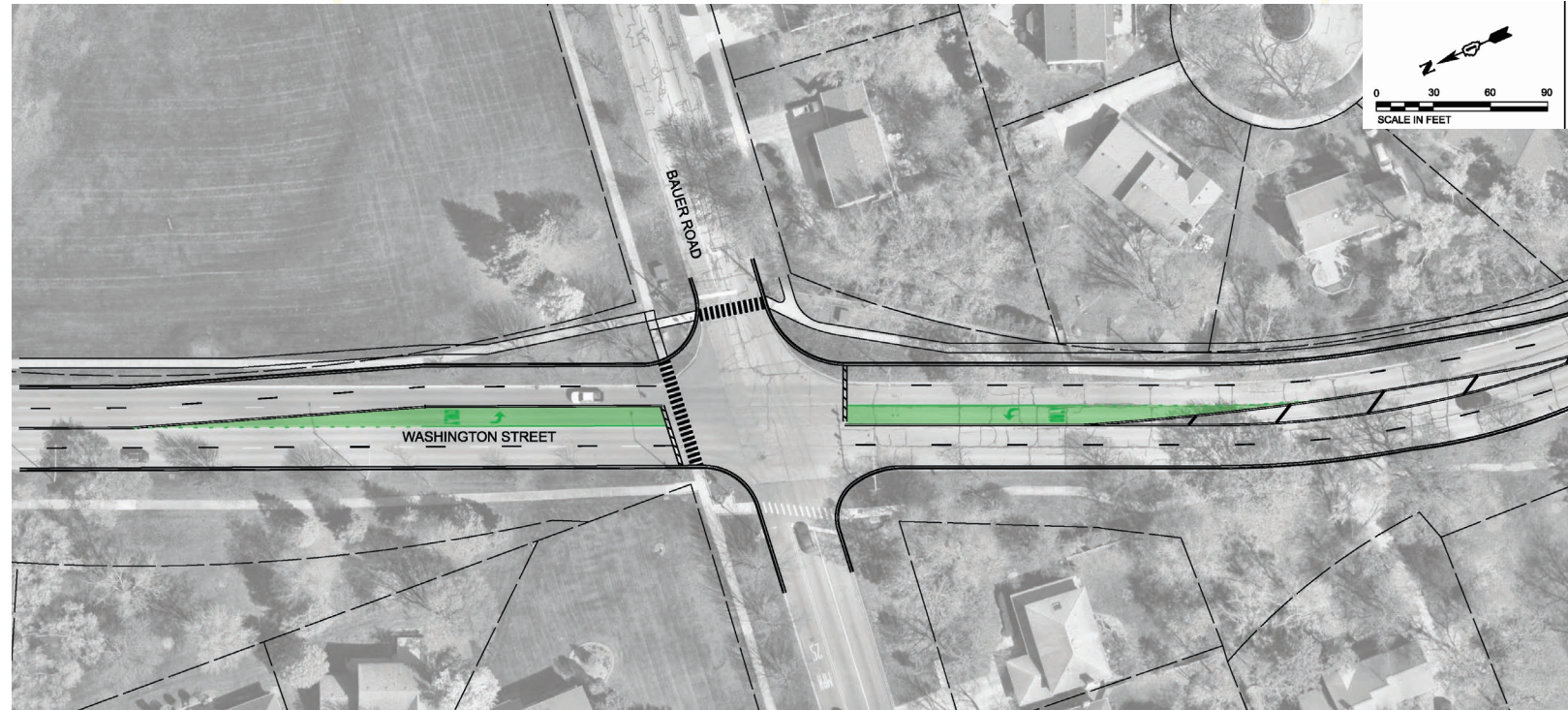
Washington St / Bauer Rd

SCOPE

- Install left-turn lanes on northbound and southbound approaches
- Modify traffic signal

CAPACITY BENEFITS

- Minimize delay projected for southbound left-turn
- Provide left-turn phasing for northbound and southbound approaches



CONSTRUCTION COST ESTIMATE

- Washington St/Bauer Rd **\$351,000**

Washington St / Ogden Ave

SCOPE

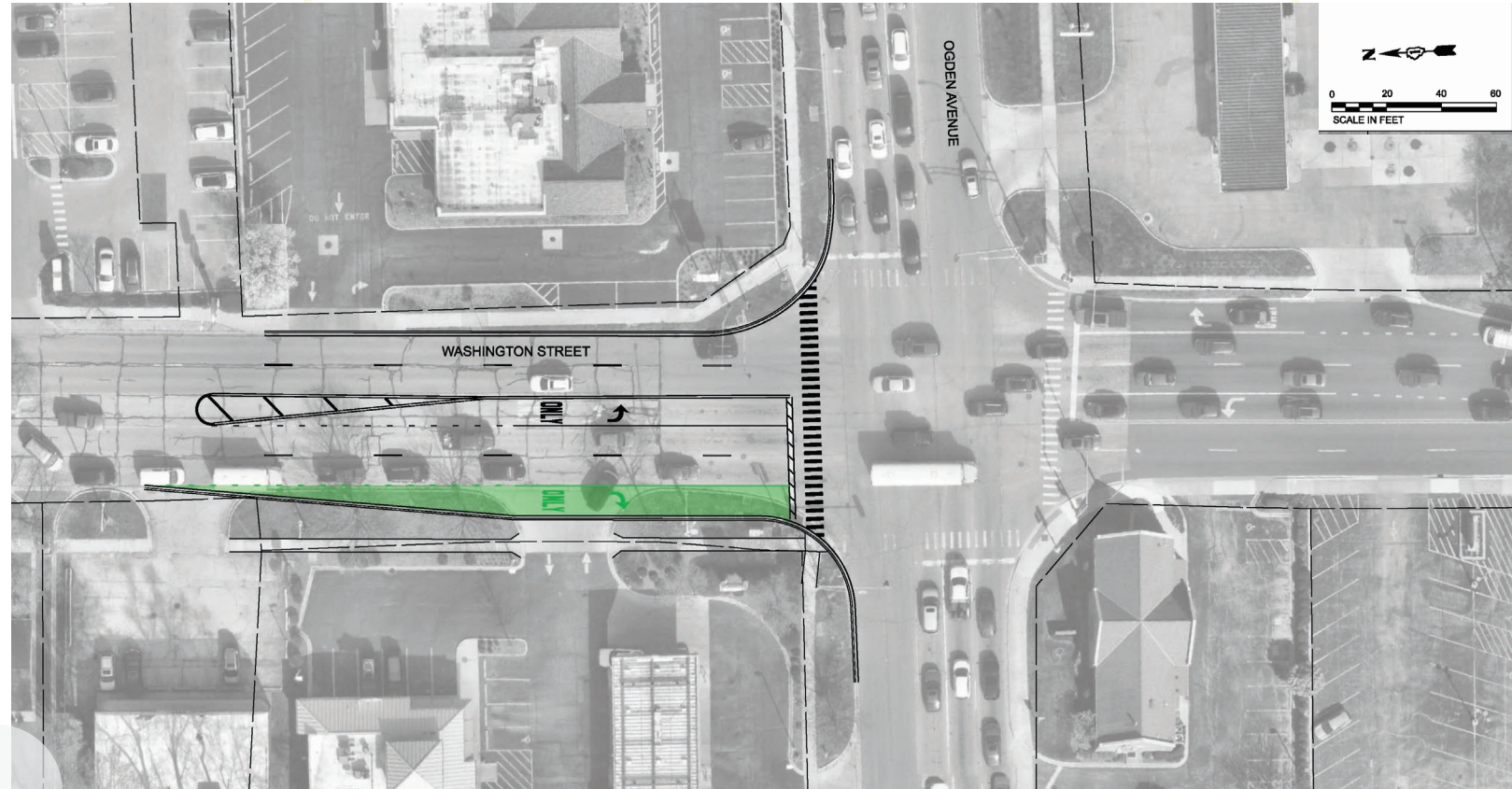
- Install southbound right-turn lane
- Modify signal for overlap phase

