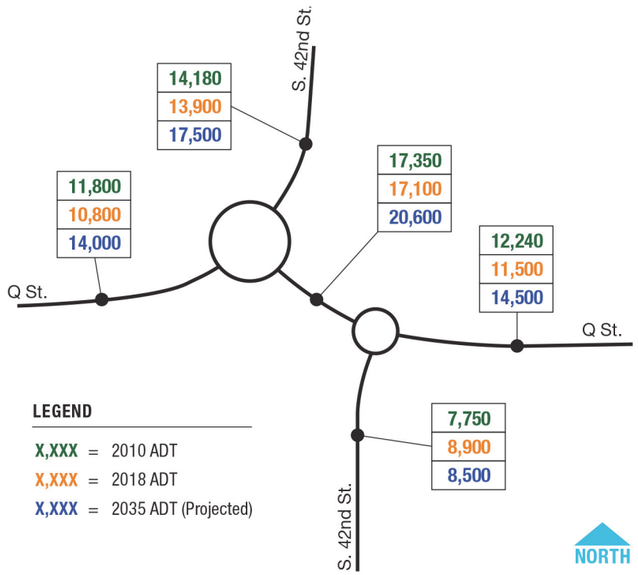
Benefits of Roundabouts

- **IMPROVE SAFETY** for vehicles and pedestrians with fewer conflict points.
- **SPEED REDUCTION** lowers the risk of collision injury or fatality.
- **SAVE MONEY** by not having to maintain traffic signal equipment (Approximately $2,500 per signal per year to maintain).
- **REDUCE CONGESTION** during peak hours and off peak periods.
- **OTHER BENEFITS** include reduced pollution and fuel usage, quieter operations, better access management and improved aesthetics.

Daily Traffic Volumes



3-Leg Multi-Lane Roundabouts can handle ADT's up to 33,750 vehicles.
3-Leg Single-Lane Roundabouts can handle ADT's up to 18,750 vehicles.

Source: NCHRP 672 Roundabouts: An Informational Guide

42nd & Q Street Roundabouts

FELSBURG HOLT & ULLEVIG

City of Omaha
1819 Farnam St.
Omaha, NE 68183

KEEP OMAHA moving

KEEP OMAHA moving

42nd & Q Street Roundabouts Before and After Study

Omaha, NE

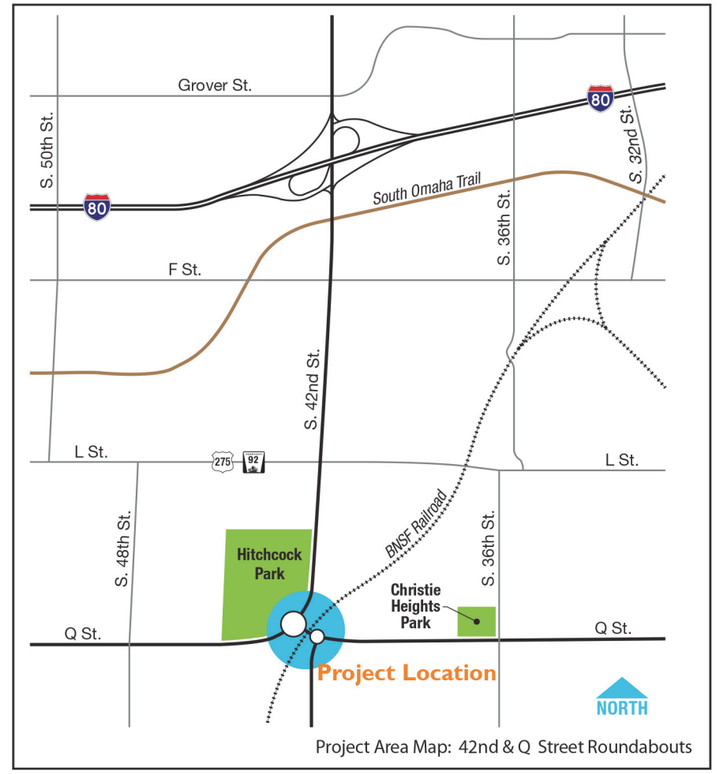
Study Purpose

Felsburg Holt & Ullevig (FHU) conducted a before and after study of the two roundabout intersections of 42nd Street with Q Street in Omaha, NE. The purpose of the study is to measure the impacts of the intersection improvement project which was opened to traffic in late 2016.

