



South Street and W 9th Street Intersection Improvements

Waterloo City Council Meeting
Monday February 7, 2022

SHIVEHATTERY
ARCHITECTURE+ENGINEERING



ALERT

Roundabout grant comes through for West Ninth and South streets

Amie Rivers Aug 14, 2021 Updated Oct 4, 2021 0



With You Today



Justin Campbell, PE, ENV SP
Transportation Engineer



Jacob Lehman, EI
Civil Engineer Intern

What is a Mini Roundabout



Modern Roundabout
Mount Vernon, Iowa



What is a Mini Roundabout



Traffic Circle

Photo Courtesy of Federal Highway Administration



What is a Mini Roundabout



Mini Roundabout

City of Coralville – 12th and Holiday

MINI-Roundabout OR MODERN Roundabout

MINI-ROUNDABOUT

- 45-90 FT
- 15,000 ADT
- Traversable Splitter Islands/Central Island
- \$150,000 - \$400,000
- Fit Within Existing Intersection
- Quick Construction Time

SIZE (ICD)

CAPACITY

CENTRAL/ SPLITTER ISLANDS

COST

MODERN ROUNDABOUT

- 100-280 FT
- 25,000-45,000 ADT
- Standard Curb Splitter Islands/Central Island
- \$800,000 Plus