CAPACITY BENEFITS

- Reduce delay and queues
- Improvement within existing right-of-way

NOTE

- IDOT coordination required (signal modification; Ogden Av jurisdiction)



CONSTRUCTION COST ESTIMATE

- Washington St/Ogden Av **\$103,000**

Modaff Rd-Magnolia Ln / Gartner Rd

SCOPE

- Realign south leg
- Install left-turn lanes on Gartner Rd

CAPACITY BENEFITS

- Improve motorist visibility
- Minimize delay and queues

NOTE

- Property acquisition would be required for realignment



CONSTRUCTION COST ESTIMATE

- Modaff Rd-Magnolia Ln/Gartner Rd **\$397,000**

Ogden Av / Iroquois Av

SCOPE

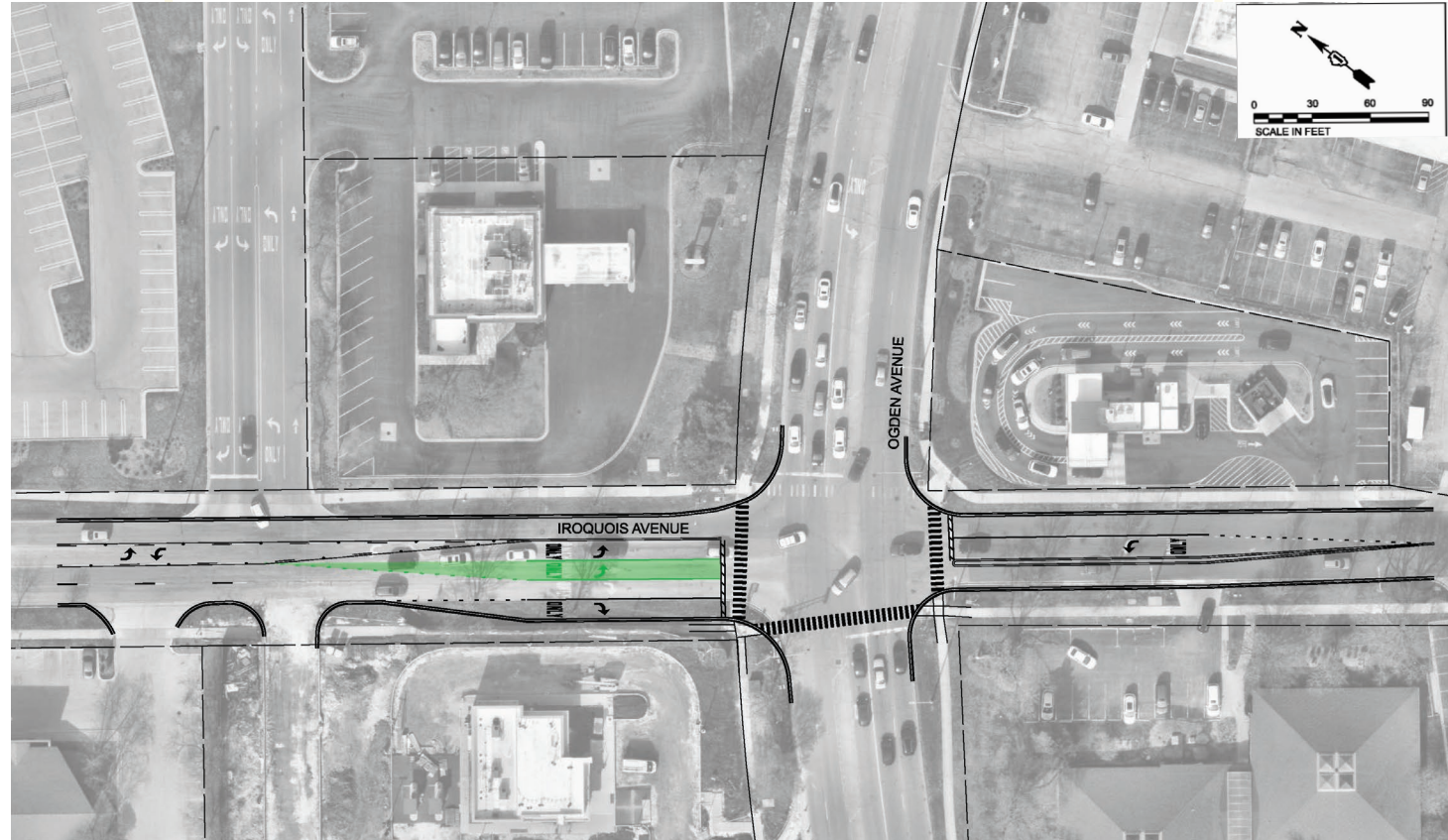
- Install dual left-turn lanes on southbound approach
- Modify signal for dual left-turn lanes; add southbound right-turn overlap phase

CAPACITY BENEFITS

- Reduce delay and queues for southbound left-turn
- Improve overall intersection
 - LOS E → LOS D

NOTE

- IDOT coordination required (signal modification; Ogden Av jurisdiction)



CONSTRUCTION COST ESTIMATE

- Ogden Av/Iroquois Ave **\$110,000**

Ogden Av / Naper Bl

SCOPE

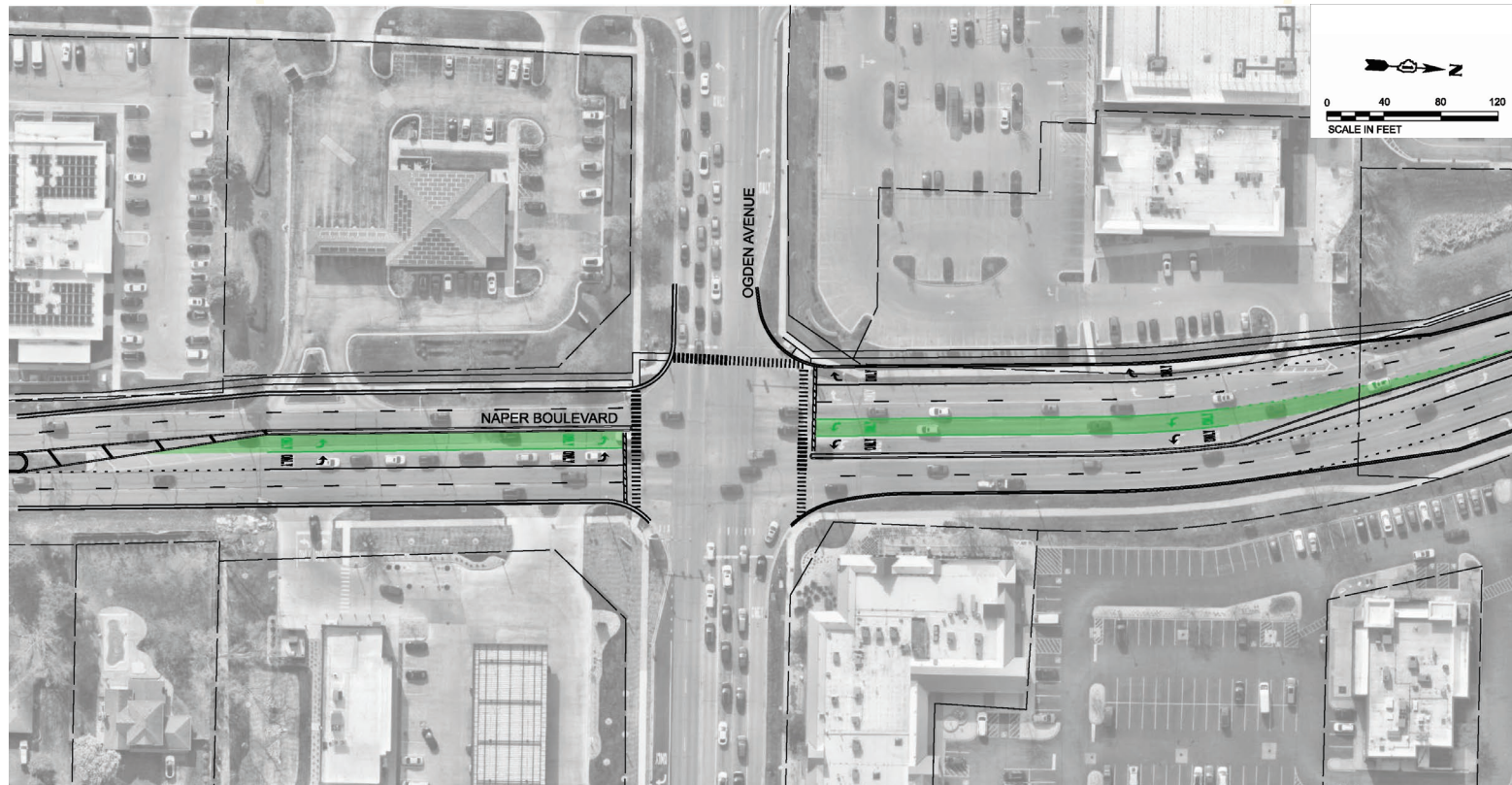
- Install dual left-turn lanes on northbound and southbound approaches
- Modify signal

