

Knowles Avenue Corridor Study

City of New Richmond

November 11, 2019



Outline



- Project Overview
- Existing Conditions
- Traffic Operations
- Spot Location Studies
- Corridor Recommendations
- Next Steps

Project Overview – Team



City of New Richmond

- Jeremiah Wendt, P.E. Director of Public Works
- Mike Darrow, City Administrator
- Noah Wiedenfeld, Planning Director



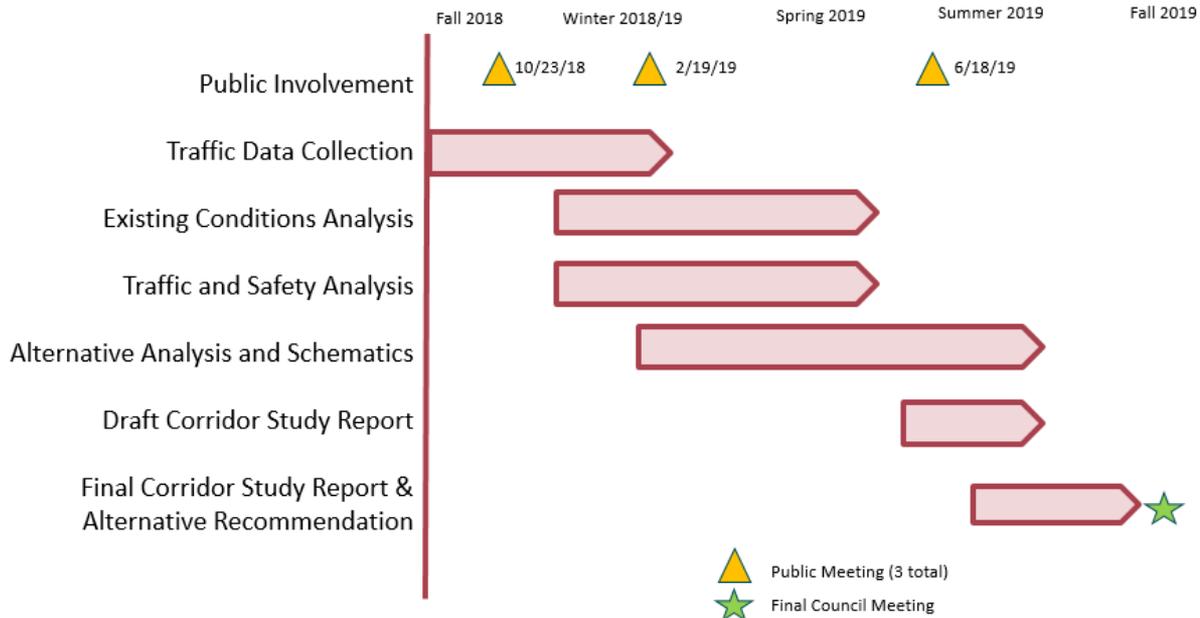
MSA Professional Services, Inc.

