Fargo-Moorhead-West Fargo COVID-19 Analysis and Monitoring

Prepared by:

Fargo-Moorhead Metropolitan Council of Governments

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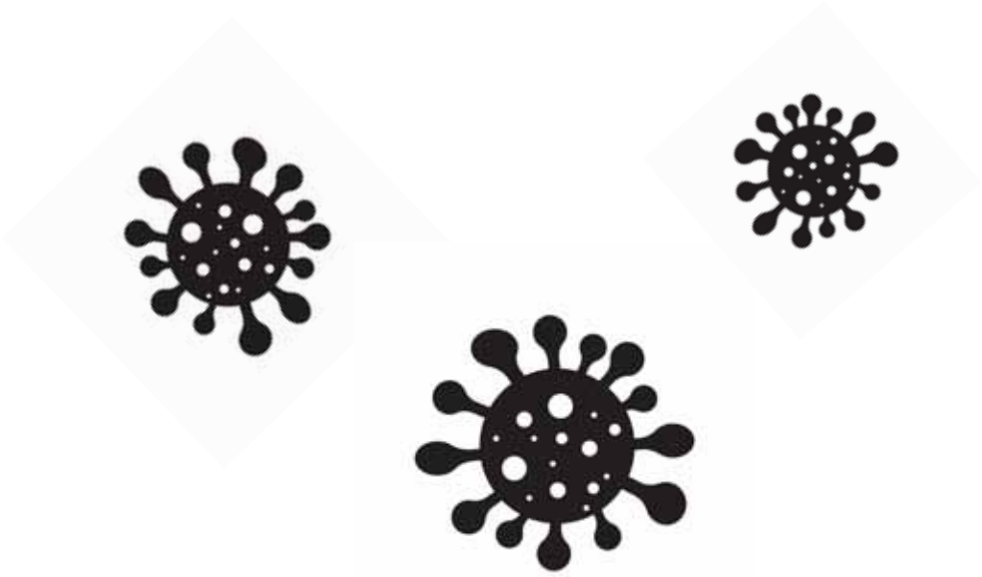

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FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION

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Table of Contents

Introduction 6
What is StreetLight 6
- Big Data Process

StreetLight Analysis and Methodology 7
- Data Periods
- Day Types
- Zones
  - Roadways
  - Land Uses
  - Major Employers
  - Healthcare
  - Education

FM Area Roadway Analysis 26
- Pre-Pandemic
- Pandemic
- New Normal
- Fargo
- Moorhead
- West Fargo
- Dilworth
- Horace
- Minnesota vs North Dakota Volumes
- Federal Functional Classification and Traffic Volumes
- Monitoring Traffic Volume Levels
- Volumes by Hour
- Federal Functional Classification and Traffic Volumes by Hour
- Monitoring Traffic Volumes by Hour

FM Area Land Use Analysis 38
- Weekdays
- Weekends
- Parks and Open Space
- North Dakota vs. Minnesota Land Use Comparison

FM Area Major Employer Analysis 40
FM Area Healthcare Analysis 42
- Pandemic
- New Normal
- Sanford Broadway Campus
- Sanford Children's Clinic

FM Area Educational Analysis 44
Transit 47
Bicycle and Pedestrian Activity 49
Strava Data 49
- What is Strava?
- Strava Analysis and Methodology
- Metro COG and Strava

Conclusion 53

List of Figures

Figure 1 - StreetLight Logo 6
Figure 2 - How does StreetLight Data work? 7
Figure 3 - March 11, 2020 Forum of Fargo-Moorhead Cover Page 8
Figure 4 - Governor Walz Press Conference 8
Figure 5 - 2020/2021 Data Periods 9
Table 1: StreetLight Data Comparison 10
Map 1 - Fargo Roadways 11
Map 2 - Moorhead Roadways 11
Map 3 - West Fargo Roadways 12
Map 4 - Dilworth Roadways 12
Map 5 - Horace Roadways 13
Map 6 - FM Area Roadways 13
Map 7 - Commercial Land Uses 14
Map 8 - Industrial Land Uses 15
Map 9 - Parks and Open Space Land Uses 16
Map 10 - Single-Family Residential Land Uses 17
Map 11 - Multiple-Family Residential Land Uses 18
Map 13 - Major Employers 19
Map 14 - Healthcare Facilities 22
Map 15 - Educational Institutions 25
Figure 6 - Washington Elementary Sign 26
Figure 7 - Empty Paper Product Shelves 26
Chart 1 - Fargo Volumes % Change 27
Chart 2 - Moorhead Volumes % Change 28
Chart 3 - West Fargo Volumes % Change 29
Chart 4 - Dilworth Volumes % Change 29
Chart 5 - Horace Volumes % Change 30
Table 2 - StreetLight Volume by Jurisdiction - Weekdays 31
Table 3 - StreetLight Volume by Jurisdiction - Weekends 31
Chart 6 - % Change Weekdays 31
Chart 7 - % Change Weekends 31
Table 4 - StreetLight Volume by State - Weekdays 32
Table 5 - StreetLight Volume by State - Weekends 32
Chart 8 - Total Volumes 2020 Weekdays 32
Chart 9 Total Volumes 2020 Weekends 32
Table 6 - StreetLight Volumes Metro-wide 32
Chart 10 - % Change 33
Chart 11 - % Change Weekdays by Federal Functional Classification 34
Chart 12 - % Change Weekends by Federal Functional Classification 34
Table 7 - Monitoring StreetLight Volume by Jurisdiction - Weekdays 34
Table 8 - Monitoring StreetLight Volume by Jurisdiction - Weekends 34
Chart 13 - FM Area Volume Jan 1 - Mar 15 (PRE) 35
Chart 14 - Fm Area Ratio of Total Volume Jan 1 - Mar 15 (PRE) 35
Chart 15 - FM Area Volume Mar 16 - May 17 (PAN) 36
Chart 16 - FM Area Ratio of Total Volume Mar 16 - May 17 (PAN) 36
Chart 17 - FM Area Volume May 18 - Dec 31 (NEW) 36
Chart 18 - FM Area Ratio of Total Volume May 18 - Dec 31 (NEW) 36
Chart 19 - ND Total Collector % Volume Mar 16 - May 17 (PAN) 37
Chart 20 - ND Total Interstate % Volume Mar 16 - May 17 (PAN) 37

Chart 21- FM Area Volume Jan 1 - Feb 28, 2021 (NEW) 37
Chart 22 - FM Area Ratio of Volume Jan 1 - Feb 28, 2021 (NEW) 37
Map 12 - Land Uses 38
Chart 23 - FM Area Land Uses % Change - Weekdays 39
Chart 24 - FM Area Land Uses % Change - Weekends 39
Chart 25 - Parks and Open Space % Change 39
Chart 26 - Single-Family Residential % Change - Weekdays 40
Chart 27 - Single-Family Residential % Change - Weekends 40
Chart 28 - Multiple-Family Residential % Change - Weekdays 40
Chart 29 - Multiple-Family Residential % Change - Weekends 40
Chart 30 - % Change FM Area Job Sectors - Weekdays 41
Chart 31 - % Change FM Area Job Sectors - Weekends 41
Chart 32 - Retail Trade % Change from Baseline 41
Chart 33 - Accommodation and Food Services % Change from Baseline 41
Chart 34 - % Change FM Area Healthcare Facilities - Weekdays 42
Chart 35 - % Change FM Area Healthcare Facilities - Weekends 42
Chart 36 - Sanford Broadway % Change 43
Figure 8 - Cass County Active Positive COVID-19 Cases 43
Chart 37 - Children's Clinic % Change 44
Chart 38 - FM Area K-12 Schools % Change 45
Chart 39 - FM Area K-12 Public Schools % Change 45
Chart 40 - FM Area Public Schools % Change 46
Chart 41 - FM Area Colleges & Universities % Change 47
Figure 9 - Matbus Ridership Year to Date 48
Figure 10 - Annual Ridership by Route - Fargo 48
Figure 11 - Annual Ridershp by Route - Moorhead 49
Figure 12 - Strava Logo 49
Figure 13 - Strava Interface 50
Figure 14 - Cass County Strava Trips 51
Figure 15 - Clay County Strava Trips 51
Figure 16 - Cass County Strava People 52
Figure 17 - Clay County Strava People 52
Figure 18 - Cass County Demographics 52
Figure 19 - Clay County Demographics 52
Figure 20 - Cass County 2020 Trips 53
Figure 21 - Clay County 2020 Trips 53
Figure 22 - Cass County Tourism 53
Figure 23 - Clay County Tourism 53

Appendix 55

Introduction

It appears that traffic volumes and patterns have changed across the Fargo-Moorhead-West Fargo area, but in what ways? With noticeably irregular traffic patterns caused by the COVID-19 pandemic, technical planning, engineering, and other local jurisdictional staff members across the region are curious. This document will look at traffic, transit ridership, and bicycle and pedestrian related data (Strava) to develop a comprehensive analysis about how the overall transportation system in the FM Area has been impacted throughout 2020. Metro COG staff utilized StreetLight Data to better understand the initial and lasting traffic impacts to the Fargo-Moorhead Area (FM Area) caused by the pandemic. By analyzing traffic volumes by land use typologies, at major employers, and on numerous roadways across the FM Area, local technical staff and policy-makers can gain a better understanding about how traffic has evolved, and continues to evolve, throughout the COVID-19 pandemic. Additionally, Metro COG is highlighting the capability and usefulness of a couple new tools that may help with transportation planning efforts across the region and that are available to assist local jurisdictions. By utilizing a big data[1] tool called StreetLight Insight, comparisons of traffic data between local jurisdictions shed light on how different COVID-19 related policies may or may not affect traffic in the FM Area and whether or not the policy direction of each State (Minnesota and North Dakota) significantly impacted transportation in the FM Area.

What is StreetLight?

Figure 1 - StreetLight Logo

STREETLIGHT DATA

Source: StreetLight

StreetLight Insight is a tool that has been included in Metro COG's budget since 2019 through the Minnesota Department of Transportation's robust Regional Subscription which provides data for state and local agencies across the entire State including agencies bordering the State. The tool is a very powerful and quick alternative to conduct traffic analyses based upon historic traffic data. StreetLight receives location-based data[2] from millions of devices including smart phones and navigation devices found in cars and trucks to estimate traffic volumes and routes. As of July 2019, the company processes data for about 79-million devices, roughly 28 percent of the adult population of Canada and the United States, and about 13% of commercial truck trips[3].

Big Data Process

Every month, StreetLight processes about 40-billion anonymized location records and adds context to the data such as parcel data and digital road network data (open street map). StreetLight then uses an algorithm to transform location data into contextualized, aggregated, and normalized travel patterns. StreetLight validates data through permanent traffic counters and embedded sensors located across North America. The results of the process described above delivers insight into how vehicles, bicycles, and pedestrians travel. StreetLight data is accessed by users through the platform StreetLight Insight, which contains data from January 2016 to four weeks prior to the current moment in time (historical data).[4]

StreetLight is ideal for Metro COG staff to conduct quick and comprehensive traffic analyses without setting up physical equipment in the field or processing hours and hours of video to manually count traffic. For the FM Metro COG COVID-19 Analyses and Tracking report, StreetLight is the ideal method to achieve a quick understanding about how the pandemic has impacted traffic across the FM Area. Although StreetLight data

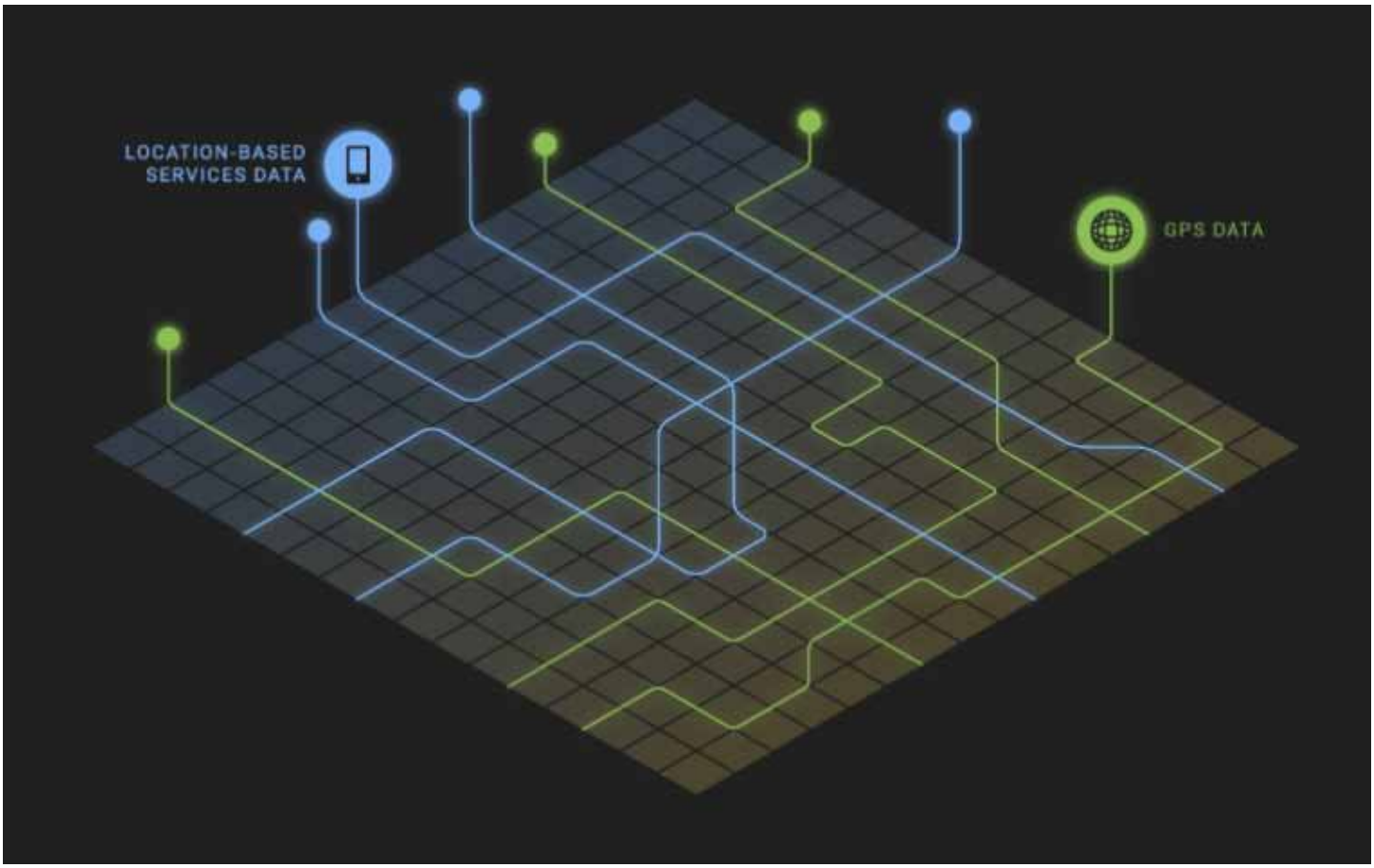
[1] Big Data uses an extremely large data set that may be analyzed computationally to reveal patterns, trends, and associations, especially relating to human behavior and interactions (Oxford Dictionary).