Mini-roundabouts designed by Shive-Hattery:
Coralville, Ottumwa and Marion



CORALVILLE 12TH AVENUE AND HOLIDAY ROAD

VIDEO WILL BE PLAYED DURING LIVE PRESENTATION



SHIVEHATTERY
ARCHITECTURE+ENGINEERING

SHIVEHATTERY
ARCHITECTURE+ENGINEERING

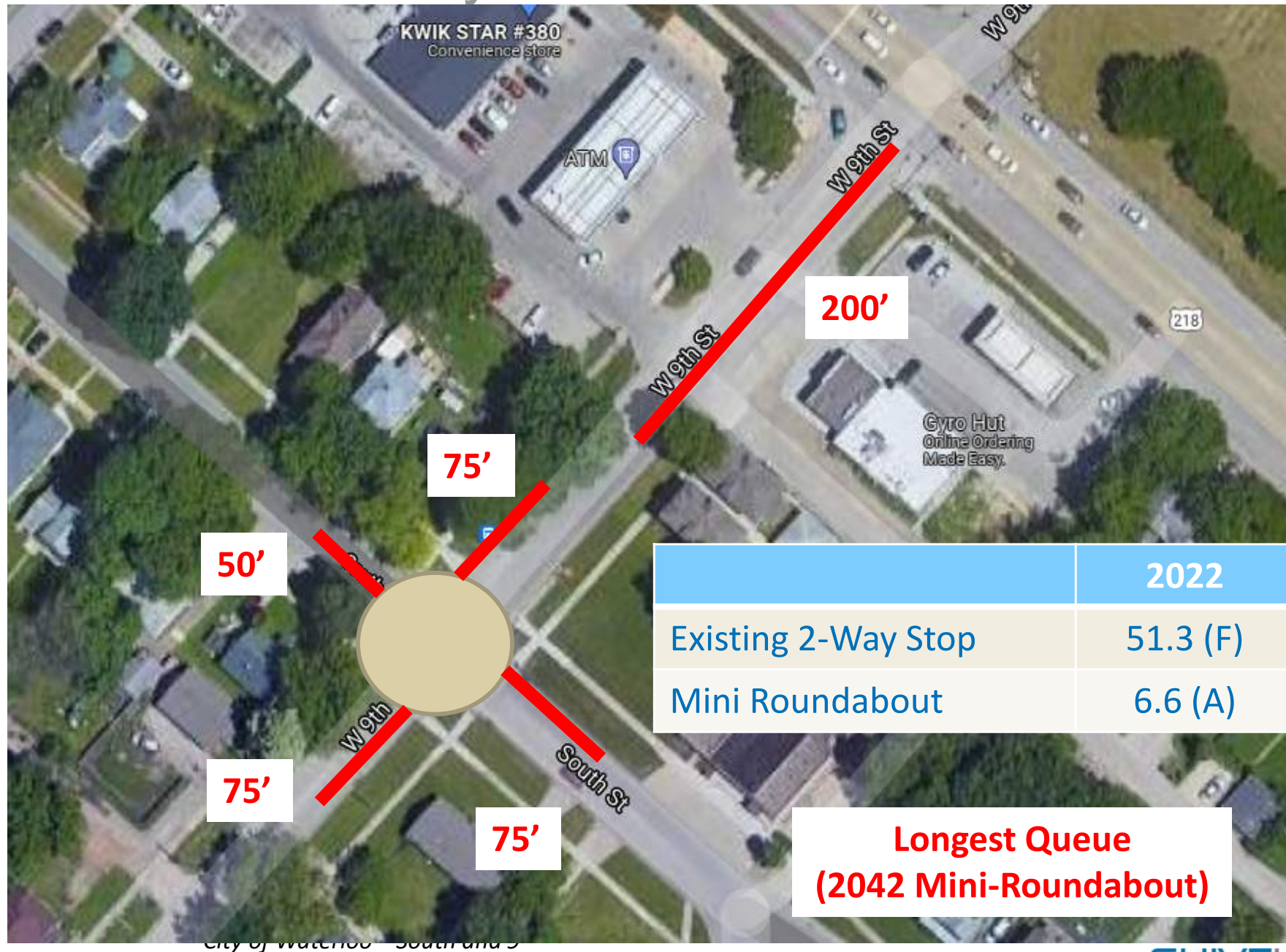


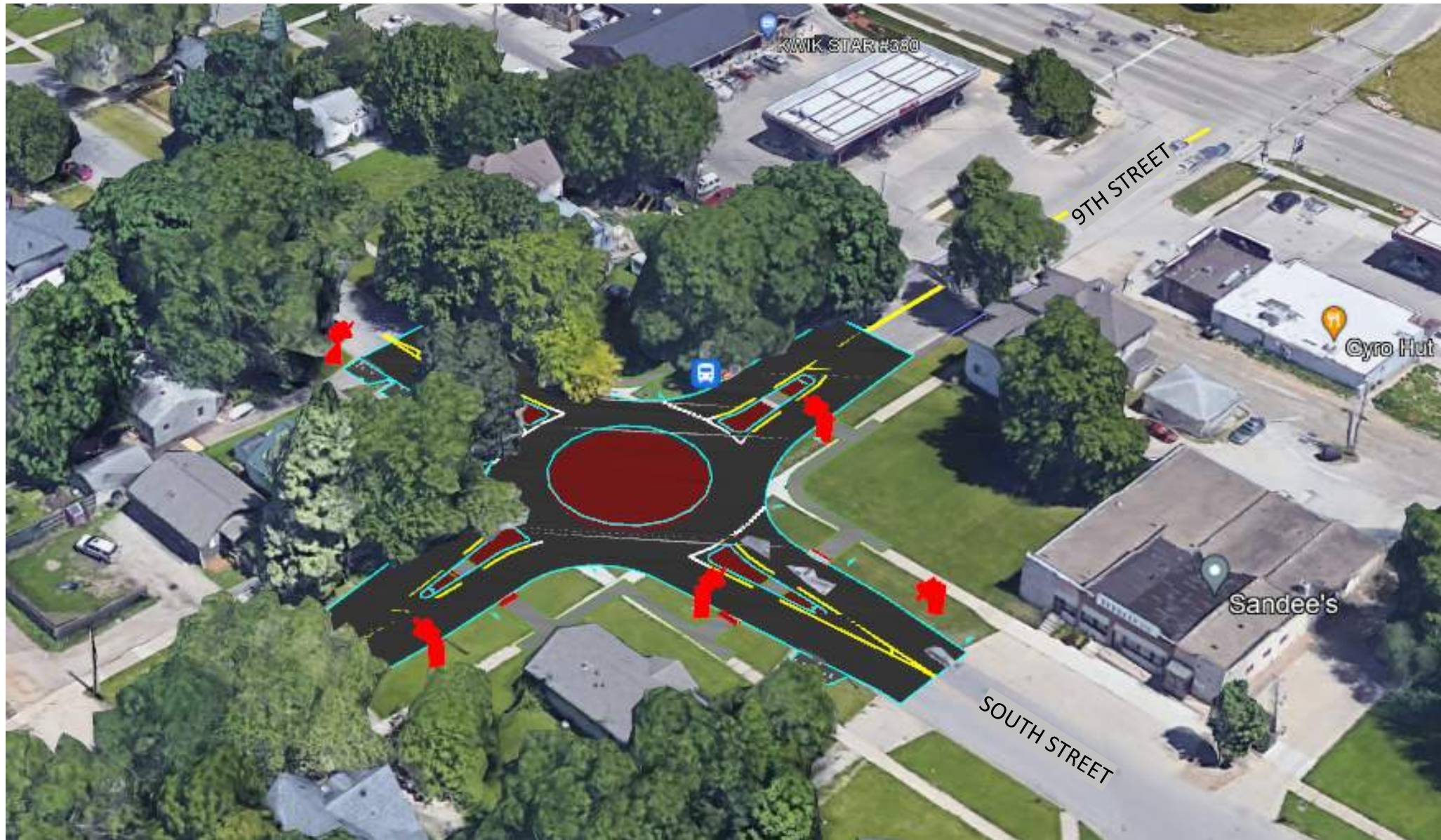
MARION 35TH STREET AND 29TH AVENUE

