

Burleigh County ND Hwy 1804 & N Washington St Roundabout

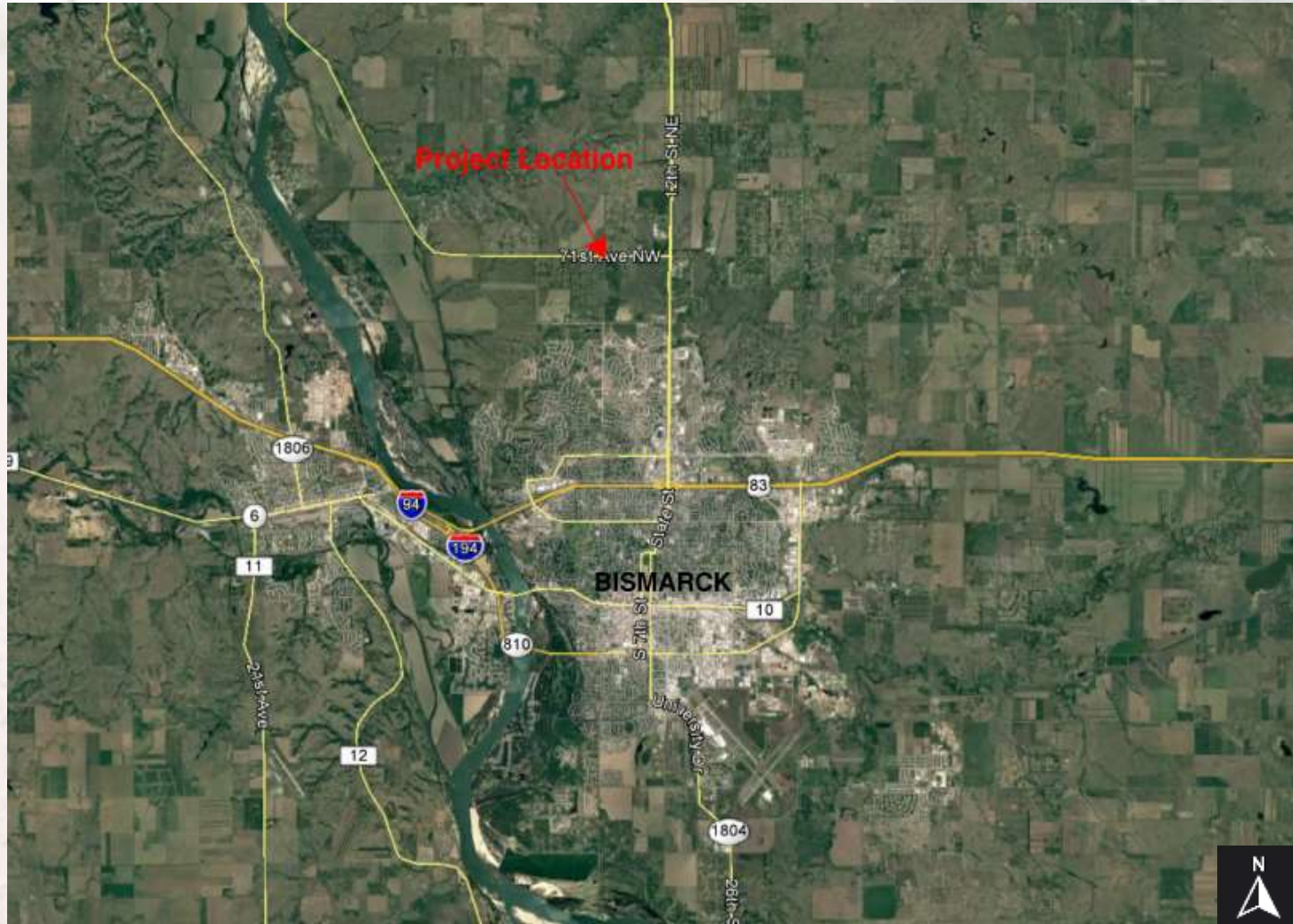
Whitney Schroeder, PE, PTOE



33rd Annual North Central Local Roads Conference
Rapid City, SD - October 17-18, 2018



