

**TO: Bismarck-Mandan Metropolitan Planning Organization
Technical Advisory Committee**

FROM: Rachel Lukaszewski, MPO Executive Director

DATE: May 13, 2024

RE: TAC Meeting

There will be a meeting of the Bismarck-Mandan MPO Technical Advisory Committee on **Monday, May 20, 2024, at 10:00 AM**. The meeting will be held in the Tom Baker Meeting Room of the City/County Building at 221 N 5th St, Bismarck, ND. The agenda is outlined below.

The City of Bismarck and TAC members are encouraging citizens to provide their comments for public hearing items on the Bismarck-Mandan Metropolitan Planning Organization TAC agenda via email to mpo@bismarcknd.gov. Please include which item number your comment references. It will be sent to the members, as well as placed with the minutes. To ensure your comments are received prior to the meeting, please submit them by 5:00 pm 1 business day prior to the meeting. If you would like to participate via video or audio link for a 3-5 minute comment on a regular agenda public hearing item, please provide your name, agenda item and e-mail address to the above e-mail at least 3 days before the meeting.

Many of the 14 (fourteen) TAC members will attend this meeting in-person but have the option to request a ZOOM invite for remote participation. **Individuals wishing to participate via ZOOM should email contact information to mpo@bismarcknd.gov at least 3 days in advance of the meeting to receive a meeting invite tailored uniquely to them.**

As always, live meeting coverage is available on Government Access Channels 2 & 602HD or streaming live and archived online at FreeTv.org. Agenda items can be found online at MPO Technical Advisory Committee.

AGENDA

1. MINUTES
Review and Possible Approval of Minutes from April 15, 2024 Meeting 3
2. BISMARCK PILOT PROJECT FINAL REPORT – Kshitij Sharma, NDSU/ATAC
Pilot Project Final Report (Exhibit A) 7
ACTION ITEM: Pilot Project Final Report
3. 2024 PAVEMENT CONDITIONS COLLECTION & ANALYSIS RFP – Rachel Lukaszewski, MPO
2024 Pavement Conditions Request For Proposals (Exhibit B) 33
ACTION ITEM: 2024 Pavement Conditions RFP
4. ADDENDUM TO THE ATAC MASTER AGREEMENT – Rachel Lukaszewski, MPO
ATAC Addendum for Arrive 2050 Travel Demand Model (TDM) Analysis (Exhibit C) 51
ACTION ITEM: ATAC Master Agreement Addendum
5. BISMARCK-MANDAN MPO SELF-CERTIFICATION – Stephen Larson, MPO
Self-Certification (Exhibit D) 61
ACTION ITEM: BMMPO Self-Certification
6. ARRIVE 2050 MTP – Jason Carbee, HDR
Progress Report (Exhibit E) 71
7. SAFE ROUTES TO SERVICES/COMPLETE STREETS STUDY – Blue Weber, Bolton & Menk
Progress Report (Exhibit F) 75

- 8. ROADWAY PROJECTS – All Jurisdictions
- 9. OTHER BUSINESS
- 10. ADJOURNMENT

Next scheduled TAC meeting is on 6/17/2024. Please call 701-355-1852 with questions. Any individual requiring special accommodations to allow access or participation at the meeting is asked to notify ADA Coordinator, Bismarck-Mandan MPO, PO Box 5503, Bismarck, ND 58506-5503 or complete and submit the Request for Reasonable Accommodations form at <http://www.bismarcknd.gov/DocumentCenter/View/23201> at least five (5) days prior to the meeting.

PROJECTS UPDATE

<u>Project</u>	<u>% Complete</u>	<u>Contracted Completion Date</u>
Arrive 2050 Forecast/Arrive 2050 MTP (MPO wide)	60	03/31/2025
2023 Ortho-Contour Project (MPO wide)	100	02/29/2024
Safe Routes to Services Study (Bismarck/Mandan)	32	12/31/2024

Common MPO Acronyms

ATAC: Advanced Traffic Analysis Center	NDDOT: North Dakota Department of Transportation
CPG: Consolidated Planning Grant	TAZ: Traffic Analysis Zone
FHWA: Federal Highway Administration	TDMSE: Travel Demand Model & Socioeconomic Data
FTA: Federal Transit Administration	TIP: Transportation Improvement Plan
MTP: Metropolitan Transportation Plan	UPWP: Unified Planning Work Program

A full list of common MPO acronyms may be accessed online <https://www.bismarcknd.gov/DocumentCenter/View/37890/MPO-acronyms>

**BISMARCK-MANDAN METROPOLITAN PLANNING ORGANIZATION
TECHNICAL ADVISORY COMMITTEE
APRIL 15, 2024**

The Bismarck-Mandan Metropolitan Planning Organization (MPO) Technical Advisory Committee (TAC) met April 15, 2024, at 10:00 a.m. in the Tom Baker Meeting Room, City/County Building, 221 N 5th Street, Bismarck, ND. Rachel Lukaszewski presided.

Members present or participating via Zoom were Ben Ehreth, Deidre Hughes, Gabe Schell, John Saiki, Andrew Stromme, Greg Feser, Mitch Flanagan, Dean Schloss, Wayne Zacher, and Rachel Lukaszewski. Members absent were Dan Schriock, Jarek Wigness, and Natalie Pierce. The Freight Industry Representative membership is currently vacant.

Others present or participating via Zoom were Stephen Larson, Paulette Jacobsen, and Kim Riepl, Bismarck-Mandan MPO; Jason Carbee, HDR; Susan Dingle, Citizen; Kristen Sperry, Federal Highway Administration (FHWA); Blue Weber, Bolton & Menk; and Chris Holzer, City of Bismarck Engineering.

MINUTES

Chair Lukaszewski called for consideration of the minutes from March 18, 2024.

MOTION: Mr. Ehreth made a motion to approve the minutes as presented. Mr. Stromme seconded the motion and with Ben Ehreth, Deidre Hughes, Gabe Schell, John Saiki, Andrew Stromme, Greg Feser, Mitch Flanagan, Dean Schloss, Wayne Zacher, and Chair Lukaszewski voting in favor, the minutes were approved.

2024-2027 TRANSPORTATION IMPROVEMENT PROGRAM (TIP) AMENDMENTS

Mr. Larson presented. This month, the MPO processed two amendments to the 2024-2027 TIP. The amendments were advertised for the required 15-day public comment period, and no comments were received. The first amendment, Exhibit A, is a project for rectangular rapid flashing beacon installation at four locations in Mandan, as recommended by the school safety crossing study. The amendment addresses increased cost estimates for the project, as noted on the amendment form. The second amendment, Exhibit B, adds a new project to the TIP. The North Dakota Department of Transportation (NDDOT) is undertaking rail crossing signal improvements at the rail crossings on Eastdale Drive and on East Main Avenue in Bismarck. The total cost is estimated to be \$872,440, and it will be funded 100 percent federally.

Public Hearing: Chair Lukaszewski opened the hearing for comments on the proposed amendments. Hearing and seeing no comments, Chair Lukaszewski closed the public hearing.

MOTION: Mr. Schell made a motion to recommend approval of the 2024-2027 TIP Amendments as presented. Mr. Stromme seconded the motion and with Ben Ehreth, Deidre Hughes, Gabe Schell, John Saiki, Andrew Stromme, Greg Feser, Mitch Flanagan, Dean Schloss, Wayne Zacher, and Chair Lukaszewski voting in favor, the motion was approved.

ARRIVE 2050 FORECAST FINAL REPORT/ARRIVE 2050 MTP UPDATE

Mr. Carbee led a presentation for HDR. This final report marks the completion of the Travel Demand Model and Socioeconomic Data (TDMSE) portion of this project and supports the ongoing work on the MTP. The TDMSE updates the Travel Demand Model (TDM) and forecasts development in the MPO area through 2050.

The TDM is created by combining transportation and land use data and stakeholder feedback to produce a model allowing both current and future traffic on the transportation network to be evaluated. In developing the TDMSE, there were three Steering Committee meetings and a pair of Allocation Workshops (one in Bismarck and one in Mandan). There was also input received from focus groups, including technical professionals representing housing and social service agencies, schools, higher education, economic development, and real estate development. Growth expectations, drivers, and challenges for the Bismarck-Mandan area were discussed.

Socio-economic trends are included in the final report, examining population, households, and jobs. In developing future growth scenarios for the MPO area, national and regional trends and projections were examined. Three growth scenarios for the region are included in the report, and the medium growth scenario of 1.1% was selected as the preferred scenario for population growth for the MPO area. The report includes specific areas in the community where jobs and households are expected. All this information feeds into the TDM, which was created by the Advanced Traffic Analysis Center (ATAC) and went through a careful review process.

Mr. Ehreth thanked SRF and HDR for the report. He noted the employment base data was different for this report than previous reports and this leads to lower levels of employment being predicted, especially in Bismarck. He agrees with the data used but asked if a discussion of why it was used for this report should be included for future reference. Mr. Carbee agreed, mentioning the challenges of addressing certain kinds of jobs, such as home-based jobs, in a travel model. Mr. Ehreth then noted several other corrections in the body of the report. On page 2 the Bismarck-Mandan statistical area should also include Oliver County (also affecting the map on page 3). On page 9, figures 3 and 4, he asked if the data sources could be included. On page 23 on the last sentence of the page, he noted the text should reference figure 12 instead of 14. On page 28 there is another typo in the second paragraph on the right where the word productions is repeated, and on page 29 there is a figure showing friction factors which is referenced as figure 146 when it should be figure 15 or 16. Finally, he noted a typo on page 30 in the first sentence of the second paragraph. Ms. Lukaszewski and Mr. Carbee indicated they will address all corrections.

MOTION: Mr. Ehreth made a motion to recommend approval of the Arrive 2050 Forecast Final Report, with his modifications noted. Mr. Feser seconded the motion and with Ben Ehreth, Deidre Hughes, Gabe Schell, John Saiki, Andrew Stromme, Greg Feser, Mitch Flanagan, Dean Schloss, Wayne Zacher, and Chair Lukaszewski voting in favor, the motion was approved.

Mr. Carbee gave an update on the MTP portion of the project. They are working towards a public meeting on April 29 (11:30 a.m. to 1:30 p.m. at the Bismarck YMCA) with an online component and intend to hold an in-person event on July 3 in Mandan in conjunction with the Independence Day festivities. They held a couple of stakeholder meetings on April 2. The MTP

Steering Committee will be looking at alternatives and project prioritization in the coming weeks.

2024 UNIFIED PLANNING WORK PROGRAM (UPWP) CONTRACT AMENDMENT

Ms. Lukaszewski presented on Exhibit E. This is an amendment to the contract between the MPO and NDDOT which provides the federal funding for MPO operations and supports the MPO's work as outlined in the 2023-2024 UPWP. The 2023-2024 UPWP was amended earlier in 2024, and the MPO recently received approval of the amendment from the Federal Highway Administration (FHWA). This allows NDDOT to adjust the UPWP contract to match the amended 2023-2024 UPWP and reflect the level of federal funding the MPO will receive in 2024. It is expected the MPO will receive its annual contract numbers earlier in future, but amendments to right-size the annual contract may still be needed on occasion. The overall federal funding the MPO will receive in 2024 is \$888,857, with a local share of \$222,214. If approved the MPO Policy Board Chair will execute the contract.

MOTION: Mr. Schell made a motion to recommend approval of the 2024 UPWP Contract Amendment as presented. Mr. Ehreth seconded the motion and with Ben Ehreth, Deidre Hughes, Gabe Schell, John Saiki, Andrew Stromme, Greg Feser, Mitch Flanagan, Dean Schloss, Wayne Zacher, and Chair Lukaszewski voting in favor, the motion was approved.

SAFE ROUTES TO SERVICES/COMPLETE STREETS STUDY

Mr. Weber provided an update for Bolton & Menk. They have had a lot going on over the past month. They recently hosted five community listening sessions with the Missouri Valley Coalition for Homeless People, Sacred Pipe Resource Center, Ministry on the Margins, and two with Youthworks. They had two survey boxes placed in Mandan and three in Bismarck, and an interactive web map available to collect public feedback. On April 12 they held a Steering Committee meeting to go over some of this public input along with other data that has been collected. In the future, Bolton & Menk plans to host an open house and some Community Advisory Group Meetings and to continue refining the feedback they are receiving. Ms. Lukaszewski thanked Mr. Weber for the study team's efforts and outreach.

2023-2024 UPWP ADMINISTRATIVE MODIFICATION

Ms. Lukaszewski presented. She noted the board just approved an amendment to the UPWP contract, which supports the UPWP. Now that the amended UPWP has been approved by FHWA, the MPO can process a modification to move \$10,000 dollars from Task 204, the Planning Studies area, back to Task 102, which is the training and travel category for MPO staff, reversing a modification completed earlier this year. The earlier, temporary modification moving funds from Task 102 to 204 was needed to complete a Streetlight data purchase while the amended UPWP was still being considered for approval. The MPO can complete this change administratively per its Public Participation Plan.

OTHER BUSINESS

North Dakota Department of Transportation (NDDOT) Mid-Year Review

Mr. Zacher asked Ms. Lukaszewski to reach out to him about scheduling the MPO's mid-year review with NDDOT.

Chris Holzer Introduction

Mr. Schell presented Chris Holzer as the new City of Bismarck Traffic Engineer. Mr. Holzer introduced himself to the board.

2025 MPO Budget

Ms. Lukaszewski notified the board that the MPO will be finalizing its 2025 budget this week and will reach out to its jurisdictions to discuss planned transportation studies in 2025.

ADJOURNMENT

There being no further business, the meeting was adjourned at 10:36 a.m., with the next scheduled meeting to take place on May 20, 2024, at 10:00 a.m. in the Tom Baker Meeting Room in the City/County Building, 221 N 5th St, Bismarck.

Respectfully Submitted,

Stephen Larson
Recording Secretary

APPROVED:

Rachel Lukaszewski, Chair

NDSUUPPER GREAT PLAINS TRANSPORTATION INSTITUTE
ADVANCED TRAFFIC ANALYSIS CENTER

*Bismarck-Mandan MPO Signalized
Intersections Traffic Data Collection
Pilot Project*

Final Report

March 2024

Prepared for:
Bismarck-Mandan Metropolitan Planning Organization

Prepared by:
Kshitij Sharma
Advanced Traffic Analysis Center
Upper Great Plains Transportation Institute
North Dakota State University
Fargo, North Dakota

TABLE OF CONTENTS

INTRODUCTION.....	1
OBJECTIVES	1
METHODOLOGY.....	1
Traffic PC provision & traffic software installation	1
Intersection detection zones and calibration checks	2
Intersection traffic data collection setup.....	2
API script and data transfer setup	4
Traffic data import and website setup.....	5
Training	5
DATA QUALITY AUDITS.....	5
TRAFFIC ANALYSIS TOOL CAPABILITIES	9
Volume Profile.....	9
Speed Profile Report.....	11
Monthly Seasonal Factors	11
Day-of-the-Week Seasonal Factors	12
Peak Hour Volume/Factors	13
AADT.....	16
MADT	16
ADT	16
NORTH DAKOTA TRAFFIC DASHBOARD	19
EMAIL NOTIFICATIONS	21
Corridor reports.....	21
RECOMMENDATIONS	21
BisMan MPO.....	22
City of Bismarck.....	22

LIST OF TABLES

Table 1. Pilot project intersections	1
Table 2. Setup of intersection lane assignments and detectors per approach	4
Table 3. Data quality audit results for 43rd Ave NE @ Ottawa St/Lockport St	6
Table 4. Data quality audit results for N Bismarck Expy @ E Divide Ave/Revere Dr	6
Table 5. Data quality audit results for Main Ave @ 5th St.....	7
Table 6. Data quality audit results for Main Ave @ 3rd St.....	7
Table 7. Data quality audit results for Tyler Pkwy @ Burnt Boat Dr	8
Table 8. Data quality audit results for US Hwy 83 @ ND 1804/71st Ave NE	8

LIST OF FIGURES

Figure 1. Sample existing camera calibration2
Figure 2. Sample updated camera calibration3
Figure 3. Non-conventional zone labels and missing (right-turn) zone3
Figure 4. Updated setup with corrected zone labels and added zone4
Figure 5. Sample Volume Profile report for 43rd Ave NE @ Ottawa St/Lockport St, Bismarck 10
Figure 6. Sample Volume Profile report for Main Ave @ 5th St, Bismarck..... 10
Figure 7. Sample Speed Profile report for US Hwy 83 @ ND 1804/71st Ave NE, Bismarck 11
Figure 8. Sample 2022 Monthly Seasonal Factors report for US Hwy 83 @ ND 1804/71st Ave NE, Bismarck . 12
Figure 9. Sample January 2024 Day-of-the-week Seasonal Factor report for Main Ave @ 5th St, Bismarck 13
Figure 10. Peak Hour Volume/Factor report for Main Ave @ 5th St, Bismarck..... 14
Figure 11. Annual Average Daily Traffic report for N Bismarck Expy @ E Divide Ave/Revere Dr, Bismarck..... 15
Figure 12. January 2024 MADT report for Tyler Pkwy @ Burnt Boat Dr, Bismarck..... 17
Figure 13. Sample ADT report for Main Ave @ 3rd St - Bismarck 18
Figure 14. North Dakota Traffic Dashboard displaying Bismarck area intersections 19
Figure 15. Weekly ADT plot for Bismarck’s intersections 20
Figure 16. Weekly growth rate plot for Bismarck’s intersections 20
Figure 17. Daily ADT plot for Bismarck intersections 21

INTRODUCTION

Reliable intersection-traffic data are essential for transportation planning, operations, and safety. The City of Bismarck relies on targeted short counts, which is the predominant, albeit outdated, type of intersection traffic data collection. The city recently updated its signalized intersection equipment, hardware, and communications, making it possible to remotely monitor, maintain, troubleshoot, and collect continuous traffic data.

The Upper Great Plains Transportation Institute (UGPTI) has built a web-based traffic data analysis tool. This traffic analysis tool uses existing traffic signal control devices to collect data 24 hours per day, seven days per week, and 365 days per year. The primary purpose of this pilot project was to develop the agency-to-UGPTI connections and build a compatible traffic analysis tool database for the Bismarck-Mandan MPO to collect data from intersections operated/maintained by City of Bismarck.

OBJECTIVES

For this project, the six intersections set up for data collection and analysis are listed in Table 1.

#	Main Street	Cross Street
1	43rd Ave NE	Ottawa St/Lockport St
2	Main Ave	3rd St
3	Main Ave	5th St
4	N Bismarck Expy	E Divide Ave/Revere Dr
5	Tyler Pkwy	Burnt Boat Dr
6	US Hwy 83	ND 1804/71st Ave NE

Table 1. Pilot project intersections

METHODOLOGY

This study was divided into following major tasks:

- Traffic PC provision & traffic software installation
- Intersection detection zones and calibration checks
- Intersection traffic data collection setup
- API script and data transfer setup
- Traffic data import and website setup
- Training

These tasks are discussed in detail below.