VIDEO WILL BE PLAYED DURING LIVE PRESENTATION



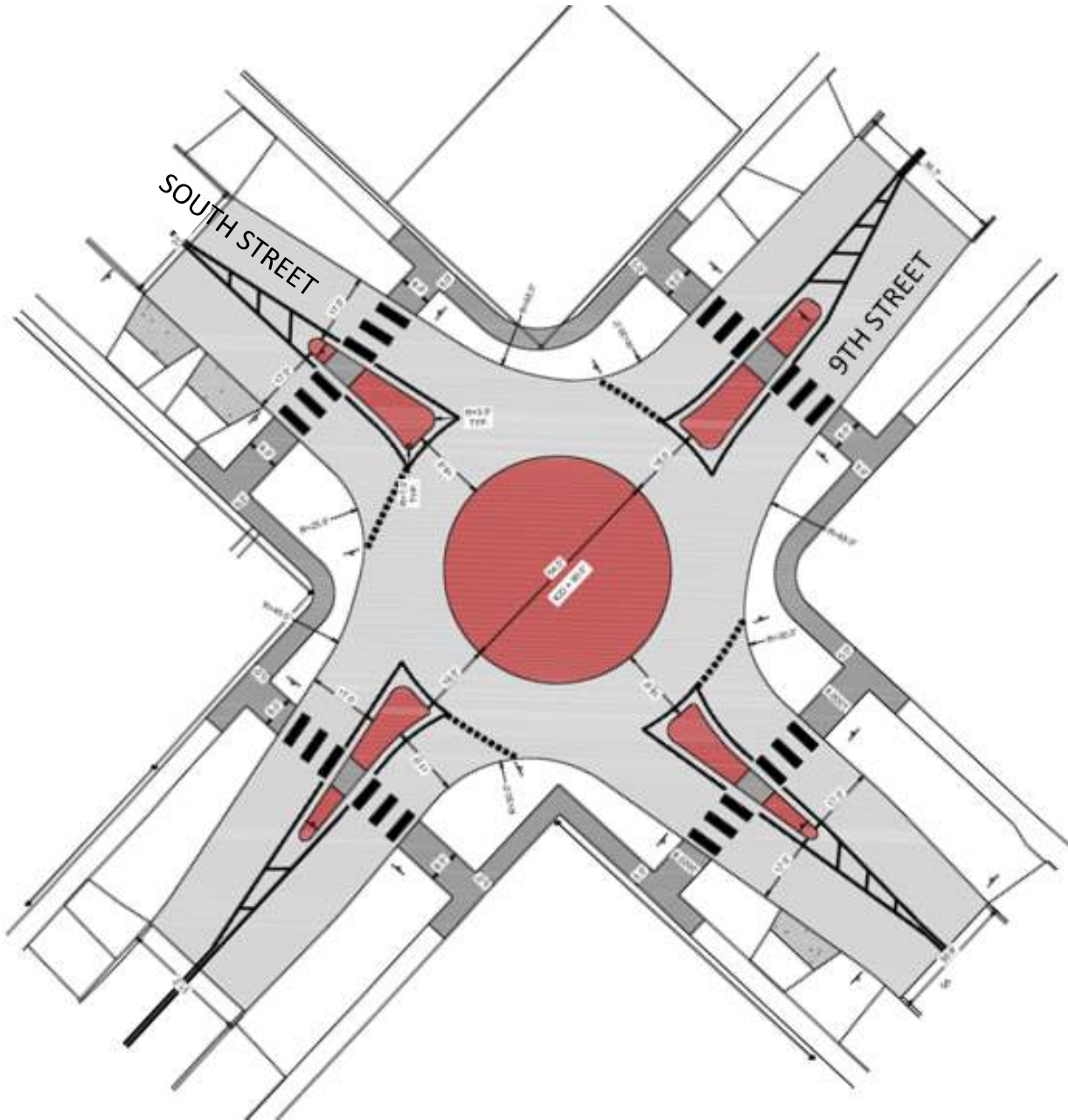
Traffic Analysis







Preliminary Design

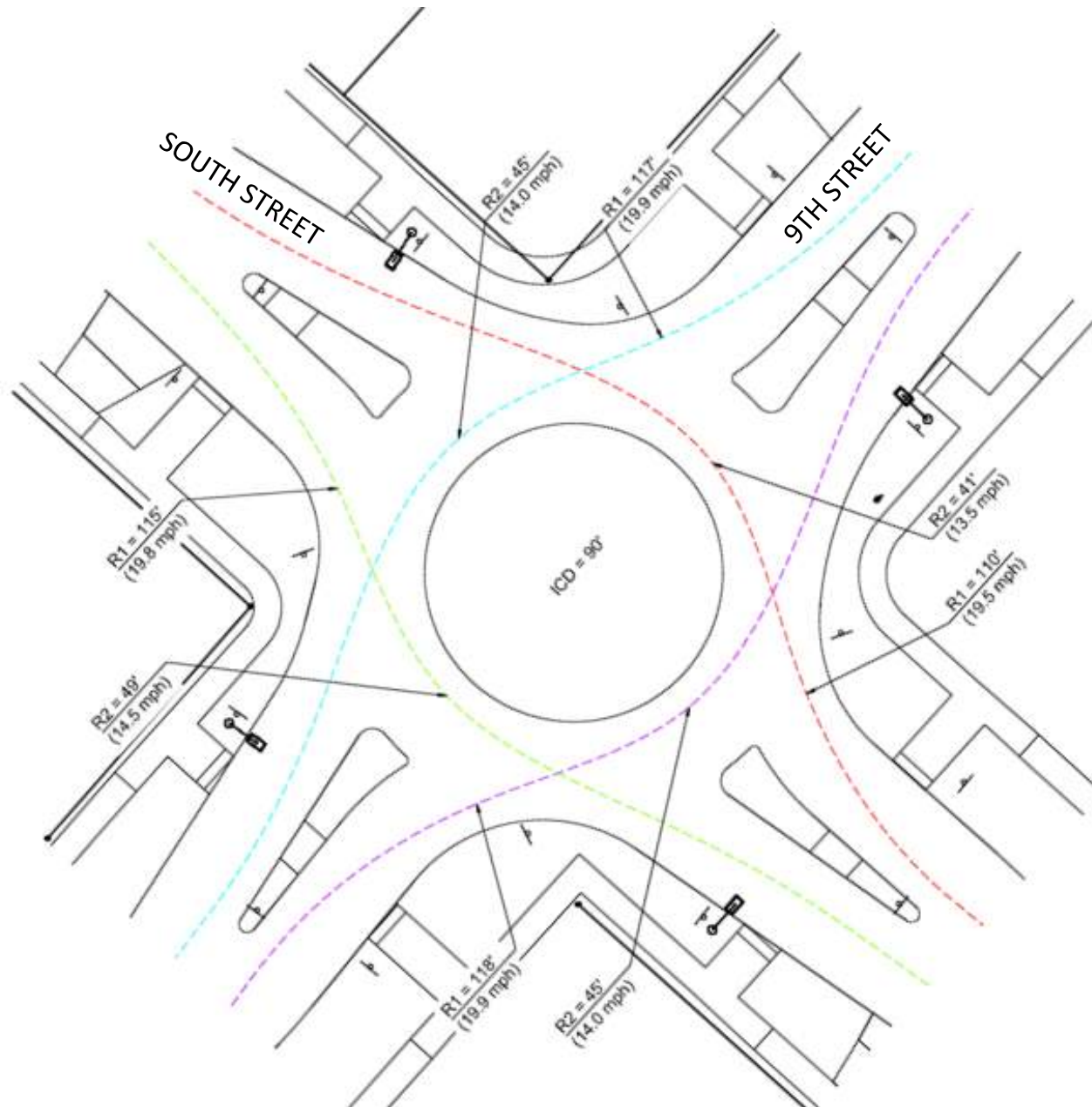


Items to Highlight