CAPACITY BENEFITS

- Reduce northbound and southbound left-turn queue spillback
- Improve overall intersection
 - LOS F → LOS E

NOTE

- DuDOT coordination required (*north leg jurisdiction*)
- IDOT coordination required (Ogden Av/signal jurisdiction)



CONSTRUCTION COST ESTIMATE

- Ogden Av/Naper Bl **\$541,000**

Plank Rd / Naper B1

SCOPE

- Install eastbound right-turn lane

CAPACITY BENEFITS

- Reduce delay and queues



CONSTRUCTION COST ESTIMATE

- Naper Bl/Plank Rd **\$123,000**







Future Conditions

SOUTHWEST QUADRANT

Segment Level of Service

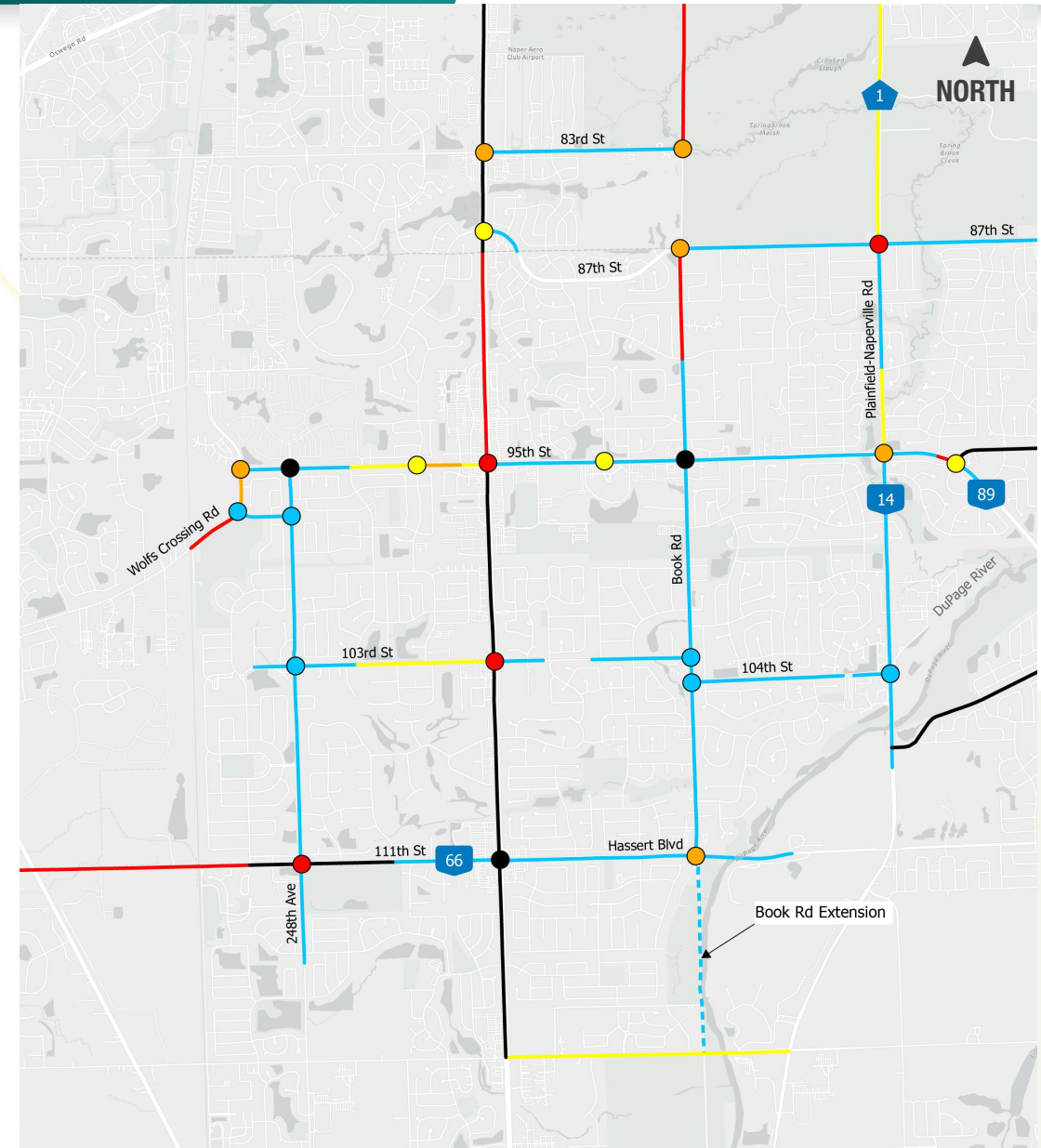
 A	 D
 B	 E
 C	 F

Intersection Level of Service

 A	 D
 B	 E
 C	 F

SEGMENTS AT LOS E OR LOS F

- ➔ Route 59
- ➔ Book Rd
- ➔ 111th Street









Future Conditions

SOUTHWEST QUADRANT

Segment Level of Service

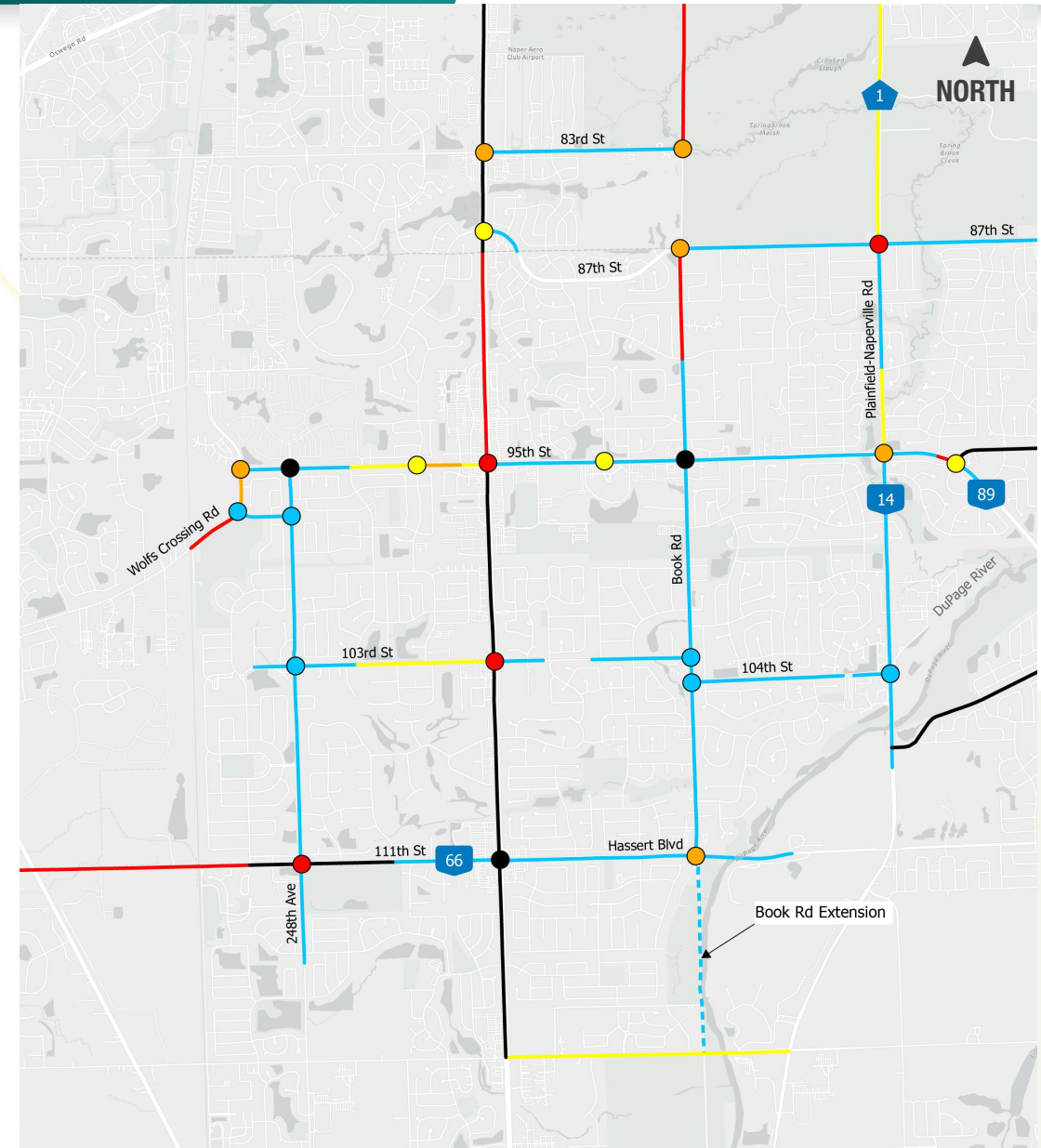
 A	 D
 B	 E
 C	 F

Intersection Level of Service

 A	 D
 B	 E
 C	 F

INTERSECTIONS AT LOS E OR LOS F

- City: 3 intersections
 - 248th Av/95th St
 - 248th Av/111th St
 - Book Rd/95th St
- Other (some approaches): 4 intersections



Future Conditions: Improvements

SOUTHWEST QUADRANT

Segment Level of Service

— A	— D
— B	— E
— C	— F

Intersection Level of Service

● A	● D
● B	● E
● C	● F

IMPROVEMENTS

- ➔ 248th Av/95th St
- ➔ 248th Av/111th St
- ➔ Route 59/95th St
- ➔ Book Rd/95th St

SIGNAL TIMINGS

- ➔ Book Rd/Hassert Bl



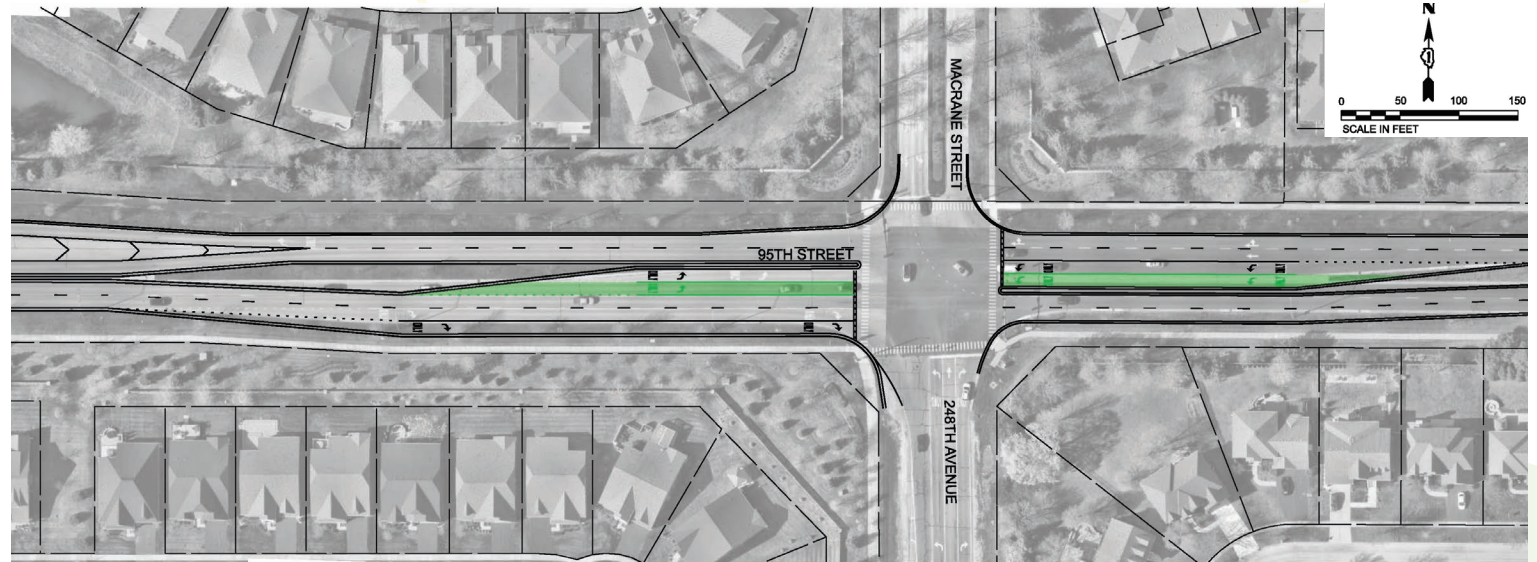
248th Av / 95th St

SCOPE

- Install dual westbound left-turn lanes; mirror on eastbound approach
- Modify signal for dual left-turn lanes and overlap phases for eastbound and northbound right-turns

CAPACITY BENEFITS

- Reduce delay and queues for high-volume turn movements
- Improve overall intersection
 - LOS F → LOS D



