

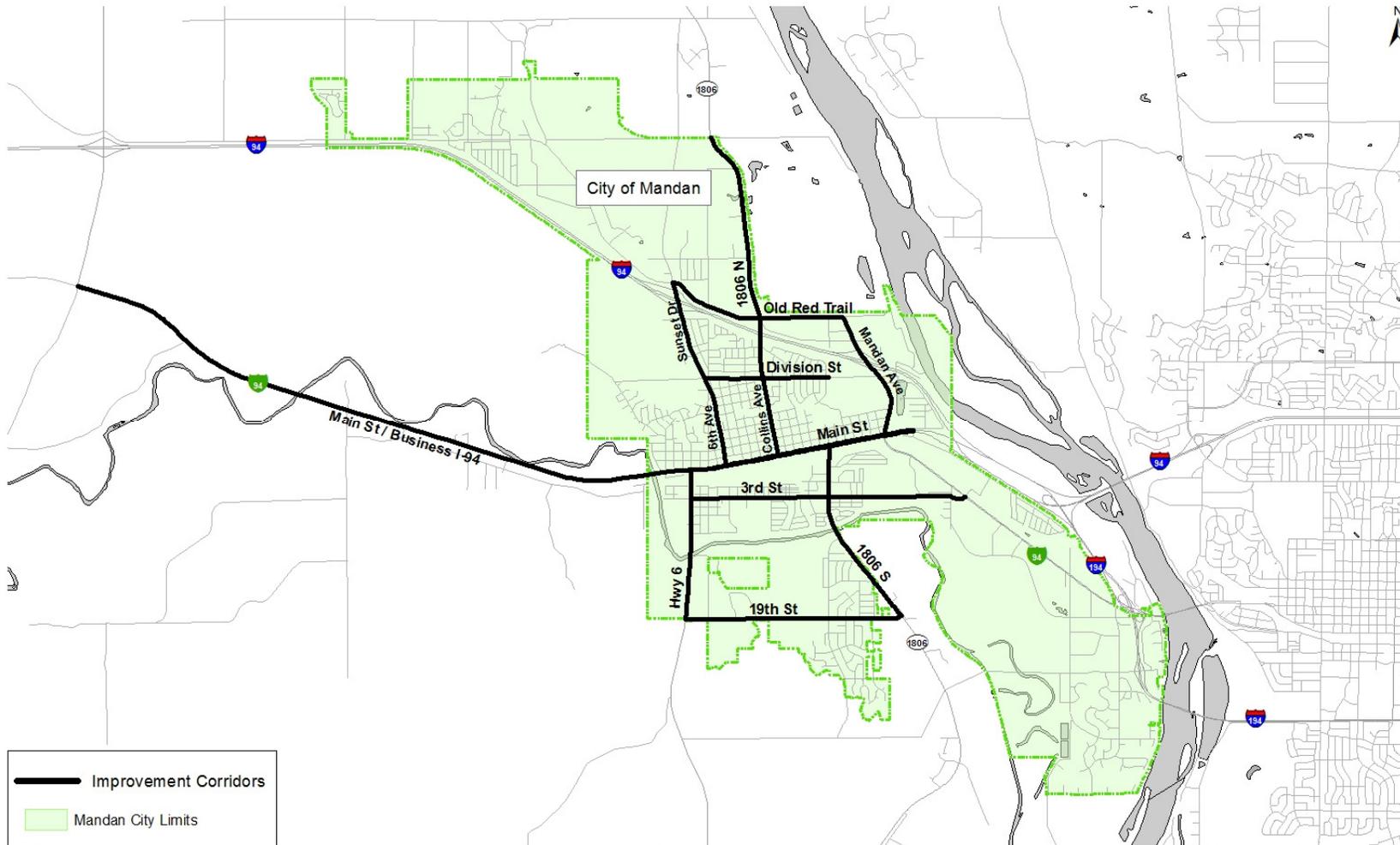


Mandan-Bismarck Corridor Improvement Study

Mandan Commission Meeting
August 2, 2016
Mandan City Hall



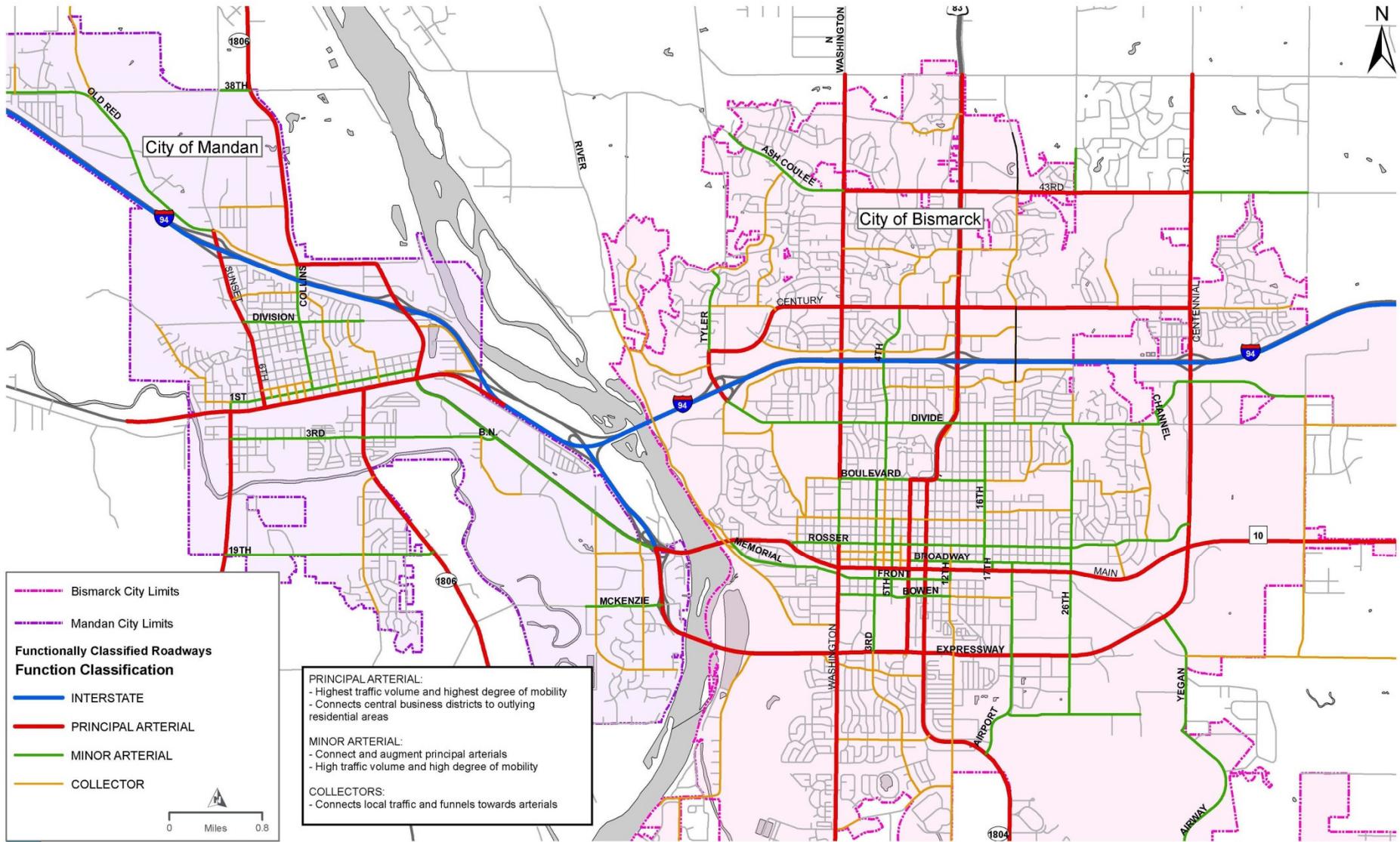
Mandan Corridors



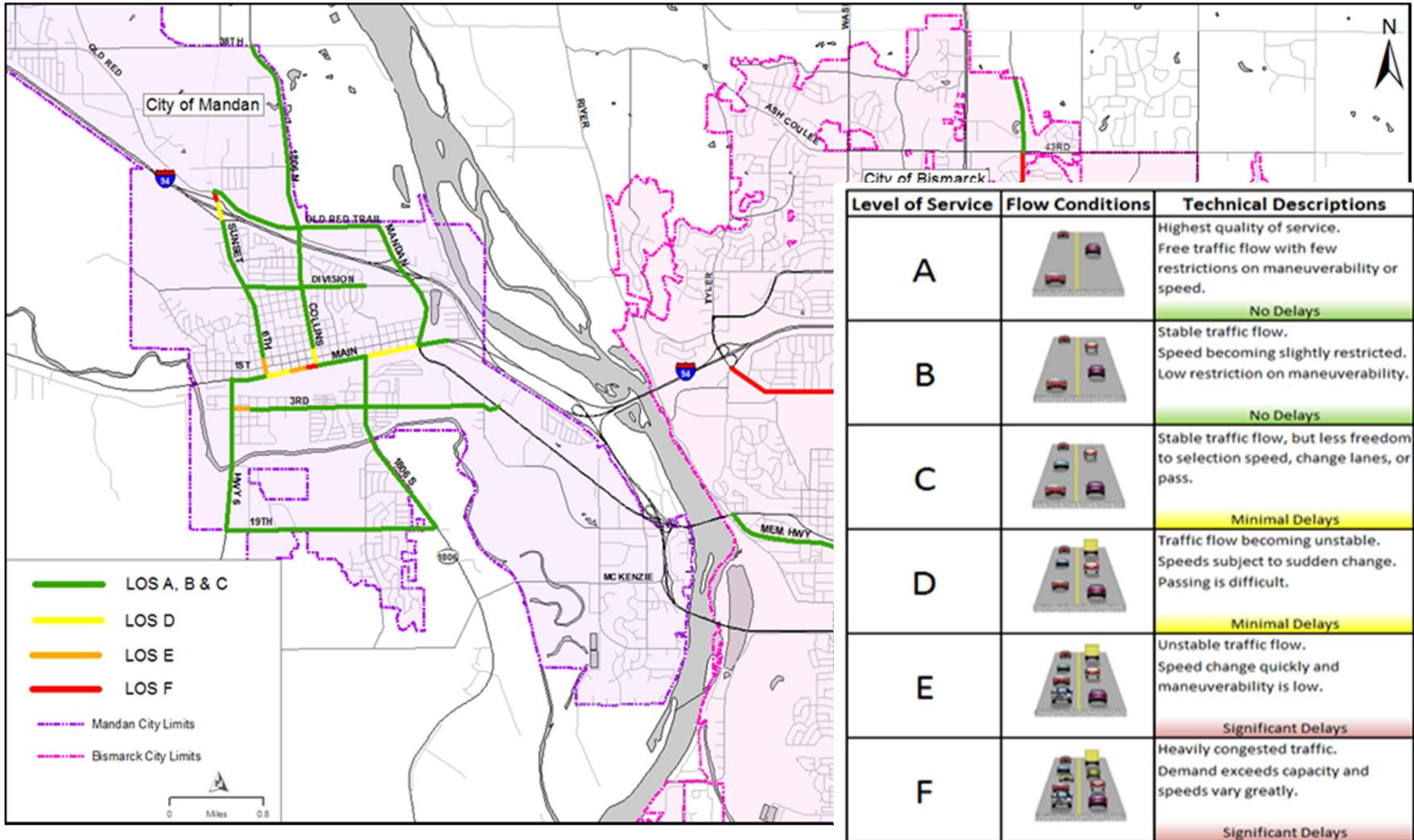
Study Schedule



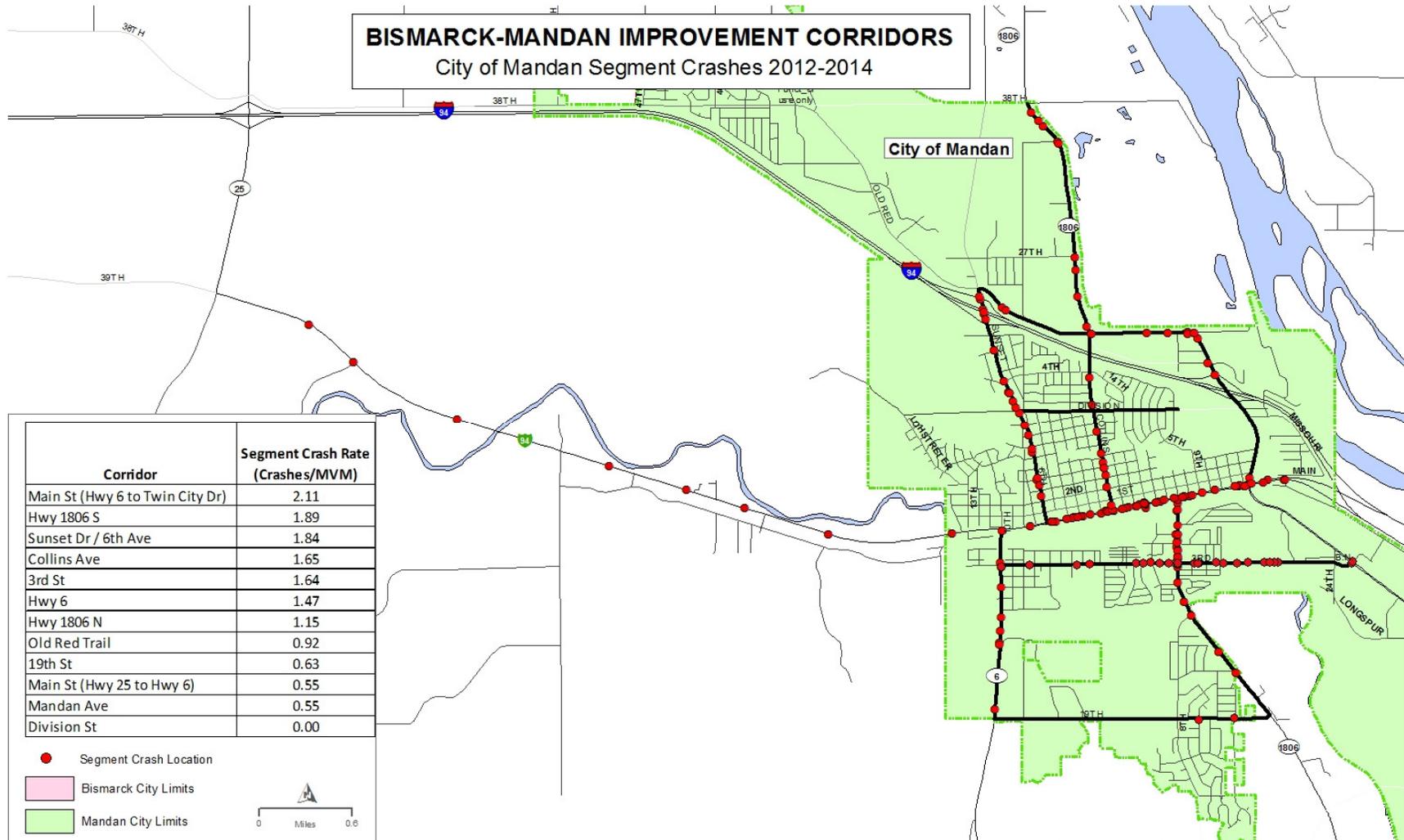
Roadway Functional Classification