Traffic PC provision & traffic software installation

In this task, UGPTI worked with City of Bismarck's Information Technology (IT) division to set up remote connections and to facilitate import of traffic data into the existing web-based application. Instead of a new traffic PC, the city's IT department identified efficiencies and decided to provide UGPTI access to its new ATMS server. The required software were then installed on that existing server.

Intersection detection zones and calibration checks

In this task, each camera was checked for its calibration in terms of cross-lane, down-lane, and vertical directions and distances. The distances were estimated from available aerial images and measurements. Figure 1 below shows a sample existing camera calibration and Figure 2 shows the updated calibration at the same camera.

Intersection traffic data collection setup

In this task, intersections were set to collect turning movement count and speed data. Wherever necessary, zone labels were updated as per agreed-upon conventions. Also, zones were added wherever missing as seen in Figures 3 and 4. These missing zones were not previously required and do not impact day-to-day signal operations, especially for through movements and signal phases

The intersections were set up to count traffic one approach at a time. At any given approach, based on factors such as geometrics and lane assignment, all lane groups with exclusive lanes were counted separately using corresponding detector stations and zones. Table 2 provides detailed information on lane assignments and counting capabilities set per approach. Note that in the table, each arrow corresponds to a lane group and may represent multiple lanes. Also, each dot represents a separate detector station that counts the corresponding movement(s). As can be seen, the detectors were grouped into turning movements per lane-group, per approach, per intersection.



Figure 1. Sample existing camera calibration



Figure 2. Sample updated camera calibration



Figure 3. Non-conventional zone labels and missing (right-turn) zone

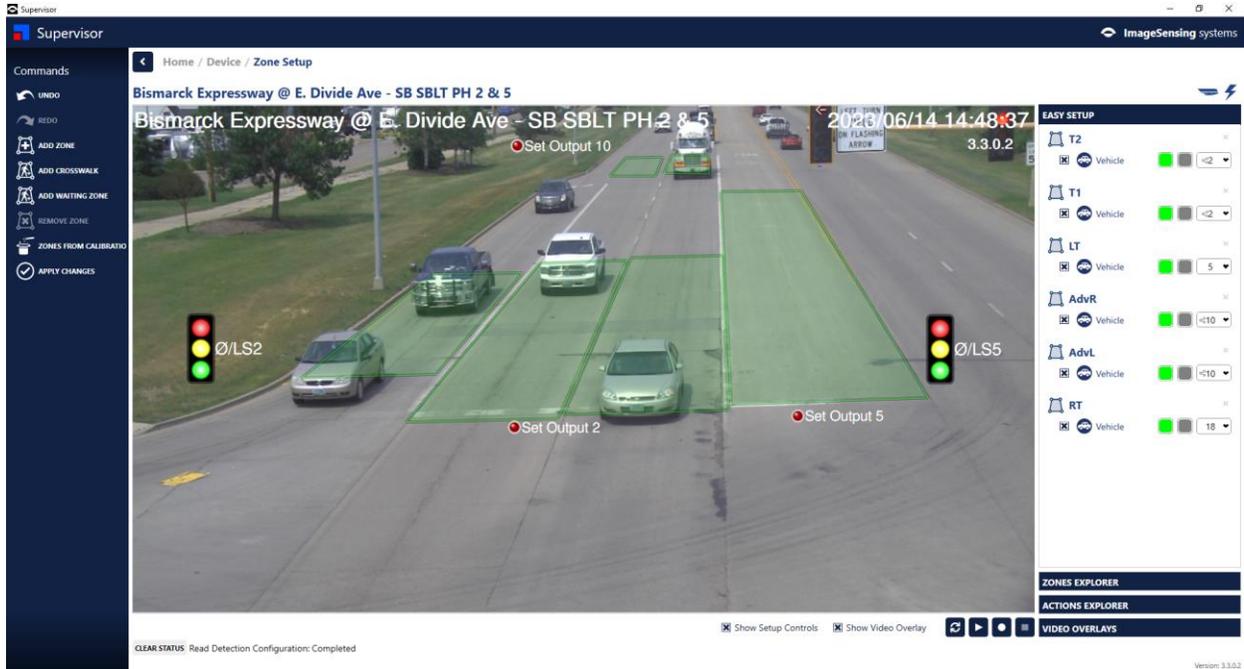


Figure 4. Updated setup with corrected zone labels and added zone

Table 2. Setup of intersection lane assignments and detectors per approach*

Agency	#	Main Street	Cross Street	NB			EB			SB			WB		
				L	T	R	L	T	R	L	T	R	L	T	R
Bismarck	1	43rd Ave NE	Ottawa St/ Lockport St	↶	↷	↶	↷	↶	↷	↶	↷	↶	↷	↶	↷
	2	N Bismarck Expy	E Divide Ave/ Revere Dr	↶	↷	↶	↷	↶	↷	↶	↷	↶	↷	↶	↷
	3	Main Ave	5th St	↶	↷	↶	↷	↶	↷	↶	↷	↶	↷	↶	↷
	4	Main Ave	3rd St	↶	↷	↶	↷	↶	↷	↶	↷	↶	↷	↶	↷
	5	Tyler Pkwy	Burnt Boat Dr	↶	↷	↶	↷	↶	↷	↶	↷	↶	↷	↶	↷
	6	US Hwy 83	ND 1804/ 71st Ave NE	↶	↷	↶	↷	↶	↷	↶	↷	↶	↷	↶	↷

API script and data transfer setup

UGPTI created API-based and other scripts for the data download process. City of Bismarck IT then scheduled the scripts to run at regular intervals along with database connections to automate the data download and transfer processes.

* Notes:

1. Each arrow corresponds to a lane group and may represent multiple lanes.
2. Each dot represents a separate zone that counts the corresponding movement(s).

Traffic data import and website setup

UGPTI created reporting and exporting capabilities for each of the six intersections using the newly expanded database to include the City of Bismarck.

Training

UGPTI provided training to all stakeholders at a meeting held October 5, 2023.

DATA QUALITY AUDITS

Random data quality audits were performed, and traffic volumes were collected manually in 15-minute intervals at each of the approaches. The manually collected traffic counts were then compared with data collected by cameras. Hourly traffic volumes were then compared using the GEH statistic, which is computed as follows:

$$GEH = \sqrt{\frac{(A - M)^2}{(A + M)/2}}$$

Where:

A = Autoscope traffic count

M = manual traffic count

Also, peak hour factors (PHF) were compared for hourly traffic volumes. For intersection turning movement counts, PHF is computed as follows:

$$PHF = \frac{V}{4 \times V_{15}}$$

Where:

V = hourly volume

V₁₅ = volume during the peak 15 minutes of flow

The results of the data quality audit are shown below in tables 3 through 8.

Table 3. Data quality audit results for 43rd Ave NE @ Ottawa St/Lockport St

43rd Ave NE @ Ottawa St/Lockport St																	
Interval	Source	Southbound				Westbound				Northbound				Eastbound			
		Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
15-min interval	Manual		20	28	48		76	5	81		37	5	42		51	6	57
	Autoscope		20	28	48		76	5	81		37	5	42		51	6	57
15-min interval	Manual		27	24	51		108	3	111		28	5	33		69	22	91
	Autoscope		28	28	56		108	4	112		28	5	33		70	22	92
15-min interval	Manual		28	30	58		105	4	109		31	7	38		74	16	90
	Autoscope		29	28	57		105	6	111		31	7	38		74	16	90
15-min interval	Manual		30	20	50		117	10	127		25	8	33		81	15	96
	Autoscope		33	21	54		117	10	127		26	8	34		81	15	96
Hourly Totals	Manual		105	102	207		406	22	428		121	25	146		275	59	334
	Autoscope		110	105	215		406	25	431		122	25	147		276	59	335
	GEH		0.5	0.3	0.6		0.0	0.6	0.1		0.1	0.0	0.1		0.1	0.0	0.1

Table 4. Data quality audit results for N Bismarck Expy @ E Divide Ave/Revere Dr

N Bismarck Expy @ E Divide Ave/Revere Dr																	
Interval	Source	Southbound				Westbound				Northbound				Eastbound			
		Right	Thru	Left	Total												
15-min interval	Manual	27	169	3	199	5	5	3	13		180	16	196	14	1	36	51
	Autoscope	27	169	3	199	5	5	3	13		173	16	189	18	1	38	57
15-min interval	Manual	36	166	2	204	1	3	7	11		168	19	187	12	5	50	67
	Autoscope	33	153	1	187	1	3	10	14		165	18	183	11	5	51	67
15-min interval	Manual	35	212	2	249	5	3	8	16		217	14	231	13	2	30	45
	Autoscope	39	194	2	235	8	6	8	22		210	13	223	12	2	28	42
15-min interval	Manual	31	190	1	222	2	2	4	8		193	23	216	21	3	37	61
	Autoscope	35	183	1	219	2	2	6	10		189	21	210	21	3	36	60
Hourly Totals	Manual	129	737	8	874	13	13	22	48		758	72	830	60	11	153	224
	Autoscope	134	699	7	840	16	16	27	59		737	68	805	62	11	153	226
	GEH	0.4	1.4	0.4	1.2	0.8	0.8	1.0	1.5		0.8	0.5	0.9	0.3	0.0	0.0	0.1

Table 5. Data quality audit results for Main Ave @ 5th St

Main Ave @ 5th St																	
Interval	Source	Southbound				Westbound				Northbound				Eastbound			
		Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
15-min interval	Manual	5	12		17		107	7	114	17	14	5	36		113	5	118
	Autoscope	6	12		18		112	7	119	17	15	5	37		111	5	116
15-min interval	Manual	7	18		25		93	7	100	17	19	1	37		111	5	116
	Autoscope	9	14		23		96	7	103	17	19	2	38		123	5	128
15-min interval	Manual	6	21		27		107	6	113	10	19	7	36		120	3	123
	Autoscope	8	23		31		116	8	124	14	19	7	40		125	3	128
15-min interval	Manual	7	25		32		139	5	144	16	17	8	41		118	2	120
	Autoscope	12	24		36		133	2	135	18	25	4	47		129	2	131
Hourly Totals	Manual	25	76		101		446	25	471	60	69	21	150		462	15	477
	Autoscope	35	73		108		457	24	481	66	78	18	162		488	15	503
	GEH	1.8	0.3		0.7		0.5	0.2	0.5	0.8	1.0	0.7	1.0		1.2	0.0	1.2

Table 6. Data quality audit results for Main Ave @ 3rd St

Main Ave @ 3rd St																	
Interval	Source	Southbound				Westbound				Northbound				Eastbound			
		Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
15-min interval	Manual		112	12	124	7	94	32	133		112	12	124	14	92	6	112
	Autoscope		96	19	115	7	91	29	127		96	17	113	18	92	9	119
15-min interval	Manual		59	2	61	7	88	36	131		79	10	89	11	54	1	66
	Autoscope		59	3	62	7	86	32	125		80	10	90	11	54	1	66
15-min interval	Manual		52	9	61	3	75	26	104		85	14	99	9	41	1	51
	Autoscope		50	9	59	3	73	25	101		84	13	97	9	41	1	51
15-min interval	Manual		55	10	65	6	70	20	96		78	8	86	7	40	3	50
	Autoscope		53	9	62	6	69	20	95		78	7	85	7	40	3	50
Hourly Totals	Manual		278	33	311	23	327	114	464		354	44	398	41	227	11	279
	Autoscope		258	40	298	23	319	106	448		338	47	385	45	227	14	286
	GEH		1.2	1.2	0.7	0.0	0.4	0.8	0.7		0.9	0.4	0.7	0.6	0.0	0.8	0.4

Table 7. Data quality audit results for Tyler Pkwy @ Burnt Boat Dr

Tyler Pkwy @ Burnt Boat Dr																	
Interval	Source	Southbound				Westbound				Northbound				Eastbound			
		Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
15-min interval	Manual		132	9	141		12	48	60		154	55	209	22	12	26	60
	Autoscope		124	9	133		12	43	55		149	48	197	22	14	28	64
15-min interval	Manual		134	5	139		13	39	52		153	72	225	30	20	30	80
	Autoscope		131	5	136		11	29	40		143	68	211	28	20	31	79
15-min interval	Manual		175	5	180		19	57	76		174	63	237	30	16	31	77
	Autoscope		170	5	175		19	49	68		158	53	211	25	16	31	72
15-min interval	Manual		166	8	174		15	68	83		189	46	235	31	8	33	72
	Autoscope		162	8	170		13	60	73		175	41	216	28	8	34	70
Hourly Totals	Manual		607	27	634		59	212	271		670	236	906	113	56	120	289
	Autoscope		587	27	614		55	181	236		625	210	835	103	58	124	285
	GEH		0.8	0.0	0.8		0.5	2.2	2.2		1.8	1.7	2.4	1.0	0.3	0.4	0.2

Table 8. Data quality audit results for US Hwy 83 @ ND 1804/71st Ave NE

US Hwy 83 @ ND 1804/71st Ave NE																	
Interval	Source	Southbound				Westbound				Northbound				Eastbound			
		Right	Thru	Left	Total												
15-min interval	Manual	11	97	20	128	22	20	22	64	24	68	13	105	12	10	9	31
	Autoscope	11	96	27	134	22	16	17	55	25	69	13	107	10	10	8	28
15-min interval	Manual	7	72	13	92	18	15	16	49	22	68	5	95	11	9	7	27
	Autoscope	8	72	13	93	18	12	14	44	23	72	4	99	10	9	7	26
15-min interval	Manual	12	65	10	87	15	17	20	52	17	73	12	102	13	6	12	31
	Autoscope	11	65	10	86	14	15	17	46	22	76	12	110	13	6	12	31
15-min interval	Manual	18	66	18	102	17	23	17	57	25	58	16	99	9	15	11	35
	Autoscope	15	66	20	101	12	20	14	46	32	58	19	109	9	12	10	31
Hourly Totals	Manual	48	300	61	409	72	75	75	222	88	267	46	401	45	40	39	124
	Autoscope	45	299	70	414	66	63	62	191	102	275	48	425	42	37	37	116
	Difference	0.4	0.1	1.1	0.2	0.7	1.4	1.6	2.2	1.4	0.5	0.3	1.2	0.5	0.5	0.3	0.7

TRAFFIC ANALYSIS TOOL CAPABILITIES

The NDSU Traffic Analysis Tool, which the aforementioned agencies can now access, has the following reporting capabilities:

- Graphs
 - Volume Profile
 - Speed Profile
 - Monthly Seasonal Factors
 - Day-of-the-Week Seasonal Factors
- Turning Movement Counts
 - Peak Hour Volume/Factor
 - Annual Average Daily Traffic (AADT)
 - Monthly Average Daily Traffic (MADT)
 - Average Daily Traffic (ADT)

These reports are briefly discussed below.

Volume Profile

The Volume Profile report provides an analysis of 15-minute traffic counts to create a line chart of 15-minute volumes for the selected intersection. This report can be created for one or multiple days. In the case of multiple days, the reported traffic volumes are averaged over the selected number of days. The PDF report includes three charts – one for the entire intersection and the other two for the intersecting corridors. Sample charts showing the entire intersection are shown in Figures 5 and 6.

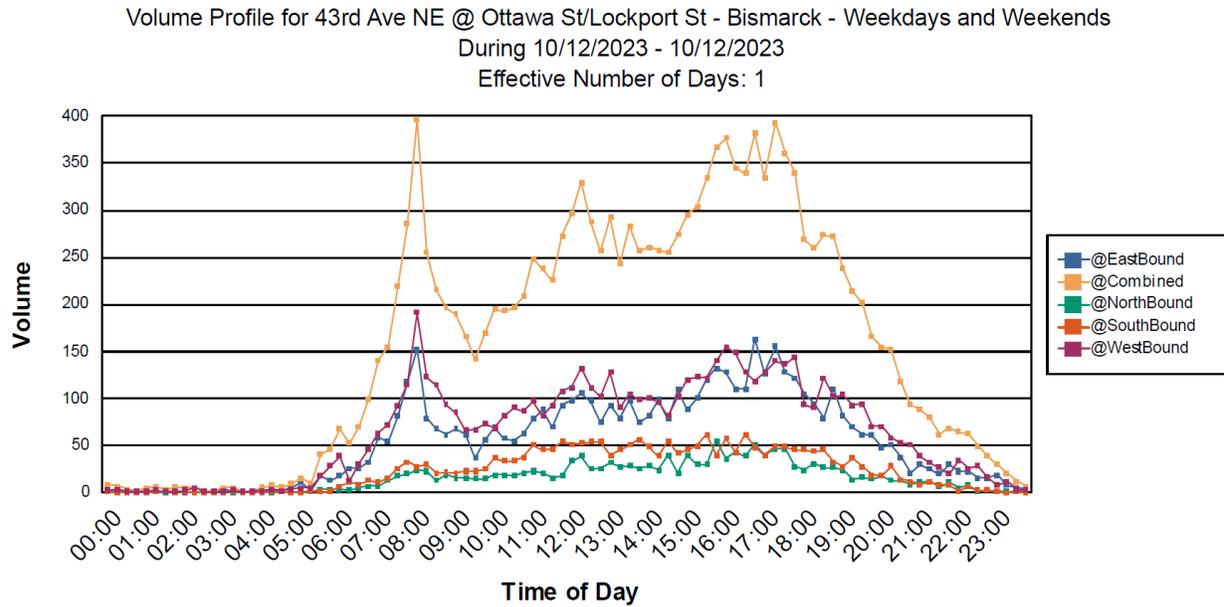


Figure 5. Sample Volume Profile report for 43rd Ave NE @ Ottawa St/Lockport St, Bismarck

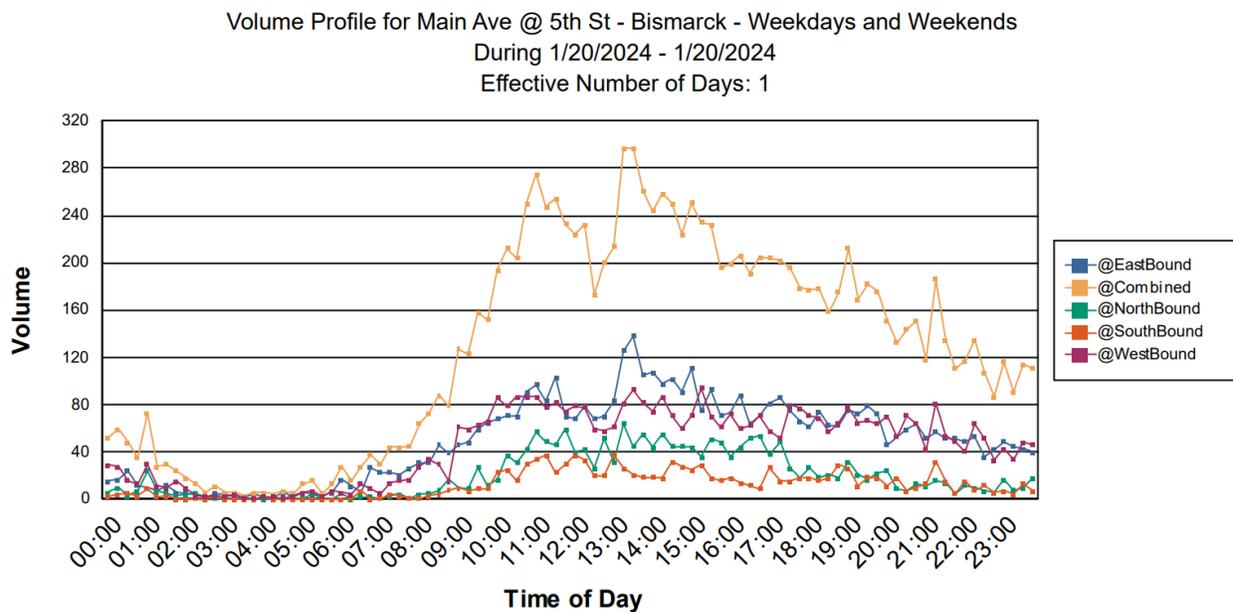


Figure 6. Sample Volume Profile report for Main Ave @ 5th St, Bismarck

This report can be used to determine the beginning and end of peak/off-peak periods and to visualize their level of dispersion over time. This information is helpful in deciding implementation schedules of time-of-day plans, including flash modes.