CONSTRUCTION COST ESTIMATE

- 248th Av-Macrane St/95th St **\$641,000**

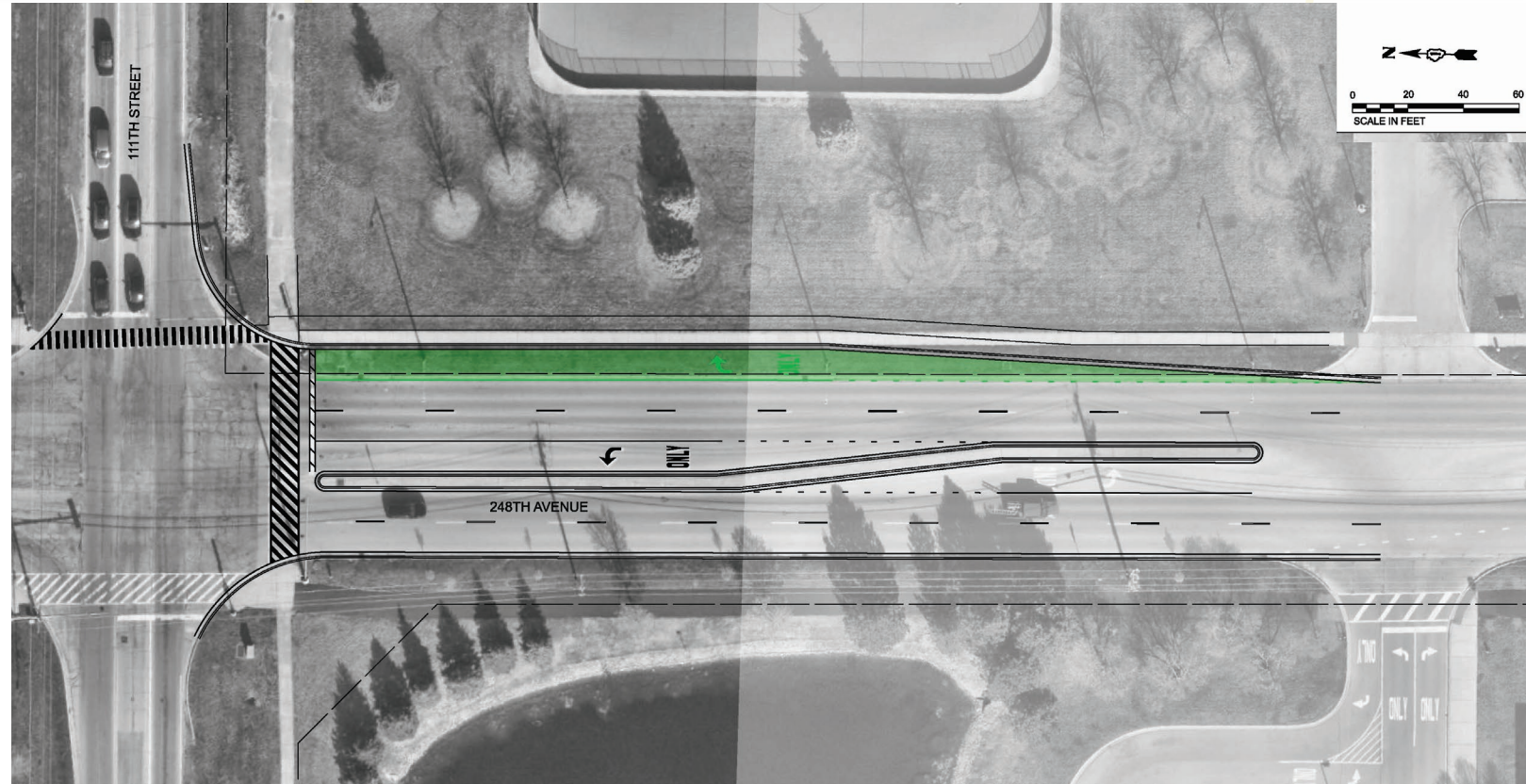
248th Av / 111th St

SCOPE

- ➔ Install northbound right-turn lane

CAPACITY BENEFITS

- ➔ Reduce delay and queues on northbound approach
- ➔ Improve overall intersection
 - ➔ LOS E → LOS D