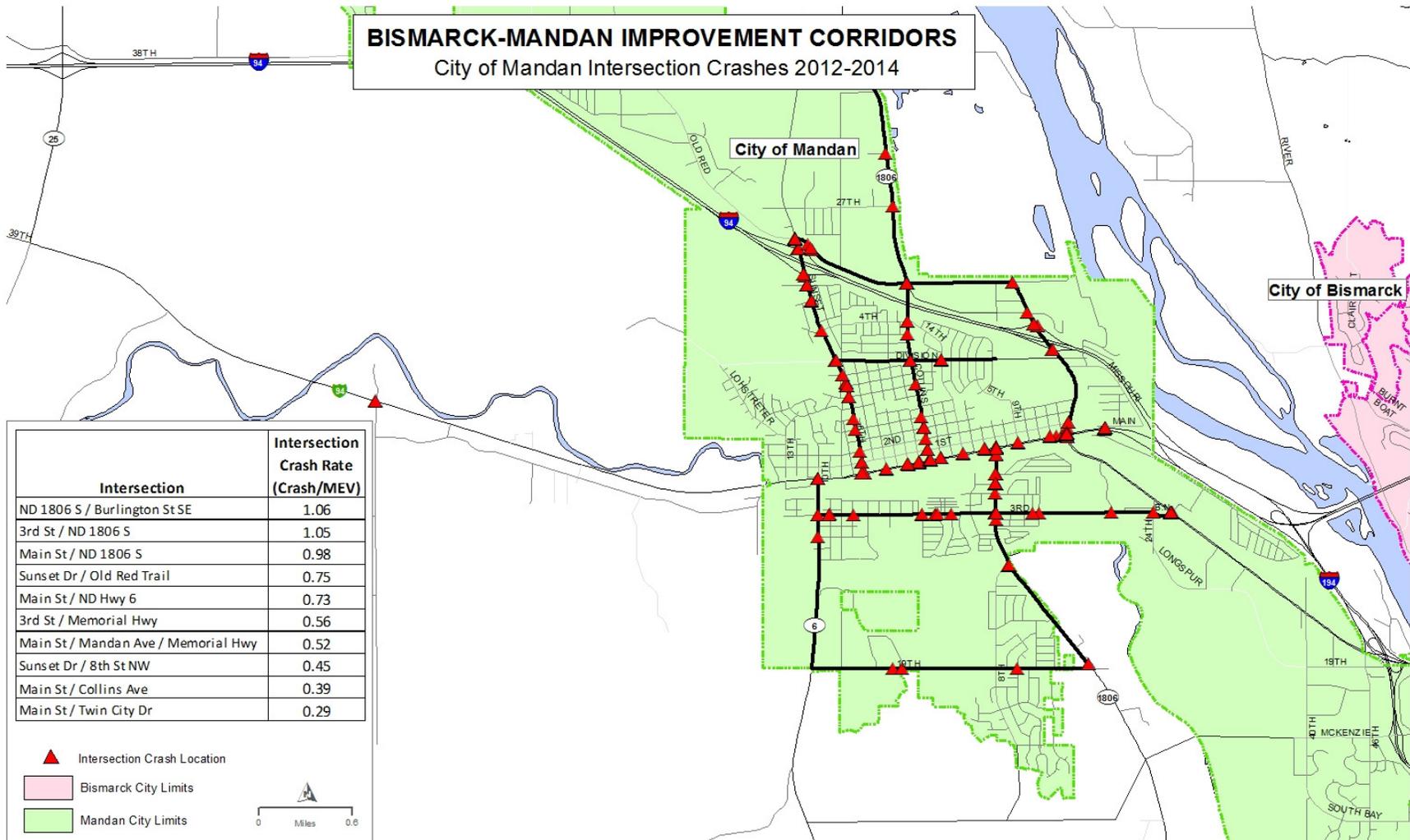
Projected 2040 Level of Service (LOS)



Analysis- Traffic Crashes



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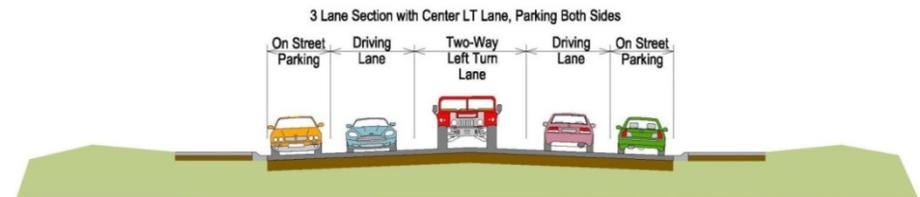
Main Street Corridor

ND Hwy 25 to Twin City Drive

Recommended Alternative

- No-build between Hwy 25 and 10th Avenue NW (Hwy 6)
- Install 3-lane section between 10th Avenue NW and 3rd Avenue NE
 - Maintain on-street parking on north side
 - Add on-street parking on the south side
 - Lengthen right-turn lane at major intersections
- Coordinate all traffic signals and add protected left turn phasing at all signalized intersections.
- Re-stripe all crosswalks and improve all crosswalks
- Install Pedestrian Hybrid Beacon, (HAWK beacon) at un-signalized intersections, If warranted
- Add advanced pedestrian crossing signage at the intersections of 2nd Avenue NW and 4th Avenue NW

The anticipated construction cost is \$910,000. This cost includes \$780,000 for HAWK beacons