- Raised central island
- Cross walk locations
- Splitter Island
- 90' ICD

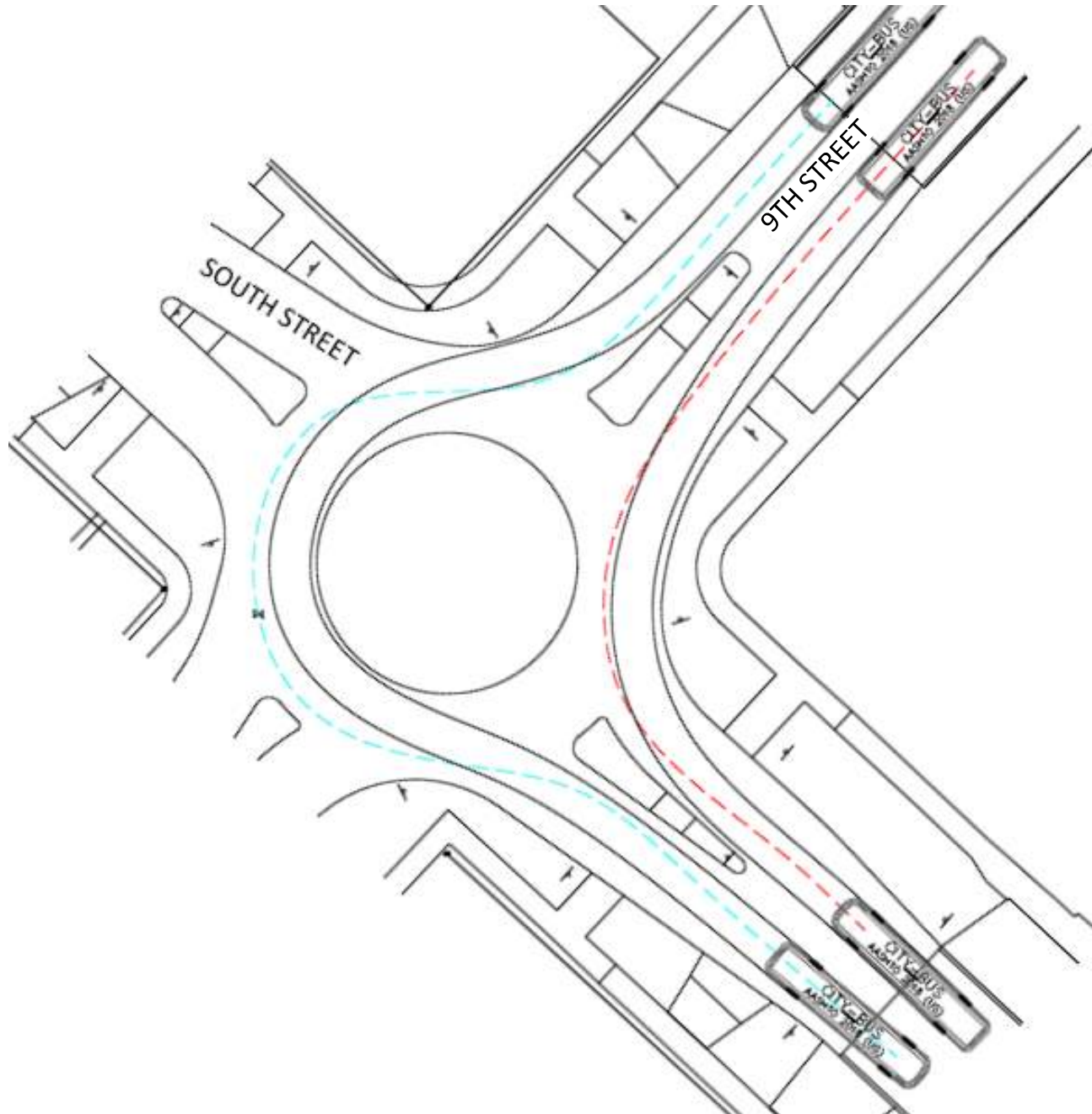


Performance Checks – Fastest Paths

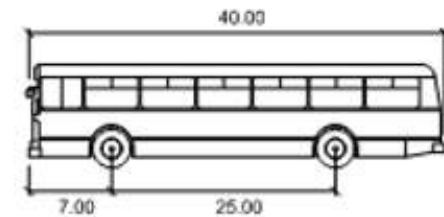