CONSTRUCTION COST ESTIMATE

- ➔ 248th Av/111th St **\$233,000**

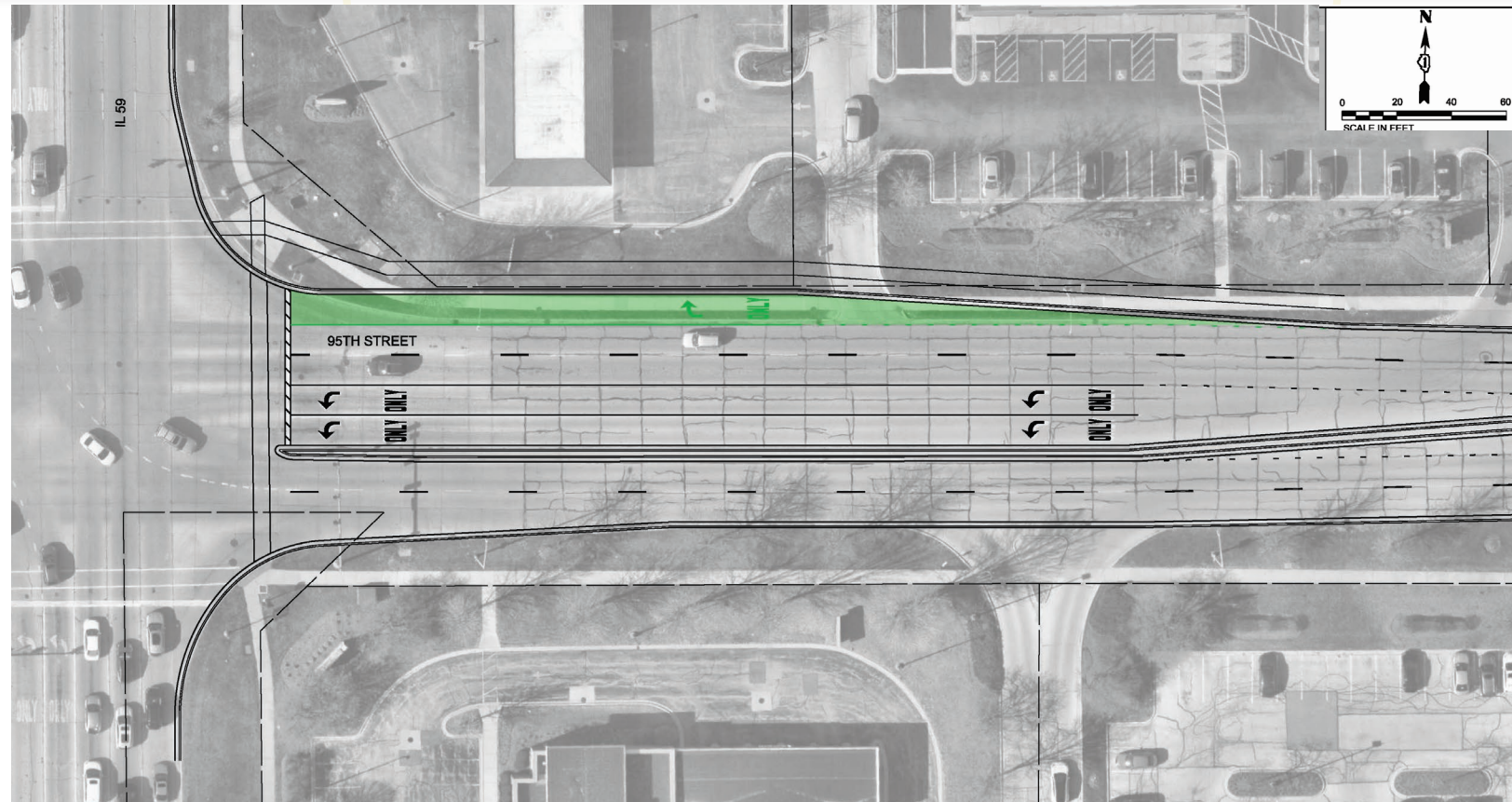
Route 59 / 95th St

SCOPE

- Install westbound right-turn lane

CAPACITY BENEFITS

- Reduce delay and queues



CONSTRUCTION COST ESTIMATE

- Route 59/95th St **\$252,000**

Book Rd / 95th St

SCOPE

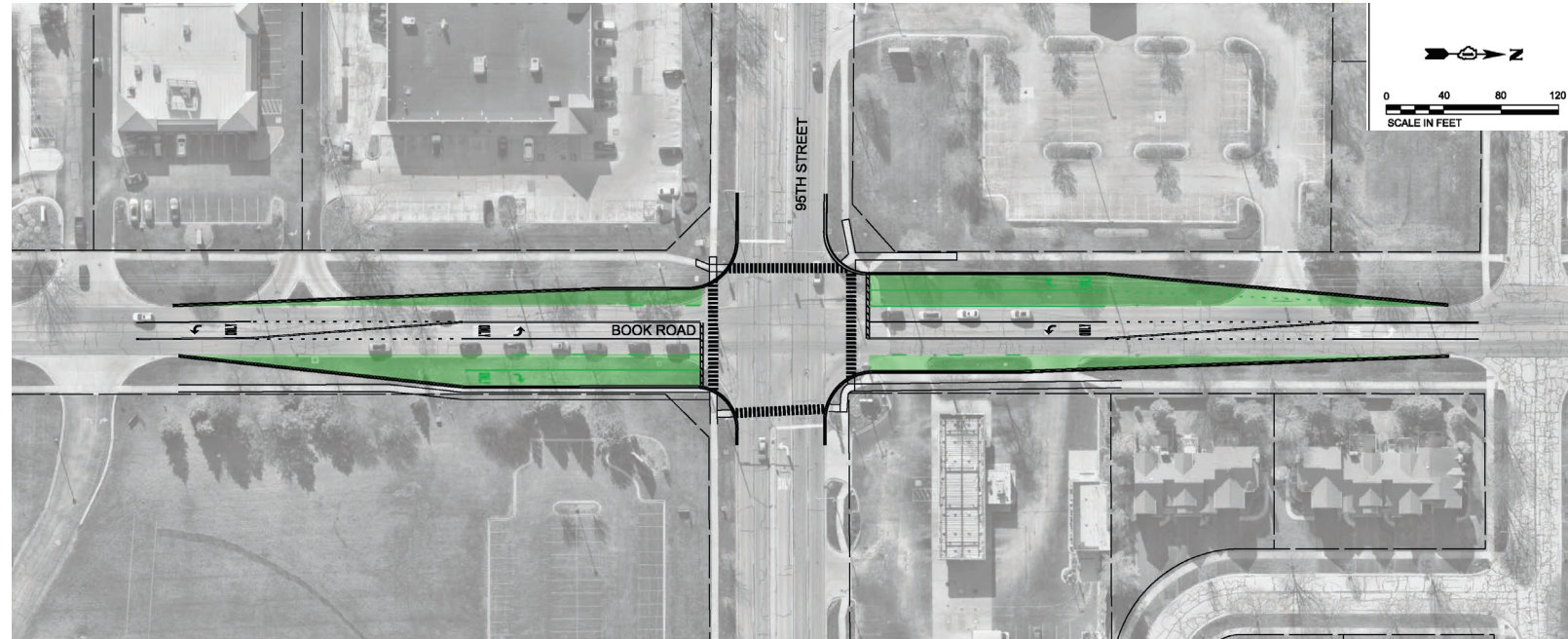
- ➔ Install northbound and southbound right-turn lanes
- ➔ Widen Book Road to provide two lanes in each direction