ND Hwy 1804 and N Washington Street

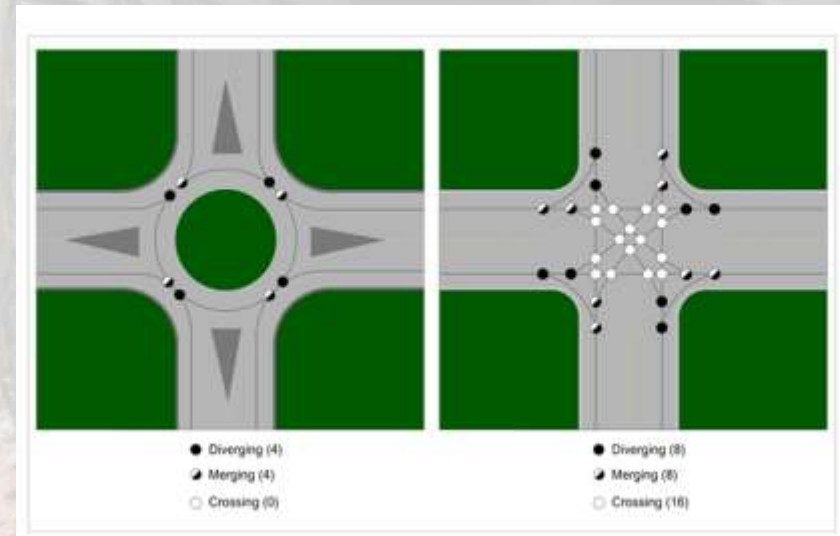


Existing Intersection



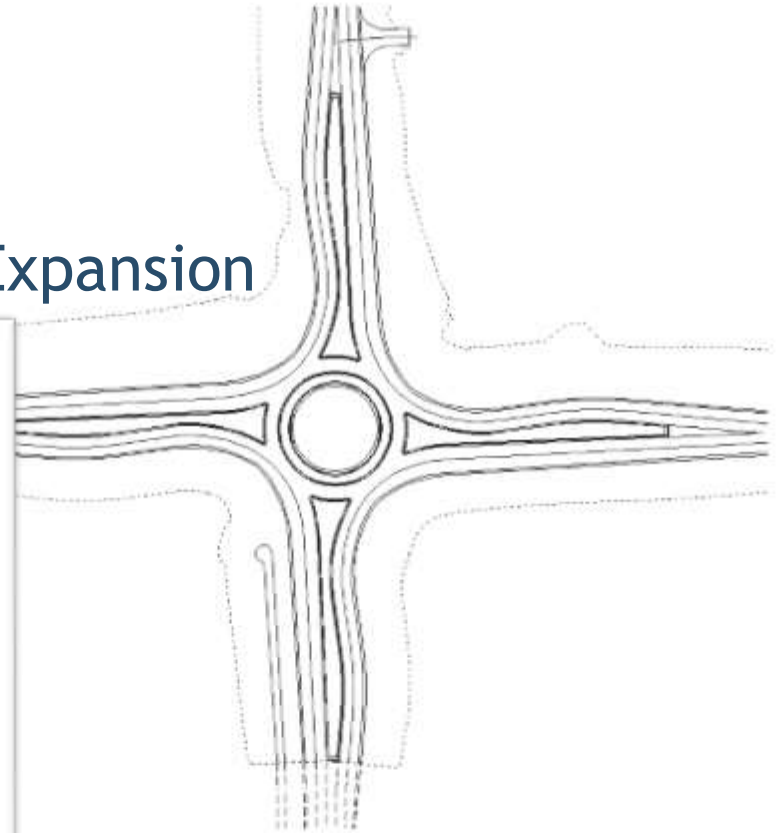
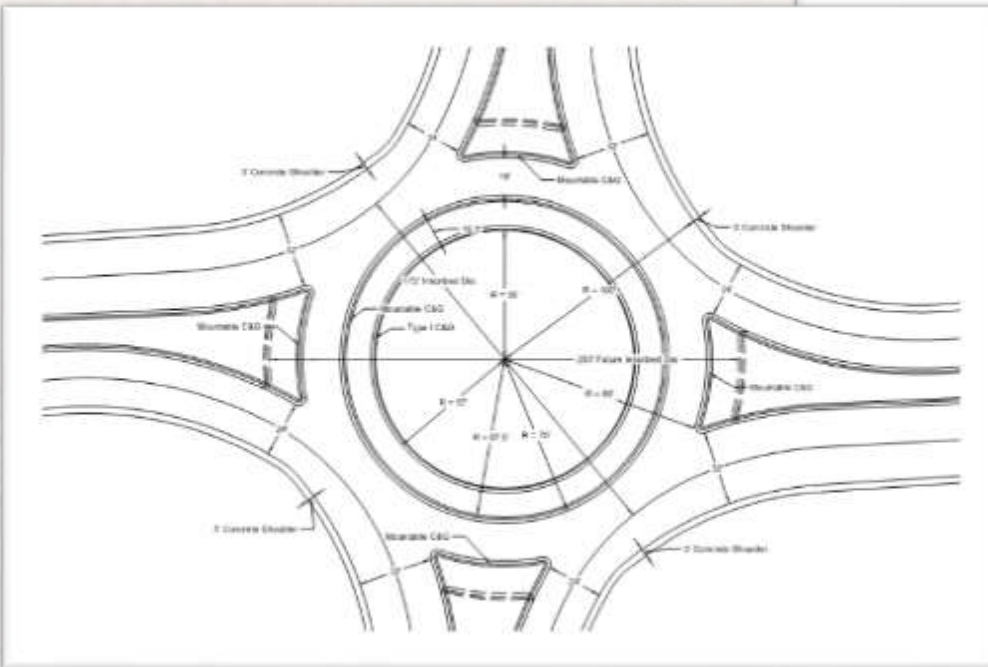
Safety Concerns