[2] Location based data is derived from navigation-GPS data and Location-Based Services (LBS) data. StreetLight has incorporated and evaluated several other types of mobile data supply in the past, including cellular tower and ad-network derived data (StreetLight Data).

[3] Information from the white paper StreetLight Insight Metrics: Our Methodology and Data Sources (StreetLight Data).

[4] Source: https://www.streetlightdata.com/our-data/

Figure 2 - How does StreetLight data work?



Source: StreetLight

has not been comprehensively validated in the FM Area, Metro COG uses the tool to gain a better general understanding of how travel continues to be impacted by the COVID-19 pandemic.

StreetLight Analysis and Methodology

Metro COG staff selected analyses to monitor and compare the impacts to traffic across several member jurisdictions including Fargo, West Fargo, and Horace in North Dakota and Moorhead and Dilworth in Minnesota. Zone activity analyses were completed in StreetLight Insight to determine traffic volumes for selected timeframes and locations as described below.

Data Periods

BASELINE

Data from a "normal" period of time was used to establish baseline traffic volumes to compare to pre-pandemic, pandemic, and new normal timeframes as defined by Metro COG staff. Baseline data periods include the following:

- January 1 – January 31, 2018-2019
- February 1 – February 28, 2018-2019
- March 1 – March 15, 2018-2019
- March 16 – March 31, 2018-2019
- April 1 – April 30, 2018-2019
- May 1 – May 17, 2018-2019

- May 18 – May 31, 2018-2019
- June 1 – June 30, 2018-2019
- July 1 – July 31, 2018-2019
- August 1 – August 31, 2018-2019
- September 1 – September 30, 2018-2019
- October 1 – October 31, 2018-2019
- November 1 – November 30, 2018-2019
- December 1 – December 31, 2018-2019

The baseline timeframe is referred to as “base” in charts and graphs.

PRE-PANDEMIC

The pre-pandemic timeframe, as defined by Metro COG staff, is the period of time when leading up to social distancing policies. During this time, COVID-19 becomes the leading news story in the region and it is apparent that the Fargo-Moorhead Area will be affected by the pandemic. The pre-pandemic timeframe ends prior to social distancing policies adopted by States and local jurisdictions. Pre-pandemic data periods include the following:

- January 1 – January 31, 2020
- February 1 – February 29, 2020
- March 1 – March 15, 2020

Figure 3 - March 11, 2020 Forum of Fargo-Moorhead Cover

Source: Inforum

The pre-pandemic timeframe is referred to as “PRE” in charts and graphs.

PANDEMIC

The pandemic timeframe, as defined by Metro COG staff, is the period of time during which the States of North Dakota and Minnesota adopted social distancing policies including business restrictions and Minnesota Governor Walz’ “Stay at Home Order”. The pandemic timeframe ends with the expiration of Minnesota’s stay at home order. Pandemic data periods include the following:

- March 16 – March 31, 2020
- April 1 – April 30, 2020
- May 1 – May 17, 2020

Figure 4 - Governor Walz Press Conference

Source: Star Tribune

The pandemic timeframe is referred to as “PAN” in charts and graphs.

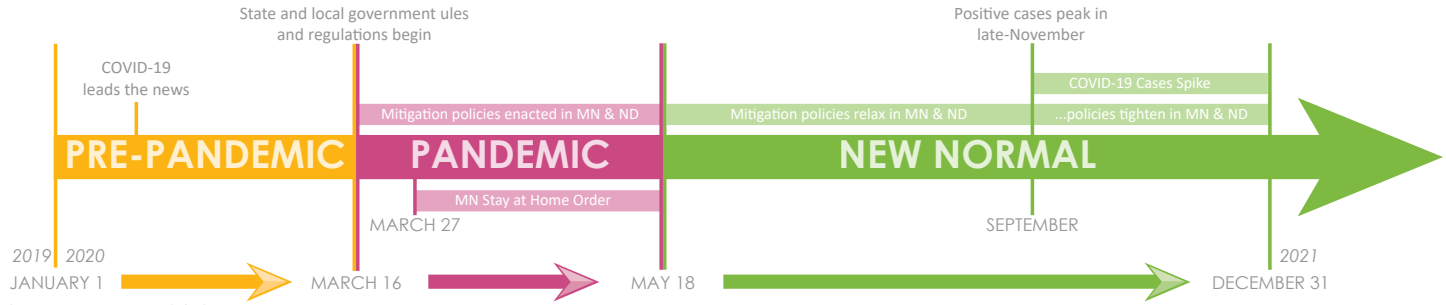
NEW NORMAL

The new normal timeframe, as defined by Metro COG staff, is the period of time after Minnesota’s stay at home order and majority of other business restrictions expire or begin to relax in the region in both Minnesota and North Dakota. This is the data period that includes continuous tracking of traffic volumes to determine if traffic has come back to normal levels as seen prior to the pandemic. New normal data periods include the following:

- May 18 – May 31, 2020
- June 1 – June 30, 2020
- July 1 – July 31, 2020
- August 1 – August 31, 2020
- September 1 – September 30, 2020
- October 1 – October 31, 2020
- November 1 – November 30, 2020
- December 1 – December 31, 2020

The new normal timeframe is referred to as “NEW” in charts and graphs.

Figure 5 - 2020/2021 Data Periods



Source: Metro COG

Day Types

For the aforementioned data periods, Metro COG also analyzed StreetLight traffic volumes for two (2) typical day types including:

- Weekdays (Monday – Thursday)
  Excluding Friday is an intentional procedure to capture a more “normal” week day volume by omitting alternative work schedules, long weekends, etc.…
- Weekends (Saturday – Sunday)

Zones

Metro COG analyzed traffic volumes by land use typology, at major local employers, and on numerous roadways across the FM Area with the hopes of capturing the initial and lasting impacts of the pandemic to traffic patterns. Traffic volumes are estimated by StreetLight Insight and are by no means meant to replace official Metro COG traffic counts. For the roadway segment analyses, locations were chosen specifically because they could be compared to official Metro COG traffic counts conducted in 2015 and official counts

TABLE 1: StreetLight Data Comparison

FARGO		
ROAD	**AVG STL VOL**	**2015 AADT OFFICIAL COUNT**
12th Ave N just W of I-29	17377	16700
13th Ave S just W of 42nd St S	29628	25150
15th Ave N just E of Broadway	2247	2095
17th Ave S just W of 17th St S	7958	5300
17th St just N of 13th Ave S	2724	2605
1st Ave N just W of 29th St N	2441	1525
25th St S just N of 40th Ave S	8734	10325
30th Ave S just W of 45th St S	6316	4680
32nd Ave S just E of 25th St S	14764	18325
40th Ave S just W of 45th St S	17172	14425
45th St S just S of 17th Ave S	31812	35015
52nd Ave S just W of University	7826	9095
7th Ave N just E of 10th St N	4271	11770
Broadway just S of 2nd Ave N	9203	5510
Elm St just N of 22nd Ave N	5229	5105
I-29 just N of the junction with I-94	57709	63705
I-29 just S of the 19th Ave N Interchange	32645	32532
I-94 just W of the Red River	72311	73191
University Dr just N of 14th Ave N	8889	1020

WEST FARGO		
ROAD	**AVG STL VOL**	**2015 AADT OFFICIAL COUNT**
13th Ave E just W of 9th St E	14697	14775
17th Ave E just W of 16th St E	6450	5235
36th Ave E just W of Vets Blvd	3242	5460
7th Ave NE just E of 9th St NE	2426	3185
9th St just S of Main Ave	7513	8635
9th St W just S of 40th Ave W	2227	2340
I-94 just W of the Sheyenne Interchange	17688	18405
I-94 just W of Vets Blvd Interchange	28438	31810
Main Ave just W of 15th St	6628	7665
Main Ave just W of 45th St	22587	20075
Sheyenne St just S of Main Ave	6044	6665
Sheyenne St just S of the I-94 Interchange	11079	17530
Veterans Blvd just S of the I-94 Interchange	28619	26015

HORACE		
ROAD	**AVG STL VOL**	**2015 AADT OFFICIAL COUNT**
100th Ave S Just E of CR 17	2381	1175
CR 17 - Just N of 88th Ave S	3690	3515
CR 17 - Just S of 52nd Ave S	4495	5910

MOORHEAD		
ROAD	**AVG STL VOL**	**2015 AADT OFFICIAL COUNT**
11th St S just S of Center Ave	3974	5560
15th Ave N just W of 11th St N	7865	8135
1st Ave N just W of 16th St N	6283	9825
34th St S just S of 26th Ave S	12053	20305
40th Ave S just W of 20th St S	2918	3225
46th Ave S just W of 8th St	1724	1700
Center Ave just W of 8th St	7073	7010
I-94 just E of the 8th St/US 75 Interchange	47794	43290
I-94 just E of the Moorhead Rest Area	35276	33325
S Rivershore Dr just E of 5th St S	3314	5175
US 10 just W of US 75	20093	22000
US 75 (8th St S) just S of 12th Ave S	17752	19700
US 75 just S of 15th Ave N	5508	6065

DILWORTH		
ROAD	**AVG STL VOL**	**2015 AADT OFFICIAL COUNT**
34th St just S of 3rd Ave NW	10372	8020
4th Ave SW just W of Main St S	488	3180
7th St NE just N of Center Ave (US 10)	2419	4120
Center Ave (US 10) just W of Main St	14736	15100
US 10 just E of 34th St	16191	18700
	46268	

Source: Metro COG

scheduled in 2021, to determine a level of StreetLight accuracy across the FM Area. Table 1 compares official counts from 2015 to the StreetLight baseline volumes gathered through this analysis.[1] Because the accuracy of StreetLight fluctuates depending upon the location data is obtained in the FM Area, Metro COG used the data to identify general trends that compare StreetLight data to Streetlight data, rather than comparing StreetLight data to historical counts. Some of the locations analyzed through StreetLight may also have been impacted by construction events during the construction seasons of 2018-2019 however the data does not seem to greatly impact the trend analyses found in this report.

For land uses, major employers, healthcare facilities, and educational institution origin-destination data provides a general idea of the level of activity and is not intended to be an exact representation of volumes to and from those types of locations.

The zones utilized to gather StreetLight data are described below.

[1] StreetLight data can be calibrated with conventional counts such as Metro COG's official counts however, Metro COG has not completed the calibration in StreetLight and will likely wait until the new 2021 metro-wide counting project is completed.

ROADWAYS

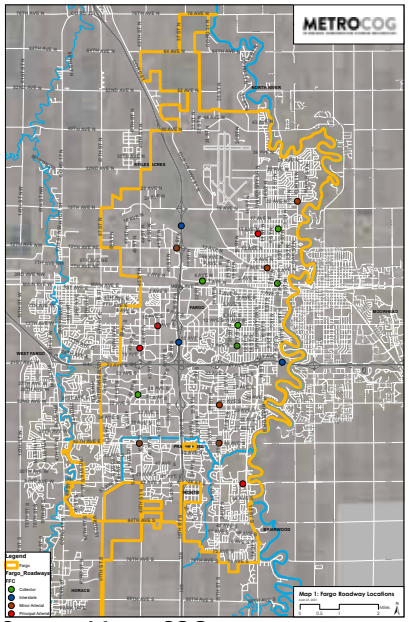
Zones were created on a wide variety of roadways across the FM Area to gather data from each Metro COG jurisdiction. For the roadway analyses, the zones collect data similarly to physical tubes that one might lay across a roadway at a specific location. Only roadways with a Federal Functional Classification (FFC) of Interstate, Principal Arterial, Minor Arterial, and Collector were analyzed, with specific locations corresponding to official Metro COG counts conducted in 2015. The following zones describe the jurisdiction, FFC, and general locations used to collect data for the defined data periods described previously.

Fargo

Map 1 details locations within the City of Fargo.

- INTERSTATE (3)
  - I-94 - Just W of the Red River
  - I-29 - Just N of the junction with I-94
  - I-29 - Just S of the 19th Ave N Interchange
- PRINCIPAL ARTERIAL (4)
  - University Drive - Just N of 14th Ave N
  - 52nd Ave S - Just W of University
  - 13th Ave S - Just W of 42nd St S
  - 45th St S - Just S of 17th Ave S
- MINOR ARTERIAL (6)
  - 12th Ave N - Just W of I-29
  - Elm St - Just N of 22nd Ave N
  - 7th Ave N - Just E of 10th St N
  - 25th St S - Just N of 40th Ave S
  - 40th Ave S - Just W of 45th St S
  - 32nd Ave S - Just E of 25th St S
- COLLECTOR (6)
  - Broadway - Just S of 2nd Ave N
  - 1st Ave N - Just W of 29th St N
  - 17th Ave S - Just W of 17th St S
  - 15th Ave N - Just E of Broadway
  - 17th St S - Just N of 13th Ave S
  - 30th Ave S - Just W of 45th St S

Map 1 - Fargo Roadways



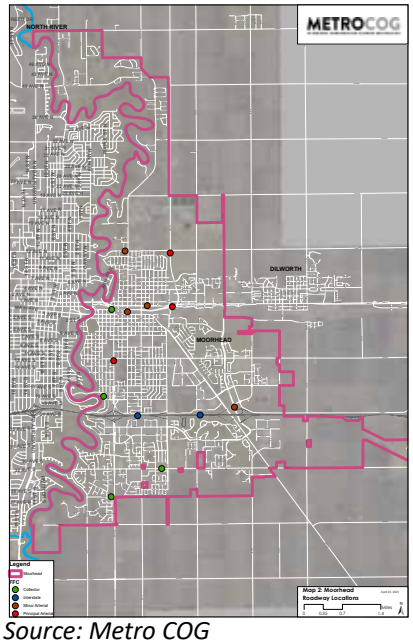
Source: Metro COG

Morhead

Map 2 details locations within the City of Moorhead.