In addition to the PDF report with charts, an Excel export of the underlying data can also be performed.

Speed Profile Report

Similar to Volume Profile, Speed Profile plots 15-minute average speed data over a 24-hour period. When multiple days are selected for analysis, the speeds for individual 15-minute periods are averaged over the days. Note that only through-lane speeds are considered for analysis in this report. The PDF report includes three charts – one for the entire intersection and the other two for the individual intersecting corridors. A sample chart showing the series for the entire intersection is shown in Figure 7.

This report can be used to identify problem spots/times where drivers commonly speed, such as around bar closing, where coordinated efforts between engineering and law enforcement may be required. Time periods with zero detected vehicles are not plotted in this chart.

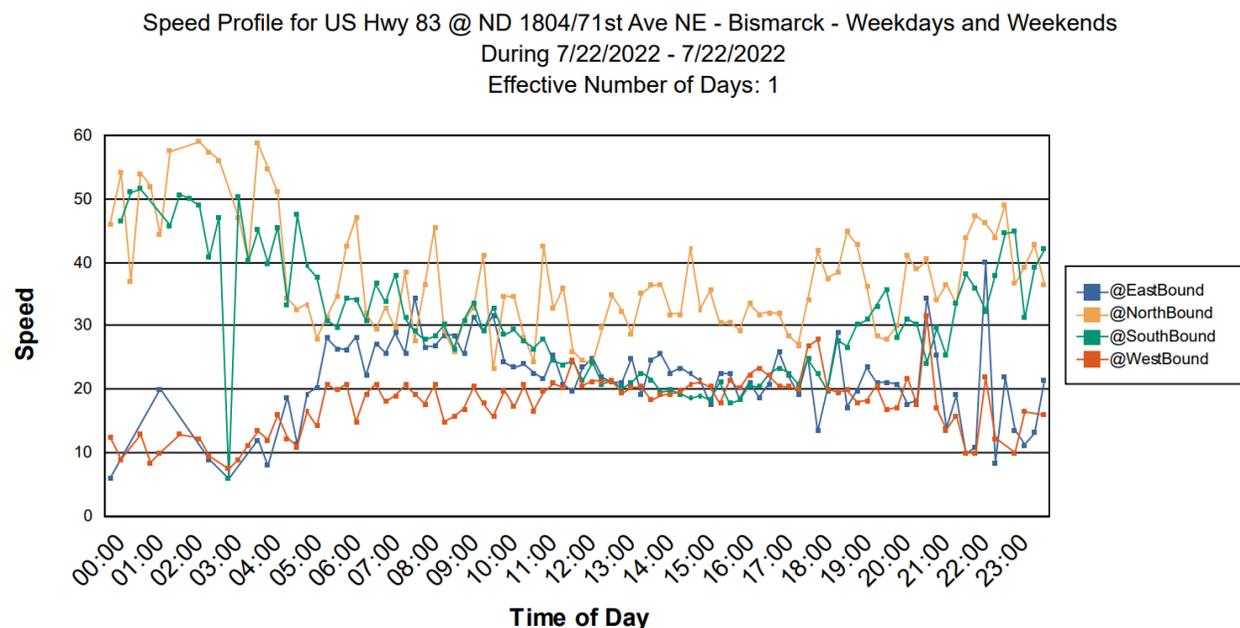


Figure 7. Sample Speed Profile report for US Hwy 83 @ ND 1804/71st Ave NE, Bismarck

Monthly Seasonal Factors

The Monthly Seasonal Factors report provides an analysis of daily traffic count data to create a bar chart of monthly average daily traffic volumes and corresponding factors (in comparison with AADT) for the selected intersection. The report can be created for a selected year or for the immediate past 12 months if desired. This report consists of two charts – one for the entire intersection and another based on bi-directional totals at all legs of the intersection. A sample chart for the entire intersection is shown in Figure 8.

This report can be used to identify locations where variations in seasonal ADT are high enough to warrant a seasonal signal timing plan. This report can also show how a combination of various seasonal factors, such as school sessions or harvest seasons, affect ADT.

2022 Monthly Seasonal Factors for US Hwy 83 @ ND 1804/71st Ave NE - Bismarck
Effective Number of Days: 365

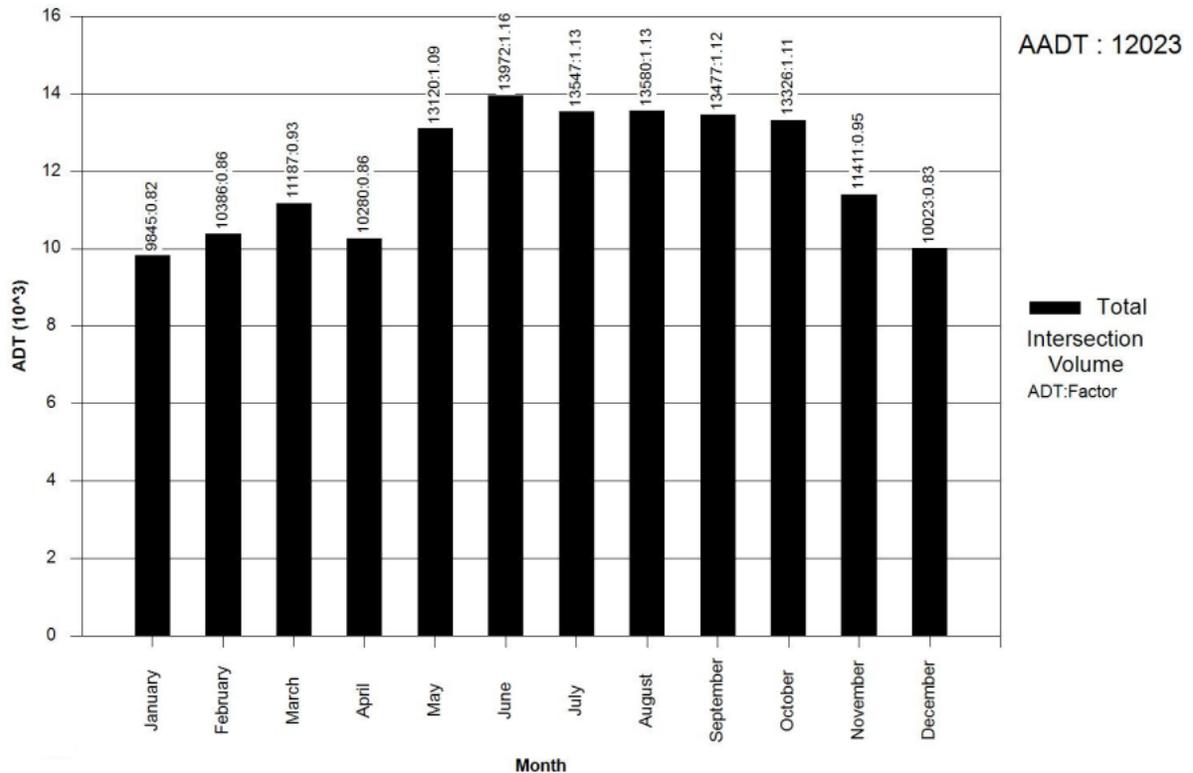


Figure 8. Sample 2022 Monthly Seasonal Factors report for US Hwy 83 @ ND 1804/71st Ave NE, Bismarck

Day-of-the-Week Seasonal Factors

The Day-of-the-Week Seasonal Factors report provides an analysis of daily traffic counts to create a bar chart showing ADT for each day of the week for a given month. It also shows bi-directional ADT volumes by each approach at the intersection. The report can be created for any month/year for which data are available.

This report can be used to identify fluctuations in ADT across the week that may be a result of changing demand, special events, or other factors. Further, this report would help to determine locations that may require a special time-of-day plan for the weekends. A sample chart is shown in Figure 9.

January 2024 Day of the Week Seasonal Factors for Main Ave @ 5th St - Bismarck
Effective Number of Days: 21

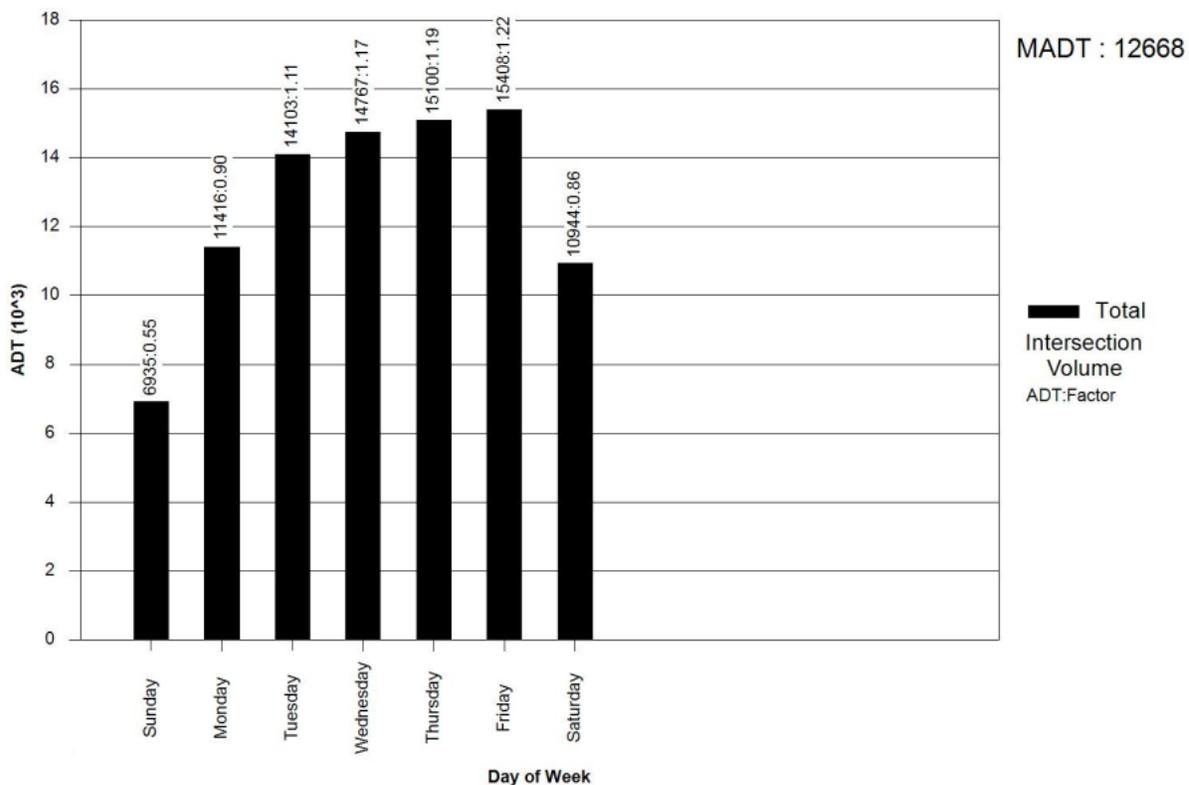


Figure 9. Sample January 2024 Day-of-the-week Seasonal Factor report for Main Ave @ 5th St, Bismarck

Peak Hour Volume/Factors

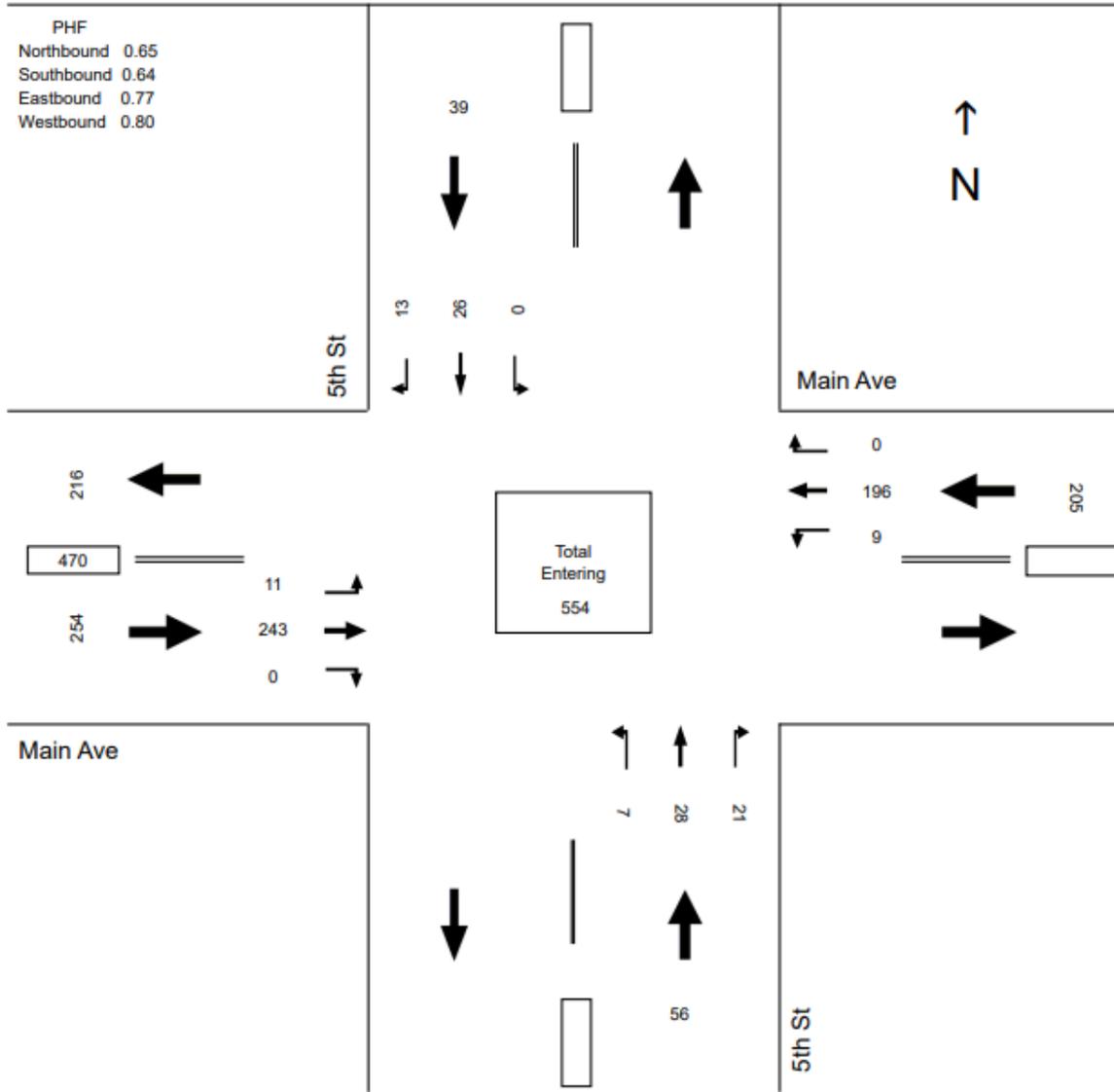
The Peak Hour Volume/Factors report provides an analysis of 15-minute traffic count data to create an intersection turning movement count diagram for selected peak period(s). This report can be created for a custom date range. By default, AM, midday, and PM peak periods can be analyzed. The peak-hourly traffic volumes reported are averaged over the selected date range. Note that the peak hour for each day included in the analysis period may be unique in that it may have occurred at a different time. This uniqueness of traffic demand is taken into consideration during the analysis, and only the peak hour traffic for each day is considered for averaging the hourly volumes. Also, peak hour factors are calculated for each of the approaches at the selected intersection. A sample report is shown in Figure 10. An Excel export of the underlying data can also be performed.

This turning movement counts generated in this report can be directly used as an input for phasing design, signal retiming, and progression design. Reports can be generated based on information presented in the Monthly Seasonal Factors report, therefore adding the ability to create seasonal time-of-day plans (e.g., September – April weekday plan, May – August weekday plan).

In addition to the built-in capability to create AM, midday, and PM peak period reports, a custom time period may also be selected for analysis. This functionality would enable agencies to create custom time-of-day plans for repetitive special events such as sporting events, etc.

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Peak Hour Volume/Factor for Main Ave @ 5th St - Bismarck - Weekdays
 During 2024-01-01 - 2024-01-21
 Effective Number of Days: 15
 AM (6 - 10 AM)

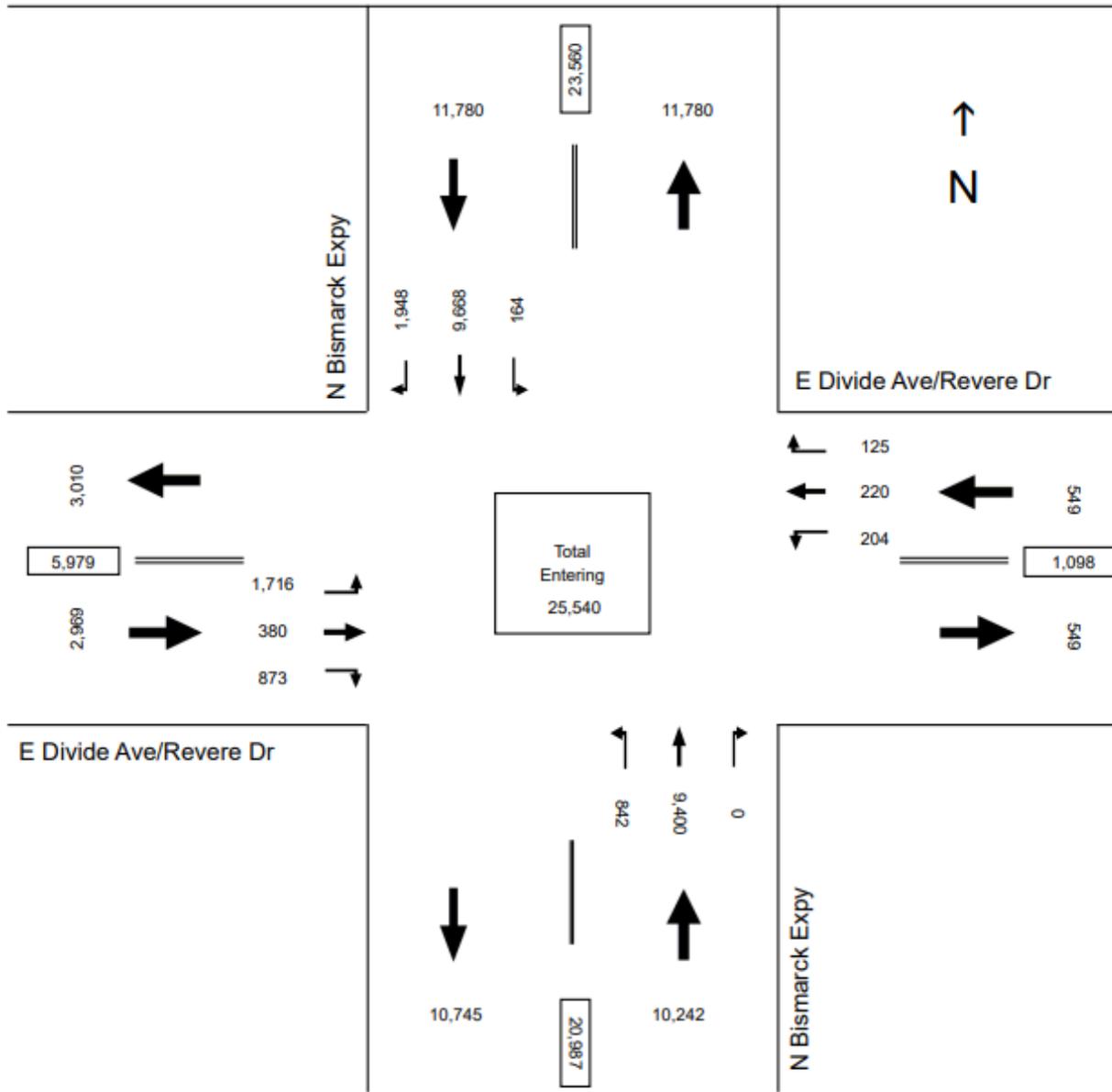


The information generated by this calculator is for estimation uses only. The Upper Great Plains Transportation Institute and North Dakota State University make no representation or warranty, expressed or implied, regarding the accuracy or reliability of the results.

