



Engineering Department

DATE: January 23, 2024

FROM: Gabe Schell, City Engineer

ITEM: NDDOT Urban Program Solicitation

REQUEST:

Consider request to pursue NDDOT Urban Road and Urban Regional program projects

BACKGROUND INFORMATION:

The North Dakota Department of Transportation (NDDOT) is soliciting local public agencies for projects for the Urban Road and Urban Regional programs. Project applications are due on February 2, 2024, to the Bismarck-Mandan Metropolitan Planning Organization (MPO) where they will be ranked and prioritized before sending to the NDDOT for review and potential award.

Urban Roads Program

The Urban Road program is for functionally classified roadways within the Bismarck-Mandan Metropolitan Planning Organization's urbanized boundary. Projects within Morton County, Mandan, Burleigh County, Lincoln or Bismarck are eligible for funding as long as they are functionally classified roadways and are programmed by the MPO policy board which has representation from each political subdivision. An upcoming project programmed and its year of federal funding is the City of Bismarck's S Washington Street project from Burleigh Ave to the south Bismarck drainage ditch in 2026 (but advanced constructed in 2024). The NDDOT has indicated there is approximately \$5.5 million available for FY28 funding.

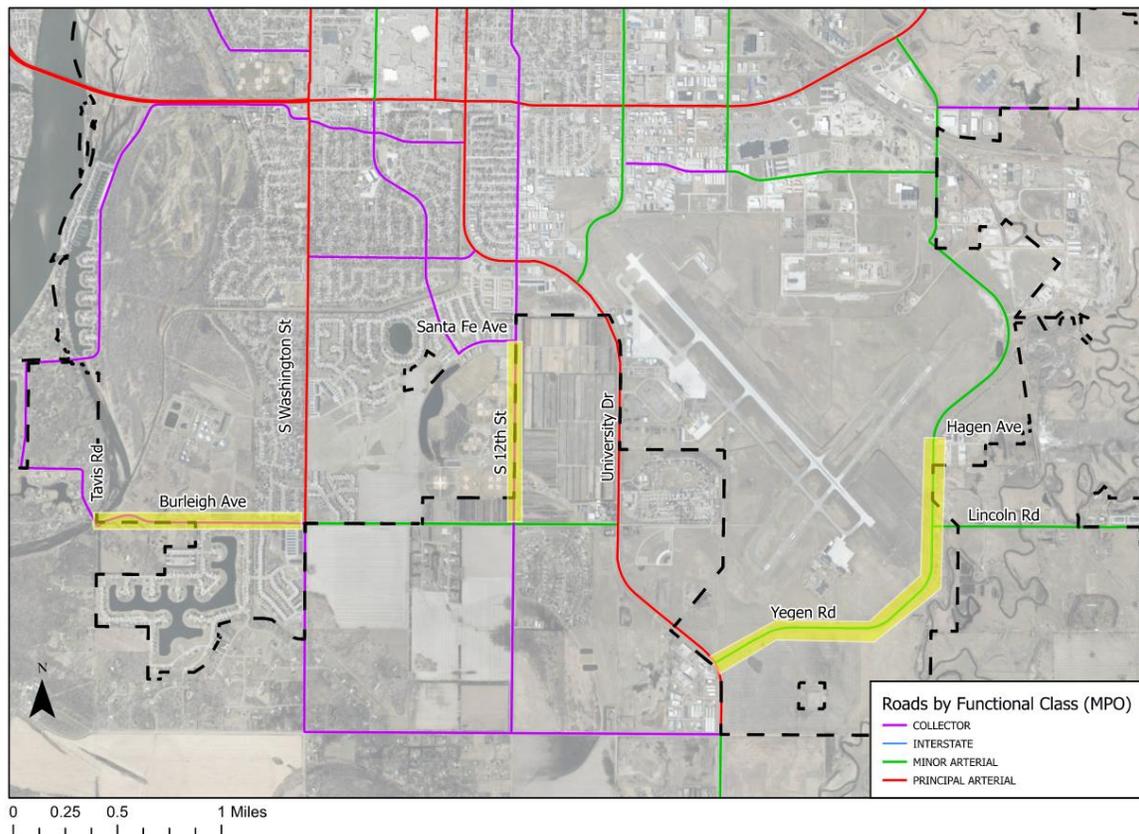
The MPO's Arrive 2045 Metropolitan Transportation Plan ([MTP](#)) developed a short-range project list that is intended to be used as the basis for identifying projects for the Urban Road program. The list is fiscally constrained using anticipated federal revenue but also recognizes that Bismarck has an additional ½ cent sales tax revenue that could be applied to these types of projects. The additional sales tax revenue would allow the short-range project lists to fund more projects from this list than if it was constrained only through federal funds. Six of the top projects have been programmed or constructed and are attached for your reference.