- Kevin Ruhland, P.E.
- Erin Jordan, P.E.
- Brian Huibregtse, P.E., PTOE

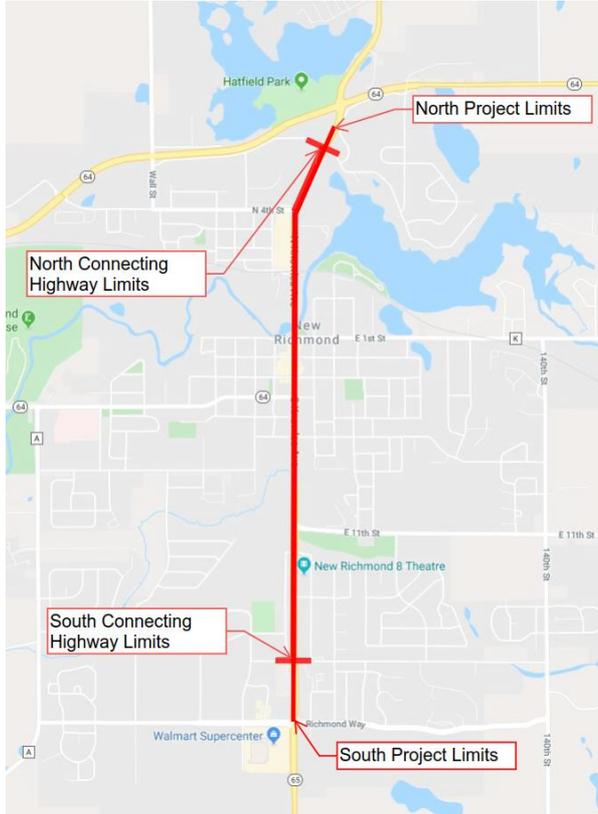


Project Overview – Schedule

Knowles Avenue Corridor Study Schedule



Project Overview – Study Area



- **Project Limits:**
 - Richmond Way to North Shore Drive
- **2018 Average Annual Daily Traffic (AADT)**
 - 10,400 to 13,900
- **Connecting Highway (STH 65)**
 - Paperjack Drive to North Shore Drive.
 - City Responsible for Maintenance and Operation
 - WisDOT has Authority to Review and Approve:
 - Maintenance
 - Operation
 - Traffic Control

Project Overview – Goals

Provide short and long-term improvement options to enhance the safety and mobility of Knowles Avenue for all users, especially in the downtown.



Review and analysis of:

- Crash History & Safety
- Traffic Operations
- Pedestrian and Bicycle Accommodations
- Parking & Access



Spot Location Studies

North Shore
Drive Trail
Crossing



Mid-Block
Pedestrian Crossing
*North of Willow River
Bridge*



Right-In/Right-Out
between Paperjack
Dr & Meridian Dr



First Street
Intersection



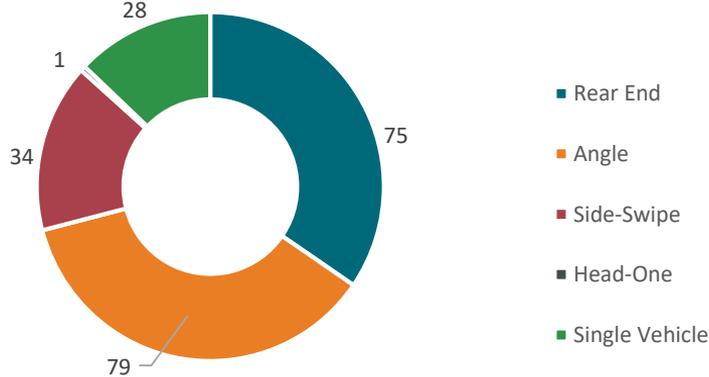
Existing Conditions – Intersection Safety

- Intersections Crashes

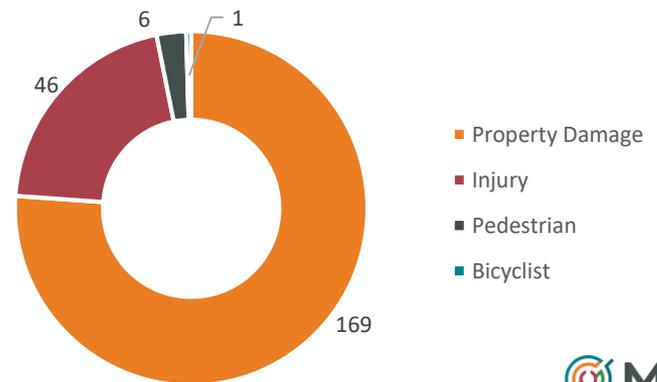
- Richmond Way – 49 Crashes
- 6th Street – 30 Crashes
- 4th Street – 20 Crashes