- 4 Intersection Crashes between 2012-2016
 - 1 Fatality
 - 2 Injuries
- Highway Safety Improvement (HSIP) Funds
 - Collaboration between NDDOT and Burleigh County
- Intersection Alternatives



Preferred Roundabout Alternative

- Single Lane Roundabout
 - With Right Turn Slip Lanes
 - Option for Future Dual Lane Expansion

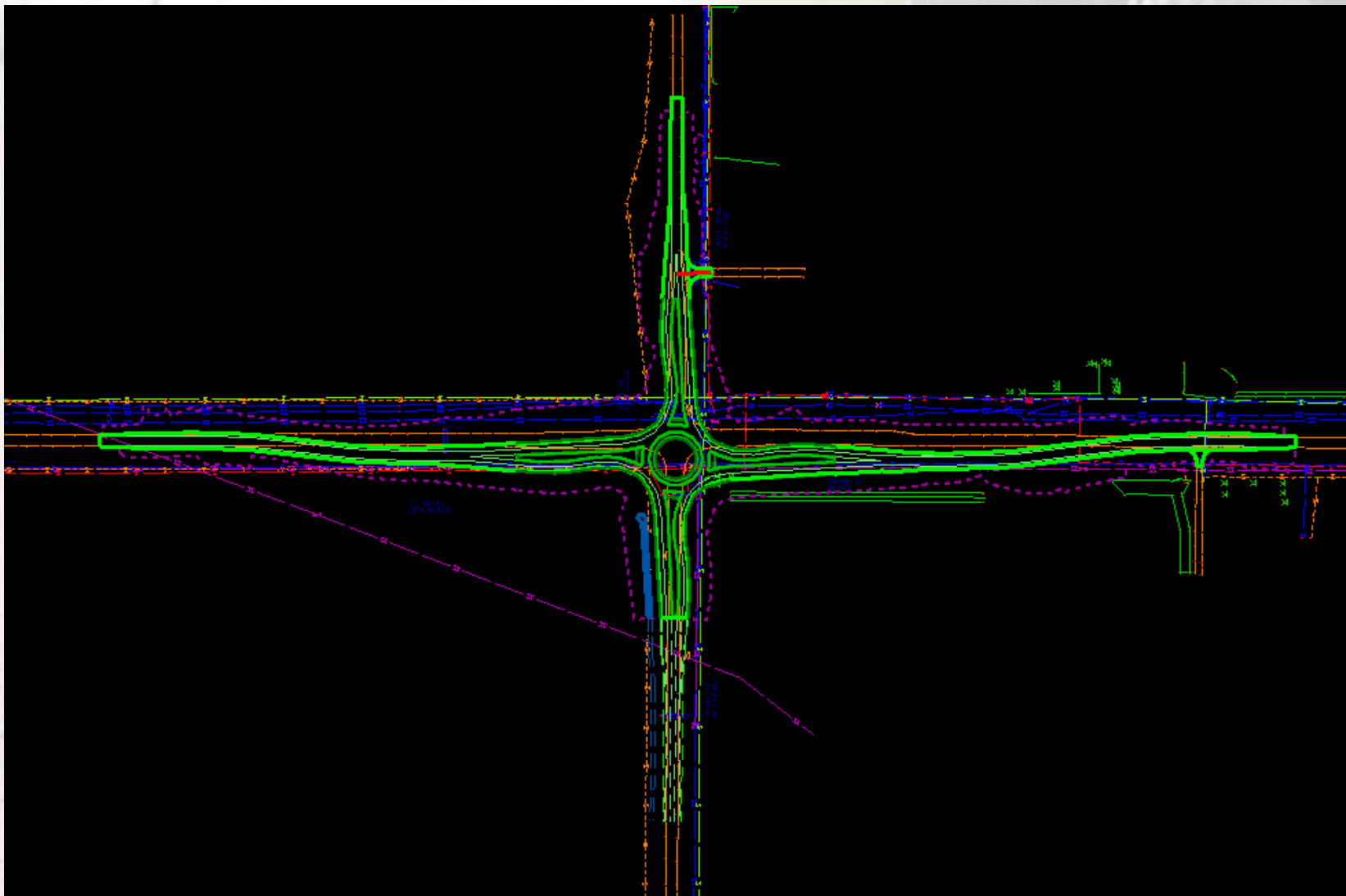


Design Considerations

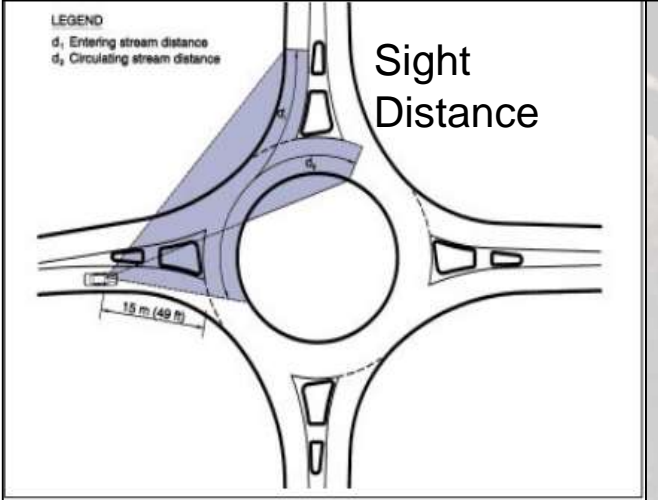
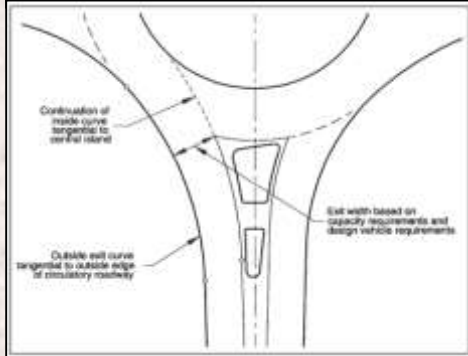
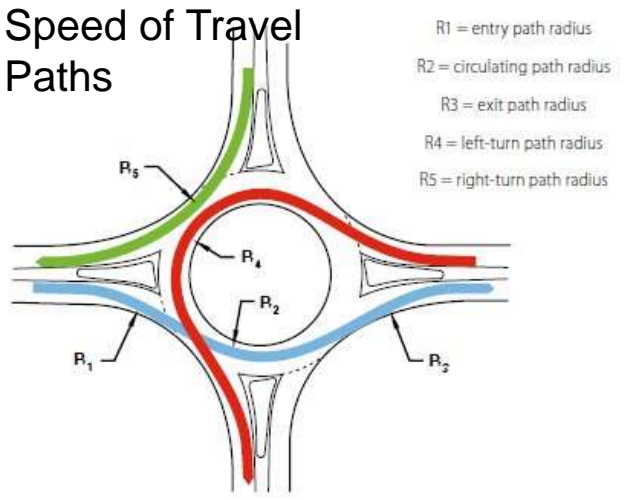
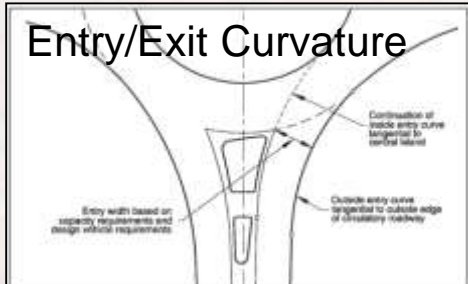
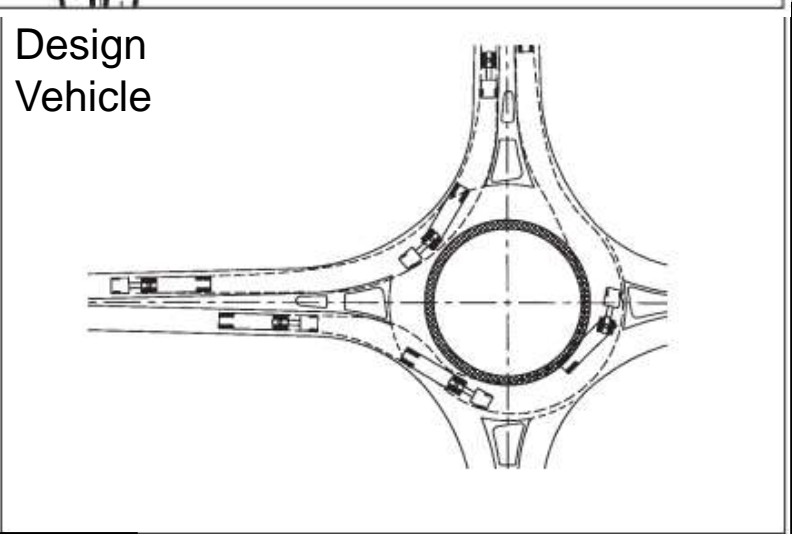