The 2023 solicitation for FY2027 projects netted the MPO no new projects in this program. Therefore, the primary request will be utilizing previously requested, but not awarded projects. The MPO Policy Board previously promoted a Mandan 8th Avenue NW/27th Street NW reconstruction project and a series of Bismarck mill and overlay projects. Mandan has indicated they would apply for their project again.

On occasion, Urban Roads funding has become available earlier than the original year designated due to other project's development delays or through additional federal aid distribution. The pavement rehab projects listed below would be prepared in advance and shelf-ready should additional funding become available. I would like to submit the following project to the NDDOT for consideration:

- Burleigh Avenue – Tavis Road to Washington Street, South 12th Street – Santa Fe Avenue to Burleigh Avenue and Yegen Road – University Drive to Hagen Avenue – mill and overlay

Proposed Urban Roads Pavement Rehab Projects



Urban Regional Program

The Urban Regional program is for roadways on the NDDOT's regional system within a community. For Bismarck, these roadways are State Street, 7th Street, 9th Street, University Drive, and Bismarck Expressway. Projects for this program are coordinated with the NDDOT's Bismarck District and are selected by the NDDOT. The NDDOT has programmed upcoming pavement rehabilitation projects on 9th Street from Main Avenue to Boulevard Avenue, 7th Street from Bismarck Expressway to Boulevard Avenue, and State Street/Boulevard Avenue from 6th Street to Divide Avenue. They have also programmed a traffic signal replacement project on Bismarck Expressway from N Washington Street to Burlington Drive. The 7th Street and 9th Street pavement rehab projects will be constructed in 2024 with the remaining projects

scheduled for 2025-2027. The project funding year for consideration for this solicitation is 2028 if the project(s) is selected to move forward.

The projects that I would recommend to NDDOT are the following:

- 1. Regional roadway sign replacement project (previously applied)
- 2. 7th St. and 9th St. underpass stormwater improvements (previously applied)
- 3. 7th Street and Boulevard Avenue and 9th Street and Boulevard Avenue traffic signal improvements
- 4. Tyler Parkway and Westbound off ramp I-94 Ramp traffic signal improvements
- 5. Regional roadway microsurface pavement preservation
- 6. State Street Trail Rehabilitation – Divide Avenue to Calgary Avenue

Regional roadway sign replacement project (previously applied)



On the regional highway system, the NDDOT does not include the replacement of signs on pavement rehabilitation projects. The proposed signing project would evaluate the condition of signs throughout Bismarck on the urban regional system and ensure appropriate messaging and retro-reflectivity are provided. This could result in the removal of overhead mounted signs on Main Avenue (previously a regional system roadway) and 7th Street.

7th St and 9th St stormwater evaluation (previously applied)



This request is for NDDOT to perform preliminary engineering to evaluate the 7th Street and 9th Street railroad underpasses relating to stormwater events. During high-intensity rain events, the underpasses fill with water until the existing pumps can draw down the water. During this time, the underpasses are impassible. Possible results of this analysis could be increased pump capacity to decrease the frequency of flooding, automatic gate closures to close off access to the underpasses during inundation periods or dynamic signs informing drivers of the roadway.