For Comparison: STH 64/65 – 41 Crashes

Crash Type Summary

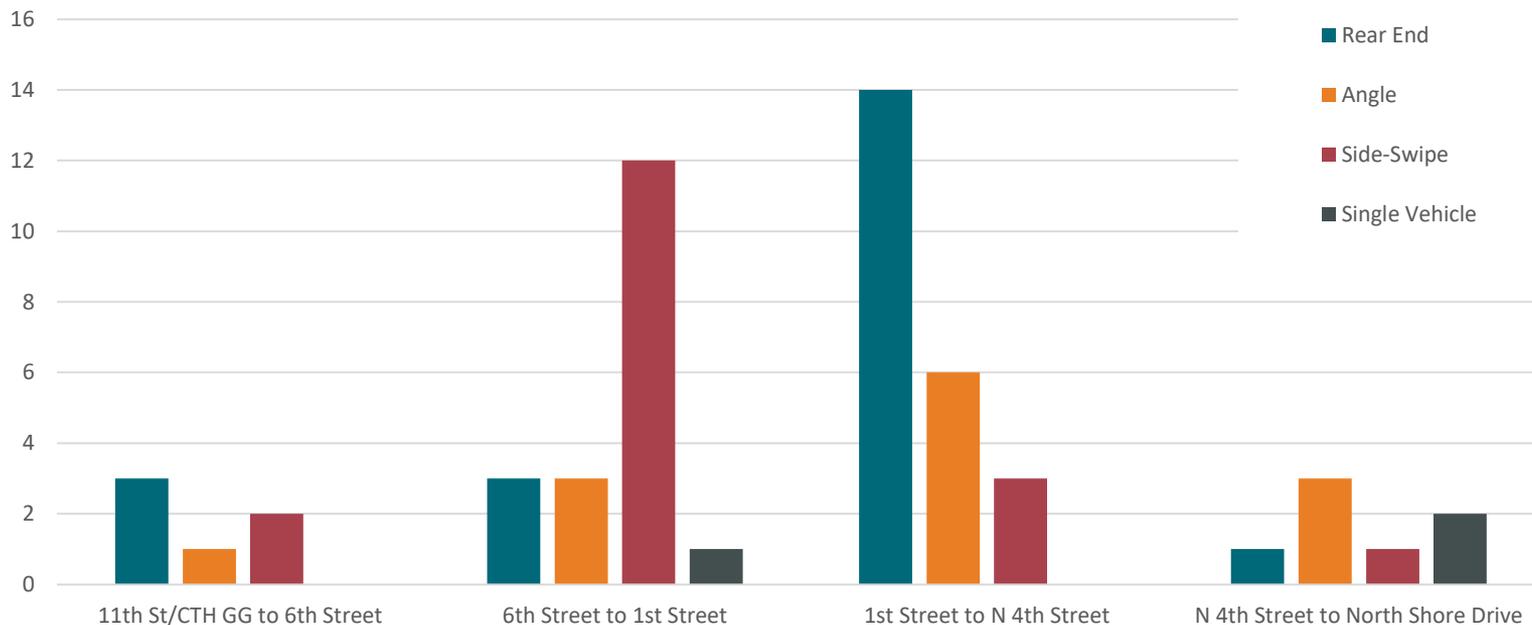


Crash Severity Summary

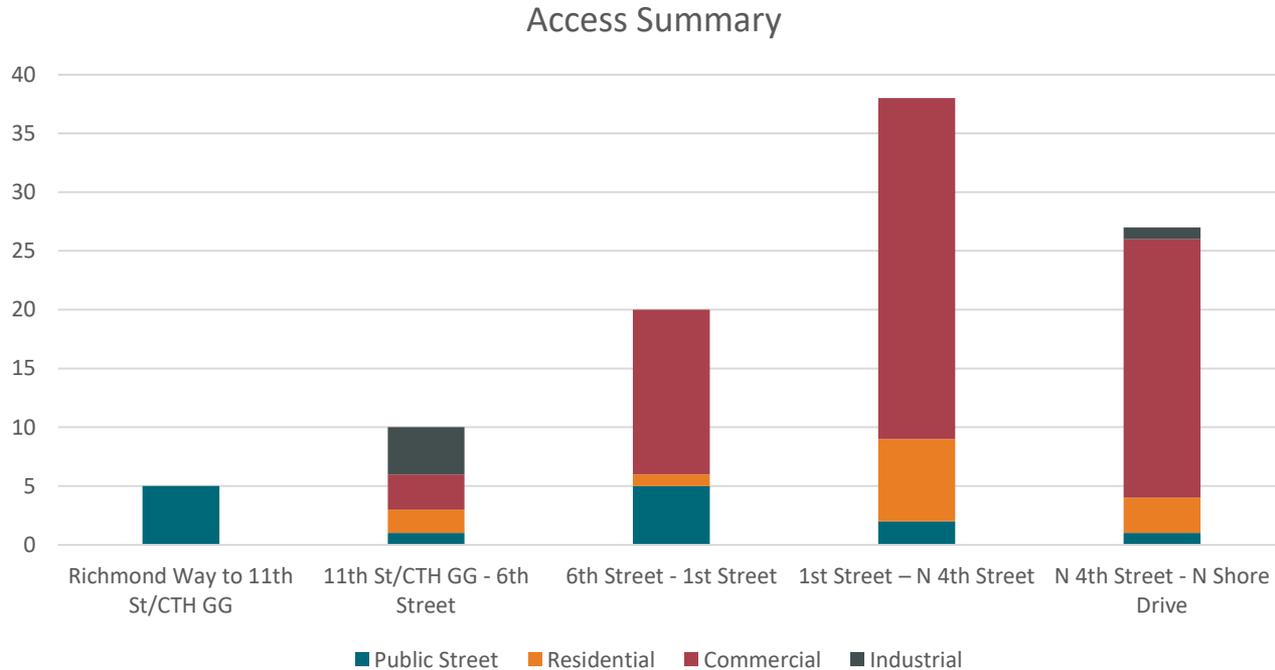