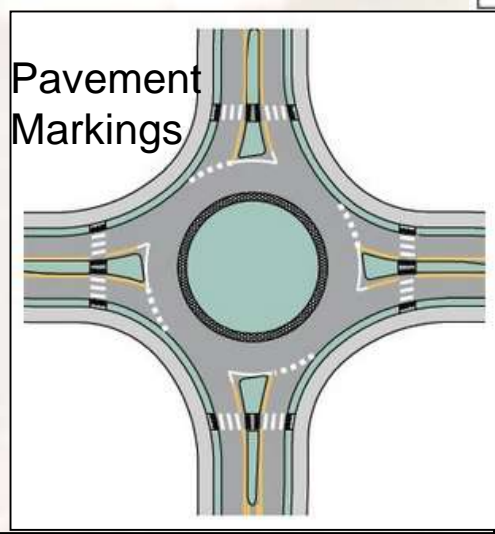
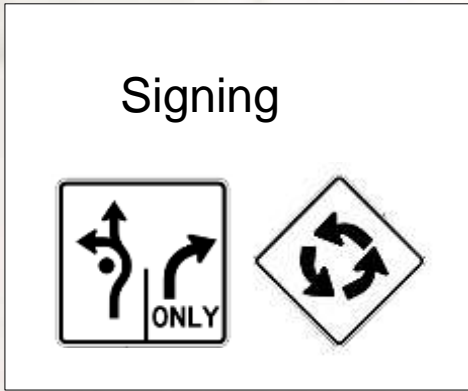
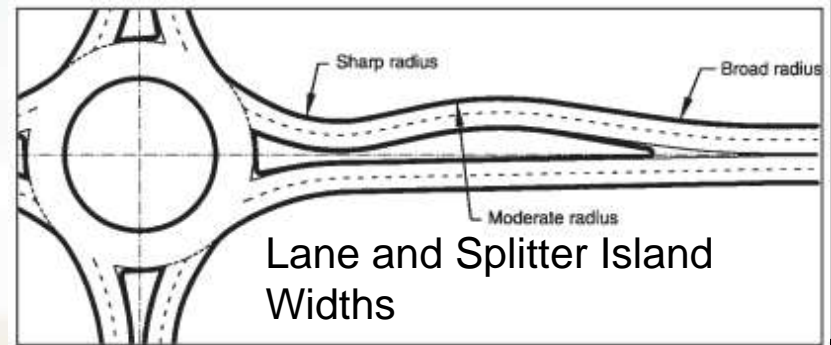
- County Goals
 - Consistency
 - Uniformity
- ND Hwy 1804
 - Pavement Design
 - Shoulder Widths
- Driver Behavior
 - Entrance Angles
 - Deflection
- Alignment