CAPACITY BENEFITS

- ➔ Reduce delay on Book Road
- ➔ Improve overall LOS
 - ➔ LOS F → LOS D

NOTE

- ➔ Extent of widening on Book Rd to be defined through future design process



CONSTRUCTION COST ESTIMATE

- ➔ Book Rd/95th St **\$573,000**







Future Conditions

SOUTHEAST QUADRANT

Segment Level of Service

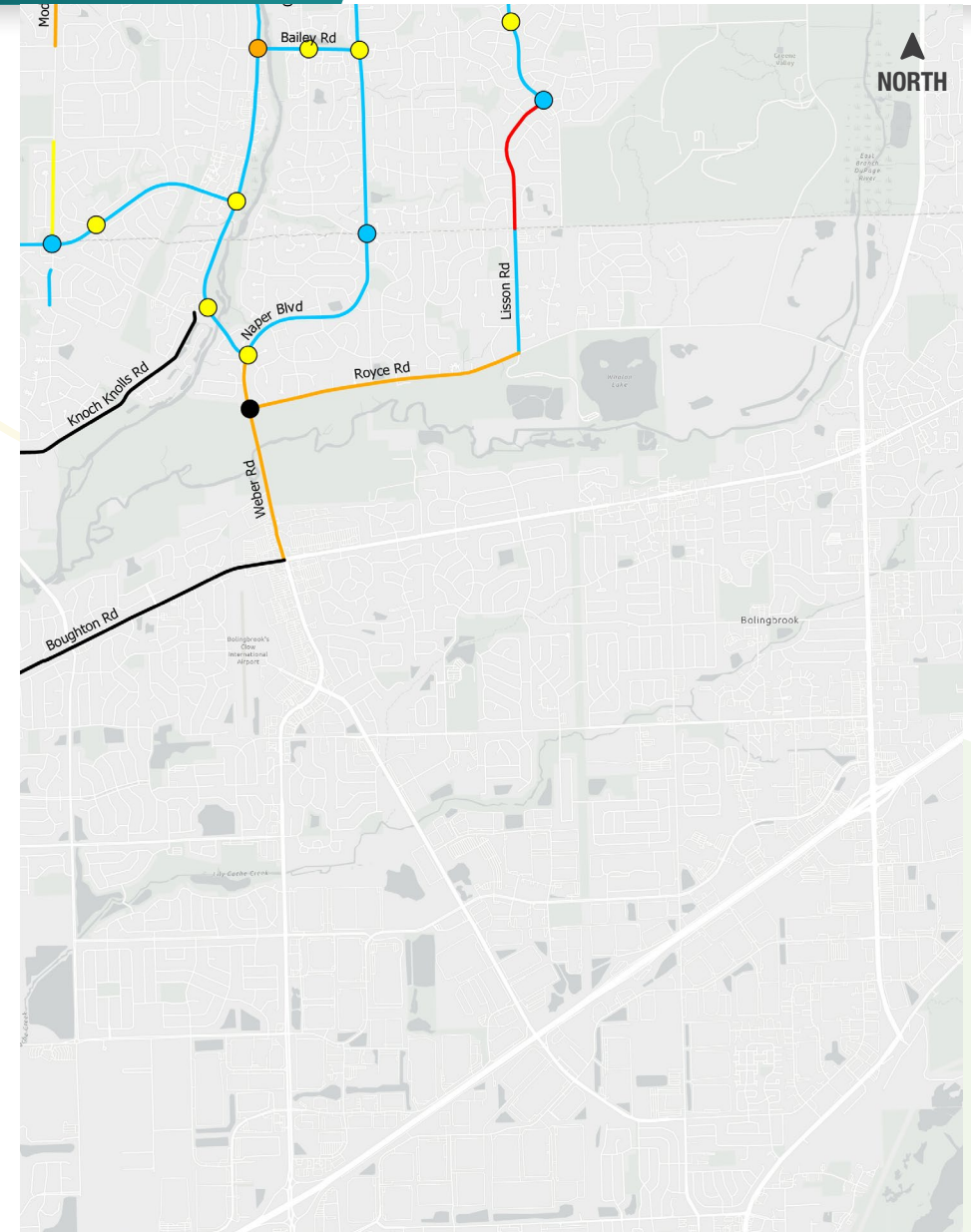
 A	 D
 B	 E
 C	 F

Intersection Level of Service

 A	 D
 B	 E
 C	 F

SEGMENTS AT LOS E OR LOS F

- ➔ Knoch Knolls Road
- ➔ Lisson Road









Future Conditions

SOUTHEAST QUADRANT

Segment Level of Service

 A	 D
 B	 E
 C	 F

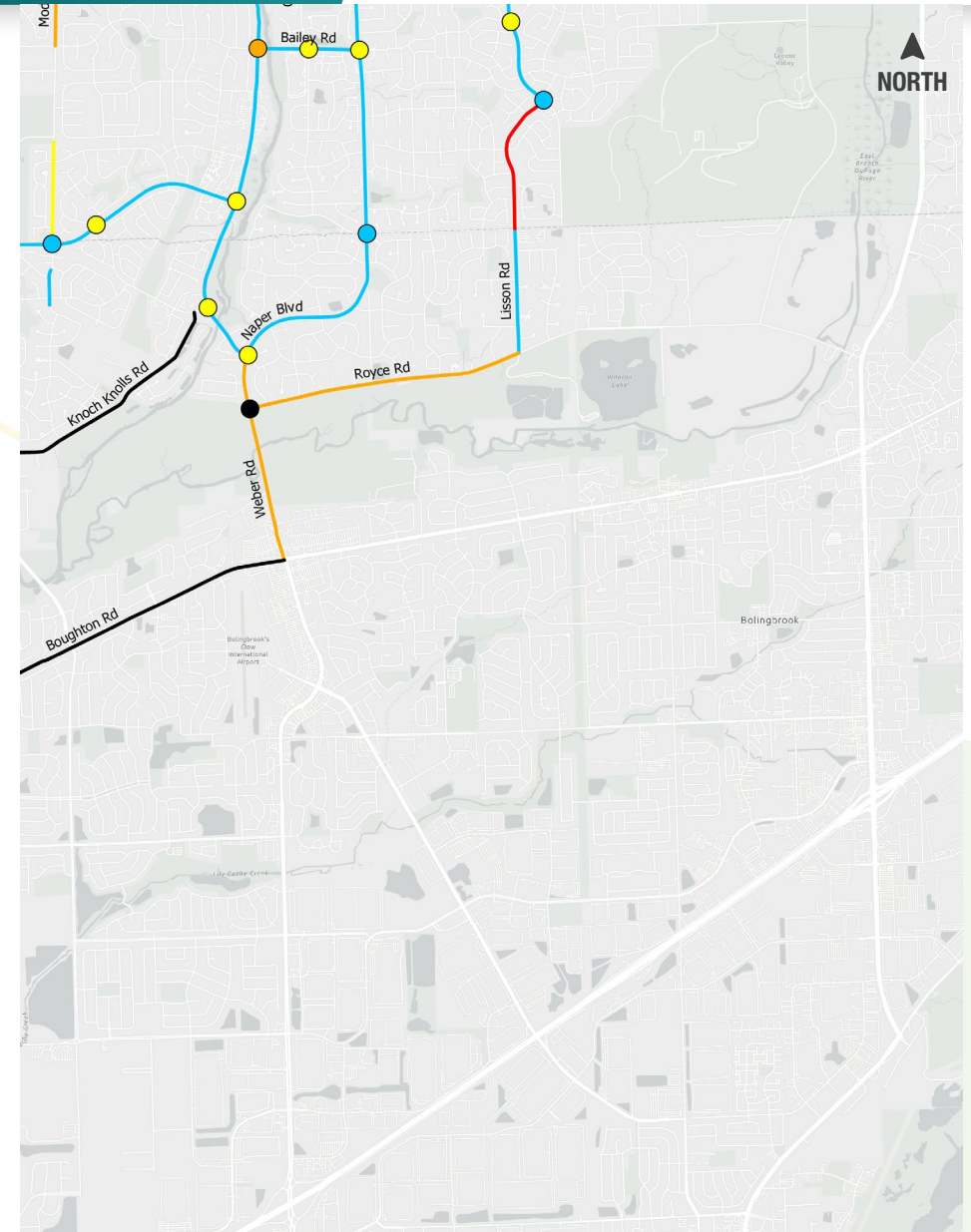
Intersection Level of Service

 A	 D
 B	 E
 C	 F

INTERSECTIONS AT LOS E OR LOS F

→ City:

→ Naper Bl-Washington St/Royce Rd



Future Conditions: Improvements

SOUTHEAST QUADRANT

Segment Level of Service

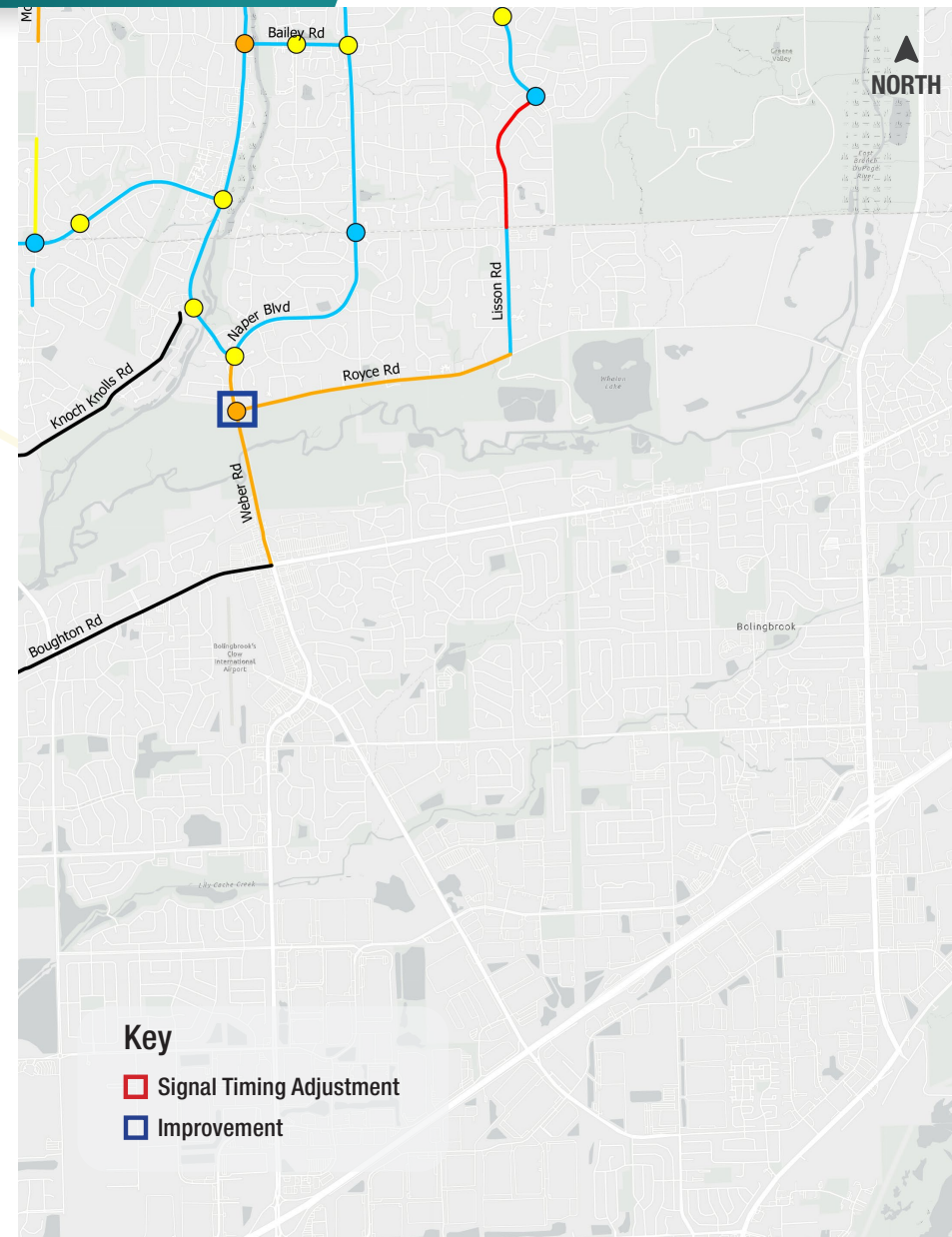
— A	— D
— B	— E
— C	— F

Intersection Level of Service

● A	● D
● B	● E
● C	● F

IMPROVEMENTS

➔ Naper Bl-Washington St/Royce Rd



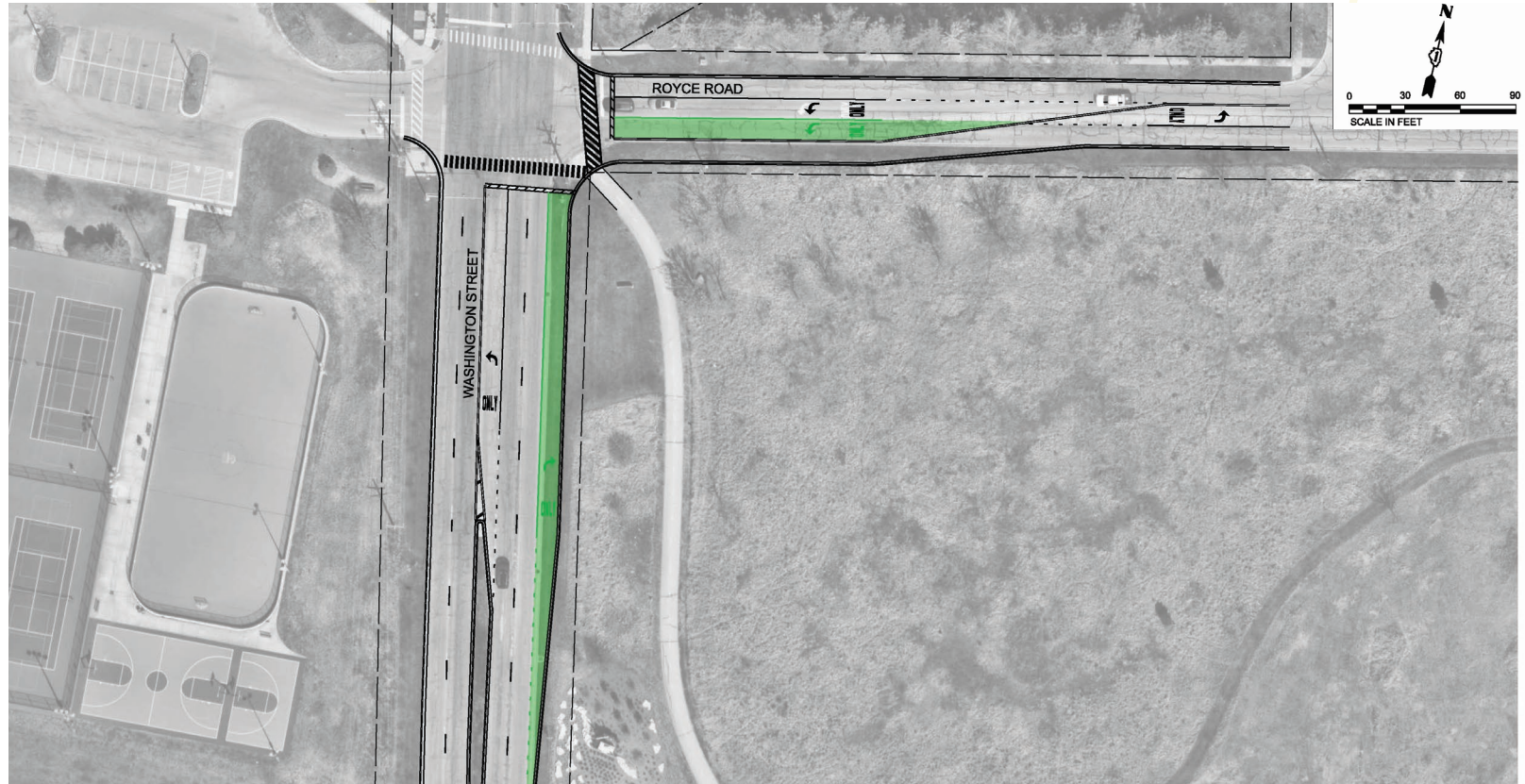
Washington St / Royce Rd

SCOPE

- ➔ Install dual westbound left-turn lanes
- ➔ Provide northbound right-turn lane
- ➔ Modify signal for dual left-turn lanes and northbound right-turn overlap phase

CAPACITY BENEFITS

- ➔ Reduce delay for westbound left-turn
- ➔ Improve overall LOS
 - ➔ LOS F → LOS D



CONSTRUCTION COST ESTIMATE

- ➔ Naper Bl-Washington St/Royce Rd **\$234,000**

Cost Summary: INTERSECTION IMPROVEMENTS

Intersection	Construction Cost Estimate
Aurora Av / West St-Driveway	\$549,000
Book Rd / Rickert Dr	\$208,000
West St-Private Drive / Rickert Dr	\$232,000
Washington St / Diehl Rd	\$372,000
Washington St / Bauer Rd	\$351,000
Washington St / Ogden Av	\$103,000
Modaff Rd-Magnolia Ln / Gartner Rd	\$397,000
Ogden Av / Iroquois Av	\$110,000
Ogden Av / Naper Bl	\$541,000
Naper Bl / Plank Rd	\$123,000
248th Av-Macrane St / 95th St	\$641,000
248th Av / 111th St	\$233,000
Route 59 / 95th St	\$252,000
Book Rd / 95th St	\$573,000
Naperville Rd-Washington St / Royce Rd	\$234,000
SUBTOTAL	\$4,919,000

**Engineering and land acquisition (if necessary) costs not included*

Future Conditions: Segments

SUMMARY OF ROADWAY SEGMENTS AT LOS E

ROADWAY	SEGMENT	LANES	JURISDICTION
Naperville Road	North of Warrenville Road	4	DuDOT
Naperville Road	South of Warrenville Road	4	DuDOT
Ogden Avenue	West of Naperville-Wheaton Road	4	IDOT
Washington Street	South of Ogden Avenue	4	Naperville
Book Road	North of 95th Street	2	Naperville
Book Road	South of 87th Street	2	Naperville
75th Street	East of Rickert Drive to Gartner Road	6 ¹	DuDOT
75th Street	Naper Boulevard to Wehrli Road	6 ¹	DuDOT
75th Street	West of Naper Boulevard	6 ¹	DuDOT
95th Street	West of Knoch Knolls Road to Cheyenne Drive	4	Naperville
Lisson Road	North of 87th Street	2	Naperville
Wolfs Crossing Road	South of Trumpet Avenue	2	Naperville