- INTERSTATE (2)
  - I-94 - Just E of the Moorhead Rest Area
  - I-94 - Just E of the 8th St/US 75 Interchange
- PRINCIPAL ARTERIAL (3)

Map 2 - Moorhead Roadways



Source: Metro COG

- US 10 - Just E of US 75
- US 75 (8th St S) - Just S of 12th Ave S
- US 75 - Just S of 15th Ave N

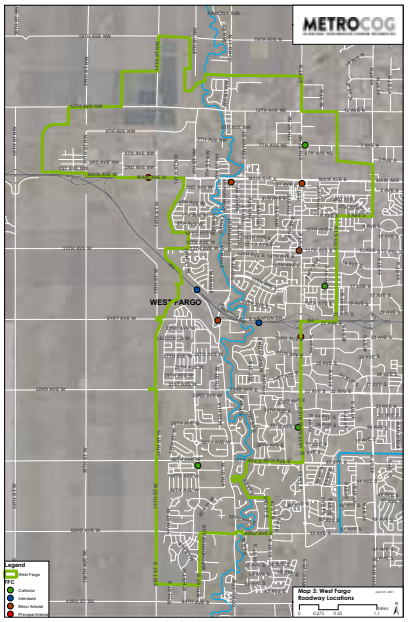
- MINOR ARTERIAL (4)
  - 11th St S - Just S of Center Ave
  - 15th Ave N - Just W of 11th St N
  - 1st Ave N - Just W of 16th St N
  - 34th St S - Just S of 26th Ave S

- COLLECTOR (4)
  - Center Ave - Just W of 8th St
  - S Rivershore Dr - Just E of 5th St S
  - 40th Ave S - Just W of 20th St S
  - 46th Ave S - Just W of 8th St S

West Fargo

Map 3 details locations within the City of West Fargo.

Map 3 - West Fargo Roadways



Source: Metro COG

- INTERSTATE (2)
  - I-94 - Just W of the Veterans Blvd Interchange
  - I-94 - Just W of the Sheyenne St Interchange

- PRINCIPAL ARTERIAL (3)
  - Main Ave - Just W of 15th St W
  - Veterans Blvd - Just S of the I-94 Interchange
  - Main Ave - Just W of 45th St

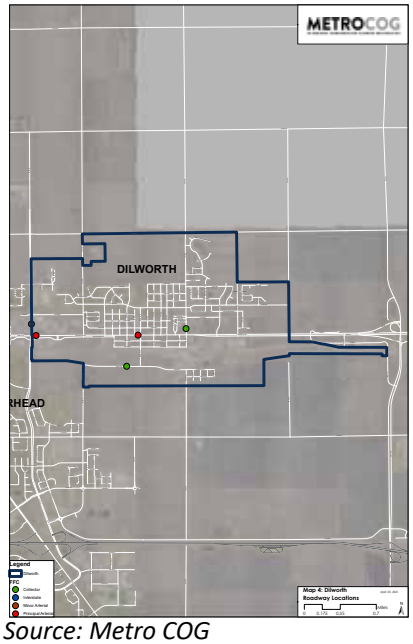
- MINOR ARTERIAL (4)
  - Sheyenne St - Just S of Main Ave
  - 9th St E - Just S of Main Ave
  - Sheyenne St - Just S of the I-94 Interchange
  - 13th Ave E - Just W of 9th St E

- COLLECTOR (4)
  - 7th Ave E - Just E of 9th St E
  - 17th Ave E - Just W of 16th St E
  - 36th Ave E - Just W of Veterans Blvd
  - 9th St W - Just S of 40th Ave W

Dilworth

Map 4 details locations within the City of Dilworth.

Map 4 - Dilworth Roadways



Source: Metro COG

- PRINCIPAL ARTERIAL (2)
  - Center Ave (US 10) - Just W of Main St
  - US 10 - Just E of 34th St

- MINOR ARTERIAL (1)
  - 34th St - Just S of 3rd Ave NW

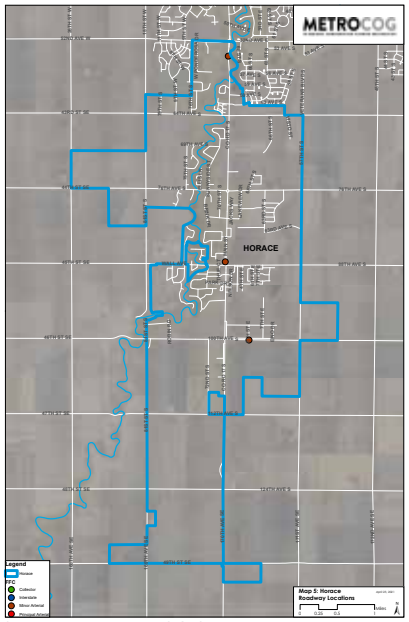
- COLLECTOR (2)
  - 7th St NE - Just N of Center Ave (US 10)
  - 4th Ave SW - Just W of Main St S

Horace

Map 5 details locations within the City of Horace.

- MINOR ARTERIAL (3)
  - CR 17 - Just S of 52nd Ave S
  - CR 17 - Just N of 88th Ave S
  - 100th Ave S - Just E of CR 17

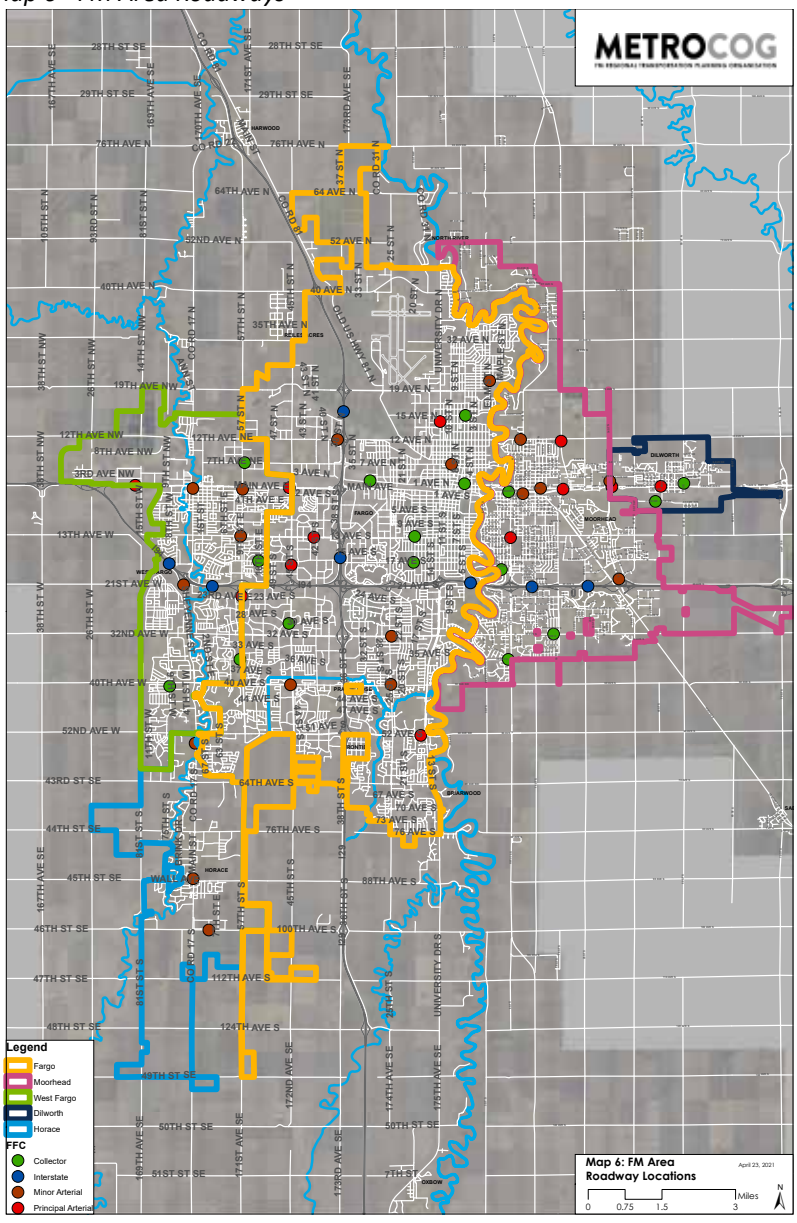
Map 5 - Horace Roadways



Source: Metro COG

Please see Map 6 below of all locations within the FM Area.

Map 6 - FM Area Roadways



Source: Metro COG

LAND USES

Zones were created at different land uses across the FM Area. For the land use analyses, the zones collect origin-destination data at a specific location. Different land uses were analyzed in Fargo, Moorhead, and West Fargo. The list of undermentioned land uses is not a comprehensive list and is only intended to provide a level of insight into how major land uses may have been impacted throughout 2020.

The following zones describe the land use, jurisdiction, and general location.

Commercial

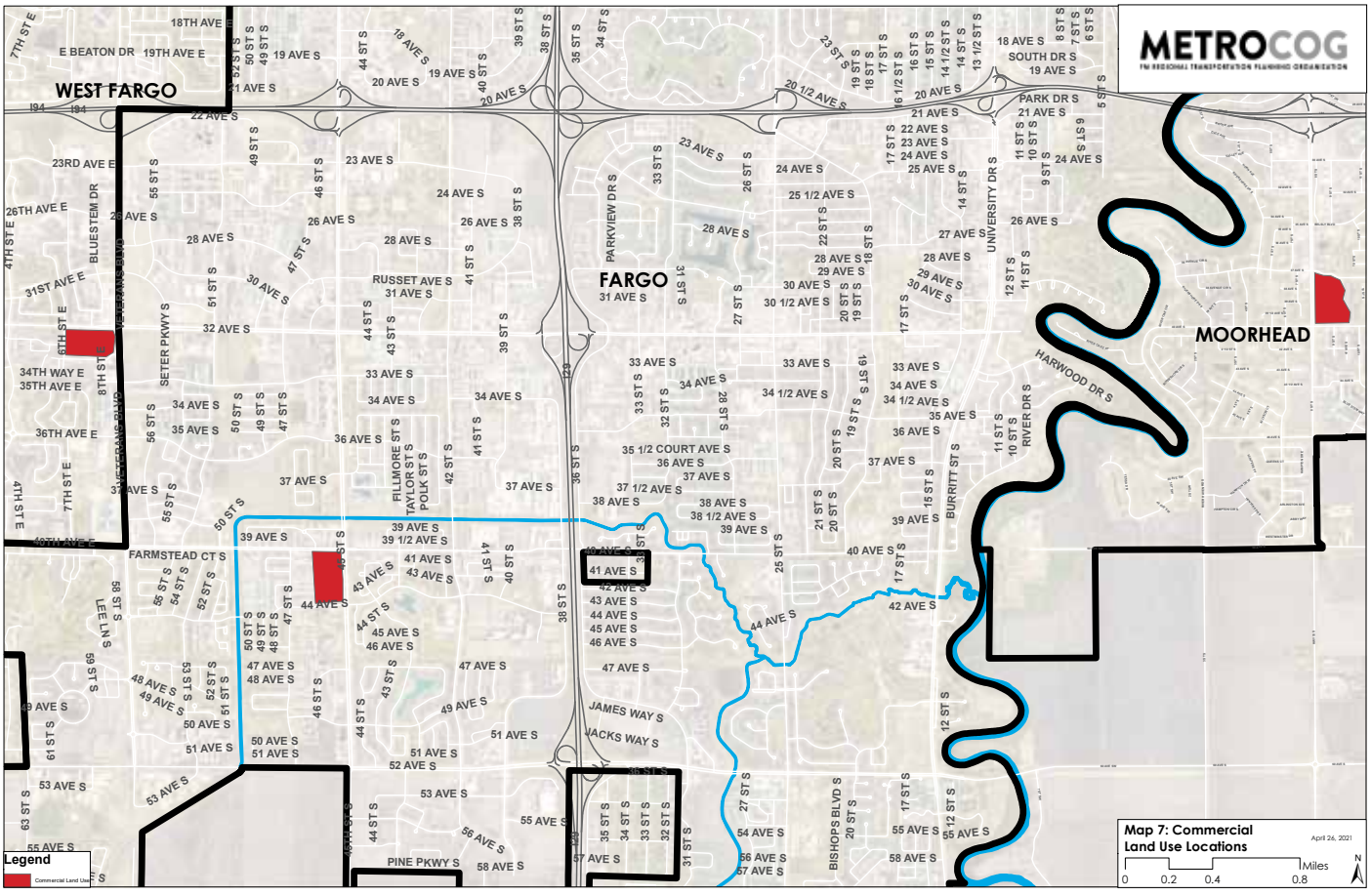
Map 7 details commercial land use locations.

- FARGO
  - Southwest corner of 40th Ave S and 45th St S, commercial strip development including a variety of commercial businesses.

- MOORHEAD
  - Northeast corner of 40th Ave S and 8th St S (US 75), commercial strip development including a variety of commercial businesses.

- WEST FARGO
  - Southwest corner of 32nd Ave S and Veterans Blvd, commercial strip development

Map 7 - Commercial Land Uses



Source: Metro COG

including a variety of commercial businesses.