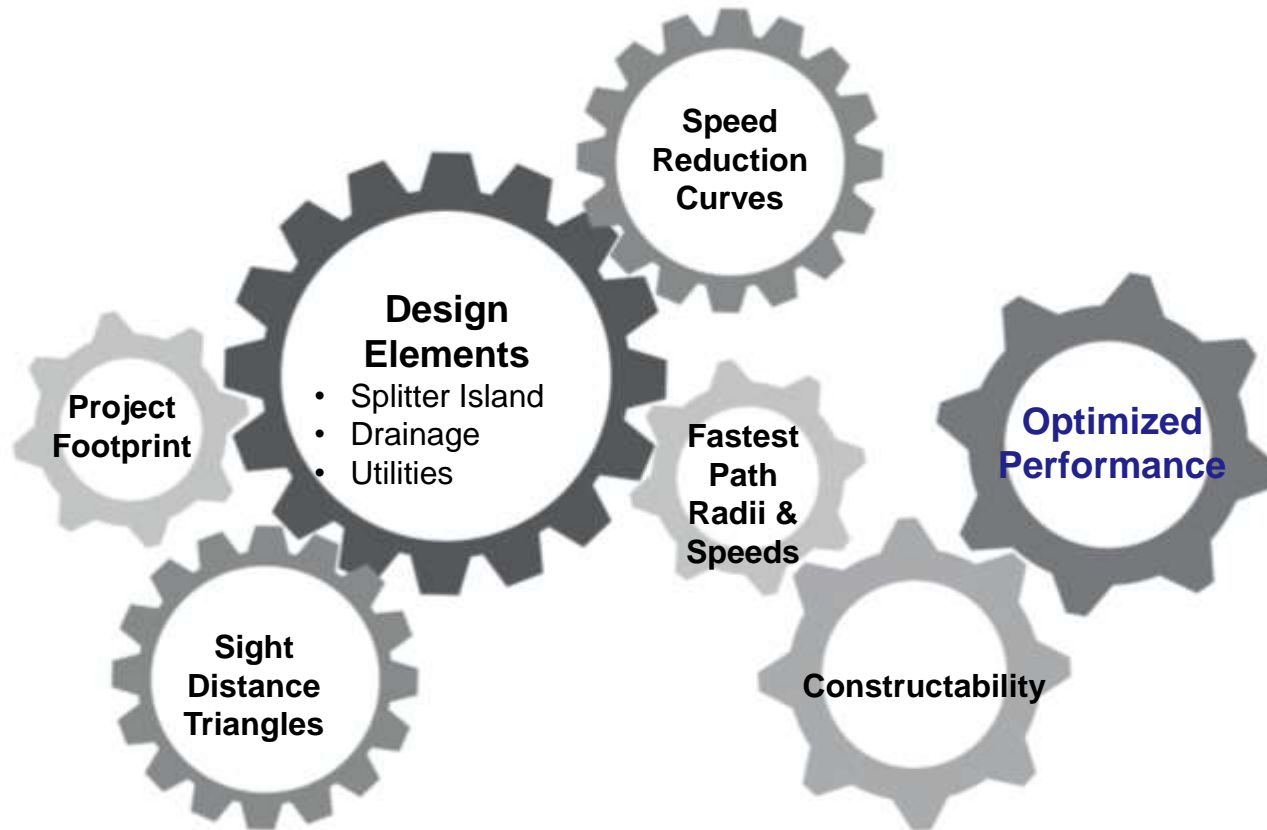
Design Considerations



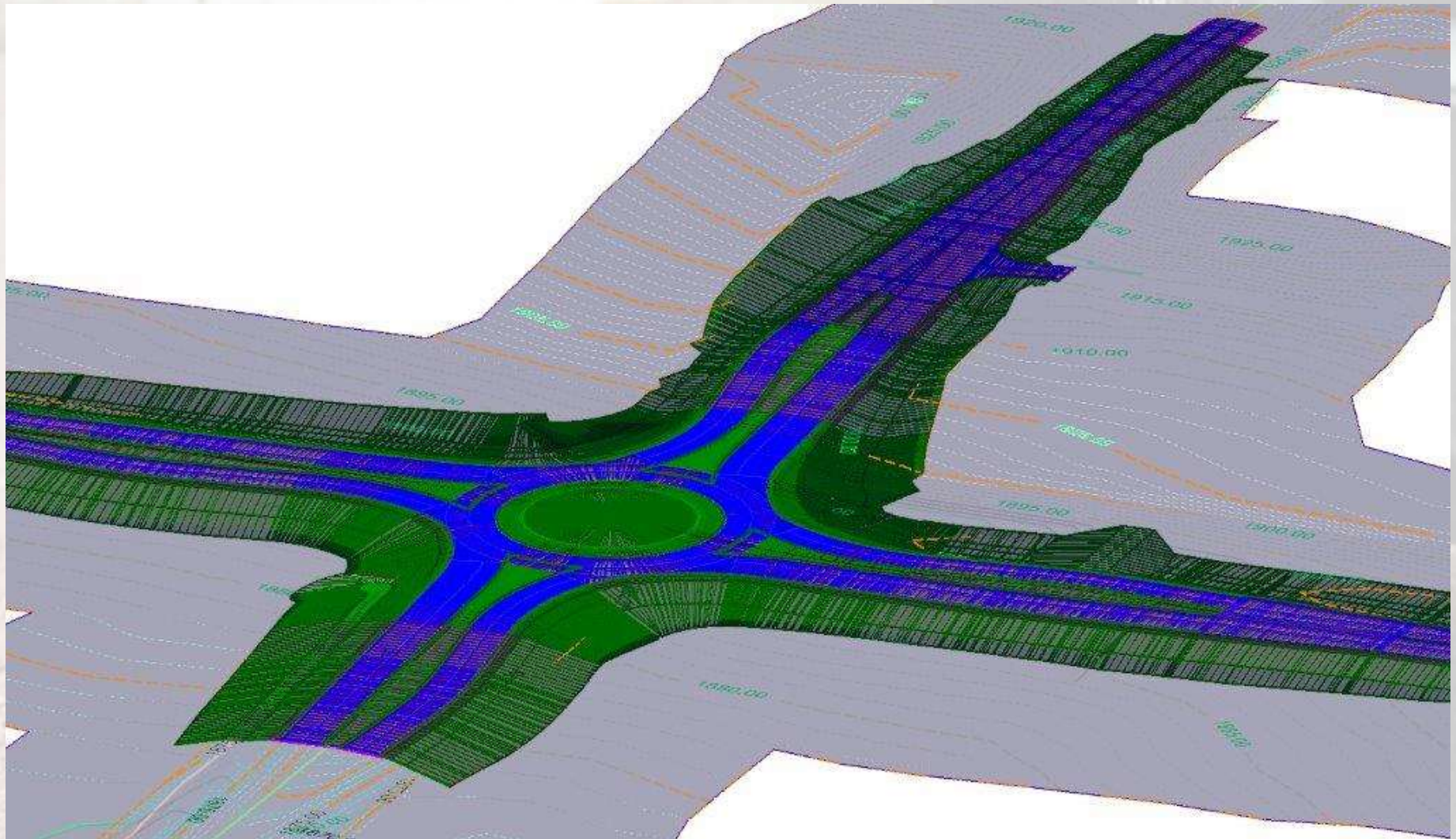
Roundabout Design



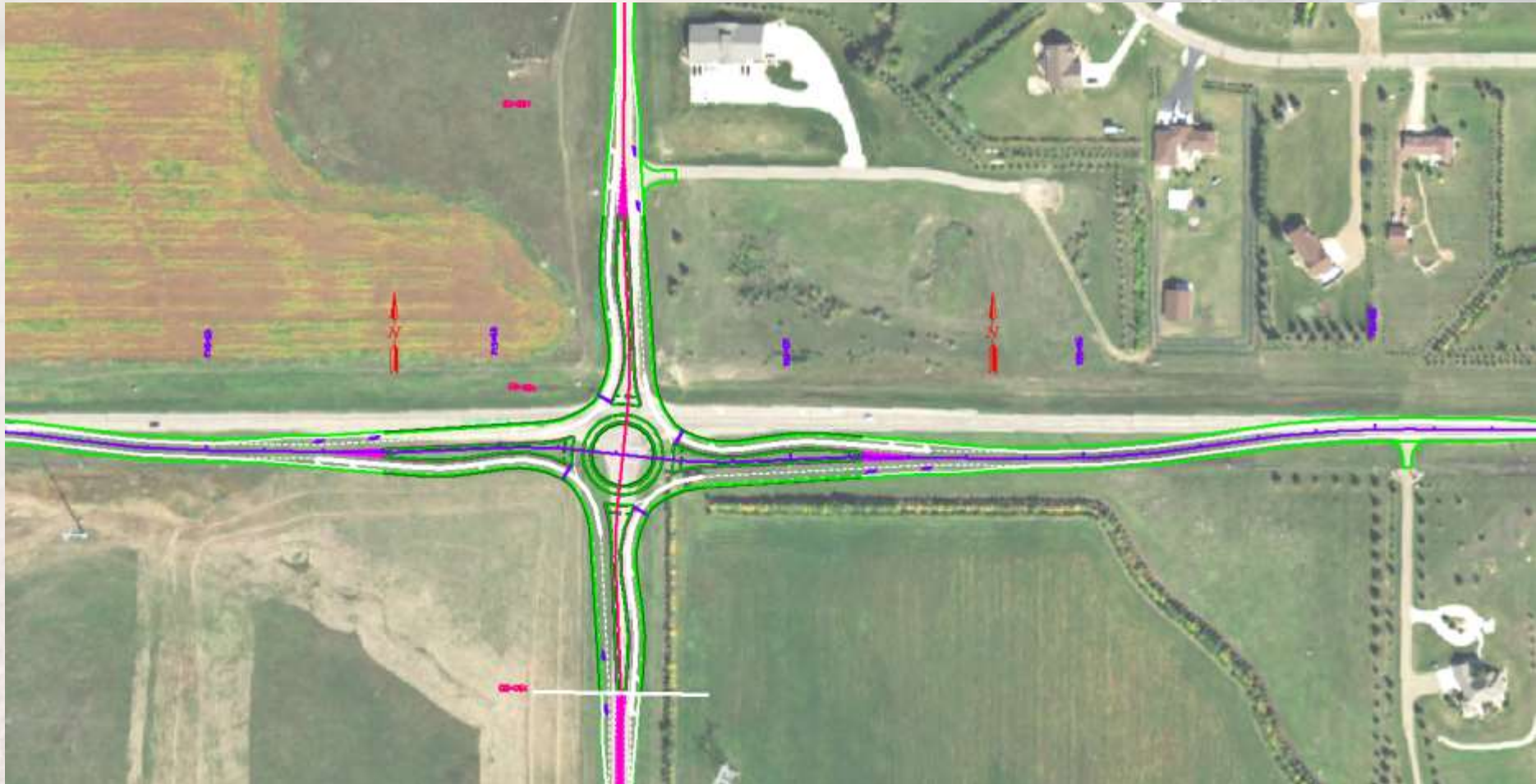
Roundabout Design



Final Roundabout Design



Final Roundabout Design

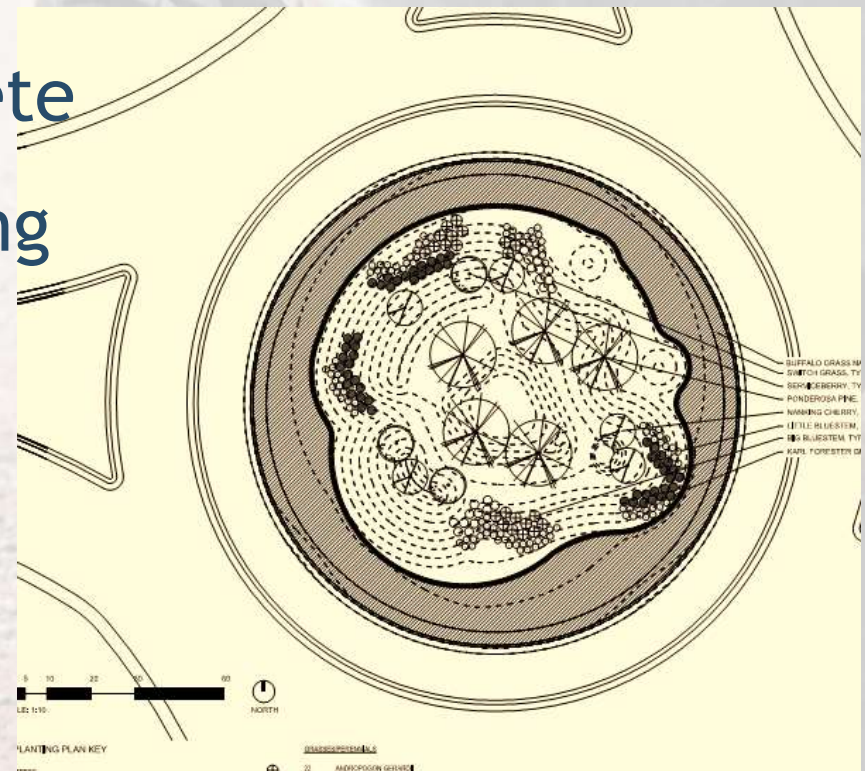


Final Roundabout Design

- 200' Inscribed Diameter
- Entry Width: 24'
- Exit Width: 32'
- One 16' Circulating Lane
 - Can be expanded to 30' in Future (Two 15' Lanes)
- 45 MPH Approach Speed
- 25 MPH Roundabout Circulatory Speed