Iowa DOT Peer Review
- Limit speeds to 20 mph

Performance Checks – Turning Movements



Iowa DOT Peer Review

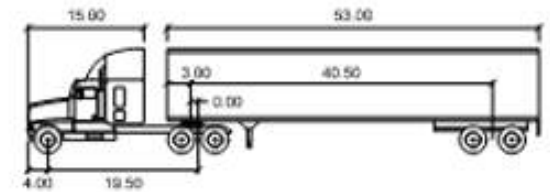
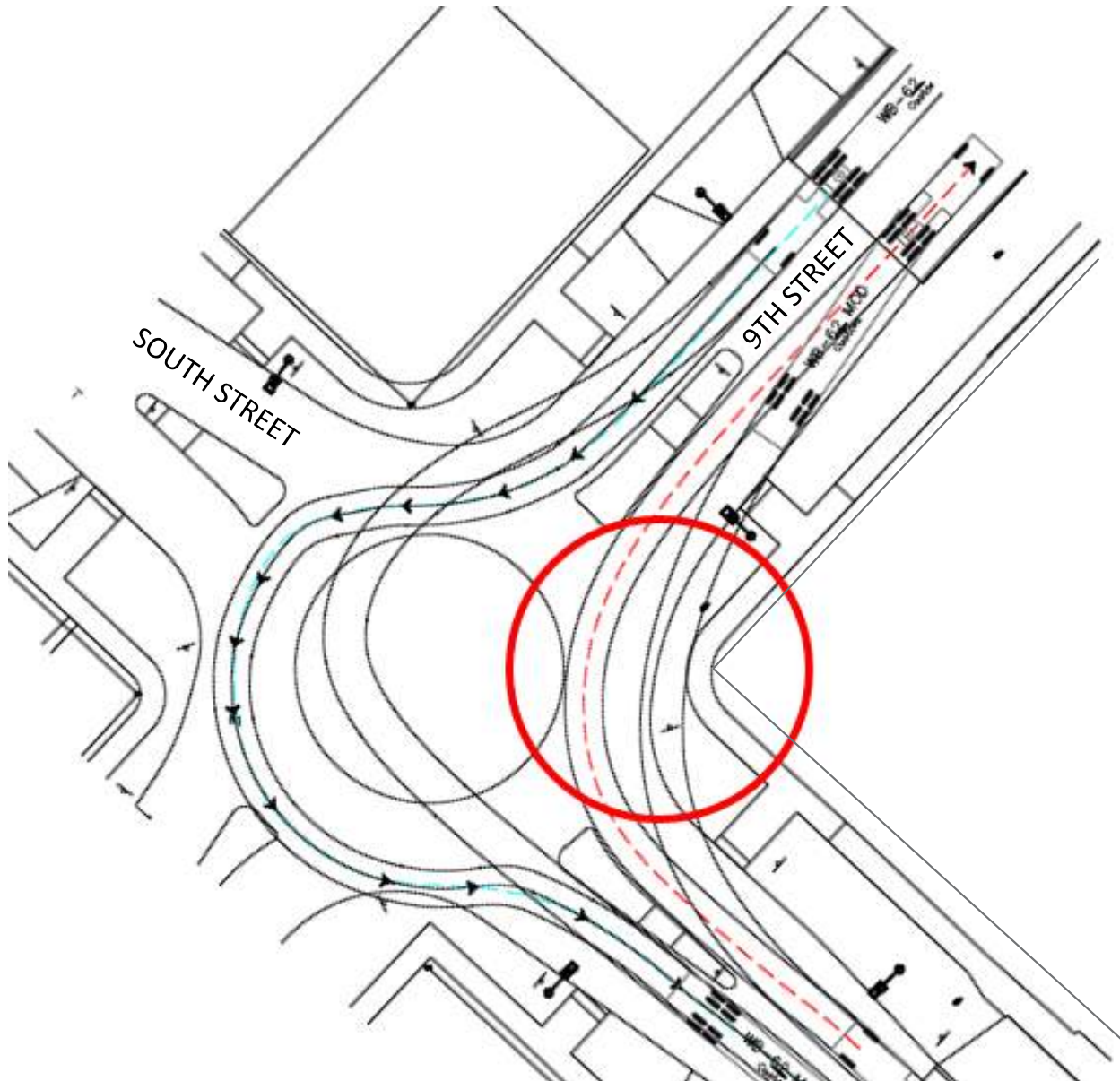