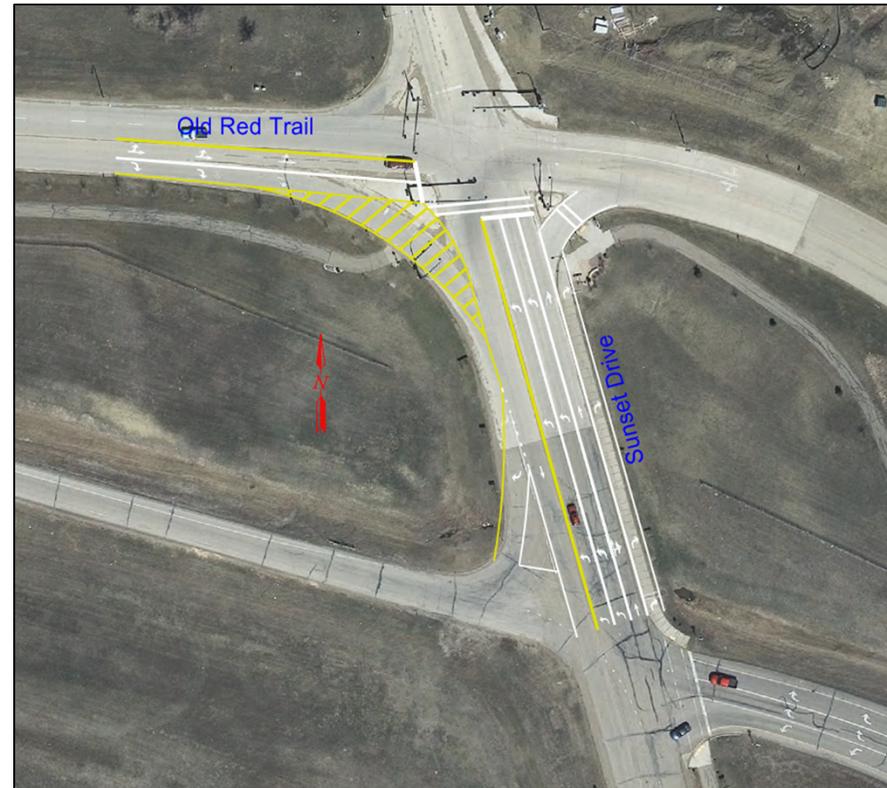
Sunset Drive/6th Avenue Corridor

Main Street to Old Red Trail

Recommended Alternative

- No-build between Main Street and North ramp terminal of the I-94/Sunset Drive Interchange
- Intersection of Sunset Drive and Old Red Trail
 - Install a dedicated right turn lane
 - Remove the channelized right-turn lane
 - Narrow the through lane for the southbound traffic
 - Add clear advanced signage for drivers
 - South ramp terminal of the I-94/Sunset Drive Interchange Install signal control on channelized right turn on eastbound-to-southbound approach
- Coordinate timing of signals at the I-94 westbound and eastbound ramp terminals with the signal at Old Red Trail

The anticipated construction cost is \$180,000



ND Highway 6 Corridor

19th Street to Main Street

Recommended Alternative

- No-build between 19th Street and Main Street

- Intersection of ND Hwy 6 and 19th Street
 - Install a southbound left turn lane and a northbound right turn lane (Currently under development)
 - Install advance intersection signing
 - Install intersection lighting

The anticipated construction cost is \$235,000



Old Red Trail Corridor

Mandan Avenue to Sunset Drive

Recommended Alternative

- No-build between Mandan Avenue and Sunset Drive
- Intersection of Old Red Trail and Mandan Avenue
 - Flatten horizontal curve
 - Add advance intersection signing
 - Consolidate Tesoro access to one approach as a radial “T” intersection
 - Provide left and right turn lanes

The anticipated construction cost is \$700,000.



Mandan Avenue Corridor

Main Street to Old Red Trail

Recommended Alternative

- No-build between Main Street and Old Red Trail
- Intersection of Mandan Avenue and Main Street
 - Update and restripe the pavement markings on intersection approaches
 - Add lane extension skips through the intersection to help drivers navigate
 - Add overhead lane designation signs on mast arms of traffic signal

The anticipated construction cost is \$13,000



3rd Street Corridor

ND Hwy 6 to Memorial Highway

Recommended Alternative

- No-build between ND Hwy 6 and Memorial Highway
- Intersection of 3rd Street and 9th Avenue
 - Replace 4-way stop with 2-way stop
 - Add Pedestrian Signing
 - Install Pedestrian Hybrid Beacon, (HAWK beacon)
- Intersection of 3rd Street and 8th Avenue
 - Replace 4-way stop with 2-way stop
 - Add Pedestrian Signing
 - Install Pedestrian Hybrid Beacon, (HAWK beacon)
- Intersection of 3rd Street and Memorial Highway
 - Add curb and gutter or guardrail along radius

The anticipated construction cost is \$264,000



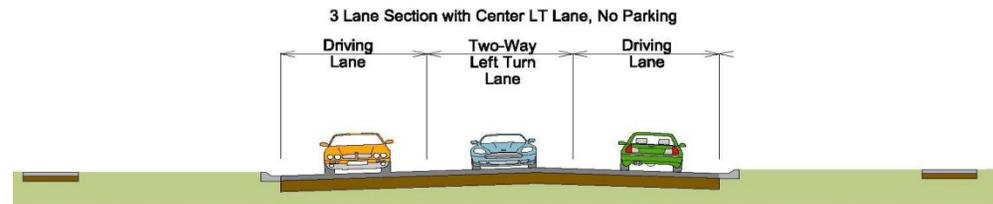
19th Street Corridor

ND Hwy 6 to ND Hwy 1806

Recommended Alternative

- Extend the existing urban section from Ridge Drive to HWY 6 with a 3-lane section
 - No on-street parking
- Extend the existing urban section from 14th Avenue SE to ND Hwy 1806 with a 3-lane section
 - No on-street parking
- Provide turn lanes to all major intersections between Ridge Drive and ND Hwy 6
- 3-lane section between Ridge Drive and 14th Avenue SE
 - No on-street parking

The anticipated construction cost is 3,411,000



Collins Avenue Corridor

Main Street to Old Red Trail

Recommended Alternative

- No-build between Main Street and Old Red Trail
- Intersections of Collins Avenue at 5th Street NE, 7th Street NE and Division Street
 - offset retaining walls at the 5th Street NE
- Intersection of Collins Avenue and 14th Street
 - Replace 4-way stop with a 2-way stop
 - Signalize if warranted
- Intersection of Collins Avenue and Old Red Trail
 - Because of the proposed Starion Sports Complex intersection improvements may be needed
 - Install traffic signal and left turn lanes in all quadrants or Install a roundabout