Industrial

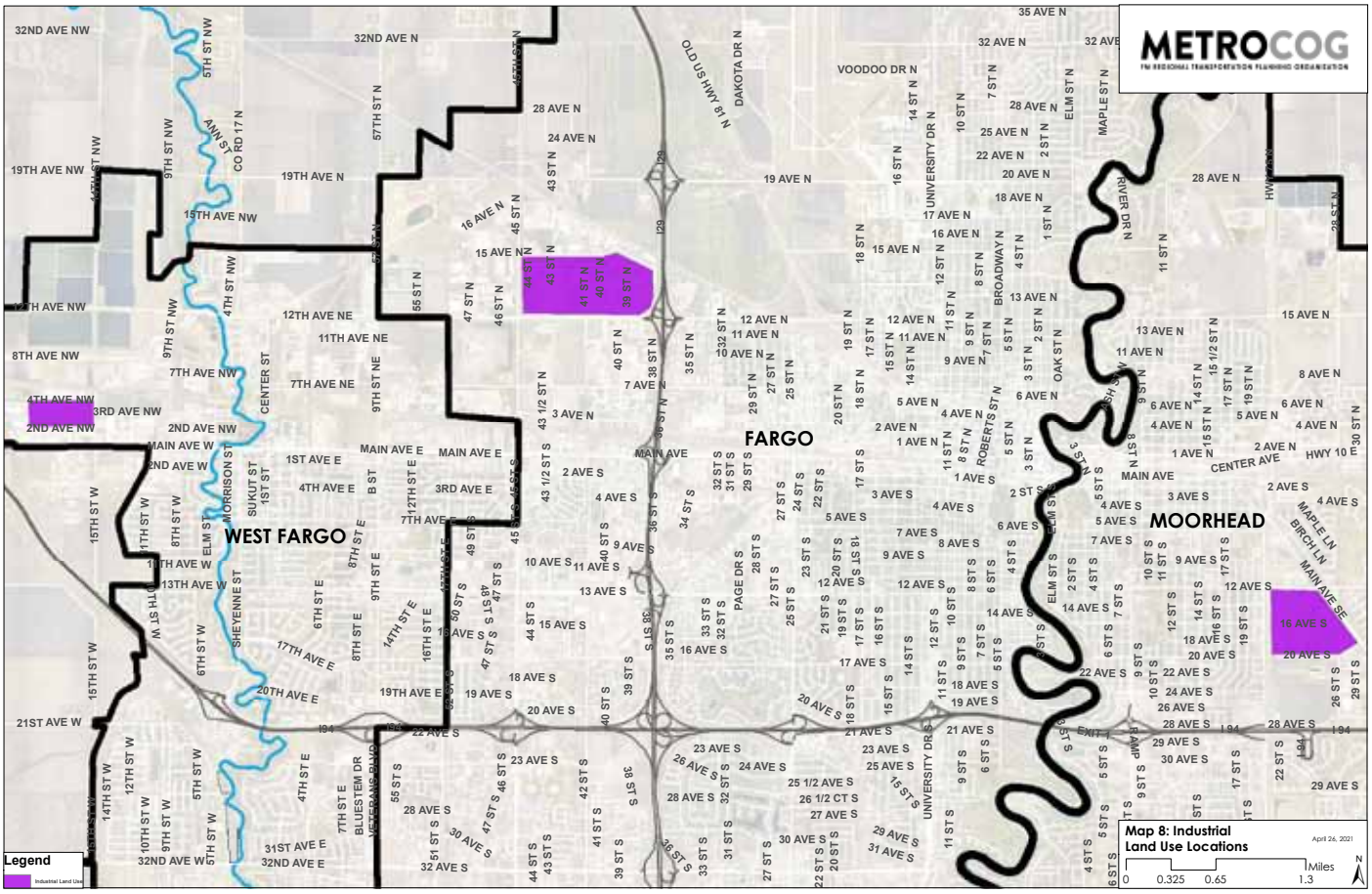
Map 8 details industrial land use locations.

- FARGO
  - North of 12th Ave N, east of 45th St N, west of 38th St N, and south of 15th Ave NW, industrial land uses including a variety of heavy commercial and industrial businesses.

- MOORHEAD
  - North of 20th Ave S, east of Main Ave SE, west of 20th St S, and south of 12th Ave S, industrial land uses including a variety of heavy commercial and industrial businesses.

- WEST FARGO

Map 8 - Industrial Land Uses



Source: Metro COG

  - North of 2nd Ave NW between 21st St NW and 15th St NW, industrial land uses including a variety of heavy commercial and industrial businesses.

Parks and Open Space

Map 9 details park and open space land use locations.

- FARGO
  - Island Park, south of 1st Ave S and north of 6th Ave S, between 7th St S and 4th St S

- MOORHEAD
  - Gooseberry Park, adjacent to Red River along 22nd Ave S

- WEST FARGO
  - Rendezvous Park, south of 32nd Ave W and north of 36th Ave W, between the Sheyenne Diversion and 9th St W

Map 9 - Park and Open Space Land Uses

Source: Metro COG

Residential - Single-Family

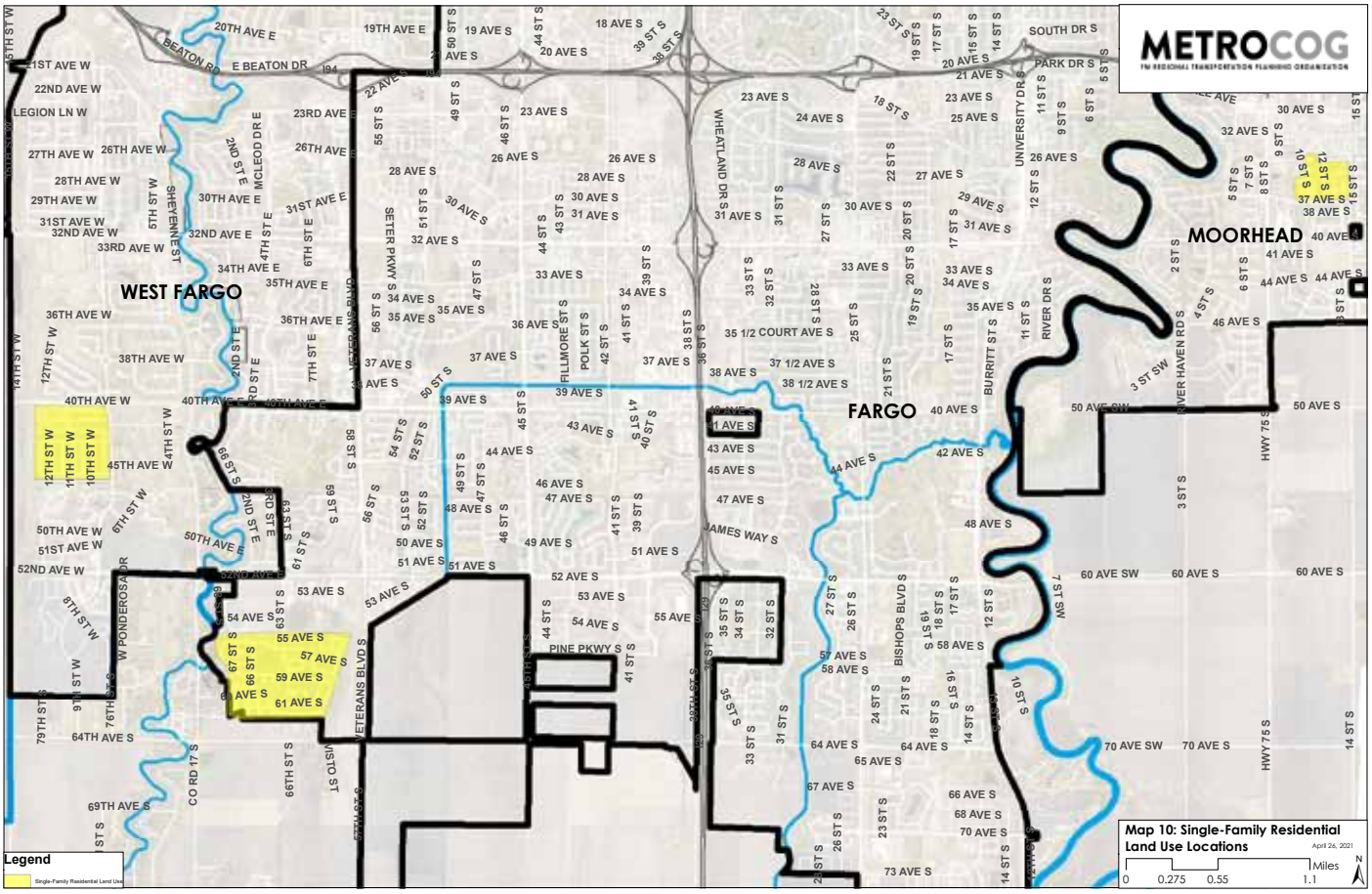
Map 10 details residential single-family land use locations.

- FARGO
  - Deer Creek Subdivision, north of 64th Ave S, west of Veterans Blvd, east of CR 17, and south of 54th Ave S.

- MOORHEAD
  - Southfield Subdivision, north of 45th Ave S, west of 20th St S, east of 14th St S, and south of 40th Ave S.

- WEST FARGO
  - Westport Beach Subdivision, north of 47th Ave W, west of 9th St W, east of the Sheyenne Diversion Channel, and south of 40th Ave W.

Map 10 - Single-Family Residential Land Uses



Source: Metro COG

Residential - Multiple-Family

Map 11 details residential multiple-family land use locations.

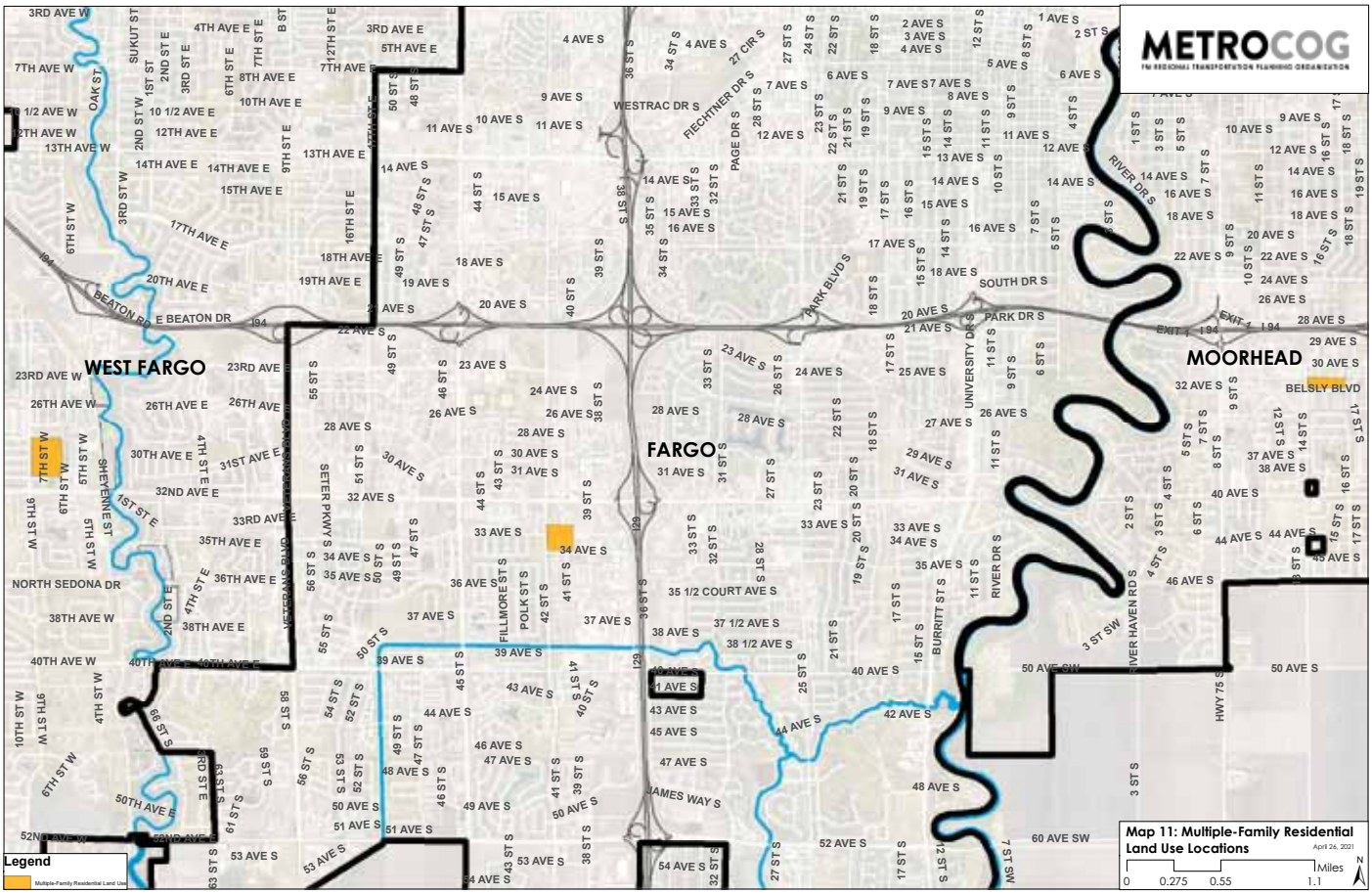
- FARGO
  - Asleson Farms Subdivision, northeast corner of 34th Ave S and 42nd St S.

- MOORHEAD
  - Astrups Subdivision, north of Belsly Blvd, west of 17th St S, east of 14th St S, and south of 30th Ave S.

- WEST FARGO
  - Eagle Run Subdivision, north of 32nd Ave W, west of 6th St W, east of 9th St W, and south of 28th Ave W.

Please see Map 12 in the Appendix for all land use locations within the FM Area.