CITY-BUS

feet

Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 41.4

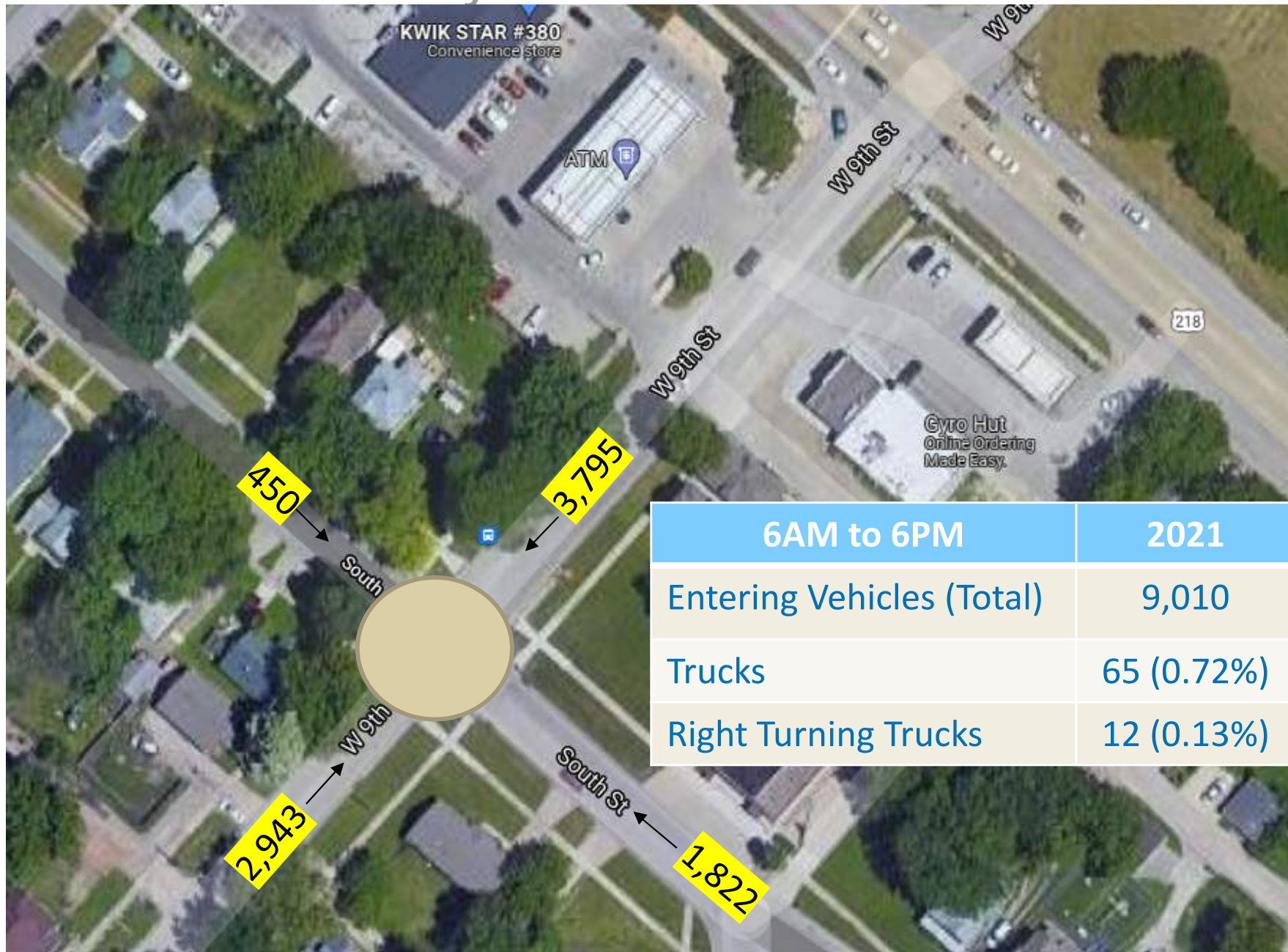
Performance Checks – Turning Movements



WB-62 MOD

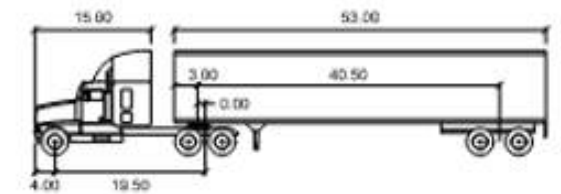
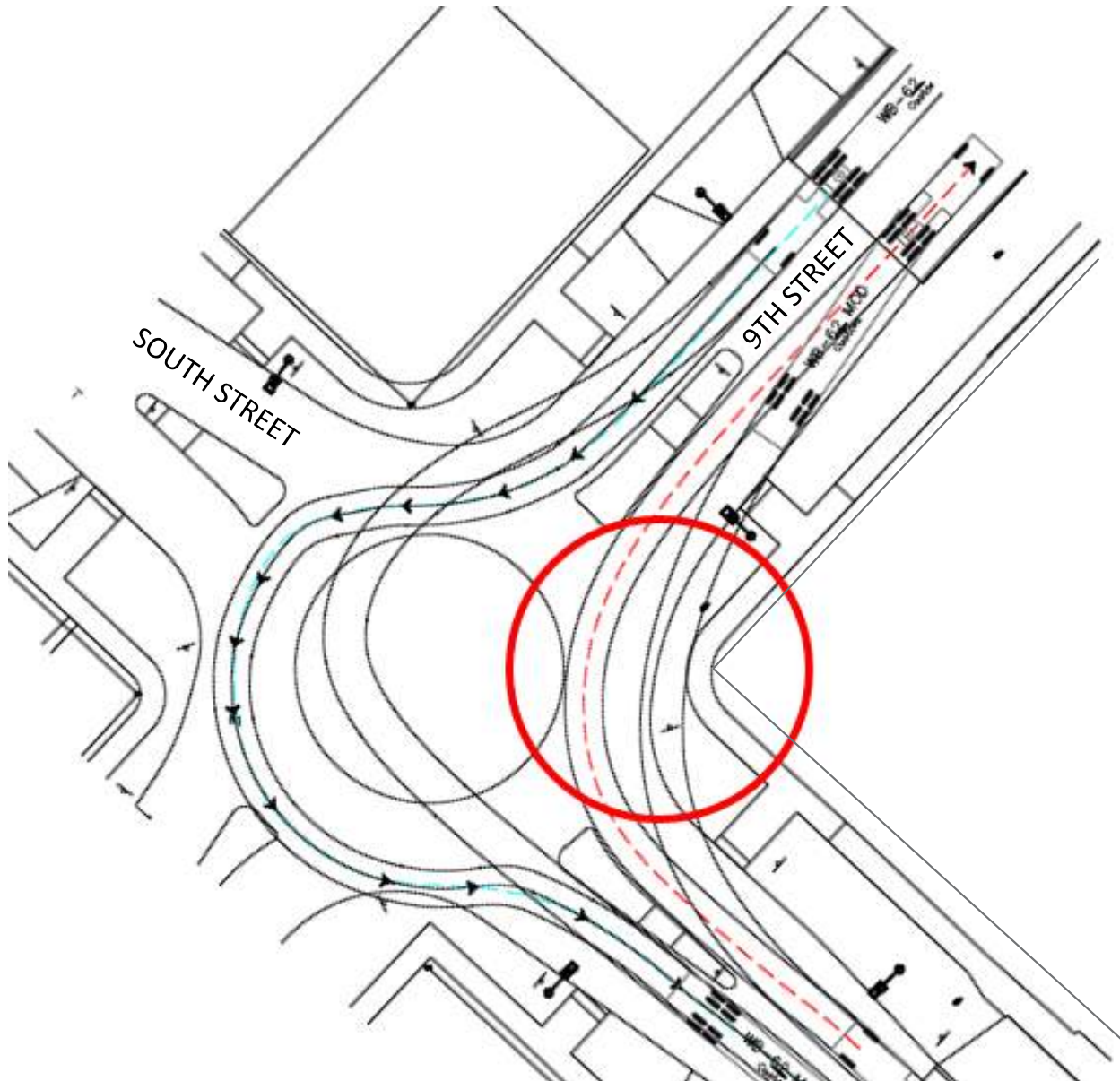
	feet		
Tractor Width	: 15.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