The anticipated construction cost is \$390,000



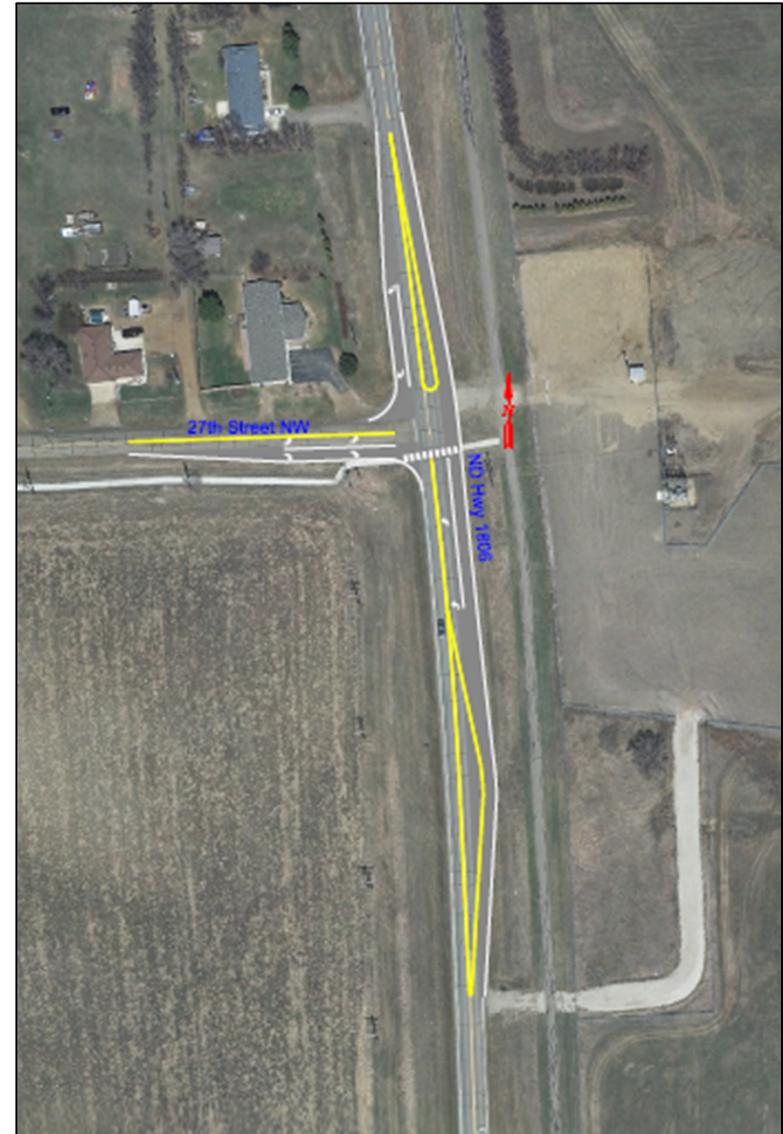
ND Hwy 1806N Corridor

38th Street to Old Red Trail

Recommended Alternative

- No-build between 38th Street and Old Red Trail
- Intersection of ND Hwy 1806 N and 27th Street NW
 - Install left turn lane on northbound ND Hwy 1806
 - Install right turn lane on southbound ND Hwy 1806
 - Install right/left turn lanes on the eastbound on 27th Street
 - Install a Pedestrian Hybrid Beacon (HAWK beacon) at the pedestrian crossing, if warranted.

The anticipated construction cost is \$322,000



ND Hwy 1806S Corridor

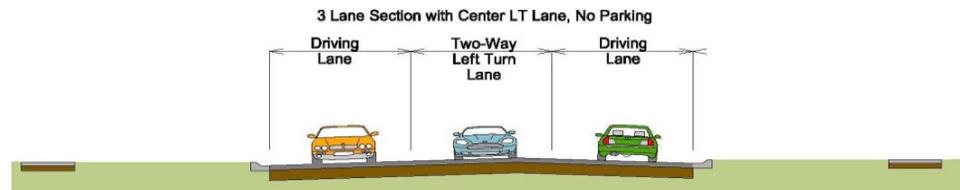
Main Street to 19th Street SE

Recommended Alternative

- 3-lane section between 3rd Street SE to Main Street
 - No on-street parking
- Intersection of ND Hwy 1806 S and 3rd Street SE
 - Extend curb and gutter around radius in NW quadrant
 - Line up left turn lane offsets on the east and west approaches
 - Utilize the boulevard on the east approach
 - Dedicated right turn lane on the north approach
 - Dedicated left turn lane on south approach
- No-build between 3rd Street SE and 19th Street SE



Note: Aerial photo is out of date. Does not show development in NE quadrant



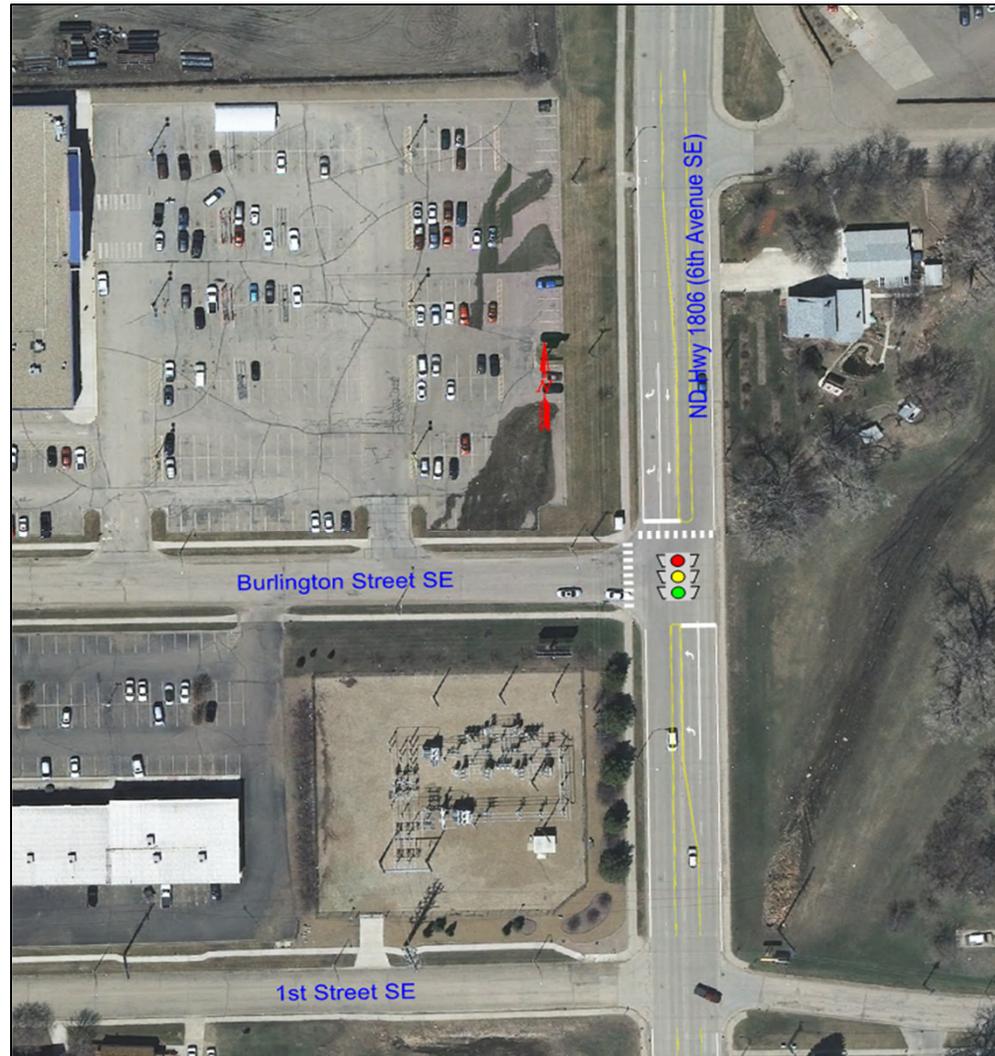
ND Hwy 1806S Corridor (Continued)