Figure 10. Peak Hour Volume/Factor report for Main Ave @ 5th St, Bismarck

NDSU UPPER GREAT PLAINS TRANSPORTATION INSTITUTE

AADT TMC Diagram for N Bismarck Expy @ E Divide Ave/Revere Dr - Bismarck - Weekdays
 During 01/01/2023 - 12/31/2023
 Effective Number of Days: 222



The information generated by this calculator is for estimation uses only. The Upper Great Plains Transportation Institute and North Dakota State University make no representation or warranty, expressed or implied, regarding the accuracy or reliability of the results.

Figure 11. Annual Average Daily Traffic report for N Bismarck Expy @ E Divide Ave/Revere Dr, Bismarck

AADT

The AADT report provides an analysis of ADT traffic counts to calculate the annual ADT volumes for the selected intersection. Similar to the Peak Hour Factor/Volume report, the information is provided in a turning movement count diagram format. In addition to the intersection AADT, the report also provides AADT values per approach/direction. This report can be created for a selected year or the immediate past 12 months. The traffic volumes reported are averaged over the entire year (based on days with available data). A sample report is shown in Figure 11. An Excel export of the underlying data can also be performed.

The AADT values calculated in this report can be used for traffic safety, traffic operations, and transportation planning purposes. The regional travel demand model can be calibrated using these AADT reports in addition to ATR counts/short counts.

MADT

Similar to AADT, the MADT report provides an analysis of the ADT database to calculate the MADT volumes for the selected intersection and month. In addition to the MADT value for the intersection, the report also provides MADT values per approach/direction as well. This PDF report can be created for any selected month/year. The reported traffic volumes are averaged over the number of days based on available data within the selected month. An Excel export of the underlying data can also be performed. A sample report is shown in Figure 12.

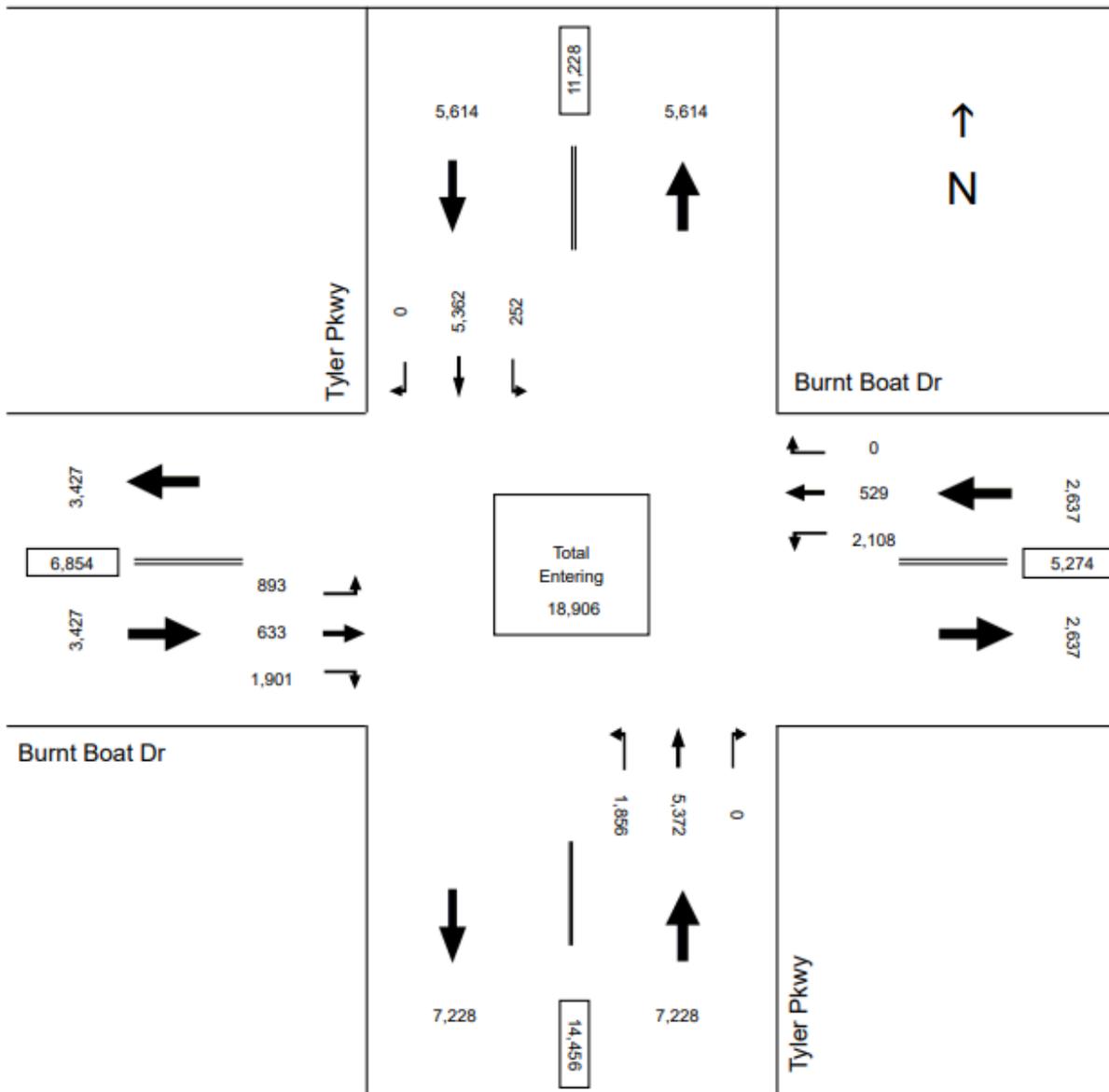
This report can be used to determine monthly average traffic volumes by each movement and approach at the selected intersection.

ADT

Similar to AADT and MADT, the ADT report provides an analysis of the ADT database to calculate average daily traffic for custom durations. The traffic volume information is also presented in a similar manner. This report can be created for any number of days. The ADT report can be used to determine how certain special events may affect traffic demand and patterns. A sample report is shown in Figure 13.

NDSU UPPER GREAT PLAINS TRANSPORTATION INSTITUTE

January MADT TMC Diagram for Tyler Pkwy @ Burnt Boat Dr - Bismarck - Weekdays and Weekends
 During 1/01/2024 - 1/31/2024
 Effective Number of Days: 21

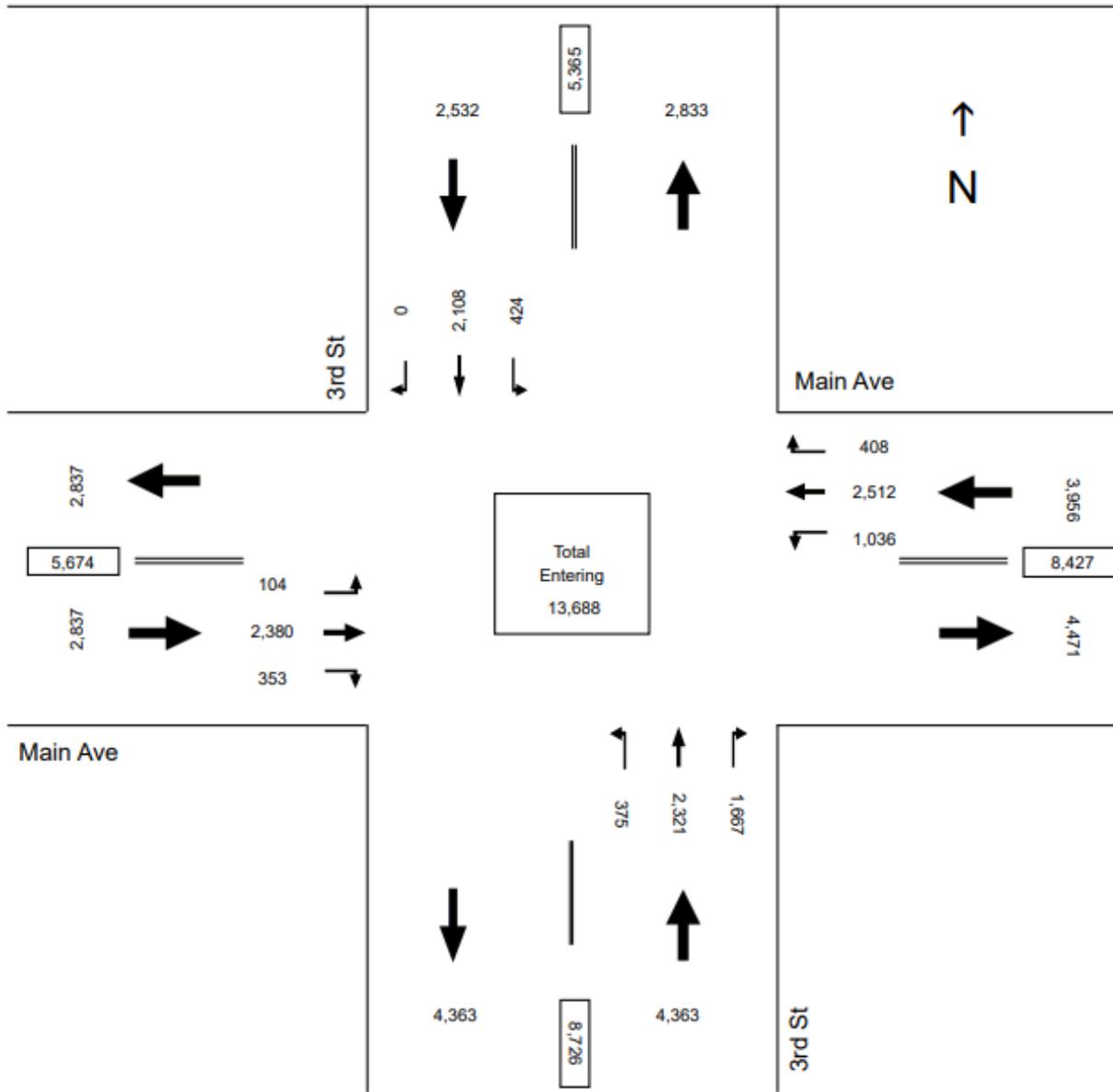


The information generated by this calculator is for estimation uses only. The Upper Great Plains Transportation Institute and North Dakota State University make no representation or warranty, expressed or implied, regarding the accuracy or reliability of the results.

Figure 12. January 2024 MADT report for Tyler Pkwy @ Burnt Boat Dr, Bismarck

NDSU UPPER GREAT PLAINS TRANSPORTATION INSTITUTE

ADT TMC Diagram for Main Ave @ 3rd St - Bismarck - Weekends
 During 7/30/2020 - 1/21/2024
 Effective Number of Days: 364



The information generated by this calculator is for estimation uses only. The Upper Great Plains Transportation Institute and North Dakota State University make no representation or warranty, expressed or implied, regarding the accuracy or reliability of the results.

Figure 13. Sample ADT report for Main Ave @ 3rd St - Bismarck

NORTH DAKOTA TRAFFIC DASHBOARD

ATAC has created a GIS-based web dashboard for traffic data collected from state-owned automatic traffic recorders (ATRs) as well as the signalized intersections in the NDSU Traffic Analysis Tool database. The signalized intersections include those in the Grand Forks, Fargo, and Bismarck metro regions. The dashboard can be found at:

<https://www.ugpti.org/r/trafficdb/>

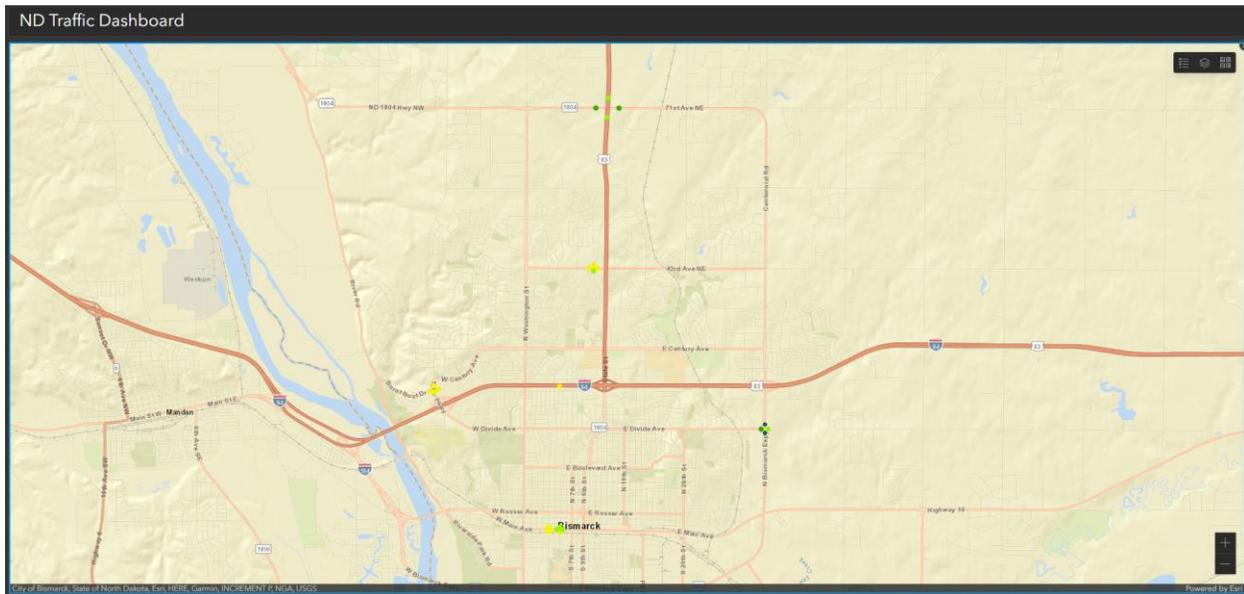


Figure 14. North Dakota Traffic Dashboard displaying Bismarck area intersections

Figure 14 shows each leg of intersection data collection locations set up under this project that have more than a year's worth of data in the database. For this COG/MPO signalized intersection data, three type of traffic growth/decay metrics can be displayed based on the "stations" displaying within the map window in Figure 14:

1. Weekly ADT
Week-by-week trend line plot of weekly ADT.
2. Growth Rate
Bar chart comparing weekly ADT to that of the same week in the previous year.
3. Daily ADT
Day-to-day trend line plot of daily ADT

Figures 15, 16, and 17 show weekly ADT, weekly growth rate, and daily ADT plots, respectively, for the locations shown in Figure 14.

Note that the creation of this traffic dashboard was not undertaken as part of this project. Information about the dashboard is shared here as an example of useful application of the valuable data being collected.