Map 11 - Multiple-Family Residential Land Uses



Source: Metro COG

MAJOR EMPLOYERS

Similarly to the land use zones analyzed, additional zones were created at different major employers[1] across the FM Area to gather data about how COVID-19 may have impacted travel to and from various major employers. For the major employer analyses, the zones collect origin-destination data at specific locations. Employers of varying job sectors were analyzed in Fargo, Moorhead, and West Fargo. The list of major employers is not a comprehensive list and is only intended to provide a level of insight into how major employers may have been impacted throughout 2020.

The following zones describe the job sector, employer, and general location (address). Map 13 details major employer locations.

Contstruction

- Wanzek Construction Corporate Office – 4850 32nd Ave S, Fargo, ND
- Wanzek Crane Services – 2028 2nd Ave NW, West Fargo, ND

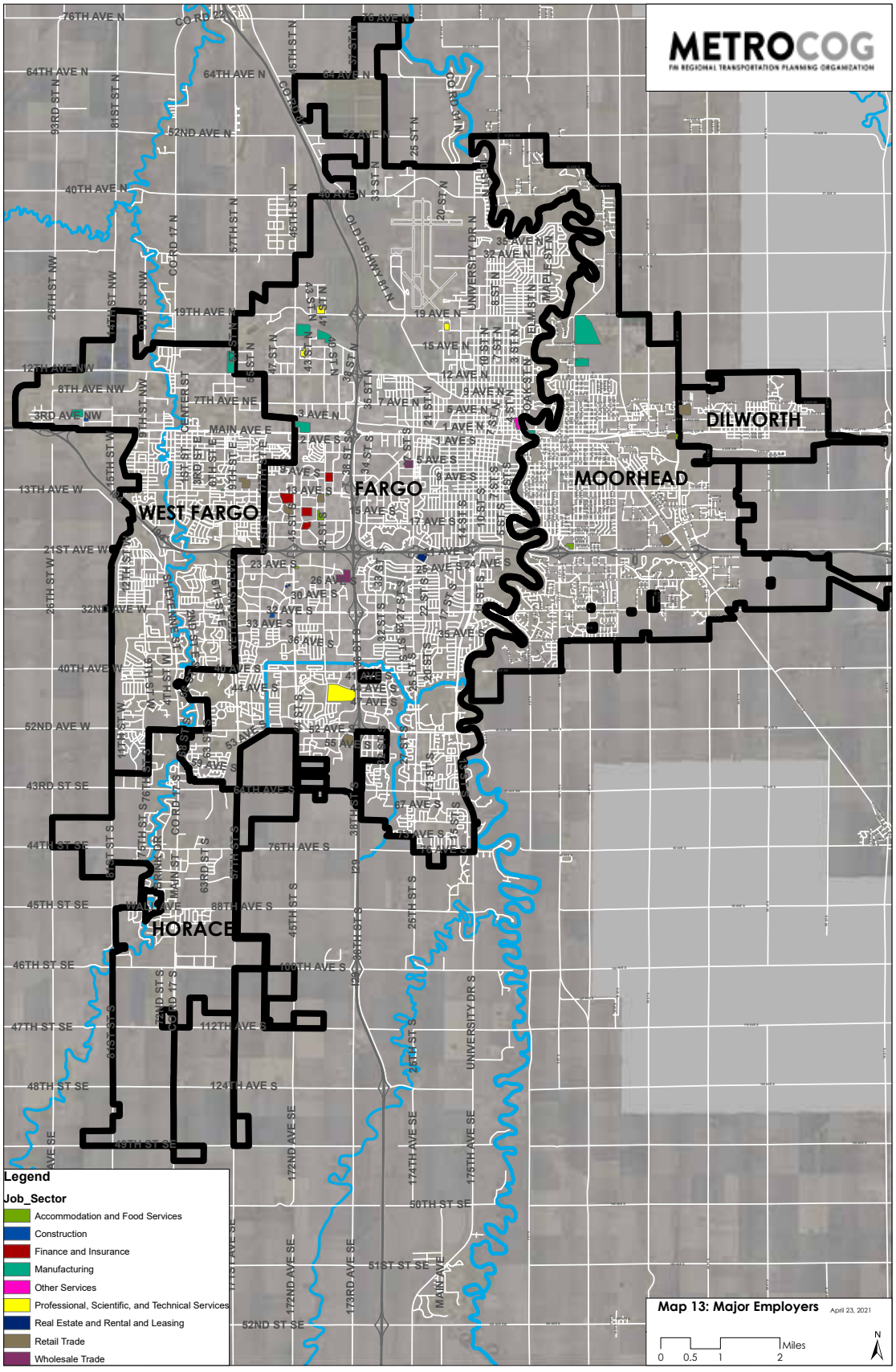
Manufacturing

- Marvin Windows – 1616 43rd St N, Fargo, ND
- Marvin Windows North Building – 1512 9th St NE, West Fargo, ND

[1] Major employers were identified from the Fargo Moorhead West Fargo Chamber's 2020 FMWF Metro Area Major Employer List which determines major employers by the number of full-time equivalent employees. Locations were chosen to achieve a variety of job sectors within the FM Area.

- Marvin Windows South Building – 1512 9th St NE, West Fargo, ND
- Trail King Industries – 2130 3rd Ave NW, West Fargo, ND
- True North Steel Corporate Office – 702 13th Ave E, West Fargo, ND

Map 13 - Major Employers



Source: Metro COG

- True North Steel – 1522 40th St N, Fargo, ND
- True North Steel – 4401 Main Ave, Fargo, ND
- American Crystal Sugar Corporate Office – 101 3rd St N, Moorhead, MN
- American Crystal Sugar – 1700 11th St N, Moorhead, MN
- American Crystal Sugar – 2500 11th St N, Moorhead, MN

Wholesale Trade

- Border States Electric Regional Corporate Office – 2400 38th St S, Fargo, ND
- Border States Electric – 605 25th St S, Fargo, ND

Retail Trade

- Scheels and Corporate Office – 1551 45th St S, Fargo, ND
- Walmart Supercenter – 3757 55th Ave S, Fargo, ND
- Walmart Supercenter – 415 34th St N, Dilworth, MN
- Menards – 1300 13th Ave E, West Fargo, ND
- Menards – 3000 27th Ave S, Moorhead, MN
- Target – 4202 13th Ave S, Fargo, ND
- Target – 3301 Highway 10 E, Moorhead, MN

Finance and Insurance

- US Bank Service Center – 4325 17th Ave S, Fargo, ND
- Blue Cross Blue Shield of North Dakota – 4510 13th Ave S, Fargo, ND
- Noridian Healthcare Solutions – 900 42nd St S, Fargo, ND

Real Estate and Rental and Leasing

- Brandt Hospitality Group – 2640 47th St S, Fargo, ND
- Brandt Holdings Co – 4650 26th Ave S, Fargo, ND
- GOLDMARK Property Management – 1707 Gold Dr S, Fargo, ND

Proffessional, Scientific, and Technical Services

- Microsoft – 3900 Great Plains Dr S, Fargo, ND
- John Deere Electronic Solutions – 1441 44th St N, Fargo, ND
- John Deere Electronic Solutions NDSU – 1750 Research Park Dr N, Fargo, ND
- John Deere PES – 4101 19th Ave N, Fargo, ND
- Eide Baily LLP – 4310 17th Ave S, Fargo, ND

Accommodation and Food Services

- Applebee's Grill and Bar – 2350 45th St S, Fargo, ND
- Boulder Tap House – 3333 US 10 Frontage Road, Moorhead, MN

- Chick-Fil-A – 4100 13th Ave S, Fargo, ND
- Courtyard by Marriott – 1080 28th Ave S, Moorhead, MN
- Delta Hotels by Marriott – 1635 42nd St S, Fargo, ND

Other Services

- City of Fargo City Hall – 225 4th St N, Fargo, ND

HEALTHCARE

Similarly to the major employer analyses, additional zones were created for one of the largest job sectors in the FM Area, healthcare. For the healthcare analyses, the zones collect origin-destination data at specific types of healthcare facilities. Varying healthcare facility types were analyzed in Fargo, Moorhead, and West Fargo. The list of healthcare facilities is not a comprehensive list and is only intended to provide a level of insight into how different types of healthcare facilities may have been impacted throughout 2020.

The following zones describe the type of healthcare facility, facility name, and general location (address). Map 14 details major healthcare locations.

Clinics

- Essentia Clinic – 4110 51st Ave S, Fargo, ND
- Essentia Clinic – 801 Belsey Blvd, Moorhead, MN
- Sanford Clinic – 2601 Broadway N, Fargo, ND
- Sanford Children's Clinic – 2701 13th Ave S, Fargo, ND

Specialty

- Sanford Broadway Campus – 801 Broadway N, Fargo, ND
- Prairie St. John's – 510 4th St S, Fargo, ND
- Fargo VA Hospital – 2101 Elm St N, Fargo, ND
- Eventide Fairmont – 801 2nd Ave N, Moorhead, MN

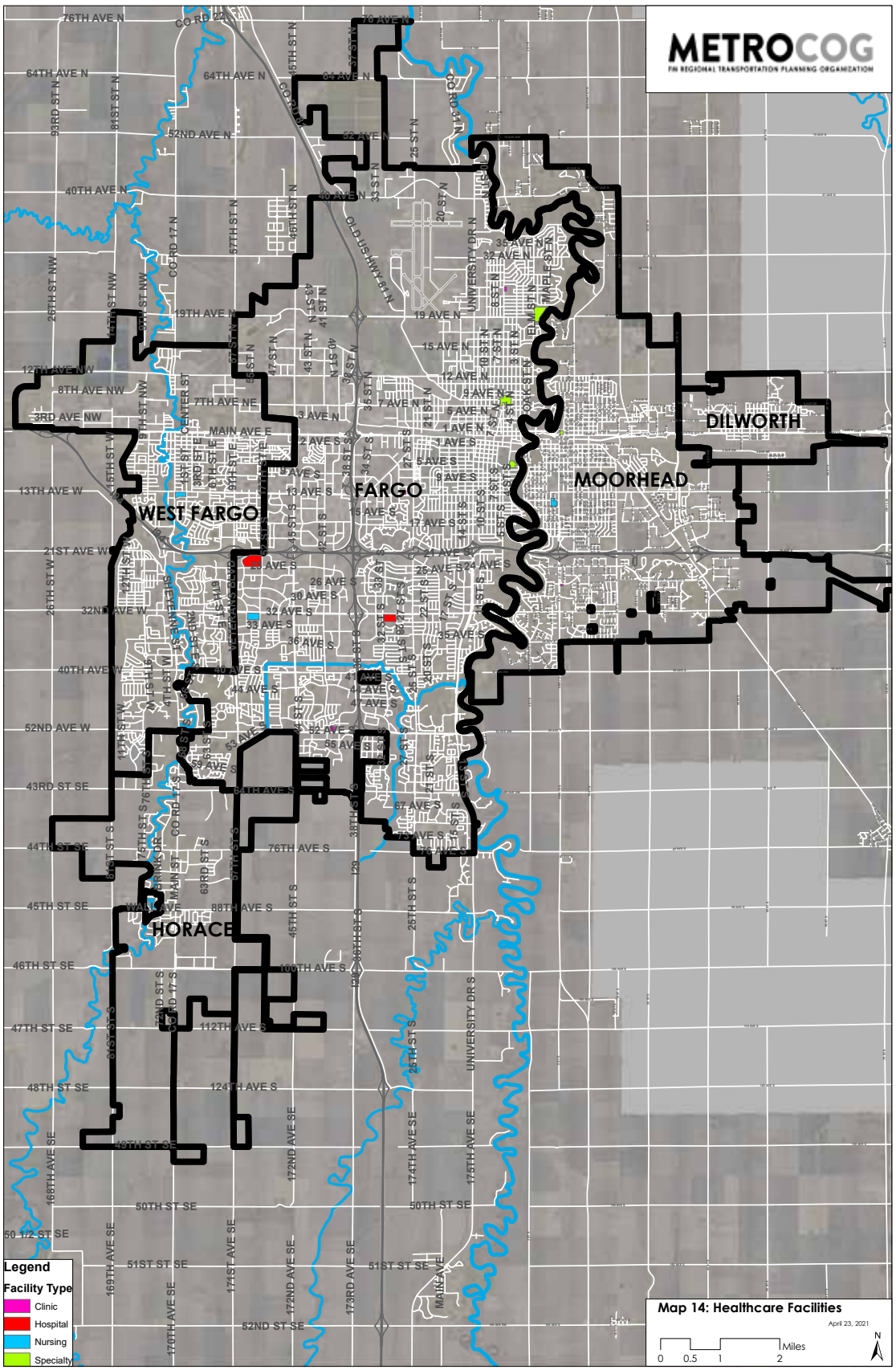
Hospitals

- Essentia Hospital – 3000 32nd Ave S, Fargo, ND
- Sanford Hospital – 5225 23rd Ave S, Fargo, ND

Nursing Facilities

- Eventide Fargo – 3225 51st St S, Fargo, ND
- Eventide Moorhead – 1405 7th St S, Moorhead, MN
- Eventide West Fargo – 225 13th Ave W, West Fargo, ND

Map 14 - Healthcare Facilities



Source: Metro COG

EDUCATION

Additional zones were created for another one of the largest job sectors in the FM Area, education. For the education analyses, the zones collect origin-destination data at varying types of educational institutions. Educational institutions were analyzed in Fargo, Moorhead, and West Fargo.

The following zones describe the type of educational institution, name, and general location (address). Map 15 details major educational institution locations.