Main Street to 19th Street SE

Recommended Alternative

- Intersection of ND Hwy 1806 S and Burlington St.
 - Add a pedestrian crossing and sidewalk along the east side of ND 1806 S (6th Avenue SE)
 - Install traffic signal if warranted
 - If signal not warranted install a Pedestrian Hybrid Beacon (HAWK beacon) at the pedestrian crossing
 - Install left turn lane on ND 1806 S on the south approach and right turn lane on north approach

The anticipated construction cost is \$405,000



Division Street Corridor

Sunset Drive to 8th Avenue NE

Recommended Alternative

- No-build between Sunset Drive and 8th Avenue NE
- Intersection of Division St and Sunset Drive
 - Restripe stop bar
 - Trim vegetation and prune trees
- Intersection of Division St and 6th Avenue NW
 - Eliminate yield and stop control for Division Street approaches

The anticipated construction cost is \$13,700



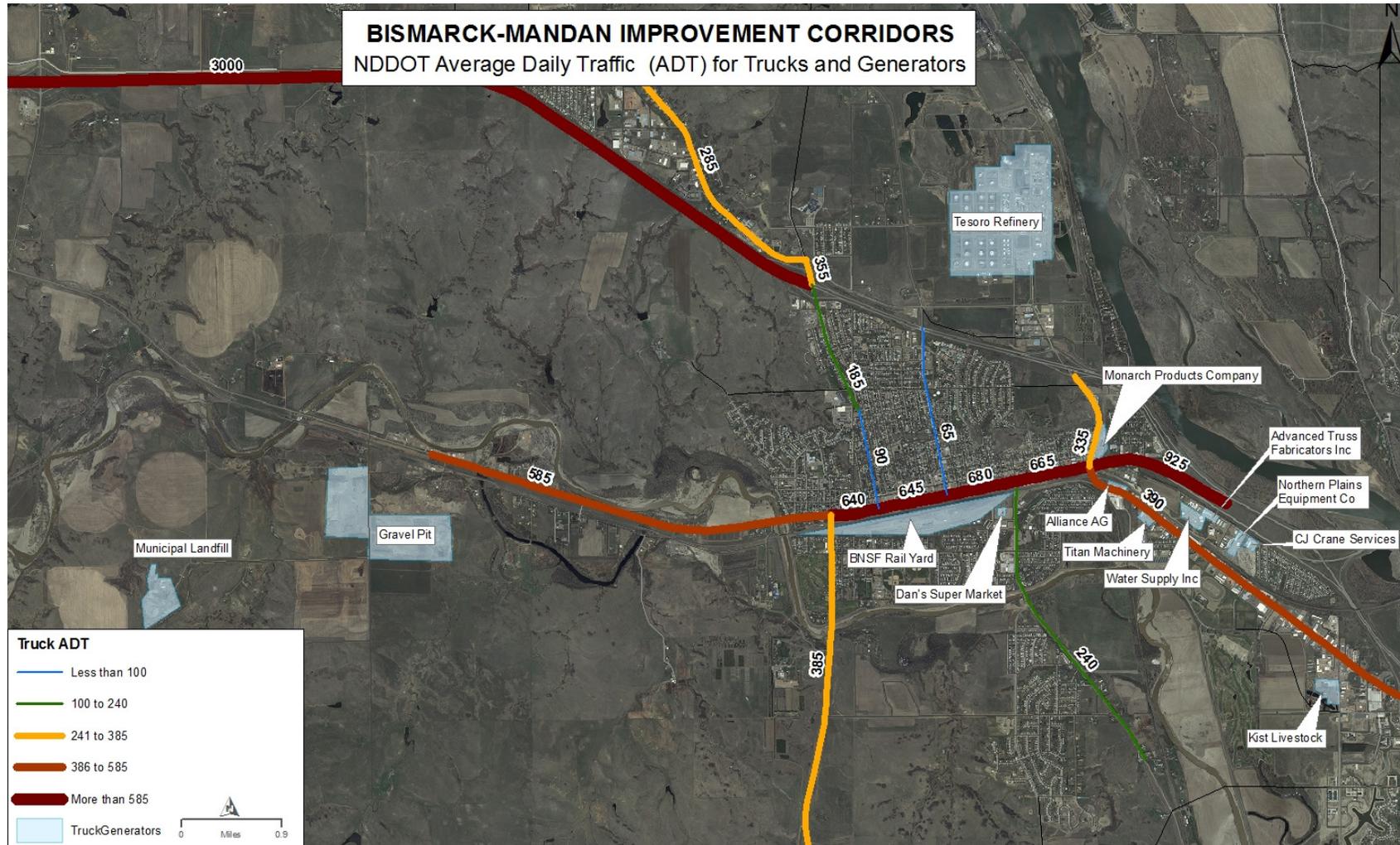
Corridor Improvement Prioritization

The corridors are listed in order of highest priority (1) to lowest priority (11) below:

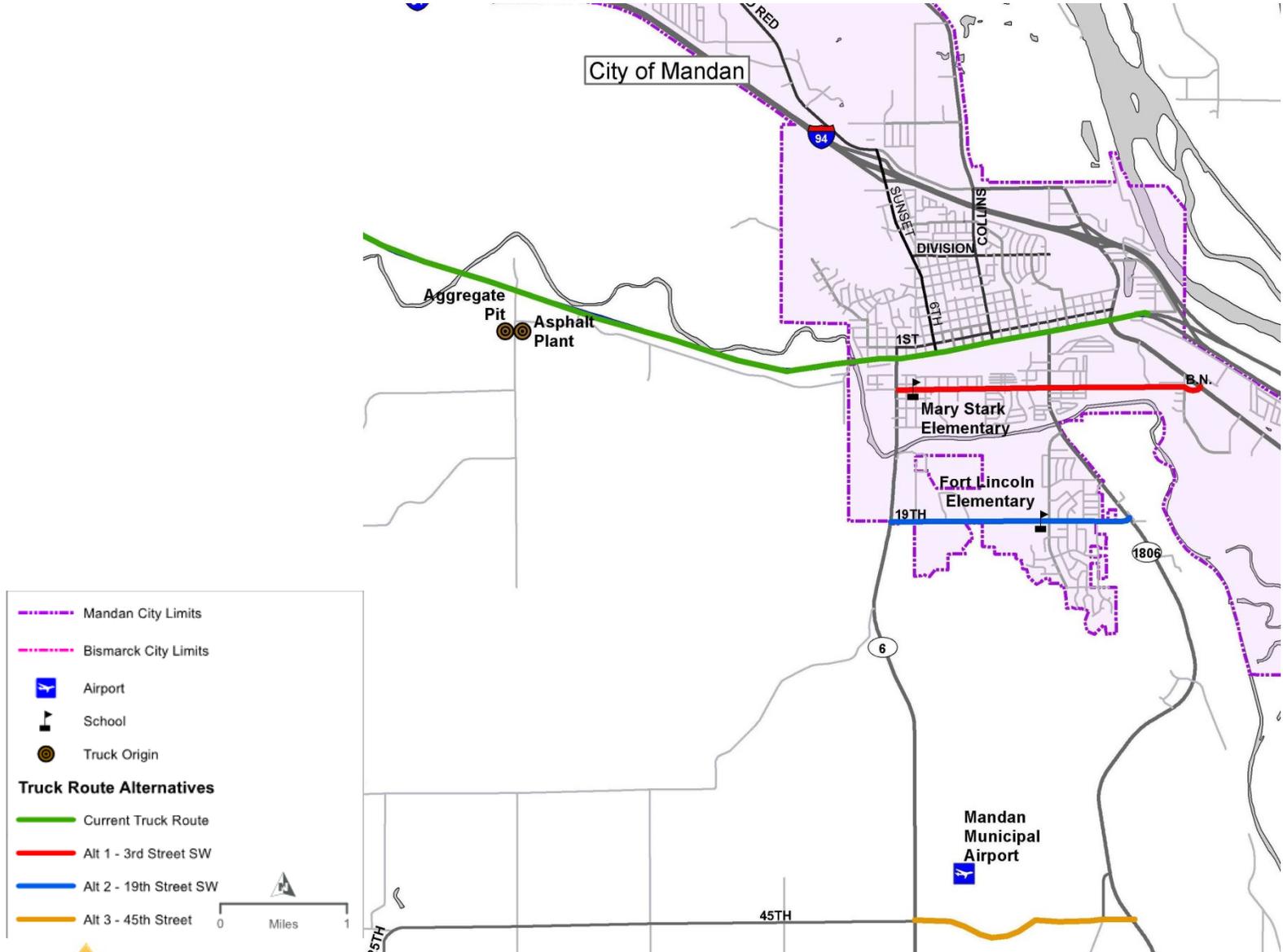
1. Main Street /Business I-94 (ND Highway 25 to Twin City Drive)
2. Collins Avenue (Main Street to Oil Red Trail)
3. 3rd Street (ND Highway 6 to Memorial Highway)
4. Sunset Drive/6th Avenue NW (Main Street to Oil Red Trail)
5. ND Highway 1806 South (Main Street to 19th Street)
6. ND Highway 6 (Main Street to 19th Street NW)
7. Old Red Trail (Mandan Avenue to Sunset Drive)
8. Mandan Avenue/ND Highway 1806 (Main Street to Old Red Trail)
9. ND Highway 1806 North (Old Red Trail to 38th Street)
10. 19th Street (ND Highway 6 to ND Highway 1806)
11. Division Street (Sunset Avenue to 8th Avenue NE)

Truck Route Evaluation

Current Truck Average Daily Traffic (ADT)



Truck Route Alternatives



Truck Route Recommendation

- Relocation of aggregate pit and the asphalt plant
- Anticipated cost for reconstructing 45th Street
- The no build alternative is being recommended

Questions or Comments?