Existing Conditions – Segment Safety

Crash Type Summary Per Segment



Existing Conditions Analysis – Access



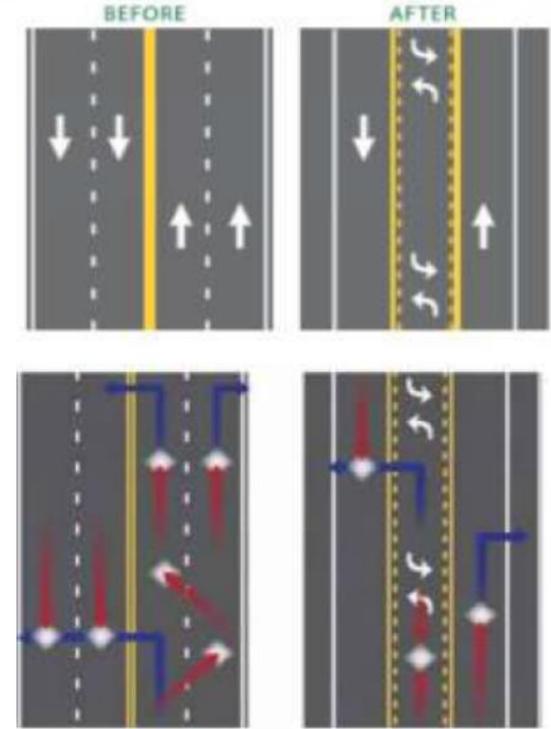
Traffic Operations – 4-Lane “No Build” Analysis