7th St. & Boulevard Ave and 9th St. & Boulevard Ave Traffic Signal Replacement



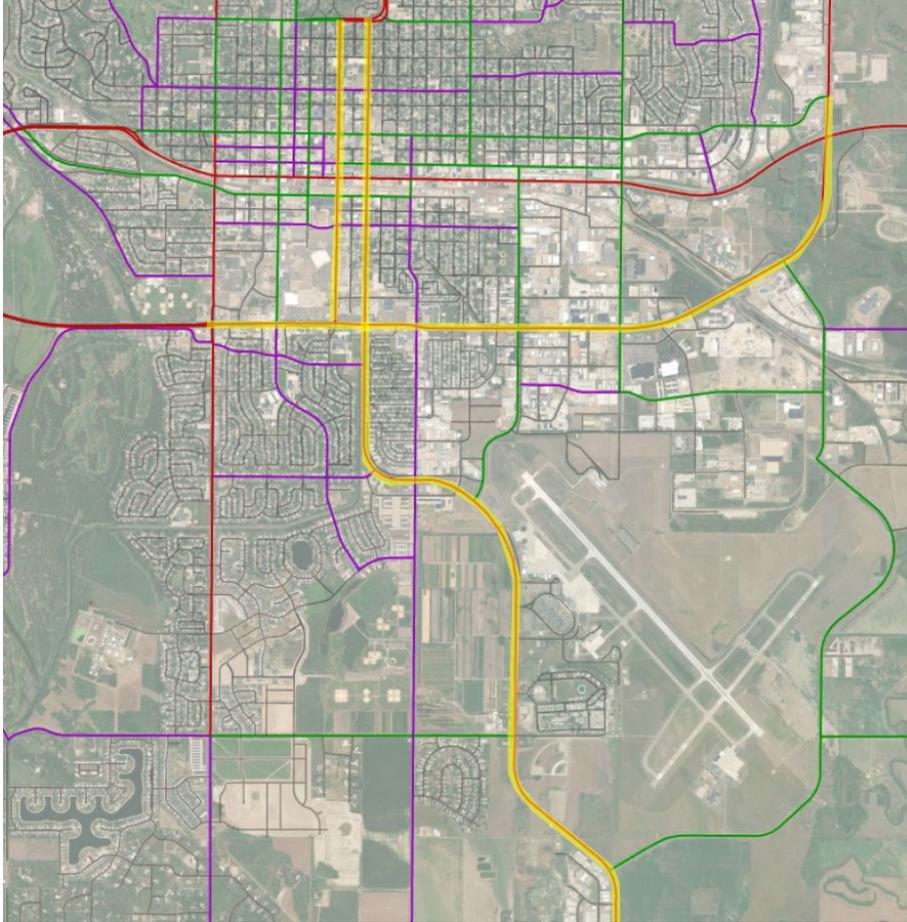
This request is for a project to remove the existing traffic signal systems and replace with a new system at each intersection. The existing systems were installed as part of the 2002/2003 State Street reconstruction project and have exceeded the expected 20-year service life. The control equipment is not compatible with the new "Centrac" operating system that is being implemented and the signal standards are showing deterioration and rust.