Final Roundabout Design

- Flush Concrete Shoulders
- Mountable Curb on Splitter Islands
- Stamped Colored Concrete
- Center Island Landscaping





Public Education

- Educate People on Roundabout Navigation
 - Basic Rules
- Share Data Comparisons Between Other Intersection Control Types and Roundabout
 - Safety
 - Operations
- Measure of Effectiveness
 - Near Misses
 - Learning Curve

Public Education Video - City of Red Deer

ROUNDAABOUT BASICS

➤ SLOW DOWN

SLOW DOWN
AND WATCH FOR SIGNS

ROUNDAABOUT BASICS

➤ SLOW DOWN
➤ CHOOSE LANE

CHOOSE LANE
AND SIGNAL

ROUNDAABOUT BASICS

➤ SLOW DOWN
➤ CHOOSE LANE
➤ YIELD
➤ ENTER

ENTER
LOOK LEFT AND YIELD
TO ONCOMING TRAFFIC

ROUNDAABOUT BASICS

➤ SLOW DOWN
➤ CHOOSE LANE
➤ YIELD
➤ ENTER
➤ STAY IN LANE

STAY IN LANE
TO YOUR EXIT

Burleigh County N Washington St & ND 1804 Intersection

Whitney Schroeder, PE, PTOE
whitney.schroeder@hdrinc.com



33rd Annual North Central Local Roads Conference
Rapid City, SD - October 17-18, 2018