¹Analysis of Year 2050 traffic conditions assumes 75th Street would be widened to 3 lanes in each direction per DuDOT.

Future Conditions: Segments

SUMMARY OF ROADWAY SEGMENTS AT LOS F

ROADWAY	SEGMENT	LANES	JURISDICTION
Warrenville Road	West of Naperville Road	4	DuDOT
Route 59	South of I-88 Interchange to 87th Street	6	IDOT
Route 59	South of 95th Street	4	IDOT
Washington Street	South of Chicago Avenue to Gartner Road	4	Naperville
111th Street	West of 248th Avenue	2	Naperville
Knoch Knolls Road	Washington Street to 95th Street	4	Naperville

Future Conditions: Segments



EXISTING BOOK RD TERMINUS AT 111TH ST

ROADWAY WIDENING

- 111th Street, Route 59 to 248th Av
 - Widen to 4-lane cross-section with turn lanes at key intersections (currently 2 lanes)
 - Provide westbound right-turn drop lane at 248th Av
- 119th Street, east of Route 59 to DuPage River
 - Widen to 4-lane cross-section with turn lanes at key intersections (currently 2 lanes)

ROADWAY EXTENSIONS

- Book Road
 - Extend from 111th Street to 119th Street

Cost Summary: SEGMENTS

Segment	Construction Cost Estimate
111th St, Route 59 to 248th Av	\$9,630,000
119th St, east of Route 59 to DuPage River	\$10,300,000
Book Rd extension to 119th St	\$3,500,000
Subtotal (Segments)	\$23,430,000
Subtotal (Intersections)	\$4,919,000
TOTAL	\$28,349,000

Future Conditions: Segments

POTENTIAL ROAD DIET CANDIDATES

ROADWAY SEGMENTS AT LOS A OR LOS B (>2 LANES)

- ➔ Wehrli Road, south of Muirhead
 - ➔ Convert roadway to 2-lane cross-section (currently 4 lanes, undivided)
- ➔ 87th Street, Route 59 to Book Road
 - ➔ Provide 2-lane cross-section (currently 4 lanes, divided)



**Further evaluation with the City's Bicycle and Pedestrian Plan*

Next Steps: Implementation

PRIORITIZE PROJECTS THROUGH CAPITAL IMPROVEMENT PLAN (CIP)

- Implementation over next 20 years

FUTURE DESIGN PROCESS

- Evaluate alternatives
- Determine funding eligibility
- Develop concept geometry (Phase 1)
- Prepare construction drawings (Phase 2)
- Opportunities for public input



**PEDESTRIAN/
BICYCLIST**



ADA



LIGHTING



**SIGHT-DISTANCE
REVIEW**



DRAINAGE



**UTILITY
CONFLICTS**



**RIGHT-OF-WAY
IMPACTS**

DESIGN ELEMENTS

Next Steps: Timeline