Tyler Parkway and I-94 Westbound Off Ramp Traffic Signal Replacement



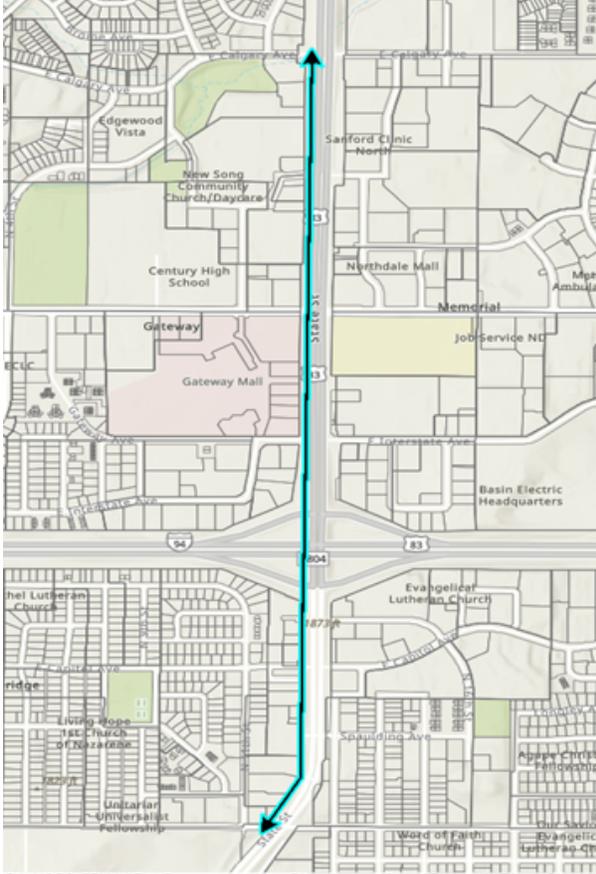
This traffic signal system was installed in 1995 as part of the Exit 157 Reconstruction project. The traffic signal structures are well beyond their service life. In 2023, a crack in one of the welds on a mast arm joint was discovered. Public Works hired a certified welder to make a temporary repair weld on the mast arm joint.

Urban Regional Roadways Microsurfacing



This project would place a microsurface application on the asphalt roadways NDDOT most recently overlaid or plans to overlay in the immediate future (7th Street, 9th Street, Bismarck Expressway, University Dr). Typical City of Bismarck pavement management treatment include a chipseal/fogcoat in the subsequent construction season but NDDOT does not program their projects similarly. This project would place a thin wearing course on these roadways.

State Street Trail Rehabilitation – Divide Avenue to Calgary Avenue



This section was originally constructed in 2003 from Divide Avenue to Calgary Avenue as part of the State Street reconstruction project. The multi-use trail is located along the west side of State Street. During the 2023 State Street safety improvement and concrete pavement repair project, the intersection ramps were brought up to current ADA standards. The multi-use trail is approximately 1.5 miles in length and 10 feet in width. Two alternatives will be researched, one for an asphalt overlay and the other for a reconstruction in concrete, based on life cycle cost analysis. This project was also requested under the NDDOT's Transportation Alternatives program solicitation.

RECOMMENDED CITY COMMISSION ACTION:

Recommend approval of pursuing the following projects for NDDOT federal aid:

Urban Roads –

Burleigh Avenue – Tavis Road to Washington Street, South 12th Street – Santa Fe Avenue to Burleigh Avenue and Yegen Road – University Drive to Hagen Avenue – mill and overlay

Urban Regional –

1. Regional roadway sign replacement project (previously applied)
2. 7th St. and 9th St. underpass stormwater improvements (previously applied)
3. 7th Street and Boulevard Avenue and 9th Street and Boulevard Avenue traffic signal improvements
4. Tyler Parkway and Westbound off ramp I-94 Ramp traffic signal improvements

5. Regional roadway microsurface pavement preservation
6. State Street Trail Rehabilitation – Divide Avenue to Calgary Avenue

STAFF CONTACT INFORMATION:

Gabe Schell, City Engineer, 701-355-1507, gschell@bismarcknd.gov

ATTACHMENTS:

1. MTP Short Range Project List

Table 9.4: Short-Range Project List

ID	Location	Termini	Termini	Description	Phase	Cost	Year of Expenditure [YOE]	Program	Urban Program Priority
6	Old Red Trail	56th Avenue	40th Avenue NW	Reconstruct as 3-lane urban section.	Short	\$8,400,000	\$9,826,812	Urban	2
18	Old Red Trail	Sunset Drive	ND 1806 / Collins Avenue	Restripe for 3-lane urban section.	Short	\$39,500	\$46,209	Safety	
21	Division Street	Sunset Drive	ND 1806 / Collins Avenue	Reconstruction.	Short	\$2,500,000	\$2,924,646	Urban	5
22	3rd Avenue NE	Main Street	5th Street	Reconstruction.	Short	\$2,500,000	\$2,924,646	Urban (P&M)	7
23	Division Street	8th Avenue E	Mandan Avenue	Construct as 2-lane urban section.	Short	\$2,880,000	\$3,369,193	Urban	
27	Highway 1806	19th Street	Heart River Bridge	Pavement preservation project, including addition of turn lanes and signals at 8th Avenue and 19th Street.	Short	\$1,750,000	\$2,047,252	Regional	
30	McKenzie Road	Highway 1806	39th Avenue E	Construct as 2-lane rural section. Include new bridge across Heart River. Add signals at McKenzie Drive/ Bismarck Expressway ramps and at McKenzie Drive/40th Avenue.	Short	\$15,650,000	\$18,308,286	Urban	
31	McKenzie Road	46th Avenue SE		Intersection capacity improvement	Short	\$2,500,000	\$2,924,646	Urban	
32	Washington Street	Burleigh Avenue	Drainage Channel	Reconstruct as 3-lane urban arterial.	Short	\$8,720,000	\$10,201,167	Urban	3
33	Washington Street	Drainage Channel	Denver Avenue	Turn lane improvements including restripe south of Reno Avenue as 3-lane section.	Short	\$39,000	\$45,624	Safety	
34	Bismarck Expressway	Washington Street	12th Street	Safety improvements.	Short	\$5,000,000	\$5,849,293	Safety	
45	Main Avenue	Bismarck Expressway	66th Street	Widen from 2-lane to 3-lane section (including intersection improvement at 52nd Street).	Short	\$10,020,000	\$11,721,983	Urban	6
49	Bismarck Expressway / Centennial Road	Divide Avenue	Century Avenue	Widen from 5-lane to 6-lane section.	Short	\$3,960,000	\$4,632,640	Mix	
50	Bismarck Expressway / Centennial Road	I-94		Interchange reconstruction.	Short	\$25,000,000	\$29,246,464	Interstate	
52	Divide Avenue	Turnpike Avenue	26th Street	Restripe as 3-lane urban section.	Short	\$143,500	\$167,875	Safety	
54	Rosser Avenue	Main Avenue	10th Street	Restripe as 3-lane urban section.	Short	\$62,000	\$72,531	Safety	
59	Century Avenue	Tyler Parkway		Intersection capacity improvement.	Short	\$2,500,000	\$2,924,646	Urban	
62	Tyler Parkway	Valley Drive	43rd Avenue	Construct as 2-lane urban section.	Short	\$4,260,000	\$4,983,597	Urban	
64	Tyler Parkway	43rd Avenue	57th Avenue	Overlay existing roadway to 2-lane rural section.	Short	\$500,000	\$584,929	Urban	8
65	Ash Coulee Drive	Tyler Parkway	Washington Street	Widen from 2-lane to 3-lane urban section.	Short	\$5,240,000	\$6,130,059	Urban	4
78	State Street	Calgary Avenue	43rd Avenue	At grade improvements: Calgary Avenue and 43rd Avenue; widening to 6-lane urban section from Calgary Avenue through 43rd Ave intersection.	Short	\$15,185,000	\$17,764,302	Regional	
78i	State Street	43rd Avenue		Grade separation.	Short	\$30,000,000	\$35,095,757	Regional	
81	43rd Avenue	State Street	26th Street	Construct 3-lane or 5-lane urban section.	Short	\$10,000,000	\$11,698,586	Urban	1
82	19th Street	North Valley Loop/Yucca Avenue	43rd Avenue	Reconstruct as 3-lane urban section.	Short	\$1,380,000	\$1,614,405	Urban	1
87	71st Avenue	Centennial Road		Intersection capacity improvement.	Short	\$2,500,000	\$2,924,646	Safety	
TBD	State Street	Calgary Avenue	43rd Avenue	Shared use path.	Short	\$1,000,000	\$1,169,859	Regional	