For the study, the "After" period (roundabout intersections) was determined to be from May 1, 2017 to October 31, 2018. These "After" results were compared to the "Before" period (signalized intersections) from January 1, 2008 to December 31, 2010 as reported in the Environmental Assessment for the 42nd Street and Q Street project.

BEFORE CONDITIONS: Prior to the improvements, two existing signalized tee intersections had high-speed turning movements, higher than average crash rates, and were not pedestrian-friendly.

AFTER CONDITIONS: That project was designed and built to correct deficiencies with the existing bridge, improve traffic flow, reduce the frequency and severity of crashes at the intersections, and to accommodate pedestrian movements within the project area. The two signalized tee intersections were replaced with a multi-lane roundabout on the west side of the new bridge and a single-lane roundabout on the east side. Together they reduce speeds through the intersections and minimize the potential for high-speed right-angle crashes.



Project Area Map: 42nd & Q Street Roundabouts

Improve safety

CRASH RATES

DOWN
- 41% (West Intersection)
- 19% (East Intersection)

SEVERITY RATE

DOWN
- 60% (West Intersection)
- 58% (East Intersection)

BEFORE (Signalized) Crashes per Year
10.7 / 5.0
west / east

>

AFTER (Roundabout) Crashes per Year
5.0 / 4.0
west / east

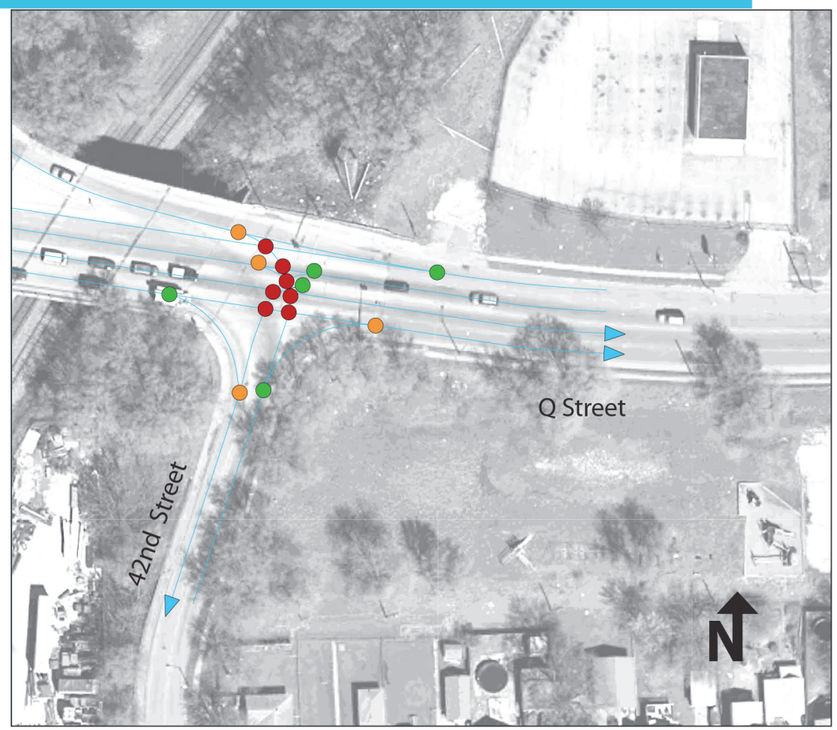
FELSBURG HOLT & ULLEVIG

BEFORE - Conflict Points West

Conflict Type	No.
Diverging	2
Merging	3
Crossing	9
TOTAL	14

BEFORE - Conflict Points East

Conflict Type	No.
Diverging	5
Merging	4
Crossing	7
TOTAL	16



AFTER - Conflict Points West

Conflict Type	No.
Diverging	4
Merging	4
Crossing	2
TOTAL	10

Crossing conflicts see the most dramatic reduction between traffic signals and roundabouts. This type of conflict also leads to the most severe type of collision.

AFTER - Conflict Points East

Conflict Type	No.
Diverging	4
Merging	4
Crossing	0
TOTAL	8

Roundabouts provide a safer crossing for pedestrians only requiring crossing one direction of traffic at a time with a shorter distance to travel. Vehicle speeds at the crossing locations are much lower than signalized intersections.