Operations Summary – 2029 Forecast Traffic Volumes

Intersection	Peak Hour	Eastbound	Westbound	Northbound	Southbound	Intersection
11 th Street/CTH GG	AM	N/A	F	A	A	A
	PM	N/A	F	B	B	B
6 th Street	AM	C	D	B	B	B
	PM	C	E	B	A	B
4 th Street	AM	C	C	B	A	B
	PM	F	F	C	A	E
2 nd Street	AM	C	C	A	A	A
	PM	D	D	A	A	A

3-Lane Conversion Analysis

- 3-Lane Conversion or “Road Diet”
 - 19-47% crash reduction per FHWA
 - 29% Nationwide Average
 - STH 8 – Barron, WI
 - 44% Crash Reduction
 - 51% Injury Crash Reduction
 - 80% Pedestrian Crash Reduction
 - Speed Reduction
 - Designated Left Turn Lanes
 - Bike and Pedestrian Crossings
 - Placemaking
 - Adequate Operations up to 20,000 ADT

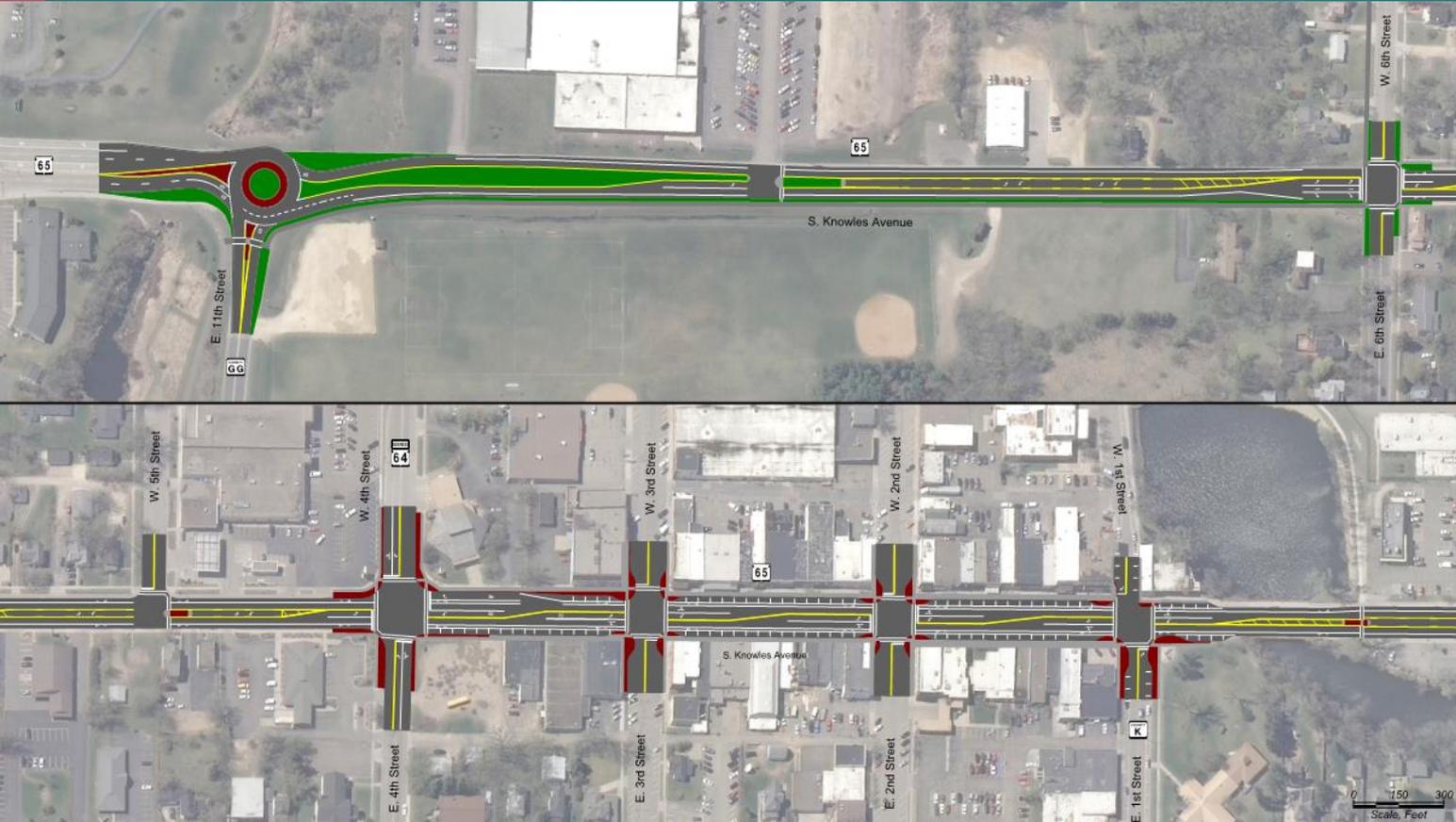


Traffic Operations - 3-Lane Conversion Analysis (with 11th St Roundabout)

Operations Summary – 2029 Forecast Traffic Volumes

Intersection	Peak Hour	Eastbound	Westbound	Northbound	Southbound	Intersection
11 th Street/ CTH GG	AM	N/A	A	A	C	C
	PM	N/A	B	A	C	B
6 th Street	AM	C	D	C	D	D
	PM	C	D	C	D	C
4 th Street	AM	D	D	A	A	B
	PM	D	D	A	A	C
2 nd Street	AM	D	D	A	A	A
	PM	D	D	A	A	A

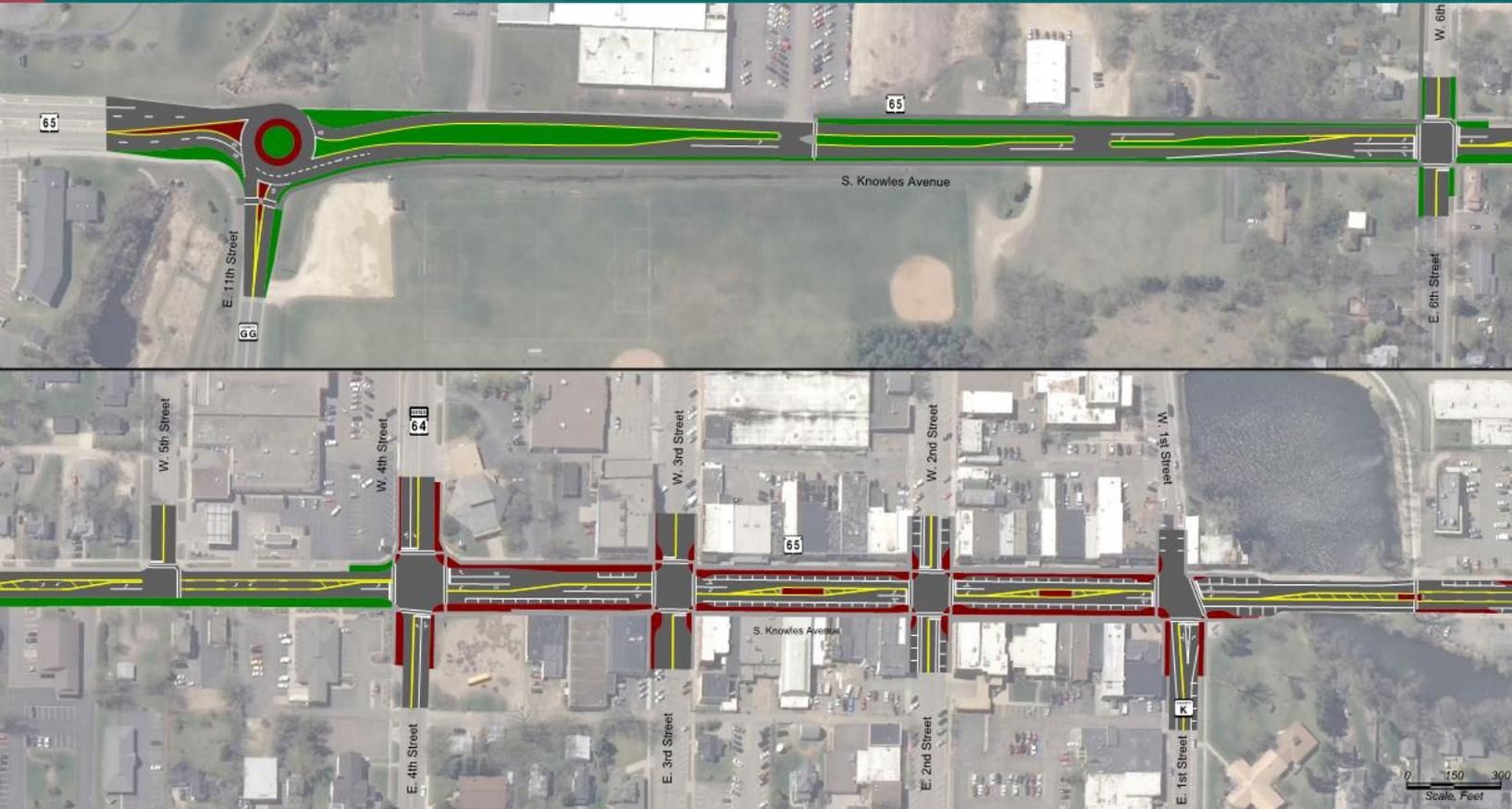
Road Diet Recommendations – Alternative 1