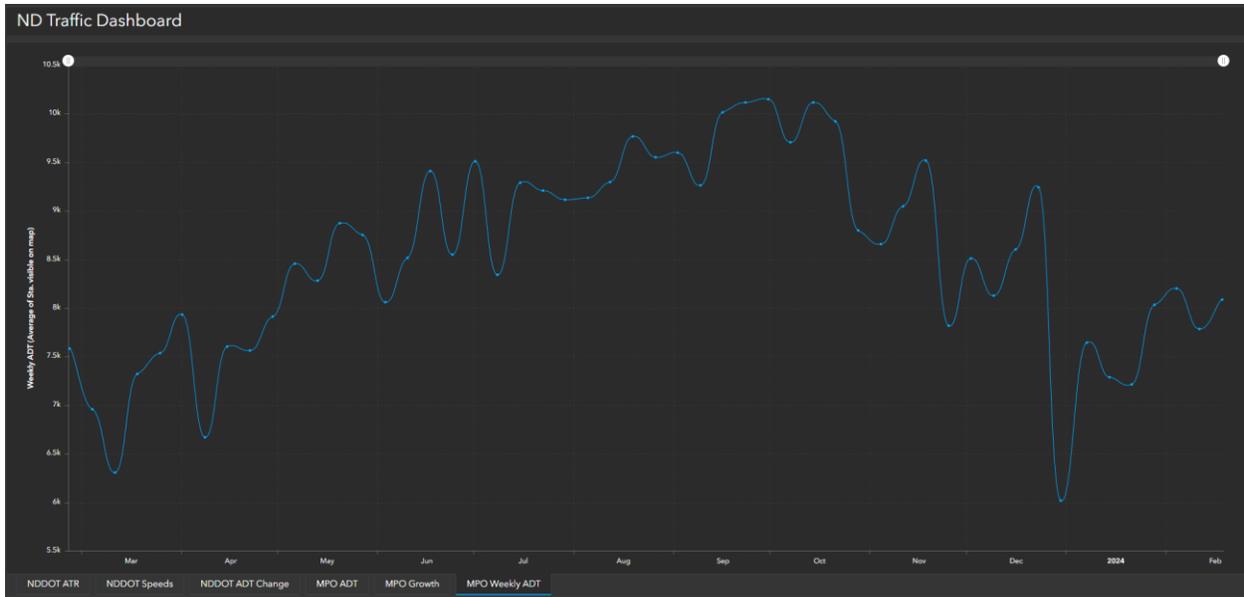


Figure 15. Weekly ADT plot for Bismarck's intersections

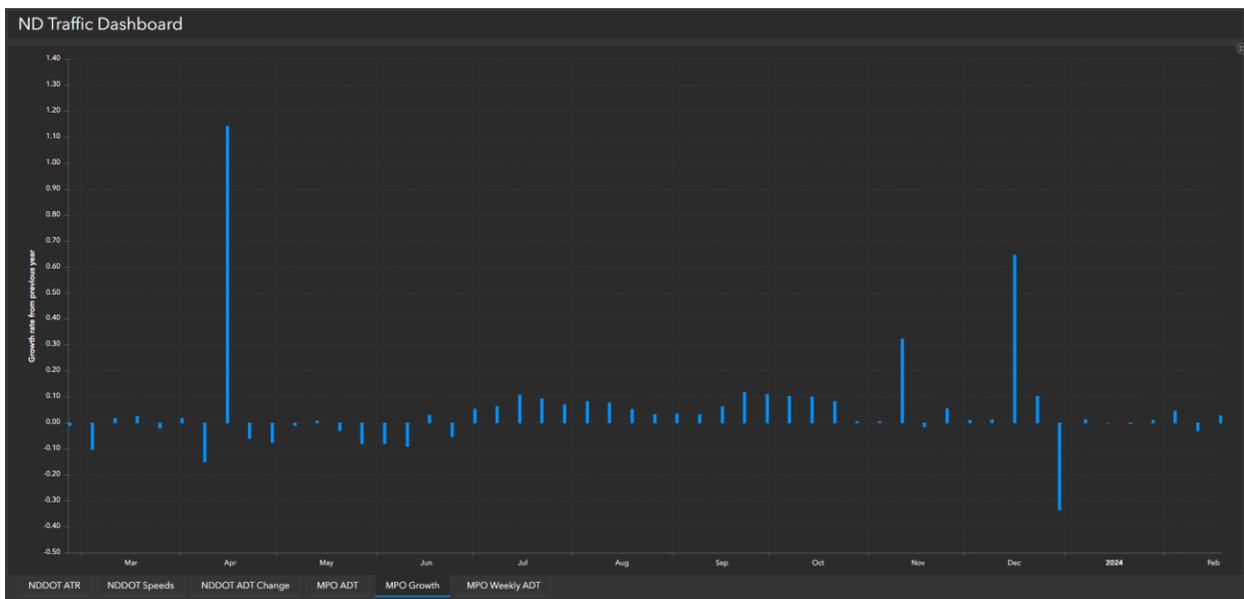


Figure 16. Weekly growth rate plot for Bismarck's intersections

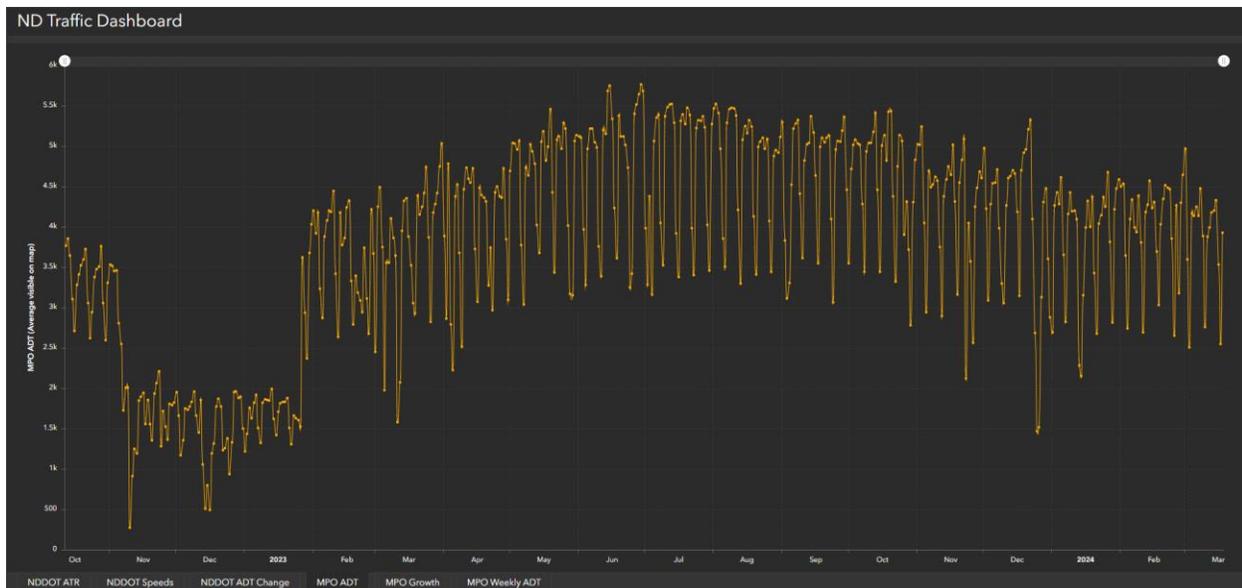


Figure 17. Daily ADT plot for Bismarck intersections

EMAIL NOTIFICATIONS

These emails are sent to stakeholders, engineers, and developers to notify them of potential outages, which may have been caused by power disruptions, communication loss, or other circumstances. These would facilitate prompt troubleshooting of any issues, thereby minimizing data loss. Currently, weekly emails are sent to stakeholders to reassure them that the data are not more than a week old. UGPTI staff, including engineers and developers, receive these emails daily so any issues may be tackled as soon as possible.

UGPTI engineers and developers also receive notifications regarding the availability of data from intersections newly set for traffic data collection. This facilitates a timely setup of intersections within the traffic analysis database.

Corridor reports

The graphical user interface (GUI) of the traffic analysis website and the supporting programming enables collective reporting of a group of intersections along a corridor. So far, this feature is available for AADT, MADT, and ADT reports. The homepage of the traffic analysis website now presents the user with an option to either select a single intersection or a corridor using separate drop-down menu items. In the case of corridor reports, the website creates a compressed folder containing individual PDF reports. Note that major intersections along intersecting corridors are included in groups of both intersecting streets.

RECOMMENDATIONS

Based on the data quality audit findings of this pilot project for the BisMan MPO and City of Bismarck, several next steps have been identified and the corresponding recommendations are discussed below.

BisMan MPO

Consider:

- Continue to support member agencies in its traffic data collection efforts.
- Assist City of Mandan so a similar pilot project for its intersection data collection may also be undertaken.
- Set up more intersections for traffic data collection in City of Bismarck.

City of Bismarck

Consider:

- Set up more locations for traffic data collection, mainly to include intersections along Bismarck Expy and Main Ave corridors.
- Continue collaborating with UGPTI to keep automated processes and current connections in place to facilitate troubleshooting.
- Continue collaborating with UGPTI until ongoing IT-related changes are finalized, and issues already identified have been rectified.

**REQUEST FOR PROPOSALS
FOR
ENGINEERING TRANSPORTATION PLANNING SERVICES**

The Bismarck-Mandan Metropolitan Planning Organization (MPO) is requesting proposals from qualified consultants for the following project:

2024 Pavement Conditions and Analysis Report

Qualifications based selection criteria will be used to analyze technical proposals and interviews from responding consultants. The MPO reserves the right to reject any or all proposals. **This project has a not to exceed budget of \$110,000. This project has a secondary contract with the City of Bismarck with a not to exceed budget of \$130,000.**

Interested firms should contact, Rachel Lukaszewski Executive Director, at the Bismarck-Mandan MPO, 221 N 5th Street P.O. Box 5503, Bismarck ND 58506. Contact can also be made via phone 701.355.1852 or by email: rlukaszewski@bismarcknd.gov

All proposals received by 4:00 PM (CST) on Tuesday, June 12, 2024 will be given consideration for an interview. The Bismarck-Mandan MPO reserves the right to limit the interviews to a maximum of five (5) firms whose proposals most clearly meet the RFP requirements. Firms will be notified in writing or by phone of shortlist results. Successful candidates will receive date, time and location information for the interviews.

It is the responsibility of the consultant to ensure all required elements of the proposal are submitted. Proposals missing required elements will be rejected and consultants will be denied interviews.

Minority, women-owned, and disadvantaged business enterprises are encouraged to participate. Respondents must submit six (6) physical copies of the proposal and one (1) electronic copy of the proposal. The full length of the proposal shall be no more than eight (8) pages. Appendix material is not counted toward the eight (8) page limit. Submittals must be received no later than 4:00 PM (CST) May 7 and may be shipped or hand delivered to:

Bismarck-Mandan MPO
221 N 5th Street
P.O. Box 5503
Bismarck, ND 58506-5503

Once submitted, the proposals become the property of the MPO. Proprietary information must be clearly noted in the proposal, or it will be subject to open records laws.

Contents

I. PURPOSE OF THE REQUEST	3
II. GENERAL INSTRUCTIONS	3
III. CONTENT OF PROPOSALS.....	4
IV: CONTRACT CLAUSES AND OTHER REQUIREMENTS	5
V. EVALUATION CRITERIA AND INTERVIEW PROCESS.....	6
VI. REGIONAL CONTEXT AND EXISTING CONDITIONS.....	7
VII. OBJECTIVE	7
VIII: STUDY AREA.....	8
IX. SCOPE OF WORK.....	8
X. PROJECT COMPLETION	9
XI: INFORMATION AVAILABLE TO THE CONSULTANT:	9

Figure 1: Bismarck-Mandan MPO 2024 Draft Urban Functional Class System

Appendix A: Proposed Sub-Consultant Request Form

Appendix B: Consultant Self Certification of Government-Wide Debarment and Suspension (Nonprocurement) Form

Appendix C: Certification and Restriction on Lobbying Form

Appendix D: Federal, State and Local Clauses

I. PURPOSE OF THE REQUEST

The purpose of this Request for Proposals (RFP) is to provide interested firms with information about professional services desired by the Bismarck-Mandan Metropolitan Planning Organization (MPO) for the following project:

2024 Pavement Conditions and Analysis Report

The MPO is requesting services to evaluate pavement condition on all functionally classified collector and arterial roadways within the Bismarck-Mandan MPO. This is between 210-225 centerline miles. Consultants will provide data collection, assess pavement in both PCI and IRI formats, update the jurisdictions’ data programs as necessary, and provide additional analysis as requested. Data will be used by the MPO to monitor their federal performance target for pavement condition and help select preventive maintenance and/or reconstruction projects for the region. To elaborate upon the selection process, data will inform the next Metropolitan Transportation Plan update and constrained list of projects and be used, as needed, during project prioritization of the annual TIP solicitation. Also, data will help the jurisdictions to execute the rehabilitation/reconstruction of functionally classified roadways. This study will be in cooperation with the cities of Bismarck, Mandan, and Lincoln, the counties of Burleigh and Morton, the North Dakota Department of Transportation (NDDOT), the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA).

This request will also include collection of all local roads for the City of Bismarck. This is approximately 260 centerline miles and the City has a not to exceed budget of \$130,000. This portion of the project will be contracted with and invoiced directly to the City of Bismarck. (See ‘Section VIII: Study Area’ for more information.)

II. GENERAL INSTRUCTIONS

<p>A. Any questions or comments should be submitted to:</p> <p style="text-align: center;">Rachel Lukaszewski, Executive Director 701.355.1852 rlukaszewski@bismarcknd.gov</p>
<p>B. Proposals shall be mailed to:</p> <p style="text-align: center;">Bismarck-Mandan MPO City/County Office Building 221 N 5th Street P.O. Box 5503 Bismarck, ND 58506-5503</p>
<p>C. All Proposals must be clearly identified and marked as follows:</p> <p style="text-align: center;">Proposal for: 2024 Pavement Conditions and Analysis Report Bismarck-Mandan MPO Firm’s Name</p>
<p>D. The MPO will consider proposals received up to 4:00 PM Central Time June 12, 2024. Six (6) copies of the written proposal and one (1) electronic copy must be received by the deadline. Electronic copies may be sent via flash drive or emailed to rlukaszewski@bismarcknd.gov. Proposals received after the deadline will not be considered for an interview. The MPO reserves the right to reject any or all proposals.</p>
<p>E. Proposal Cut Down: The Selection Committee intends to interview between three (3) and five (5) consultants, depending on the number and quality of the proposals received. Strength of the written proposals will be the basis of awarding an interview. Consultants who are awarded an interview will be notified by phone June 21, 2024. Consultants not selected for an interview will be notified in writing.</p>

<p>F. Selection Committee: The Selection Committee will consist of a four (4) person panel; three (3) voters and one (1) moderator. Committee members represent the following entities: City of Bismarck, City of Mandan, Morton County. The MPO project manager will moderate the interviews. Tie breaking votes are determined first via employment of a ND-certified Disadvantaged Business Enterprise (DBE), and then, if no DBE, by the moderator's scoring.</p>
<p>G. Interviews: The MPO will conduct web-based interviews on July 9, 2024. Each consultant is responsible for providing a meeting platform and invitation link. Consultants will be evaluated on both the written proposal and interviews. Consultants will be given forty-five (45) minutes to present their proposals and entertain questions. The consultants will be responsible for managing their interview and allowing time for questions.</p> <p>For more information on selection criteria see Section V: Evaluation Criteria and Interview Process.</p>
<p>H. Disadvantaged Business Enterprise: In the event of a tie for top consultant, positive consideration will be given to proposals which employ a Disadvantaged Business Enterprise (DBE) company. The DBE company must be certified with the North Dakota Department of Transportation (NDDOT). The DBE may be the Prime or Sub-Consulting company and should be identified in the proposal.</p>
<p>I. Selection and Approvals: Selection will be based on the Selection Committee's recommendation. All interviewees will be notified of the selection results by phone and/or writing. Approval of the top ranked consultant will be requested of the MPO's Technical Advisory Committee (TAC) and Policy Board on July 15 and July 16, 2024.</p>
<p>J. Contract Negotiations: Contract negotiations will begin immediately after Policy Board approval. Consultant will be required to prepare a scope of work and final fee schedule which will be included in the MPO's template contract as Exhibit A. Draft contracts are reviewed by MPO Staff, its partners and legal counsel. Upon successful negotiations, the MPO intends to execute the contract upon staff authority.</p> <p>Successful final negotiations shall include:</p> <ol style="list-style-type: none"> 1) Prime Consultant scope of work and fee schedule not exceeding \$110,000 2) Scope of work and fee schedule for ALL Subconsultants 3) Prime Consultant Certificate of Liability Insurance 4) Prime Consultant Indirect Cost Form (blank form will be provided by MPO) 5) SFN 60233: Prime Consultant Request to Sublet Form (blank form provided by MPO) 6) SFN330 Form for NDDOT, if needed (see Section III: Content of Proposals)

III. CONTENT OF PROPOSALS

Length of Proposals:

The proposal shall be no more than eight (8) single-sided pages and pages shall be numbered. In the case of double-sided printing, the reverse of page 1 would be page 2 and the body would contain four pieces of paper. The cover page, table of contents, and appendix will not count toward the proposal page limit of eight (8) pages.

Required Elements for Proposal:

The consultant's written proposal shall address the following major sections:

- Description of Firm
- Technical Capabilities
- Personnel Assignments and Qualifications
 - Organizational chart showing project team and general activities
 - Table of key individuals' time availability for project/study
- Pertinent Previous Experience and Performance
- Understanding of Project and Proposed Work Approach

Required Elements for Appendix:

The consultant's appendix must include the following items unless noted as 'optional'. The items included in the appendix will not count toward the eight (8) page limit and may take as many pages as needed.

- **Proposed Project Schedule:** Proposed schedules may begin as soon as September 1, 2024 and should detail all activities necessary to complete the study. Activities may include but are not limited to:
 - Reconnaissance activities
 - Pavement Condition Collection
 - Steering Committee Meetings
 - Documents/Tech Memos for Study Milestones
 - Monthly Updates (via telephone or in person) to MPO TAC and Policy Boards
 - Draft Report Development and review by MPO and Steering Committee (requires 2-3 weeks)
 - Draft Report Review by NDDOT, FHWA, and FTA (requires up to 1 month)
 - Technical Staff presentations or Final Presentation to the commissions of each partner jurisdiction
 - Final Presentation to the MPO TAC and MPO Policy Board
- **Resumes or List of Personnel** who will be assigned to work on the project (including titles, education, and/or work experience).
- **Sub-Consultant Information** to include the primary contact, as well as contact information for any sub-consultant(s) utilized on the project.
- **Quality Control/Quality Assurance (QC/QA) program:** Detail the program that will be used on the project. This (QC/QA) program must identify the team members, their responsibilities, and stages of development at which each is to be responsible.
- **Required Qualification Based Selection (QBS) Documents:**
 - Signed Proposed Sub-Consultant Request Form (Appendix A)
 - Signed Consultant Self Certification of Government-Wide Debarment and Suspension (Nonprocurement) Form (Appendix B)
 - Signed and Notarized Certification and Restriction on Lobbying Form (Appendix C)

Optional: Consultants are encouraged to update or complete a Federal Standard Form 330 (Architect-Engineer Qualifications). The SF 330 is an NDDOT requirement, and proves the consultant is pre-qualified to provide architectural, engineering and/or planning services for NDDOT. Consultants will not be penalized if the SF 330 is not included in their proposal, but **the consultant selected for contract negotiations must either be prequalified with the North Dakota Department of Transportation (NDDOT) or must provide an active SF 330 before the contract can be signed.** See <https://www.dot.nd.gov/construction-and-planning/consultants-and-engineers> for link to the SF 330. All SF 330 forms will be kept on file by the MPO and forwarded to NDDOT.

Disclosure of Proposal Ownership:

At the conclusion of the selection process, the contents of all proposals will be subject to the City of Bismarck's Open Records Law and may be open to inspection by interested parties. Any information included in the proposal that the proposing party believes to be a trade secret or proprietary information must be clearly identified in the proposal. Any identified information documented as such and protected by law may be exempt from disclosure.

IV: CONTRACT CLAUSES AND OTHER REQUIREMENTS**Federal, State, and Local Contract Requirements:**

Federally funded projects executed by the MPO require the inclusion of specific clauses in all contracts. Consultants should be prepared to abide by the necessary clauses and include each verbatim and unaltered in all potential contracts with the Bismarck-Mandan MPO. *The clauses can be reviewed in Appendix D: Local, State and Federal Clauses.*

Ownership of Work Product:

One additional clause not included in Appendix D but required due to the use of Federal Funds, is the "Ownership of Work Product" clause. Consultants and sub-consultants should be prepared to abide by the following:

Ownership of Work Product: All work products and copyrights of the contract, which result from the contract, are the exclusive property of the Bismarck-Mandan MPO and NDDOT, with an unlimited license for use by the federal government

and its assignees without charge.

General Information:

The Bismarck-Mandan MPO reserves the right to enter into a supplementary agreement to have the selected firm perform any additional work not currently assigned.

The City of Bismarck has elect to evaluate local roadways. Data collection may occur concurrently with the MPO effort, but the local road effort should be billed to the jurisdiction directly.

All billable MPO work must be completed by December 31, 2024. It is advised that the review and reporting on the MPO roadways be complete first—before or concurrent with the review and reporting on Bismarck Data.