Elementary Schools

- Robert Asp – 910 11th St N, Moorhead, MN
- Ellen Hopkins – 2020 11th St S, Moorhead, MN
- SG Reinertsen – 1201 40th Ave S, Moorhead, MN
- Dorothy Dodds – 4400 24th Ave S, Moorhead, MN
- Bennett – 2000 58th Ave S, Fargo, ND
- Centennial – 4201 25th St S, Fargo, ND
- Clara Barton – 1417 6th St S, Fargo, ND
- Hawthorne – 555 8th Ave S, Fargo, ND
- Eagles – 3502 S University Dr #6228, Fargo, ND
- Ed Clapp – 3131 28th St S, Fargo, ND
- Horace Mann – 1025 3rd St N, Fargo, ND
- Roosevelt – 1026 10th St N, Fargo, ND
- Jefferson – 1701 4th Ave S, Fargo, ND
- Kennedy – 4401 42nd St S, Fargo, ND
- Lewis and Clark – 1729 16th St S, Fargo, ND
- Lincoln – 2120 9th St S, Fargo, ND
- Longfellow – 20 29th Ave N, Fargo, ND
- Madison – 1040 29th St N, Fargo, ND
- McKinley – 2930 8th St N, Fargo, ND
- Washington – 1725 Broadway N, Fargo, ND
- Aurora – 3420 9th St W, West Fargo, ND
- Brooks Harbor – 801 22nd Ave W, West Fargo, ND
- Deer Creek[1] – 6400 54th Ave S, Fargo, ND
- Eastwood – 500 10th Ave E, West Fargo, ND
- Freedom – 401 26th Ave E, West Fargo, ND
- Harwood – 110 Freedland Dr, Harwood, ND
- Horace – 110 3rd Ave N, Horace, ND
- Independence – 3700 54th St S, Fargo, ND

[1] Deer Creek is listed however, data is excluded from this analysis because the Deer Creek Elementary School was under construction for most of the 2018-2019 baseline data period.

- L.E. Berger[1] – 631 4th Ave E, West Fargo, ND
- Legacy – 5150 9th St W, West Fargo, ND
- Osgood – 5550 44th Ave S, Fargo, ND
- South – 117 6th Ave W, West Fargo, ND
- Westside – 945 7th Ave W, West Fargo, ND
- Willow Park – 4901 15th Ave S, Fargo, ND

Middle Schools

- Horizon – 3601 12th Ave S, Moorhead, MN
- Ben Franklin – 1420 8th St N, Fargo, ND
- Carl Ben Eielson – 1601 13th Ave S, Fargo, ND
- Discovery – 1717 40th Ave S, Fargo, ND
- Cheney – 825 17th Ave E, West Fargo, ND
- Liberty – 801 36th Ave E, West Fargo, ND

High Schools

- Moorhead – 2300 4th Ave S, Moorhead, MN
- Davies – 7150 25th St S, Fargo, ND
- North – 801 17th Ave N, Fargo, ND
- South – 1840 15th Ave S, Fargo, ND
- Woodrow Wilson – 1305 9th Ave S, Fargo, ND
- Sheyenne – 800 40th Ave E, West Fargo, ND
- West Fargo – 801 9th St E, West Fargo, ND

Private Schools[2]

- Holy Spirit Elementary – 1441 8th St N, Fargo, ND
- Oak Grove – 124 North Terrace, Fargo, ND
- Shanley High and Sullivan Middle – 5600 25th St S, Fargo, ND
- Park Christian – 300 17th St N, Moorhead, MN

Colleges and Universities

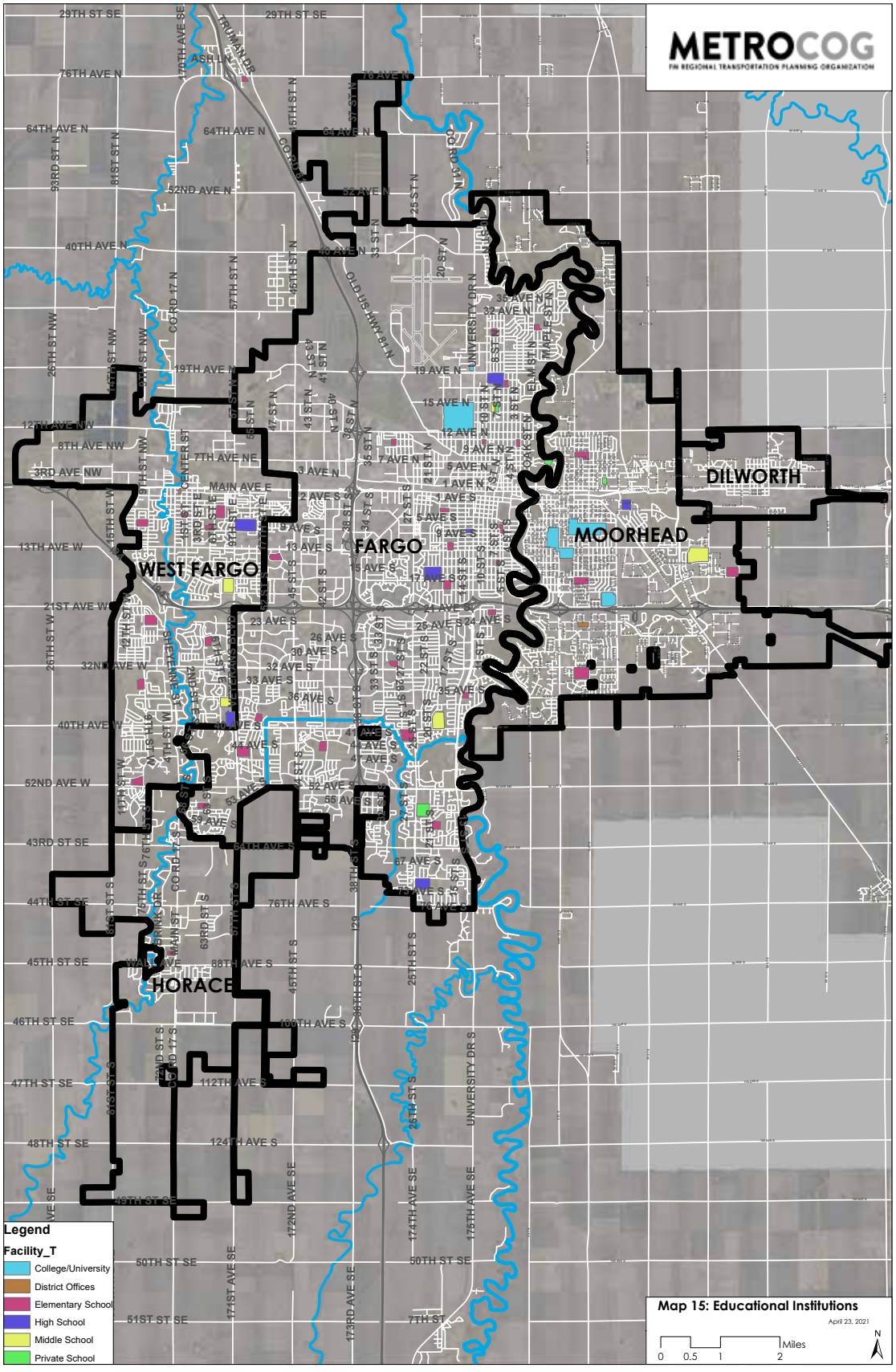
- Concordia College – 901 8th St S, Moorhead, MN
- MSCTC Moorhead – 1900 28th Ave S, Moorhead, MN
- MSUM – 1104 7th Ave S, Moorhead, MN
- NDSCS Fargo – 1305 19th Ave N, Fargo, ND

[1] The L.E. Berger Elementary School building is attached to the Hulbert Aquatic Center which is also owned and operated by the West Fargo Public School District.

[2] The list of Private Schools is not a comprehensive list and is only intended to provide a level of insight into how different grade levels of private schools were impacted throughout 2020.

- NDSU – 1340 Administration Ave, Fargo, ND

Map 15 - Educational Institutions



Source: Metro COG

FM Area Roadway Analysis

The COVID-19 Pandemic has had significant impacts to traffic patterns and volumes across the FM Area. A majority of the impacts are negatively correlated to the COVID-19 mitigation response of State and local governments through temporary rules and regulations such as:

- Business restrictions (e.g. the closing of certain types of businesses based upon the type of service provided, drive-through/carryout only, etc.)
- Business capacity restrictions
- Restrictions on in-person learning
- Restrictions on public gatherings
- Etc.

Figure 6 - Washington Elementary Sign

Source: Inforum

Private entities, institutions, and other public agencies also contributed to the impacts seen to traffic patterns and volumes across the FM Area by implementing policies such as:

- Work-from-home & distance learning
- Limiting operating hours (e.g. several 24-hour grocery and convenience stores in the FM Area started closing overnight in order to more effectively clean, limit exposure of employees to people, etc.)
- Delivery, curbside pickup, etc. (e.g. numerous restaurants adapted to dine-in restrictions and started providing delivery and carryout options which may not have been offered by those restaurants in the past)
- Etc.

Pre-Pandemic

The pre-pandemic timeframe is when COVID-19 dominated the news almost every day, including local coverage, and it became apparent that the FM Area would be impacted significantly by the pandemic. An interesting disruption of the pre-pandemic timeframe was the high-demand/ short-supply of paper- and cleaning-products. The pre-pandemic timeframe is the only time during 2020 where jurisdictions saw any increase from baseline traffic volumes. The data from this timeframe reflects a flurry of activity as the region embraced for the arrival of COVID-19.

Figure 7 - Empty Paper Product Shelves

Source: Inforum

Pandemic

The pandemic timeframe is when State and local governments declared states of emergency and implemented rules and regulations to mitigate the spread of COVID-19 which had a significant impact on travel patterns. This is the timeframe where the pandemic really began to have an impact on local

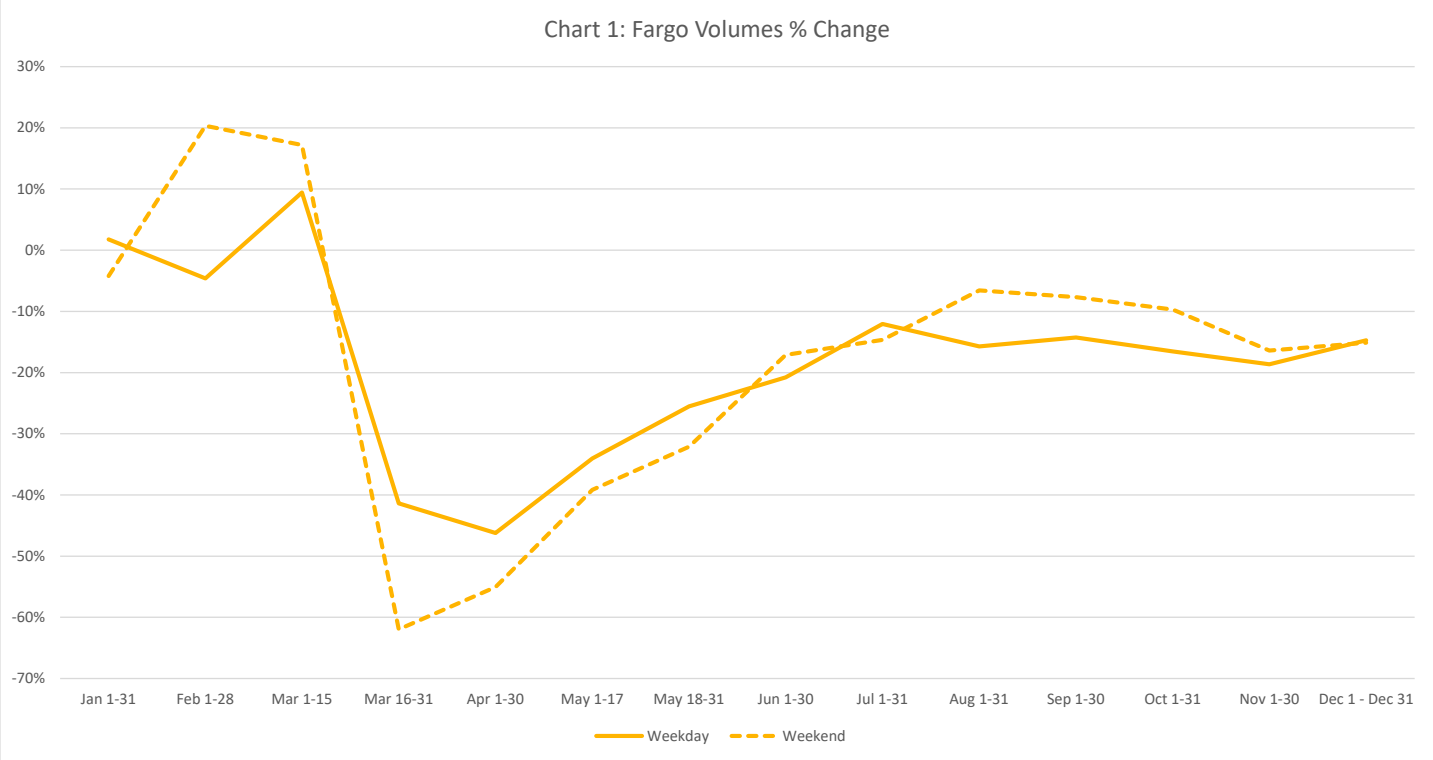
communities in the FM Area. The pandemic timeframe is when the first local positive cases of COVID-19 and locally confirmed COVID-19 related deaths were reported. The pandemic timeframe is when jurisdictions saw the greatest impact to traffic patterns.

New Normal

The new normal timeframe is when COVID-19 rules and regulations begin to relax, although not entirely go away. This timeframe is where traffic patterns start to look more similar to the baseline or normal levels. The COVID-19 pandemic is far from over but businesses and institutions begin to reopen, social gatherings start to reoccur. The largest spike in COVID-19 active cases and COVID-19 related deaths occurs during this timeframe, during which several rules and regulations were reinstated to mitigate the impact. There is a negative correlation between COVID-19 cases and traffic volumes however, no change in traffic patterns during the new normal timeframe is as dramatic as the pandemic timeframe.

Fargo

During 2020, Fargo saw a slight increase and dramatic decrease in traffic volumes as seen in Chart 1.