Road Diet Recommendations – Alternative 1



Road Diet Recommendations – Alternative 2



Road Diet Recommendations – Alternative 2



Corridor Recommendations – Richmond Way

- Note that Richmond Way intersection is controlled by DOT
- Possible Upgrades Include:
 - Adjust signal interval timing for left turn phases
 - 20-40% reduction in angle, head-on, side-swipe crashes
 - Install Retroreflective backplates on signal faces
 - 15% overall crash reduction
 - Update left-turn phasing to protected only.
 - Crashes will decline, but so will operations
 - Delineation/Visibility Improvements



Corridor Recommendations – 11th Street

- Operational Issues, but not Safety Issues
- Roundabout estimated cost:
 - \$1M-\$1.5M



Intersection	Peak Hour	Eastbound	Westbound	Northbound	Southbound	Intersection
11 th Street Existing	AM	N/A	F	A	A	A
	PM	N/A	F	B	B	B
11 th Street Roundabout	AM	N/A	A	A	C	C
	PM	N/A	B	A	C	B

Corridor Recommendations – 6th Street



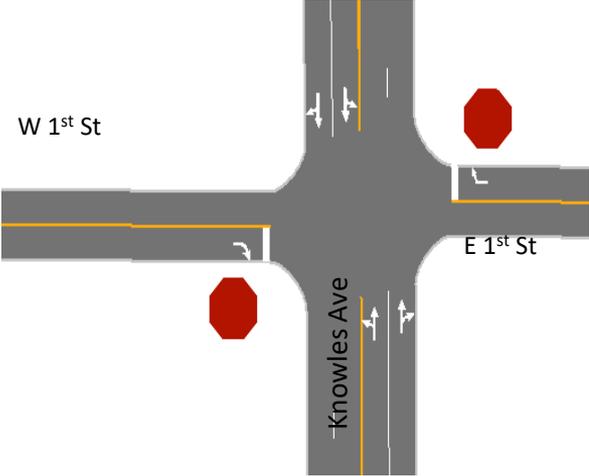
- Most Crashes for City-Controlled Intersection
 - 30 in 5 years
- Existing Southbound Left Turn Arrow
- Possible Upgrades Include:
 - Install Retroreflective backplates on signal faces
 - 15% overall crash reduction
 - Dedicated Left Turn Lanes
 - Feasible with 3-Lane Conversion
 - Significant ROW acquisition/construction required with 4-Lanes