If the contract is terminated prior to completion of the final report, all work completed, shall become the property of the NDDOT, as per the ‘Ownership of Work Product’ Clause. The final report will be submitted using the following formats and standards, if applicable:

- MS Word/ MS Excel
- Adobe Acrobat (Standard or Compatible)
- NDDOT Data Collection Codes and Procedures
- NDDOT and/or City, as applicable, Drafting Standards
- NDDOT Design Manual
- Chapter 19 NDDOT Survey and Photogrammetry Manual

GIS Data Requirements:

Acceptable data formats include ESRI shapefile and file geodatabase. The following is the required projection.

Coordinate System	• State HARN
Horizontal Datum	• NAD 1983 (2011 adjusted)
Vertical Datum	• NGVD88
Zone	• ND South (3302)
Units	• International Feet

Metadata must be FGDC compliant and delivered in .txt format. It is recommended to utilize ArcCatalog to generate the .txt file. The following are required parameters:

- Identification – General
 1. Keywords
 2. Abstract
 3. Purpose
 4. Supplemental information
 5. Native dataset format
- Identification – Status
 1. Progress
 2. Update Frequency
- Identification – Time Period
 1. Current-ness reference
 2. Range of dates: beginning date/end date
- Identification – Citation
 1. Citation title
 2. Originator
 3. Publication date
- Metadata Reference
 1. Metadata date
 2. Contact – who completed the document
 3. Organization
 4. Address
 5. City, State, Zipcode
 6. Telephone
 7. E-Mail
- Data Quality
 1. Attribute accuracy
 2. Positional accuracy – horizontal/vertical
 3. Source information
 4. Process step
- Entity Attribute
 1. Entity Type
 2. Attribute

V. EVALUATION CRITERIA AND INTERVIEW PROCESS

The selection process will be completed in accordance with Bismarck-Mandan MPO policies. Written proposals shall address the firm's ability to perform the necessary services in the allotted time with qualified personnel. Selection will be based on an array of measures chosen from the following criteria:

1. Recent, current, and projected workloads
2. Ability of professional personnel (staff experience and technical capabilities)
3. Related experience on similar projects
4. Location
5. Project understanding, issues and approach
6. Past Performance
7. Willingness to meet time and budget requirements
8. Recent and current work for the agency
9. Project schedule

The final selection will be based on written proposals along with web-based interviews. All firms not selected will be notified in writing.

In the event of equally ranked consultants, additional positive consideration will be given to proposals which employ a Disadvantaged Business Enterprise (DBE) company. If no DBE is employed the moderator's ranking will provide the tie-breaking score. See Section II: General Instructions for more information.

A final scope of work will be developed, and price will be negotiated with the successful firm. An agreement will be executed with a single firm. If unable to arrive at a mutual agreement with the top ranked firm, the MPO retains the right to move on to negotiations with the second (then third, etc.) ranked firm. Approved sub-agreements for minor portions of the work will be permitted.

VI. REGIONAL CONTEXT AND EXISTING CONDITIONS

Local Conditions:

The Bismarck-Mandan MPO consists of the cities of Mandan, Bismarck, and Lincoln, and the metropolitan portions of Burleigh and Morton County. The climate for the Bismarck-Mandan MPO area is quite varied, consisting of summers where temperatures can reach over 100° F and winters where they can fall to -30° F or lower. The average temperature in January is 14° F and in July it is 72° F. The average annual precipitation is variable with an average of 17.8 inches. An average of 50 inches of snow falls per year typically between October and April. In an average year the frost depth averages about 4.5 feet and the ground remains frozen from approximately December 1 through May 1. The streets are typically cleaned of residual deicing solutions, sand and/or salt in mid-May.

Past Pavement Collections:

The last MPO collection of pavement condition occurred in 2020 and evaluated roadways in Bismarck and Mandan. The City of Bismarck currently utilizes MicroPAVER® 7 software for their pavement management system. The City of Mandan has had MicroPAVER® in the past and may be interested in purchasing a renewal. Burleigh County, Morton County, and the City of Lincoln currently do not use a computerized pavement management system and do not plan to purchase MicroPAVER® software.

VII. OBJECTIVE

This project will include data collection for the MPO's entire urban functionally classified network. The network consists of between 210-225 miles of collector and arterial roadway. The road network should include both directions of travel on all roadways. Approximately one-third of area of each direction of roadway shall be collected at a time. The data shall be collected in accordance with ASTM D6433-09 and be compatible with MicroPAVER® software. The data shall be compatible with the existing jurisdictional GIS systems. Additional analysis will be requested to identify jurisdictional-specific repair programs, which will include timing of repair and cost

VIII: STUDY AREA

The study area includes all arterial and collector roadways on the MPO's urban functionally classified system. See Figure 1 for map. Note, the functional class system is in the process of being updating in spring/summer 2024, and therefore the system on the map is labeled 'draft'.

NOTE: All Bismarck local roads will be added as part of a three-way contract with the City of Bismarck. Collection of local road conditions is not eligible for the MPO's federal funding, so the City has allocated a not to exceed budget of \$130,000 for this portion of the project. The City anticipates surveying approximately 260 centerline miles of local roadway, or less depending on cost per mile. The City is expected to cost share on the project's mobilization fee at a rate matching the percentage of local roads in the total project. Any fee or expense resulting solely from the local road collection should be directly invoiced to the City of Bismarck.

IX. SCOPE OF WORK

The firm selected shall provide professional services for pavement evaluation which may include, but not be limited to:

1. Project initiation, including:
 - a. Development of a steering committee (with assistance from MPO staff). Steering committee should include jurisdictional staff, MPO staff, and possible state and federal oversight.
 - b. Kick off meeting with the steering committee.
 - c. Coordination with existing geospatial and pavement management systems.
2. Project management
 - a. Activities required to manage the project including staff, equipment, and documentation.
 - b. Lead Steering Committee meetings at appropriate times throughout the project.
 - c. Preparation of progress reports, documenting travel and expense receipts, and preparing and submitting invoices in a timely manner.
 - d. Monthly progress reports to the MPO, the Technical Advisory Committee, and to the Policy Board.
3. Geo-referenced digital pavement data collection, including high resolution downward facing line-scan images and high resolution forward and side facing images at 25 foot intervals.
4. Pavement evaluation including International Roughness Index (IRI) and Pavement Condition Index (PCI).
5. Pavement management software database creation and/or updates, as required, and image viewer software installation and database creation.
6. Linkage of pavement evaluation data and digital images to existing Bismarck, Burleigh County, and Morton County respective GIS systems.
7. Database import into MicroPAVER® pavement management software, possible update of software license (paid at jurisdictional expense), and staff training in MicroPAVER®. Training should be 2-4 hours.
8. Analysis of pavement condition scores and development of condition reports. Depending on the need of the jurisdiction, analysis and reports may include:
 - a. Condition report noting pavement scores as a PDF, GIS-shapefile, or similar format. Consultant should provide an ordered list of roadways to improve over the next 5-10 years. List should be based on pavement score and an assumed, generic cost estimate.
 - b. Conditions report noting pavement scores AND additional analysis on longevity of the roadways. Consultant should prioritize roadway improvements for next 5-10 years. This would note which roadway/sections to improve, the year of improvement, and the type of improvement (mill and overlay vs. reconstruction). This would use jurisdiction-specific costs estimates and be constrained by a jurisdiction-specified budget and/or condition target.
9. Provide final presentations. Depending on the need of the jurisdiction, final presentation may include:
 - a. Staff-level technical update robust enough for the city/county staff to address their boards about the report. This is to be given in person or by web-based video conference.
 - b. Commission presentation where the consultant presents by phone or in-person. Possible action item.

- c. In-person presentations to the MPO TAC and Policy Board for their review and possible approval.
10. **Collection, analysis, and reporting of local road conditions for the City of Bismarck (See ‘Section VIII: Study Area’ for more information.)**

X. PROJECT COMPLETION

A. Development and Review of Draft Report:

A draft report shall be produced after all recommendations have been developed and approved by the Steering Committee(s). Electronic and/ or paper copies of the draft report shall be provided for the Steering Committee(s), the MPO project manager, NDDOT, FHWA and FTA for their review and comment. All comments from the MPO, NDDOT, FHWA, and FTA shall be addressed to the respective entity’s satisfaction prior to development of the final draft and final presentations.

B. Final Presentations/Completion:

The draft report shall be advertised and made available to the public for a minimum of fifteen (15) days before the final presentations.

The consultant will be requested to provide a technical presentation to the staff of the five jurisdictions. Additionally, they may be required to make a presentation to the Bismarck Board of City Commissioners, the Mandan Board of City Commissioners, and the Lincoln City Council, the Burleigh County Board of County Commissioners, and the Morton County Board of County Commissioners for their acceptance. The consultant will be required to make a final presentation to the MPO Technical Advisory Committee and the MPO Policy Board for review and acceptance/approval of the final draft report. Approval of the final draft report by the MPO Policy Board, and subsequent distribution of study deliverables, will mark the completion of the study.

C. Deliverables:

The final report shall be produced after all comments on the draft report are addressed, final presentations are complete, and the report has been approved by the MPO TAC and Policy Board. A minimum of three (3) paper copies shall be provided of the Bismarck/Burleigh County Report and a minimum of three (3) paper copies shall be provided of the Mandan/ Morton County Report. A pdf-based copy of each report and all appendices shall also be provided. All products are to be delivered to the MPO project manager for dissemination.

D. Schedule for Contract Development and Final Study Deadline:

RFP Submittal Deadline	June 12, 2024
Notification for Interviews	June 21, 2024
Interviews and Notification of Ranking	July 9, 2024
Policy Board Approval	July 16, 2024
Formal Notification of Firms	July 17, 2024
Official Notice to Proceed	Sept 1, 2024 (Approx.)
Collection Dates	Sept 1 - Oct 25
Final Project Report & Presentation to MPO Boards	Dec 16 and 17, 2024
Last Date for Reimbursable Work	Dec 31, 2024

XI: INFORMATION AVAILABLE TO THE CONSULTANT:

The following resources/data/information is available for the study from the Bismarck-Mandan MPO and its partners:

Available for Download:

1. [2020 Pavement Condition Analysis Report](#)
2. [2023 Transit Development Plan](#)
3. [2024-2027 Transportation Improvement Program](#)

4. [Arrive 2045 \(2020-2045 MTP\) - 2020](#)
5. [Arrive 2050 \(2025-2025 MTP\) \(Currently Ongoing\)](#)
6. [Arrive 2050 Travel Demand Model Review and Socio-Economic Projections Final Report – 2024](#)
7. [Bismarck Growth Management Plan – 2014](#)
8. [Bismarck-Mandan Bicycle and Pedestrian Plan](#)
9. [Bismarck-Mandan School Safety Crossing Study](#)
10. [Downtown Bismarck Subarea Study](#)
11. [FHWA Traffic Signal Timing Manual – 2008](#)
12. [I-94 Corridor Study](#)
13. [Intersection Analysis Study– Appendix – Pedestrian & Bicycle Control Fact Sheets – Traffic Calming Fact Sheets Traffic Control Fact Sheets](#)
14. [ITS Architecture 2021 Update](#)
15. [Mandan & Bismarck Corridors Improvement Study](#)
16. [Mandan Comp Plan, 2009](#) and [2021 Supplement](#)
17. [Mandan Downtown Subarea Study - 2018](#)
18. [Mandan Land Use & Transportation Plan 2015](#)
19. Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways ([2009 Edition with Revision Numbers 1 and 2](#)) – 2012
20. [MPO Public Participation Plan](#)
21. [MPO Regional Future Land Use Plan 2007](#)
22. [MPO Title VI/Non-Discrimination Plan](#)
23. [MPO Traffic Count Data](#) (Provided through NDDOT)
24. [Multi-Use Trails Map](#)
25. [NDDOT Traffic Operations Manual – 2018](#)
26. [North Mandan Subarea Study](#) and [Appendix](#)
27. [Regional Freight Study](#)
28. [Together 2045-Bismarck’s Comprehensive Plan](#)

Additional Recommended Resources:

1. ITE – Traffic Engineering Handbook, 7th Edition

Available by Direct Request:

1. GIS geodatabase information;
 - a. MPO-wide Centerline Files
 - b. MPO-wide Urban Functionally Classified Roadways
 - c. Land base/Infrastructure data from member jurisdictions
 - d. MPO-wide Colored Digital Orthophotography – 3-inch resolution – 2023
 - e. MPO-wide Digital Elevation Data – 1/2-foot contours – 2023
2. Bismarck State of the Streets Report including MicroPAVER Technical Documentation (November 2012)
3. Street records including pavement section and width, date paved, and miscellaneous additional design information;
4. Bismarck, Burleigh County, and Mandan street and roadway maintenance project records;
5. Location specific soil information, where available, including geotechnical studies for specific areas.

Figure 1: MPO 2024 Draft Urban Functionally Classified System

Appendix A: Proposed Sub-Consultant Request Form

**Appendix B: Consultant Self Certification of Government-Wide Debarment and Suspension (Nonprocurement)
Form**

Appendix C: Certification and Restriction on Lobbying Form

Appendix D: Federal, State and Local Clauses

Federal Clauses

State and Local Clauses

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**Travel Demand Modeling Support Program
Bismarck/Mandan Addendum to Master Agreement**

Upon execution by the parties below, this Addendum and any attachments shall become part of and incorporated into the *Travel Demand Modeling Support Program Master Agreement* between: **Bismarck-Mandan MPO and North Dakota State University.**

Project Title: Travel Demand Modeling to Support Bismarck Mandan Arrive 2050 Metropolitan Transportation Plan.

Effective Dates: June 1st, 2024 - September 30th, 2024.

Statement of Work: This work is performed to support the development of the Arrive 2050 Metropolitan Transportation Plan for the Bismarck-Mandan MPO.

Tasks

- A. **Travel Behavior Scenarios:** implement the travel behavior scenarios as shown in the Scope of work.
- B. **Network Modification Scenarios:** implement the network improvement scenarios as shown in the scope of work.
- C. **Update the E+C Model as requested.**

Desired Deliverables

- 1. Output Cube files as requested.
- 2. Output shapefiles for each scenario.

Principal Investigator: Diomo Motuba

Management/Organization: The project will be coordinated between the Bis-Man MPO, KLJ Consulting and ATAC. The following representatives will serve as study coordinators:

Bis-Man MPO:	ATAC:	KLJ
Rachel Lukaszewski	Diomo Motuba	Jason Carbee

Contract Amount: \$23,825

AUTHORIZATION:

Bismarck Mandan MPO

North Dakota State University

Authorized Signature

Authorized Signature

Name and Title

Date

Name and Title

Date

Budget

Cost Item	Amount
Staff Salaries	\$ 10,392
Benefits	\$ 4,261
Grad Student Salaries	\$ 1,890
Undergrad Student Salaries	\$ -
Benefits	\$ 95
Operating	\$ -
Total direct costs	\$ 16,638
NDSU overhead (43.2%)	\$ 7,188
Total project cost	\$ 23,825

Arrive 2050 Scope of Work



Figure 1: Draft Arrive 2050 Alternatives- Roadway Projects

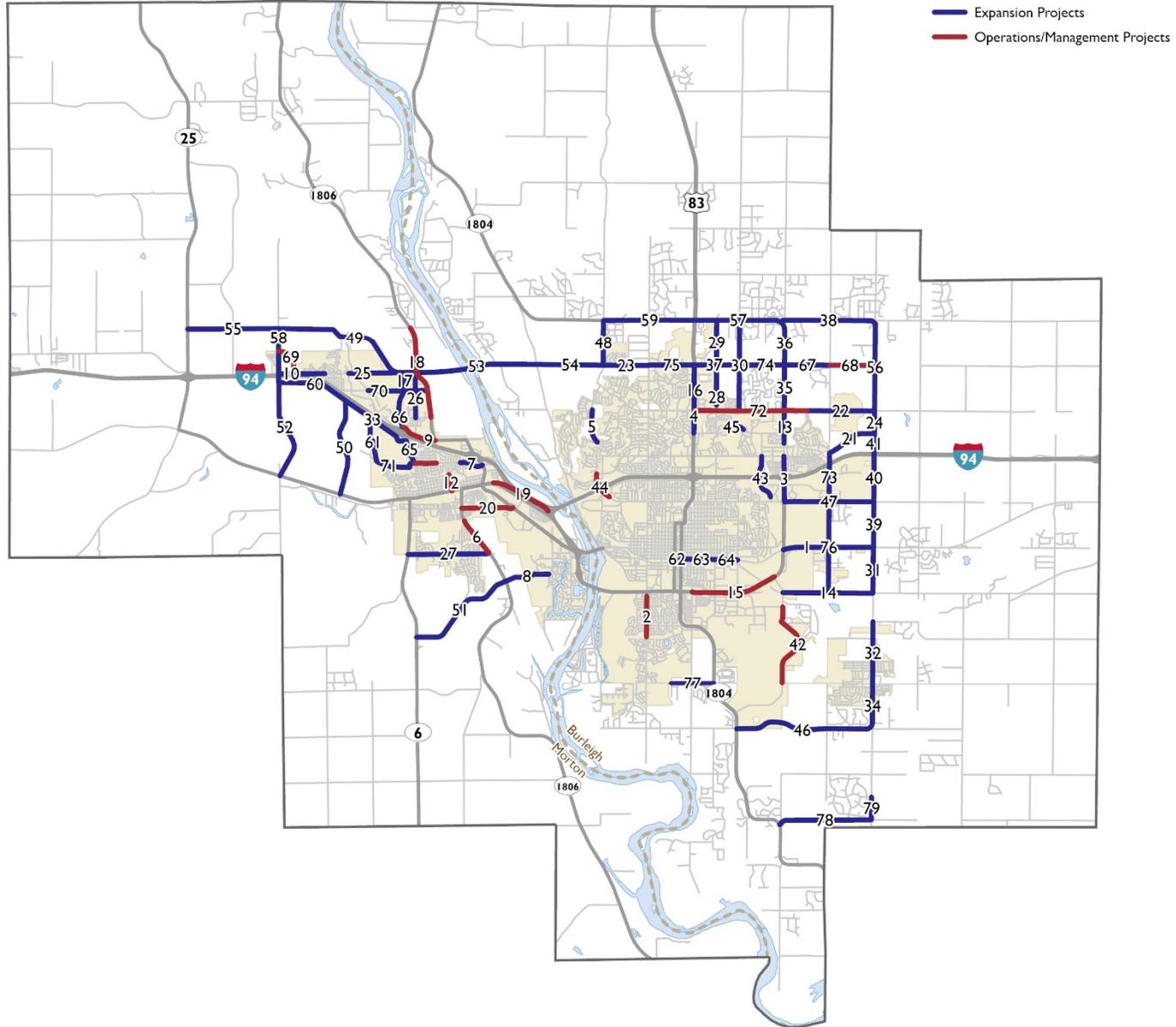




Table 1: Draft 2050 MTP Alternatives- Roadway Projects

ID	Location	From	To	Type	Description	Source
1	Main Avenue	Bismarck Expressway	66th Street	Expansion	Widen from 2-lane to 3-lane section (including intersection improvement at 52nd Street).	Arrive 2045
2	Washington Street	Drainage Channel	Denver Avenue	Management	Turn lane improvements including restripe south of Reno Avenue as 3-lane section.	Arrive 2045
3	Bismarck Expressway / Centennial Road	Divide Avenue	Century Avenue	Expansion	Widen from 5-lane to 6-lane section.	Arrive 2045
4	State Street	Calgary Avenue	Skyline Boulevard	Expansion	At grade improvements: Calgary Avenue and 43rd Avenue; widening to 6-lane urban section from Calgary Avenue through Skyline Boulevard intersection.	Arrive 2045
5	Tyler Parkway	Valley Drive	Cogburn Road	Expansion	Construct as 2-lane urban section.	Arrive 2045
6	Highway 1806	19th Street SW	Heart River Bridge	Management	Pavement preservation project, including addition of turn lanes and signals at 8th Avenue and 19th Street.	Arrive 2045
7	Division Street NE	Chippewa Avenue NE	Mandan Avenue	Expansion	Construct as 2-lane urban section.	Arrive 2045
8	M W Ct S	ND 1806	McKenzie Drive SE	Expansion	Complete Grid	Arrive 2045
9	Old Red Trail	Sunset Drive	ND 1806 / Collins Avenue	Management	Restripe for 3-lane urban section.	Arrive 2045
10	Old Red Trail	56th Avenue NW	40th Avenue NW	Expansion	Reconstruct as 3-lane urban section.	Arrive 2045
11	Division Street	Sunset Drive	ND 1806 / Collins Avenue	Management	Reconstruction.	Arrive 2045
12	3rd Avenue NE	Main Street	5th Street NE	Management	Reconstruction.	Arrive 2045
13	Centennial Road	Jericho Road	43rd Avenue	Expansion	Widen from 3-lane to 5-lane urban section.	Arrive 2045
14	Apple Creek Road	Yegen Road	66th Street SE	Expansion	Widen to 4-lanes.	Arrive 2045