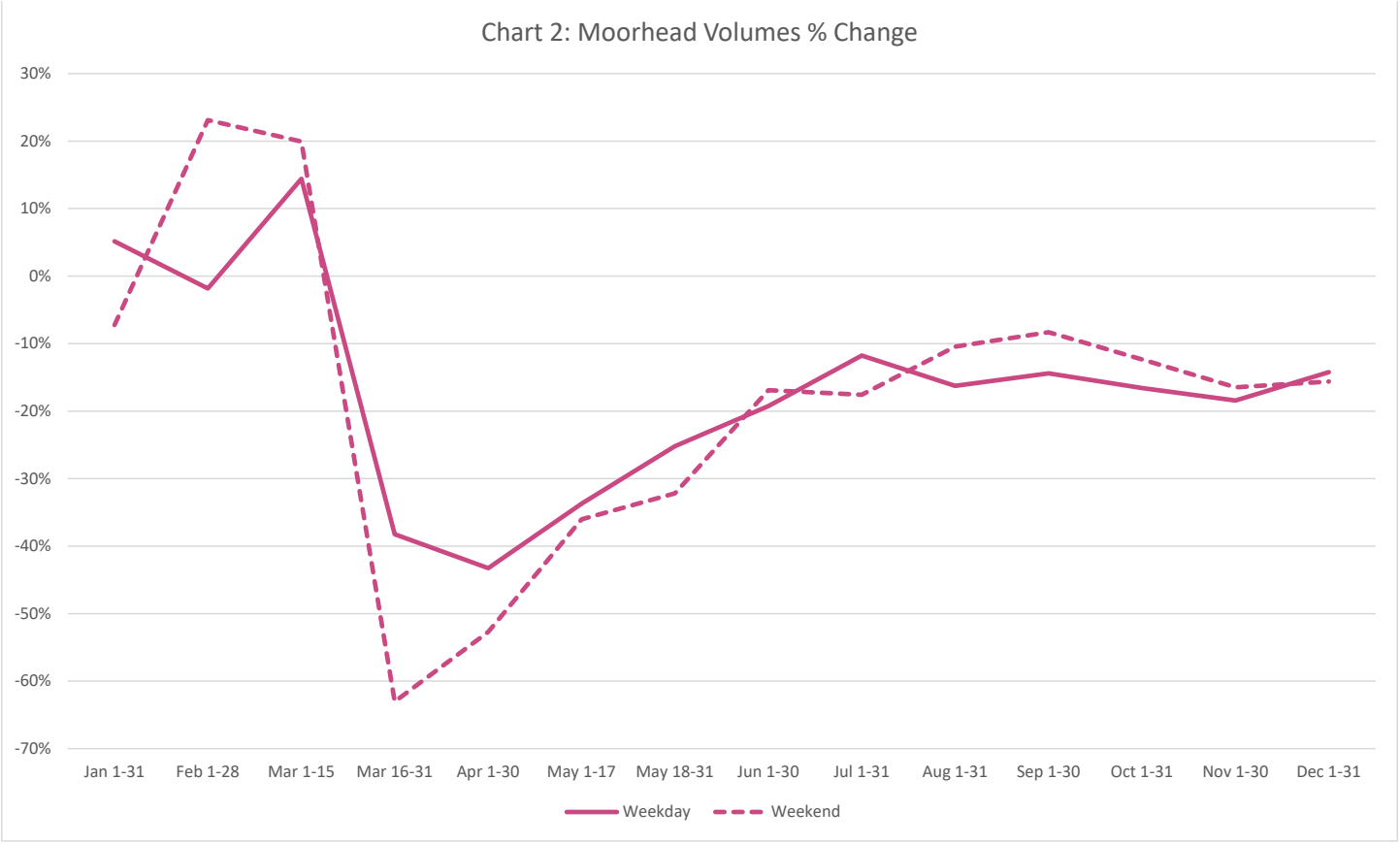
Source: Metro COG

The greatest increase from the baseline, +20%, was seen during weekend days between February 1 and February 28, 2020. Weekdays saw the greatest increase, a modest +9%, between March 1 and March 15, 2020. The greatest and only increases in traffic volumes for Fargo were seen during the pre-pandemic timeframe.

The greatest decrease from the baseline, -62%, was seen during weekend days between March 16 and March 31, 2020. Weekdays saw the greatest decrease, -46%, between April 1 and April 30, 2020. The greatest decreases in traffic volumes for Fargo were seen during the pandemic timeframe.

Moorhead

During 2020, Moorhead also saw a slight increase and dramatic decrease in traffic volumes as seen in Chart 2.



Source: Metro COG

The greatest increase from the baseline, +23%, was seen during weekend days between February 1 and February 28, 2020. Weekdays saw the greatest increase, +14%, between March 1 and March 15, 2020. The greatest and only increases in traffic volumes for Moorhead were seen during the pre-pandemic timeframe.

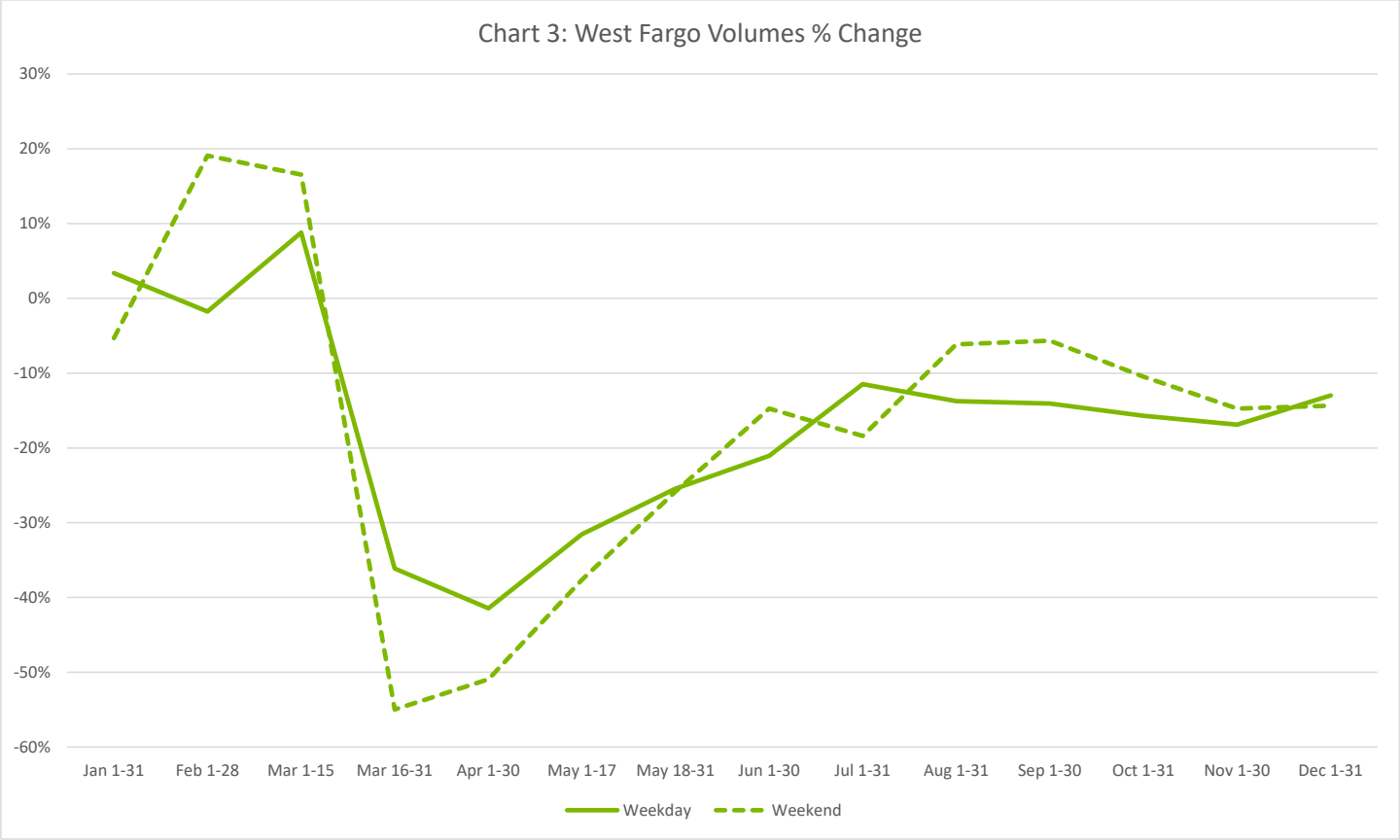
The greatest decrease from the baseline, -63%, was seen during weekend days between March 16 and March 31, 2020. Weekdays saw the greatest decrease, -43%, between April 1 and April 30, 2020. The greatest decreases in traffic volumes for Moorhead were also seen during the pandemic timeframe.

West Fargo

During 2020, West Fargo also saw a slight increase and dramatic decrease in traffic volumes as seen in Chart 3.

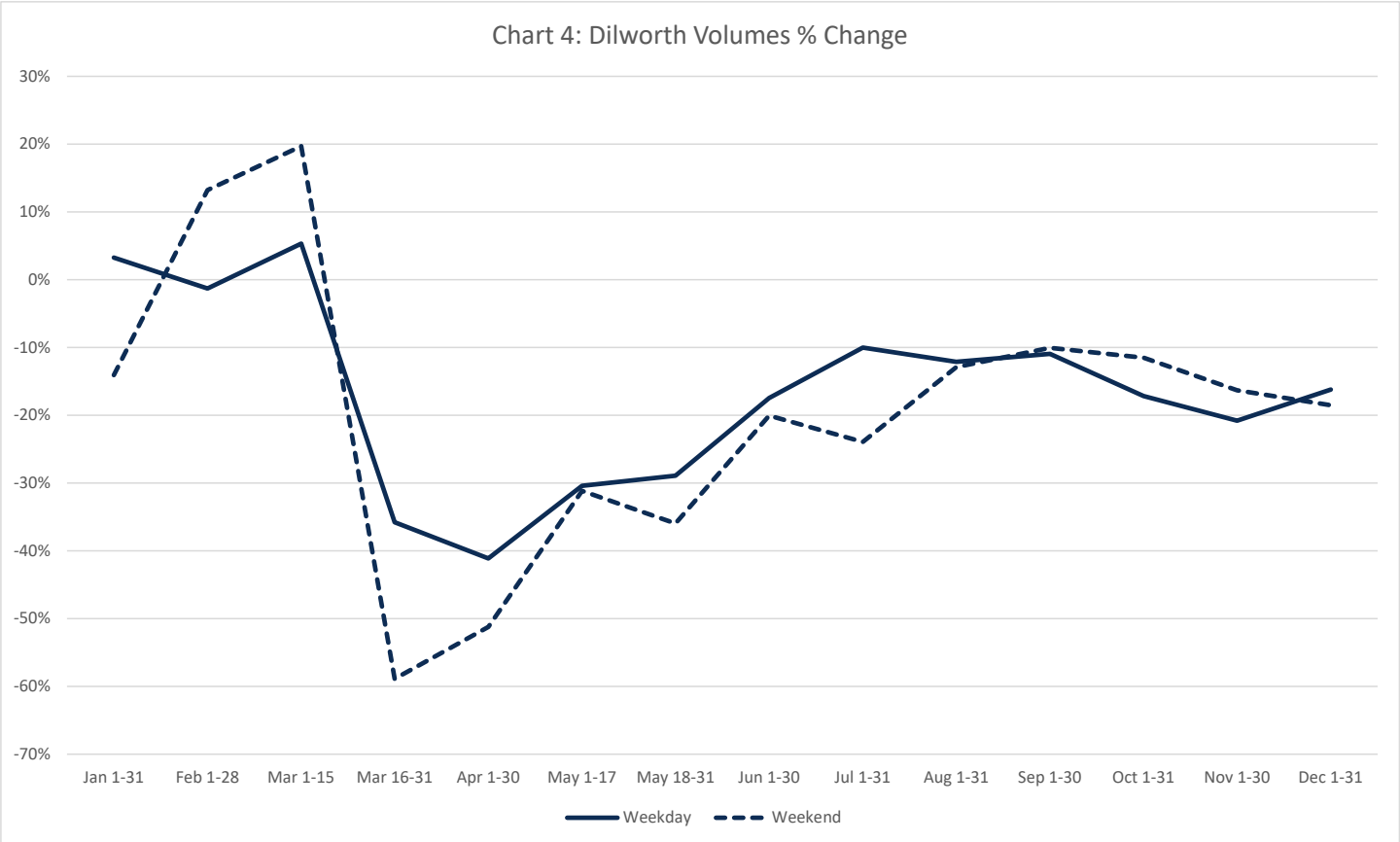
The greatest increase from the baseline, +19%, was seen during weekend days between February 1 and February 28, 2020. Weekdays saw the greatest increase, +9%, between March 1 and March 15, 2020. The greatest and only increases in traffic volumes for West Fargo were seen during the pre-pandemic timeframe.

The greatest decrease from the baseline, -55%, was seen during weekend days between March 16 and March 31, 2020. Weekdays saw the greatest decrease, -41%, between April 1 and April 30, 2020. The greatest decreases in traffic volumes for West Fargo were also seen during the pandemic timeframe.



Dilworth

During 2020, Dilworth also saw a slight increase and dramatic decrease in traffic volumes as seen in Chart 4.