Corridor Recommendations – 4th Street

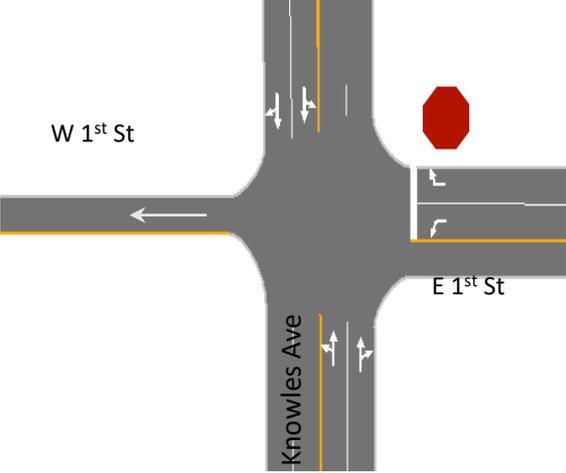


- Crashes
 - 20 in 5 years
- Operational Issues with Cross Traffic
- Possible Upgrades Include:
 - Install Retroreflective backplates on signal faces
 - 15% overall crash reduction
 - Convert eastbound to dedicated left-turn lane

Corridor Recommendations- 1st Street



Option 1, 1st Street reconfiguration.



Option 2, 1st Street reconfiguration.

Corridor Recommendations- 1st Street



Corridor Recommendations – Bike/Pedestrian Accommodations



Corridor Recommendations – Bike/Pedestrian Accommodations

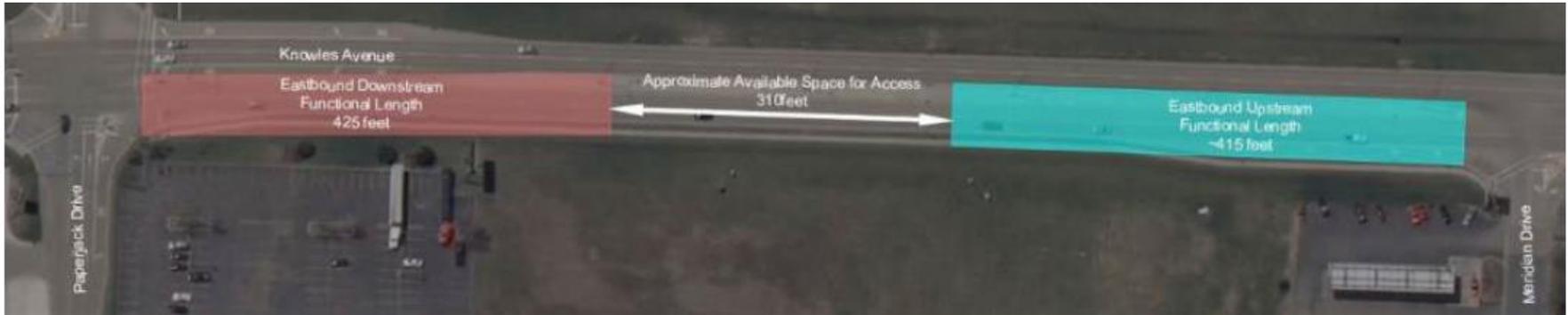


Corridor Recommendations – Bike/Pedestrian Accommodations

- Pedestrian & Bicycle Facilities
 - Improve Curb Ramps to Current Standards
 - Perpendicular Crossings
 - Bump Outs & Enhanced Markings
 - Provide Trails/Sidewalks in Conjunction with Plan
 - RRFB Crossing North of Bridge

Corridor Recommendations – Parking/Access

- Parking
 - W 1st Street
 - E/W 2nd Street
- Access Control Policy – North of Bridge
- Possible Additional Access b/w Paperjack/Meridian



Thank you!