Table 1 continued

ID	Location	From	To	Type	Description	Source
15	Bismarck Expressway	12th Street	Yegen Road	Management	Implement 3/4 access control at 5 intersections and add right turn at Airport Road.	Arrive 2045
16	State Street	43rd Avenue	57th Avenue	Expansion	Widen to 6-lanes from N of 43rd through 57th; intersection improvement at 57th.	Arrive 2045
17	Sunset Drive	Middle School	38th Street	Expansion	Construct as 2-lane urban section.	Arrive 2045
18	ND 1806	Old Red Trail	37th Street	Management	Intersection capacity improvement, add turn lanes at key intersections. (Assume minor intersection improvements to match new 37th St section).	Arrive 2045
19	I-94	I-194	Main Street / Exit 155	Management	Recommendation pending Grant Marsh Bridge Feasibility Study.	Arrive 2045
20	3rd Street SW	6th Avenue / ND 1806	Memorial Highway	Management	Restripe to include turn lanes or restripe to 3-lane section with center turn lane and no parking.	Arrive 2045
21	Century Avenue	52nd Street	66th Street	Expansion	Construct 3-lane urban section.	Arrive 2045
22	43rd Avenue	52nd Street	66th Street	Expansion	Widen from 2-lane to 3-lane or 5-lane urban section.	Arrive 2045
23	57th Avenue	Tyler Parkway	Crested Butte Road	Expansion	Construct as 3-lane rural section.	Arrive 2045
24	66th Street	Century Avenue	43rd Avenue	Expansion	Pave and improve to 2-lane rural section.	Arrive 2045
25	38th Street NW	Old Red Trail	Collins Avenue / ND 1806	Expansion	Construct as 2-lane urban section.	Arrive 2045
26	8th Avenue NW	27th Street NW	38th Street	Expansion	Construct 2-lane urban section.	Arrive 2045
27	19th Street SE	ND 6	ND 1806	Expansion	Reconstruct as 3-lane urban section.	Arrive 2045
28	N 19th Street	Skyline Boulevard	57th Avenue NE	Expansion	Reconstruct 3-lane urban section.	Arrive 2045
29	N 19th Street	57th Avenue NE	71st Avenue	Expansion	Reconstruct 3-lane urban section.	Arrive 2045



Table 1 continued

ID	Location	From	To	Type	Description	Source
30	26th Street	43rd Avenue	71st Avenue	Expansion	Construct as 3-lane rural section.	Arrive 2045
31	66th Street	Apple Creek	Old Highway 10/ E Main Avenue	Expansion	Widen from 2-lane to 3-section.	Arrive 2045
32	66th Street	Lincoln Road	Northgate Drive	Expansion	Widen from 2-lane to 3-section.	Arrive 2045
33	Boundary Road	32nd Avenue	Sunset Drive	Expansion	Construct as 3-lane urban section.	Arrive 2045
34	66th Street	48th Avenue S	Lincoln Road	Expansion	Reconstruct as 2-lane urban section.	Arrive 2045
35	Centennial Road	43rd Avenue	57th Avenue	Expansion	Widen from 2-lane to 3-lane rural section.	Arrive 2045
36	Centennial Road	57th Avenue	71st Avenue	Expansion	Widen from 2-lane to 3-lane rural section.	Arrive 2045
37	57th Avenue	State Street	26th Street	Expansion	Construct 3-lane urban section.	Arrive 2045
38	71st Avenue	Centennial Road	66th Street	Expansion	Reconstruct as a 3-lane rural section.	Arrive 2045
39	66th Street	Old Highway 10 / E Main Avenue	17th Avenue	Expansion	Construct as 3-lane urban section (tied with project for interchange with I-94 at 66th Street).	Arrive 2045
40	66th Street	17th Avenue	I-94	Expansion	Construct as 3-lane urban section (tied with project for interchange with I-94 at 66th Street).	Arrive 2045
41	66th Street	I-94	Century Avenue	Expansion	Construct as 3-lane urban section (tied with project for interchange with I-94 at 66th Street).	Arrive 2045
42	Yegen Road	Lincoln Road	Morrison Avenue	Management	Add 6 new turn lanes in key locations.	Arrive 2045
43	Hamilton Street / Channel Drive	Divide Avenue	Century Avenue	Expansion	Construct as 2-lane urban section with grade separation.	Arrive 2045
44	Tyler Parkway	Schafer Road	Burnt Board Drive	Management	Intersection capacity improvement. Add turn lanes and include safety improvements.	Arrive 2045
45	Calgary Avenue	DMVW Railroad	Haycreek Road	Expansion	Construct 2-lane urban section across DMVW RR with grade separation.	Arrive 2045



Table 1 continued

ID	Location	From	To	Type	Description	Source
46	48th Avenue S	University Drive	66th Street	Expansion	Construct 2-lane rural section and structure improvements at Apple Creek crossing.	Arrive 2045
47	Divide Avenue	Bismarck Expressway	66th Street	Expansion	Reconstruct as 3-lane urban section.	Arrive 2045
48	Tyler Parkway	57th Avenue	ND 1804 / 71st Avenue	Expansion	Construct as 3-lane urban section.	Arrive 2045
49	37th Street NW	56th Avenue	ND 1806	Expansion	Construct 3-lane urban section.	Arrive 2045
50	32nd Avenue W	I-94 Business Loop (Main Street)	Boundary Road (Future)	Expansion	Construct as 2-lane urban section.	Arrive 2045
51	McKenzie Road	ND 6	ND 1806	Expansion	Construct as 2-lane rural section.	Arrive 2045
52	56th Avenue NW	I-94 Business Loop (Main Street)	Old Red Trail	Expansion	Construct as 3-lane urban section.	Arrive 2045
53	Northern Bridge	38th Street (Mandan)	River Road	Expansion	Construct as 4-lane rural roadway from River Road (Bismarck) to 38th Street (Mandan), including construction of Missouri River Bridge.	Arrive 2045
54	57th Avenue	River Road	Tyler Parkway	Expansion	Construct as 3-lane rural section.	Arrive 2045
55	37th Street NW	ND 25	56th Avenue	Expansion	Construct 2-lane urban section.	Arrive 2045
56	66th Street	43rd Avenue	71st Avenue	Expansion	Reconstruct/New Construct as a 3-lane urban section.	Arrive 2045
57	71st Avenue	State Street	Centennial Road	Expansion	Widen from 2-lane to 3-lane rural section.	Arrive 2045
58	56th Avenue	Old Red Trail	37th Street	Expansion	Reconstruct as 3-lane urban section.	Arrive 2045
59	71st Avenue/ ND 1804	15th Street/Tyler Parkway	State Street	Expansion	Widen from 2-lane to 3-lane section.	Arrive 2045
60	Boundary Road	56th Avenue / I-94 Interchange	32nd Avenue NW	Expansion	Construct as 3-lane urban section.	Arrive 2045
61	31st Street NW	Lohstreter Road	Boundary Road (Future)	Expansion	Construct as 2-lane urban section.	Arrive 2045
62	East Main Avenue	7th Street	12th Street	Expansion	Reconstruct as a 3-lane urban section.	E Main Avenue Study



Table 1 continued

ID	Location	From	To	Type	Description	Source
63	East Main Avenue	12th Street	Airport Road	Expansion	Reconstruct as a 5-lane urban section.	E Main Avenue Study
64	East Main Avenue	Airport Road	26th Street	Expansion	Reconstruct as a 5-lane urban section.	E Main Avenue Study
65	Sunset Drive	Division Street	Boundary Street	Expansion	Reconstruct as 3-lane urban section.	Sunset Drive Corridor Study
66	Sunset Drive	Old Red Trail	31st Street NW	Expansion	Reconstruct as 3-lane urban section.	Sunset Drive Corridor Study
67	57th Avenue	Centennial Road	52nd Street NE	Expansion	Widen from 2-lane rural to 3-lane urban section, access control.	Arrive 2050 Add
68	57th Avenue	52nd Street NE	66th Street	Management	Pave 2-lane rural section.	Arrive 2050 Add
69	Old Red Trail	47th Avenue NW	57th Avenue NW	Management	Old Red Trail realignment to accommodate future interchange.	Steering Committee
70	37th Street NW	Old Red Trail	ND 1806	Expansion	Construct urban 3-lane for arterial connection.	Steering Committee
71	Division Street	Sunset Drive	Lohstreter Road	Expansion	Construct urban 3-lane to extend Division Street.	Steering Committee
72	43rd Avenue	State Street	Roosevelt Drive	Management	Access control, operations management.	Arrive 2050 Add
73	52nd Street NE	17th Avenue NE	E Century Avenue	Expansion	I-94 overpass and street improvements from Century Ave to Divide Ave	Arrive 2050 Add
74	57th Avenue	26th Street	Centennial Road	Expansion	Paving.	City of Bismarck
75	57th Avenue	Washington Street	State Street	Expansion	Widen to 3-lane urban section.	City of Bismarck
76	52nd Street	Apple Creek Road	17th Avenue	Expansion	Widen to 3-lane urban section.	City of Bismarck
77	Burleigh Avenue	High Plains Road	University Drive	Expansion	Widen to 3-lane urban section.	City of Bismarck
78	76th Avenue SE	ND 1804	66th Street SE	Expansion	Extend 76th Avenue SE, pave and construct 2-lane rural section.	City of Bismarck
79	66th Street SE	76th Avenue SE	Woodrow Drive	Expansion	Pave and improve to 2-lane rural section.	City of Bismarck



Figure 2: Draft Arrive 2050 Alternatives- Intersection Projects

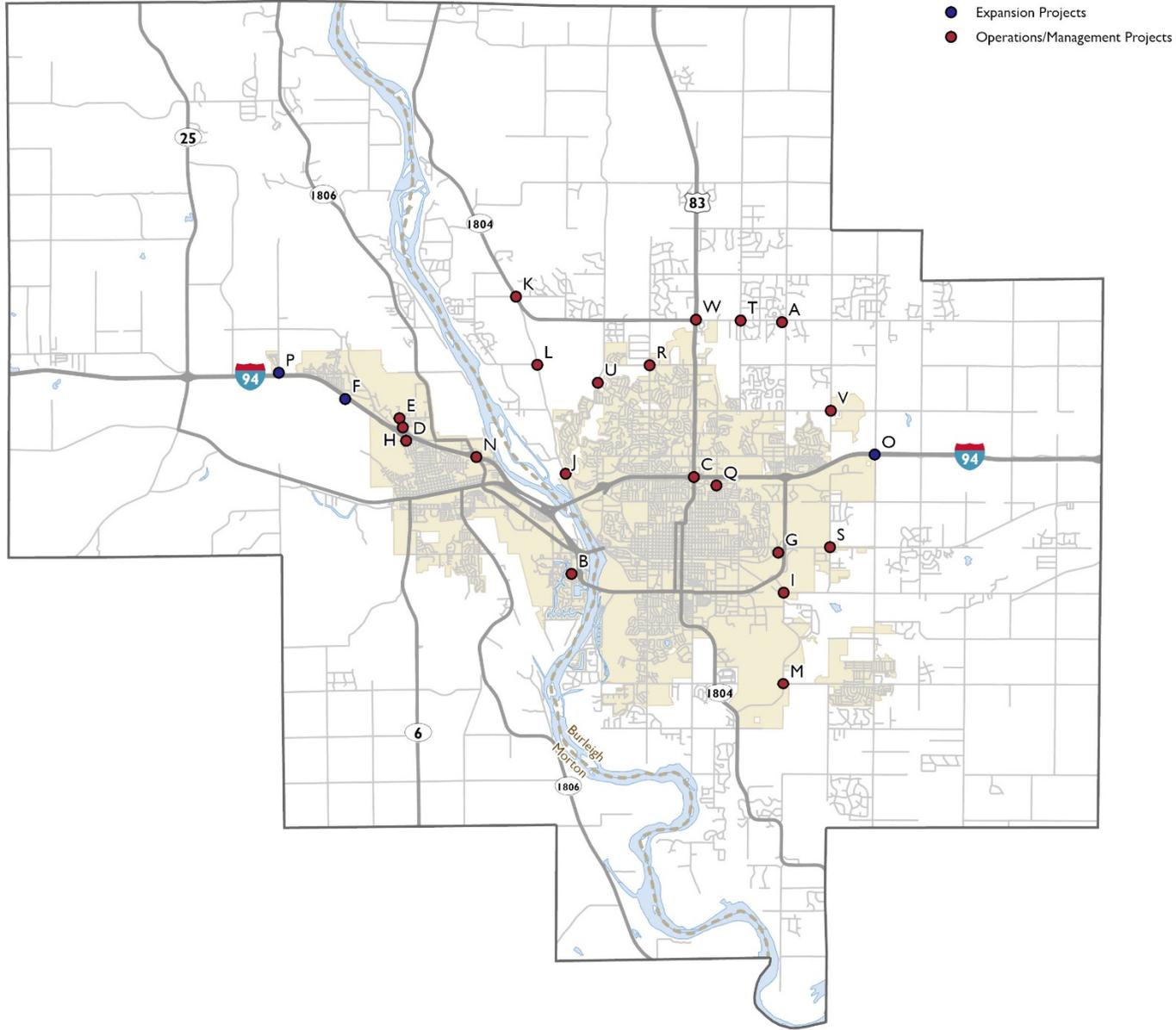




Table 2: Draft Arrive 2050 Alternatives- Intersection Projects

ID	Location	Cross Street	Project Type	Project Description	Source
A	71st Avenue	Centennial Road	Management	Intersection capacity improvement	Arrive 2045
B	McKenzie Drive	46th Avenue SE	Management	Intersection capacity improvement	Arrive 2045
C	State Street	I-94	Management	Interchange reconstruction	Arrive 2045
D	Boundary Road	Sunset Drive	Management	Signalize and stripe turn lanes on all approaches.	Arrive 2045
E	27th Street N	Sunset Drive	Management	Intersection capacity improvement.	Arrive 2045
F	32nd Avenue	I-94	Expansion	Grade separation- overpass / underpass.	Arrive 2045
G	Main Avenue	Hay Creek Crossing	Management	Structural replacement.	Arrive 2045
H	Sunset Drive	Old Red Trail	Management	Intersection improvements- dedicated WB Left turn lane + left turn phasing	BisMan Intersection Analysis Study
I	Apple Creek Road	Yegen Road	Management	Intersection capacity improvement.	Arrive 2045
J	Burnt Boat Drive	River Road	Management	Intersection capacity improvement.	Arrive 2045
K	Burnt Creek Loop North / River Road	ND 1804	Management	Intersection capacity improvement.	Arrive 2045
L	Burnt Creek Loop South (57th Avenue)	River Road	Management	Intersection capacity improvement.	Arrive 2045
M	Lincoln Road	Yegen Road / Airway Avenue	Management	Intersection capacity improvement.	Arrive 2045
N	Mandan Avenue	I-94	Management	Interchange reconstruction.	Arrive 2045
O	I-94	66th Street	Expansion	New interchange.	Arrive 2045
P	56th Avenue NW	I-94	Expansion	New interchange.	Arrive 2045
Q	N 19th Street	Capitol Avenue	Management	Intersection capacity improvement.	HDR Added
R	57th Avenue	Washington Street	Management	Roundabout or signal.	Steering Committee
S	52nd Street	Main Avenue	Management	Roundabout.	City of Bismarck
T	26th Street	71st Avenue	Management	Roundabout.	City of Bismarck
U	Ash Coulee Drive	Tyler Parkway	Management	Roundabout.	City of Bismarck
V	43rd Avenue	52nd Street	Management	Roundabout.	City of Bismarck
W	71st Street	State Street	Management	Intersection capacity and safety improvements.	Arrive 2045



**Metropolitan Transportation Planning Process
Self-Certification**

Updated May 2024

Bismarck-Mandan Metropolitan Planning Organization (BMMPO) Self Certification

23 United States Code (U.S.C.) 450.336 requires Metropolitan Planning Organizations to regularly certify that their planning process is being carried out in accordance with applicable requirements; also, that the planning process supports the development of a comprehensive Metropolitan Transportation Plan (MTP) and a Transportation Improvement Program (TIP) that are consistent concerning the following applicable federal regulations:

23 U.S.C. 134, 49 U.S.C. 5303, and this subpart, which reference the operations and functions of Metropolitan Planning Organizations

Evaluation of the BMMPO's processes, which generally considers the items identified in 23 U.S.C. 134 and 49 U.S.C. 5303, is performed cooperatively by the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the North Dakota Department of Transportation (NDDOT) through the Mid-Year Review process. The Mid-Year Review process, conducted on an annual basis, examines items pertaining to the operations and functions of the BMMPO including: Policies; Definitions; General Requirements; Metropolitan Planning Area Boundaries; MPO Consultation in MTP and TIP Coordination; Scope of Planning Process; Development of Transportation Plan; Metropolitan TIP; and Transportation Management Areas.

The last Mid-Year Review occurred in June 2023. Additionally, FHWA and NDDOT completed a comprehensive Financial Review of the BMMPO in 2015 and the NDDOT subsequently conducted a financial audit in December 2016. And finally, NDDOT audits each submittal by the BMMPO for reimbursement from the Consolidated Planning Grant to ensure fiscal compliance. Through these reviews and audits, it has been determined the BMMPO's processes remain consistent with the aforementioned federal regulations.

