

Rice Street/I-694 Interchange Improvements

For years, Ramsey County has identified the interchange at Rice Street (CSAH 49) and I-694 as a top-priority interchange for reconstruction. Not only is I-694 an important regional trucking route, Rice Street is one of few north-south arterial corridors in the County. Rice Street crosses I-694 in the stretch with only two lanes in each direction, a bottle neck congested for an average of seven hours per day. With MnDOT's construction of a third general-purpose lane in each direction by the end of 2017, the County, in cooperation with the Cities of Shoreview, Little Canada, and Vadnais Heights, plans to reconstruct the Rice Street/I-694 interchange. **Construction is anticipated to begin in 2019 or 2020.**

The purpose of this project is to address the operational issues at the I-694/Rice Street (CSAH 49) interchange. **Studies show that by 2040 traffic operations within the existing interchange will fail.** Addressing the issues of the interchange will provide the opportunity to improve transportation efficiency and safety for multi-modal and vulnerable users who navigate through the interchange.

As part of the process to select the interchange configuration several alternatives were studied. **The close proximity of Vadnais Boulevard to the north ramps and Owasso Boulevard/Country Drive to the south ramps limits the feasibility of many interchange types.**

Fourteen alternatives were evaluated based on traffic operations, design feasibility, construction cost, and right of way impacts. The design alternatives included a mix of traditional diamond intersection designs and roundabout designs. Five design alternatives were advanced in the screening process and were ranked based on traffic operations, right of way impacts, and construction cost. **Design alternatives that included roundabouts scored the highest.**

See Figure 1. Evaluation Matrix.

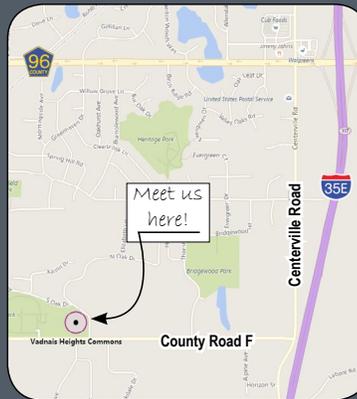
Public Open House

Tuesday, February 21 2017

4:00-7:00

Residents, business owners, traveling public, and interested parties are welcome to drop by anytime between 4:00 p.m. and 7:00 p.m. to learn more about the project and provide comments for the project team. County, MnDOT, and City staff, as well as the consultant design team will be available to answer questions and gather input. A brief presentation is planned at 4:30 p.m. and 6:00 p.m. All are welcome and encouraged to come and review proposed improvements, ask questions, and leave comments.

More project information is available on the website:
<http://www.sehinc.com/online/rice694>



Vadnais Heights Commons
655 East County Road F
Vadnais Heights, MN 55127

Presentations at 4:30 p.m.
and 6:00 p.m.

We look forward to
seeing you there!

Project Benefits

Increase the value of adjacent parcels with corridor improvements

Leverage recent regional transportation investment in the area

Accommodate redevelopment of the vacant 12-acre former county public works site

Relieve congestion on Rice Street and improve traffic safety

Enhance the opportunity to interconnect regional trails

Improve pedestrian and bicyclist mobility

Partners



Figure 1. Evaluation Matrix

	Existing	2040 No Build	Alternative 4 Single Point Urban Interchange (SPUI)	Alternative 1 Diamond with Four Intersections	Alternative 4 Single Point Urban Interchange (SPUI)	Alternative 1 Diamond with Four Intersections	Alternative 4 Single Point Urban Interchange (SPUI)
			4D-1 Offset SPUI with Roundabouts	1B-1 Diamond with Roundabouts	4D-4 Offset SPUI with Roundabouts (one 5 leg Roundabout)	1A Diamond with Signal	4C Offset SPUI with Signals
Total Ranking							
			1	2	3	4	5
Cost Ranking							
			1	2	4	3	5
Traffic Operations							
Average Time to Travel North/South Through the Interchange (seconds)	113	180	87	86	83	120	101
Average Network Speed (mph)	18	9	26	26	26	17	19
Traffic Ranking			3	2	1	5	4

Why Roundabouts?

Roundabouts are a means of intersection control that have gained in popularity and acceptance across the country for more than a decade. When designing an intersection, roundabouts are evaluated and compared to other means of intersection control. The benefits of roundabouts include:

Increased Safety When replacing stop signs or traffic signals, roundabouts have shown an **89% decrease in fatal crashes, a 74% decrease in life-altering injury crashes and a 39% decrease in all crashes**. While there will be crashes at roundabouts, they are generally less severe than at other intersections due to lower vehicle speeds and one-way traffic flow. Roundabouts have shown a 30 to 40% decrease in pedestrian crashes; and a 10% reduction in bicycle crashes. Navigating a roundabout is easier for pedestrians and bicyclists as oncoming traffic is only from one direction, and there are multiple refuge points on the medians of the roundabout.

Improved Traffic Flow Experience with roundabouts has shown that more traffic can be accommodated and with less delay than at other intersection designs. Studies have shown that vehicle delays are reduced by 20 to 30%. Roundabouts can also function in close proximity to each other without creating traffic backups experienced by other intersections. Roundabouts are designed to accommodate all vehicle types traveling through the intersection, including large semi-trucks.

Additional information is available from the Minnesota Department of Transportation at: <http://www.dot.state.mn.us/roundabouts>



* Concept Rendering for illustrative purposes - subject to change

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