Traffic Analysis



Based on 2021 Turning Movement Counts

Performance Checks – Turning Movements

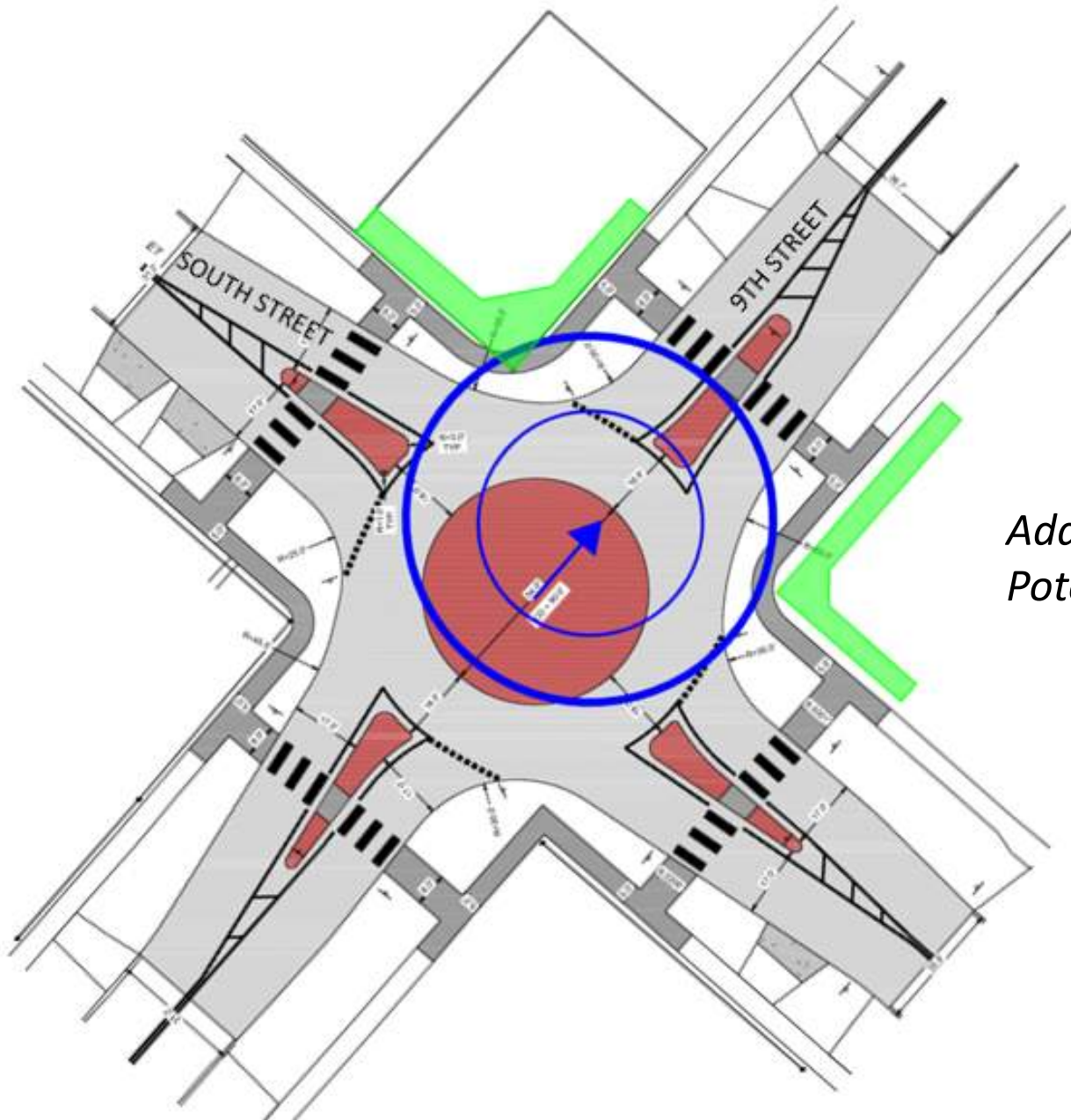


WB-62 MOD

	feet		
Tractor Width	: 15.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 3.00	Articulating Angle	: 75.0
Trailer Track	: 0.00		



Other Design Considerations



*Additional Cost - \$75,000
Potential Delays to ROW Acquisition*





Next steps

1. Address City/DOT Comments
2. Construction Documents – March 2022
3. Construction – May 2022-August 2022
Road Closures- June 2022-July 2022

Thank you