In nonattainment and maintenance areas, Sections 174 and 176 (c) and (d) of the Clean Air Act, as amended (42 U.S.C. 7504, 7506 (c) and (d)) and 40 CFR part 93

The Clean Air Act, designed to control air pollution on a national level, is administered by the US Environmental Protection Agency (EPA), in coordination with state, local, and tribal governments. The EPA has authorized the North Dakota Department of Environmental Quality (NDDEQ) to administer the article under North Dakota Century Code for the state of North Dakota. It is the responsibility of the NDDEQ to protect human health, welfare, and property through the regulation of air quality standards and emission regulations set forth in the State Implementation Plan.

"Nonattainment and maintenance" areas are defined by the State Implementation Plan. These are areas which have been identified as having ambient air quality which have exceeded the levels allowed by the State of North Dakota (NDCC 33-15-02) or by the National Ambient Air Quality Standards (NAAQS). The BMMPO Metropolitan Planning Area (MPA) is not identified as

a “nonattainment and maintenance” area. Because it may also be considered an “attainment” area within the current State Implementation Plan, this section is not applicable to the BMMPO MPA.

Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d-1) and 49 CFR part 21

“No person in the United States shall, on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.”

The BMMPO’s Title VI and Non-Discrimination/ADA Plan provides policies prohibiting discrimination on the basis of race, color, or national origin. The Title VI and Non-Discrimination/ADA Plan also includes a Limited English Proficiency Plan.

Additionally, the BMMPO also includes appropriate FTA Federal Clauses and “Title VI Assurances”, which contain language prohibiting discrimination of groups identified in the Civil Rights Act of 1964, within all of the Request for Proposals (RFPs) and contracts for all studies solicited by BMMPO.

Finally, the BMMPOs current Public Participation Plan requires the evaluation of adverse impacts through MPO activities to “Environmental Justice” groups including low income and minority populations. The BMMPO maintains maps with high concentrations of minority and elderly populations for consideration in planning and programming activities. These maps are provided in the Title VI and Non-Discrimination/ADA Plan, the MTP (updated every five years), and the TIP (updated annually).

49 U.S.C. 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age in employment or business opportunity

The BMMPO is subject to the City of Bismarck’s policies related to prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age regarding employment and employment opportunities. The City of Bismarck is an Equal Opportunity Employer and therefore does not discriminate on the basis of race, color, national origin, sex, religion, or disability in employment or the provision of services and complies with the provisions of the North Dakota Human Rights Act.

In addition, the BMMPO’s Title VI and Non-Discrimination/ADA Plan provides policies prohibiting discrimination on the basis of race, color, or national origin and also includes an updated Limited English Proficiency Plan.

Furthermore, the BMMPO’s current Public Participation Plan requires the evaluation of adverse impacts through BMMPO activities to “Environmental Justice” groups including low income and minority populations. The BMMPO maintains maps with high concentrations of minority and elderly populations for

consideration in planning and programming activities, and these maps are included in the Title VI and Non-Discrimination/ADA Plan, the MTP (updated every five years), and the TIP (updated annually).

Finally, the BMMPO includes appropriate FTA Federal Clauses and “Title VI Assurances”, which contain language prohibiting discrimination of groups identified in the Civil Rights Act of 1964, within all of the Request for Proposals (RFPs) and contracts for all studies solicited by the BMMPO.

Section 11101(e) of the Infrastructure Investment and Jobs Act or IIJA (Pub. L. 117-58) and 49 CFR part 26 regarding the involvement of Disadvantaged Business Enterprises (DBE) in USDOT funded projects

The DBE program generally seeks to: ensure nondiscrimination in the award and administration of DOT assisted contracts in the Department’s highway, transit, and airport financial assistance programs; create a level playing field on which DBEs can compete fairly for DOT-assisted contracts; ensure that the Department’s DBE program is narrowly tailored in accordance with applicable law; ensure that only firms that fully meet this part’s eligibility standards are permitted to participate as DBE’s; help remove barriers to the participation of DBEs in DOT-assisted contracts; assist the development of firms that can compete successfully in the marketplace outside the DBE program; and provide appropriate flexibility to recipients of Federal financial assistance in establishing and providing opportunities for DBEs.

The expenses anticipated in the 2024-2027 Transportation Improvement Program (TIP) are transportation projects which NDDOT approves and participates in. These projects will conform to the North Dakota Department of Transportation DBE-Minority Business Enterprises (MBE) involvement process. The BMMPO must report on registered DBE consultants and sub-consultants who have applied for BMMPO projects through the Request for Proposal (RFP) process to the NDDOT through the Title VI and Non-Discrimination process. In addition, Disadvantaged Business Enterprise language is included in all BMMPO contracts which identifies the Department of Transportation Policy (related to DBEs) as well as the obligation of the contractor to make appropriate efforts to involve DBEs if the contractor is not a DBE.

23 CFR part 230, regarding the implementation of an equal employment opportunity program on Federal and Federal-aid highway construction contracts

The BMMPO is subject to the City of Bismarck’s policies related to prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age regarding employment and employment opportunities. The City of Bismarck is an Equal Opportunity Employer and therefore does not discriminate on the basis of race, color, national origin, sex, religion, or disability in employment or the provision of services and complies with the provisions of the North Dakota Human Rights Act.

Additionally, the BMMPO includes Appendix A and Appendix E of the Title VI Assurances, which contain equal employment opportunity requirements, within each of the Request for Proposals (RFPs) and contracts for studies solicited by BMMPO.

The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) and 49 CFR parts 27, 37, and 38

“No otherwise qualified individual with a disability in the United States shall, solely by reason of his or her disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance”. The parts further provide minimum guidelines and requirements for accessibility standards for transportation vehicles required to be accessible by the Americans With Disabilities Act (ADA) of 1990.

BMMPO is committed to ensuring all its programs, activities, and services are accessible to people with disabilities. BMMPO’s Public Participation Plan identifies responsiveness activities to individuals with special needs. Specifically, the document states, *“All public notices will offer the provision of special accommodations or auxiliary aids for those needing such assistance. Upon request by individuals with special needs, the MPO will work with local resources to provide them with information in the format best suited for their request. Meeting facilities should be accessible to mobility impaired individuals and meetings should be scheduled at various times to accommodate various work schedules. Additionally, options for remote (electronic) participation should be considered for all meetings and offered when practicable. Arrangements for assistance to people with any disability will be pursued.”*

BMMPO holds all its public meetings, open houses, Technical Advisory Committee meetings, and Policy Board meetings in ADA-compliant facilities and in locations generally considered served by public transportation. Additionally, all public notices and meeting agendas contain contact information for individuals requesting reasonable accommodations to participate in any BMMPO meeting.

BMMPO does not own the building in which its offices are housed, but rather, rents the office space. The building is, however, ADA accessible, and provides parking and automatic doors for mobility impaired individuals, curb ramps, and an ADA accessible elevator to access BMMPO offices.

BMMPO’s Title VI and Non-Discrimination/ADA Plan provides additional resources for the request of reasonable accommodations by individuals with special needs. BMMPO is subject to the City of Bismarck’s ADA Transition Plan, and BMMPO’s Title VI and Non-Discrimination/ADA Plan identifies the ADA Coordinator, who is the City of Bismarck Human Resources Director, and provides information by which they may be contacted. It also provides methods for individuals to request reasonable accommodations, auxiliary aids, or

services to ensure communications with applicants, participants, and members of the public with disabilities are as effective as communications with others.

Furthermore, BMMPO's Title VI and Non-Discrimination/ADA Plan is subject to an annual internal audit to ensure all activities and programs administered by BMMPO comply with the requirements of the Americans With Disabilities Act (ADA) of 1990.

The Older Americans Act, as amended (42 U.S.C. 6101), prohibiting discrimination on the basis of age in programs or activities receiving Federal financial assistance

BMMPO is sensitive to the needs of elderly persons. BMMPO's Public Participation Plan identifies responsiveness activities to individuals with special needs. Specifically, the document states, *"All public notices will offer the provision of special accommodations or auxiliary aids for those needing such assistance. Upon request by individuals with special needs, the MPO will work with local resources to provide them with information in the format best suited for their request. Meeting facilities should be accessible to mobility impaired individuals and meetings should be scheduled at various times to accommodate various work schedules. Additionally, options for remote (electronic) participation should be considered for all meetings and offered when practicable. Arrangements for assistance to people with any disability will be pursued."*

BMMPO also maintains maps identifying concentrations of elderly individuals for consideration in planning and programming activities. These maps are provided in the Title VI and Non-Discrimination/ADA Plan, the MTP (updated every five years), and the TIP (updated annually).

Section 324 of title 23 U.S.C. regarding the prohibition of discrimination based on gender

This section states that, "no person shall on the ground of sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal assistance under this title or carried on under this title".

The section further states that, "this provision will be enforced through agency provisions and rules similar to those already established, with respect to racial and other discrimination, under Title VI of the Civil Rights Act of 1964".

It is the policy of BMMPO to ensure no individual is excluded from or be denied the benefits of any of its programs, activities, or services, based on gender.

BMMPO's Title VI and Non-Discrimination/ADA Plan identifies rules related to racial and other discrimination. Further, BMMPO includes Appendix A and Appendix E of the Title VI Assurances, which contain language prohibiting discrimination based on gender, within each of the Request for Proposals (RFPs) and contracts for all studies solicited by BMMPO.

Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) and 49 CFR part 27 regarding discrimination against individuals with disabilities

This section states, in part, “No otherwise qualified individual with a disability in the United States...shall, solely by reason of her or his disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance...”

BMMPO is committed to ensuring all its programs, activities, and services are accessible to people with disabilities. BMMPO’s Public Participation Plan identifies responsiveness activities to individuals with special needs. Specifically, the document states, *“All public notices will offer the provision of special accommodations or auxiliary aids for those needing such assistance. Upon request by individuals with special needs, the MPO will work with local resources to provide them with information in the format best suited for their request. Meeting facilities should be accessible to mobility impaired individuals and meetings should be scheduled at various times to accommodate various work schedules. Additionally, options for remote (electronic) participation should be considered for all meetings and offered when practicable. Arrangements for assistance to people with any disability will be pursued.”*

BMMPO holds all of its public meetings, open houses, Technical Advisory Committee meetings, and Policy Board meetings in ADA-compliant facilities and in locations generally considered served by public transportation. Additionally, all public notices and meeting agendas contain contact information for individuals requesting reasonable accommodations to participate in any BMMPO meeting.

BMMPO does not own the building in which its offices are housed, but rather, rents the office space. The building is, however, ADA accessible, and provides parking and automatic doors for mobility impaired individuals, curb ramps, and an ADA accessible elevator to access BMMPO offices.

BMMPO’s Title VI and Non-Discrimination/ADA Plan provides additional resources for the request of reasonable accommodations by individuals with special needs. BMMPO is subject to the City of Bismarck’s ADA Transition Plan, and BMMPO’s Title VI and Non-Discrimination/ADA Plan identifies the ADA Coordinator, who is the City of Bismarck Human Resources Director, and provides information by which they may be contacted. It also provides methods for individuals to request reasonable accommodations, auxiliary aids, or services to ensure communications with applicants, participants, and members of the public with disabilities are as effective as communications with others. In addition, the complaint process includes revisions to ensure it is accessible by all individuals, and no individual will be discriminated against on the basis of disability.

Furthermore, BMMPO includes Appendix A and Appendix E of the Title VI Assurances, which contain language prohibiting discrimination of persons

based on their disability, within each of the Request for Proposals (RFPs) and contracts for all studies solicited by BMMPO.

Finally, BMMPO's Title VI and Non-Discrimination/ADA Plan is subject to an annual internal audit to ensure all activities and programs administered by BMMPO comply with the requirements of Section 504 of the Rehabilitation Act of 1973.



Full documentation of Bismarck-Mandan Metropolitan Planning Organization's federal certification can be obtained by contacting Bismarck-Mandan Metropolitan Planning Organization at 701-355-1840, mpo@bismarcknd.gov, or by visiting in person at 221 N. 5th Street, Bismarck, ND 58506.

TRANSPORTATION PLANNING PROCESS SELF CERTIFICATION STATEMENT

The Bismarck-Mandan Metropolitan Planning Organization (BMMPO) hereby certifies that it is carrying out a continuing, cooperative, and comprehensive transportation planning process in accordance with the applicable requirements of:

1. 23 U.S.C. 134, 49 U.S.C. 5303, and 23 CFR Part 450;
2. In nonattainment and maintenance areas, sections 174 and 176(c) and (d) of the Clean Air Act, as amended (42 U.S.C. 7504, 7506(c) and (d)) and 40 CFR part 93;
3. Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d-1) and 49 CFR part 21;
4. 49 U.S.C. 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age in employment or business opportunity;
5. Section 11101(e) of the IIJA (Pub. L. 117-58) and 49 CFR part 26 regarding the involvement of disadvantaged business enterprises in USDOT funded projects;
6. 23 CFR part 230, regarding the implementation of an equal employment opportunity program on Federal and Federal-aid highway construction contracts;
7. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) and 49 CFR parts 27, 37, and 38;
8. The Older Americans Act, as amended (42 U.S.C. 6101), prohibiting discrimination on the basis of age in programs or activities receiving Federal financial assistance;
9. Section 324 of title 23 U.S.C. regarding the prohibition of discrimination based on gender; and
10. Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) and 49 CFR part 27 regarding discrimination against individuals with disabilities.

**Bismarck-Mandan Metropolitan Planning
Organization**

North Dakota Department of Transportation

Signature

Signature

Title

Title

Date

Date

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Progress Report

Date: Friday, May 10, 2024

Project: Bismarck-Mandan Arrive 2050 Update

To: Rachel Lukaszewski

From: Jason Carbee

Subject: Progress Report for March 31, 2024 to May 4, 2024

Please note that this progress report summarizes the work completed during the period above.

TDMSE Task 8 – Model Performance Review

- Received the E+C Model on April 3.
- Finalized the draft model review document for TAC review.
- Made additional E+C model adjustments.

MTP Task 1 – Project Management

- The consultants continued monthly accounting and progress reports.
- Consulting team continued internal coordination calls.
- Continued MPO-HDR-SRF team coordination calls.
- Provided updates to TAC and Policy Board meetings, including presentation slides for the April presentation of the draft model report.

MTP Task 2 – MTP Engagement

- HDR finalized development of outreach materials for April public and stakeholder engagement.
- Study team held the April 2 Stakeholder meetings.
- HDR launched the online public meeting.
- Study team held the April 29 public meeting at the Bismarck YMCA.

MTP Task 4 – Goals Objectives and Performance Measures

- SRF and HDR facilitated a discussion of draft goals and objectives for steering committee.
- SRF revised the goals and objectives.
- HDR drafted a revised performance measure / project prioritization approach for steering committee consideration.

MTP TASK 5 – Baseline System Conditions

Completed.

**MTP TASK 6 – Develop and Screen Alternatives**

- HDR refined future project list, including bicycle and pedestrian recommendations from the previous bike/ped plan.
- Continued independent development of other bike / ped alternatives.
- SRF began development of pavement projects.

MTP TASK 7 – Financial Analysis

- Continued development of baseline funding.

Project Progress Summary

Task	Start Date	End Date	Percent Complete		Explanation / Discussion
			Period Start	Period End	
TDMSE Task 1 - Project Management	Sep-22	Aug-23	99%	100%	
TDMSE Task 2 - Outreach and Stakeholder Consultation	Sep-22	Jun-23	100%	100%	
TDMSE Task 3- TDMSE Data Needs	Sep-22	Nov-23	100%	100%	
TDMSE Task 4 - TDMSE Methodology	Oct-22	Nov-23	100%	100%	
TDMSE Task 5 - Development Scenario and Forecasts	Nov-22	Feb-23	100%	100%	
TDMSE Task 6 - Baseline Study Expectations (Forecasts)	Nov-22	Mar-23	100%	100%	
TDMSE Task 7- Allocate Socioeconomic Data	Dec-22	Aug-23	100%	100%	
TDMSE Task 8 - Model Performance Review and Validation	Feb-23	Mar-24	90%	100%	
TDMSE Task 9 - Report	Sep-22	Apr-24	80%	95%	SRF making final revisions based on TAC feedback.
MTP TASK 1 - Project Management	Jun-23	Dec-24	38%	45%	Continued progress meetings, accounting, and invoicing.
MTP TASK 2 – Public Engagement	Jun-23	Dec-24	35%	50%	Next milestone July
MTP TASK 3 – Data Collection	Jun-23	Sep-23	99%	99%	
MTP TASK 4 – Goals, Objectives & Performance Measures	Aug-23	Mar-23	10%	40%	
MTP TASK 5 – Baseline System Conditions	Aug-23	Mar-24	85%	100%	
MTP TASK 6 - Develop & Screen Alternatives	Jan-24	Jun-24	10%	25%	
MTP TASK 7 – Financial Plan and Implementation Schedule	Oct-23	Aug-24	0%	5%	
MTP TASK 8 – MTP Document Development and Review	Jun-24	Dec-24	0%	0%	
Project Totals	Sep-22	Dec-24	53%	60%	

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BOLTON & MENK

Real People. Real Solutions.

Safe Routes to Services Monthly Progress Report #6

Submission Date:
May 3, 2024

Performance Period:
March 30, 2024 – April 26, 2024

Project:
Safe Routes to Services

BMI Job No.: OT4.131300

Recipient: Bismarck-Mandan MPO

Prime Consultant:
Bolton & Menk

Dear Ms. Riepl:

Enclosed is Bolton & Menk’s invoice for the Bismarck-Mandan Safe Routes to Services project, for the period ending April 26, 2024. The total fee for work completed during this time period is \$27,146.39. A brief overview of the project progress is provided below.

Tasks complete to date:

Task	% Billed	% Complete
Task 1: Project Management	24.6%	34.2%
Task 2: Public Participation	47.4%	41.7%
Task 3: Steering Committee Meetings	44.4%	44.9%
Task 4: Investigate Issues	100.0%	100.0%
Task 5: Identify Alternatives	32.7%	15.3%
Task 6: Implementation Strategies	7.4%	5.5%
Task 7: Engagement Vendors & Direct Expenses	3.7%	3.7%
Total:	35.6%	31.9%

Summary of Activities Within Invoice Period:

Task 1: Project Management

- Coordination with the project team and BMMPO
- Task and budget management
- MPO TAC meeting
- MPO Policy Board meeting

Task 2: Public Participation

- Input gathered for Steering Committee Meeting Presentation
- INPUTiD™ active
- StoryMap Design

Task 3: Steering Committee Meetings

- Steering Committee Meeting #2 – Issues and Hot Spot Identification

Task 4: Investigate Issues

- StreetLight Data analysis
- Infrastructure analysis
- Barrier assessment

Task 5: Identify Alternatives

- Hot spot identification

Task 6: Implementation Strategies

- Drafting of report

Task 7: Engagement Vendors & Direct Expenses

- Sacred Pipe
 - Distribute study information
 - Convene stakeholder meeting

Required Action by BMMPO:

- None in this reporting period

Problems Encountered:

- None in this reporting period

Summary of Project Decisions:

- None in this reporting period

Out of Scope Services:

- None in this reporting period

If you have any questions, please do not hesitate to call me at (701) 306-1670.

Sincerely,

Bolton & Menk, Inc.



Mike Bittner, PE, PTOE, PTP, RSP, PMP, IMSA II
Senior Transportation Project Manager