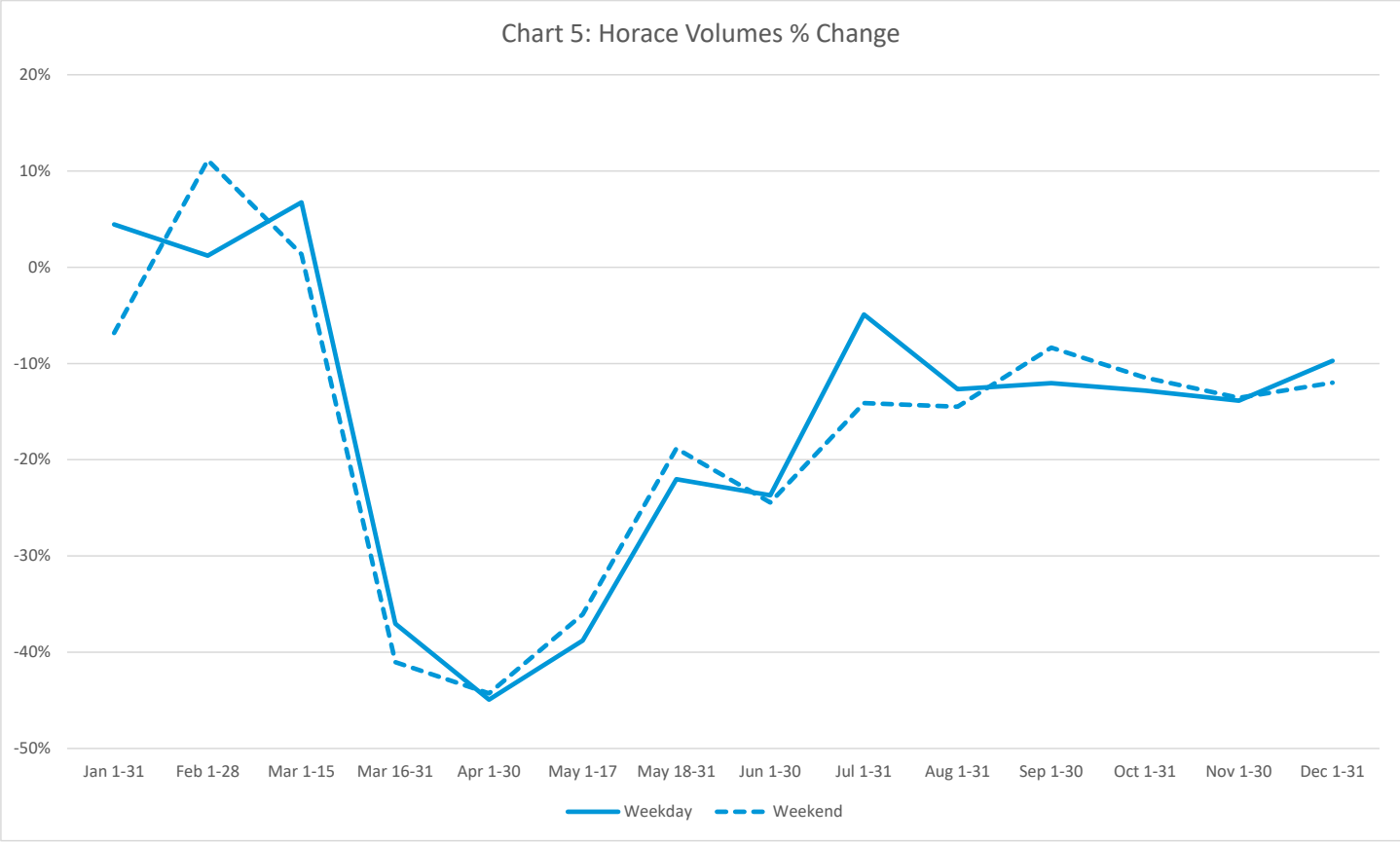
Source: Metro COG

The greatest increase from the baseline, +20%, was seen during weekend days between March 1 and March 15, 2020. Weekdays saw the greatest increase, +5%, also between March 1 and March 15, 2020. The greatest and only increases in traffic volumes for Dilworth were seen during the pre-pandemic timeframe.

The greatest decrease from the baseline, -59%, was seen during weekend days between March 16 and March 31, 2020. Weekdays saw the greatest decrease, -41%, between April 1 and April 30, 2020. The greatest decreases in traffic volumes for Dilworth were also seen during the pandemic timeframe.

Horace

During 2020, Horace also saw a slight increase and dramatic decrease in traffic volumes as seen in Chart 5.



Source: Metro COG

The greatest increase from the baseline, +11%, was seen during weekend days between February 1 and February 29, 2020. Weekdays saw the greatest increase, +7%, between March 1 and March 15, 2020. The greatest and only increases in traffic volumes for Horace were seen during the pre-pandemic timeframe.

The greatest decrease from the baseline, -45%, was seen during weekdays between April 1 and April 30, 2020. Weekends saw the greatest decrease, -44%, also between April 1 and April 30, 2020. The greatest decreases in traffic volumes for Horace were also seen during the pandemic timeframe.

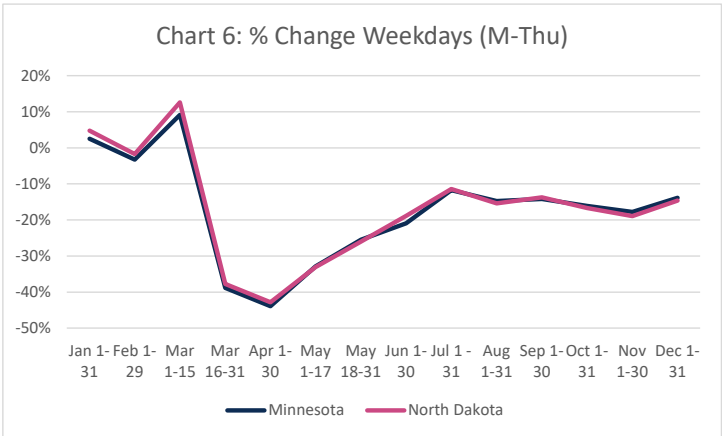
TABLE 2: StreetLight Volume by Jurisdiction - WEEKDAYS															
JURISDICTION	DATA PERIOD	PRE-PANDEMIC			PANDEMIC			NEW NORMAL							
		Jan 1 - Jan 31	Feb 1 - Feb 29	Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31
Fargo	Baseline	295257	316247	315081	360994	355428	357056	365373	399516	382010	398746	368728	359219	338965	316869
	2020	300510	301675	344846	211611	191164	235487	272092	316474	336014	336116	316127	299848	275729	270227
	% Difference	2%	-5%	9%	-41%	-46%	-34%	-26%	-21%	-12%	-16%	-14%	-17%	-19%	-15%
Moorhead	Baseline	145287	155997	153249	179078	174351	175222	181108	191059	190076	195045	183520	180402	171456	158403
	2020	152781	153127	175348	110597	98925	116145	135469	154266	167736	163327	157089	150480	139839	135879
	% Difference	5%	-2%	14%	-38%	-43%	-34%	-25%	-19%	-12%	-16%	-14%	-17%	-18%	-14%
West Fargo	Baseline	136561	146153	147462	166970	166137	167983	170687	186659	182455	186959	174600	168375	158955	147749
	2020	141157	143577	160437	106630	97291	114984	127271	147326	161510	161260	150014	141943	132133	128583
	% Difference	3%	-2%	9%	-36%	-41%	-32%	-25%	-21%	-11%	-14%	-14%	-16%	-17%	-13%
Dilworth	Baseline	36908	38851	39003	44228	43251	42919	47799	48037	48885	50038	46597	45535	43823	40447
	2020	38106	38342	41080	28404	25463	29857	33966	39656	43989	43981	41502	37717	34707	33895
	% Difference	3%	-1%	5%	-36%	-41%	-30%	-29%	-17%	-10%	-12%	-11%	-17%	-21%	-16%
Horace	Baseline	9113	9467	10482	10795	11291	11851	12036	13320	12074	13314	12363	11693	11211	10263
	2020	9519	9582	11189	6796	6218	7253	9385	10164	11481	11626	10874	10194	9656	9265
	% Difference	4%	1%	7%	-37%	-45%	-39%	-22%	-24%	-5%	-13%	-12%	-13%	-14%	-10%

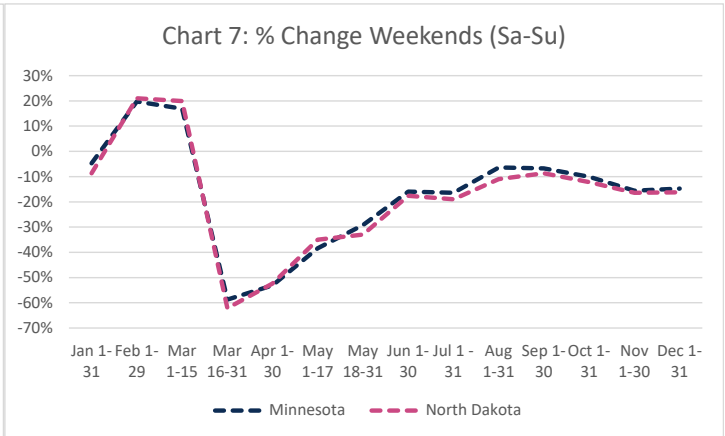
TABLE 3: StreetLight Volume by Jurisdiction - WEEKENDS															
JURISDICTION	DATA PERIOD	PRE-PANDEMIC			PANDEMIC			NEW NORMAL							
		Jan 1 - Jan 31	Feb 1 - Feb 29	Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31
Fargo	Baseline	266147	256848	252875	296626	306454	319278	296120	281590	289161	289714	297035	297738	281903	273448
	2020	254897	309081	296375	112861	137795	194225	201081	233435	246822	270655	274274	268838	235633	232119
	% Difference	-4%	20%	17%	-62%	-55%	-39%	-32%	-17%	-15%	-7%	-8%	-10%	-16%	-15%
Moorhead	Baseline	140881	131673	126700	160670	165917	170399	166222	155966	158745	164766	156160	162238	148064	146483
	2020	130693	162123	151983	59391	78487	109009	112730	129626	130837	147567	143198	142235	123682	123626
	% Difference	-7%	23%	20%	-63%	-53%	-36%	-32%	-17%	-18%	-10%	-8%	-12%	-16%	-16%
West Fargo	Baseline	117425	111517	110037	130561	138880	147720	130861	130294	134496	131690	131056	133709	126060	120547
	2020	111175	132804	128259	58780	68148	92112	97033	111068	109772	123591	123625	119709	107482	103233
	% Difference	-5%	19%	17%	-55%	-51%	-38%	-26%	-15%	-18%	-6%	-6%	-10%	-15%	-14%
Dilworth	Baseline	38494	35526	35002	42004	45512	44618	45299	43037	43871	43486	42361	43173	39398	38907
	2020	33076	40226	41900	17261	22193	30720	29007	34410	33364	37868	38094	38200	32966	31703
	% Difference	-14%	13%	20%	-59%	-51%	-31%	-36%	-20%	-24%	-13%	-10%	-12%	-16%	-19%
Horace	Baseline	7919	7852	8270	8360	9941	10308	8569	9302	8079	8842	9093	9370	8590	8144
	2020	7378	8727	8381	4930	5539	6591	6955	7028	6939	7560	8334	8295	7425	7168
	% Difference	-7%	11%	1%	-41%	-44%	-36%	-19%	-24%	-14%	-14%	-8%	-11%	-14%	-12%

Source: Metro COG

Minnesota vs. North Dakota Volumes

The State of Minnesota and State of North Dakota both enacted unprecedented mitigation regulations in response to the COVID-19 pandemic. The Minnesota-side of the FM Area enacted more stringent regulations more quickly than the North Dakota-side, including an emergency stay-at-home order beginning Friday, March 27, 2020. North Dakota took more time to enact regulations and never implemented a stay-at-home order however, both States had similar regulations on businesses and other places where people gather throughout 2020 with the State of North Dakota being somewhat less stringent. Metro COG assumed that the data would reflect the different policy direction of both States, with Minnesota traffic having an obviously more dramatic impact however, this was not the case. As shown in Charts 6 & 7, it is not black and white as to which State's policy direction had the bigger impact and the region seems to stay relatively similar. There may be evidence that there was slightly greater impact on traffic for the Minnesota-side during weekdays at the very beginning of the pandemic timeframe starting March 16th however, there doesn't seem to be a distinguishable pattern of which jurisdiction is impacted more during certain timeframes.





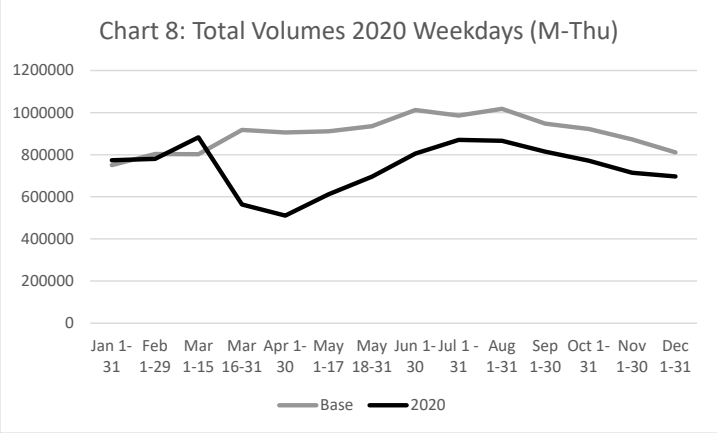
Source: Metro COG

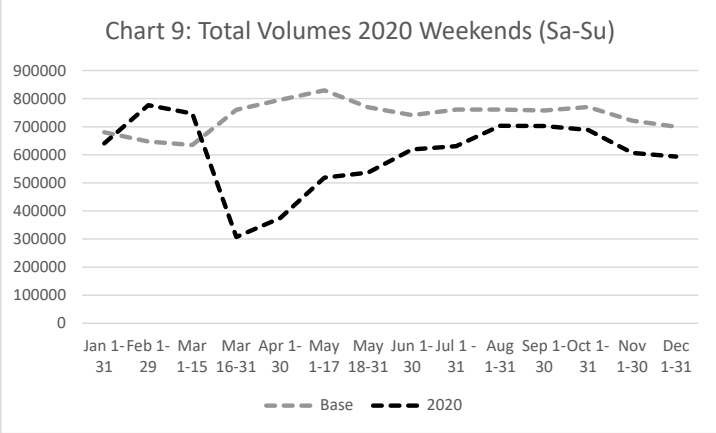
TABLE 4: StreetLight Volume by State - WEEKDAYS														
JURISDICTION	DATA PERIOD	PRE-PANDEMIC			PANDEMIC			NEW NORMAL						
		Jan 1 - Jan 31	Feb 1 - Feb 29	Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31
Minnesota	Baseline	182195	194848	192252	223306	217602	218141	228907	239096	238961	245083	230117	225937	215279	198850
	2020	190887	191469	216428	139001	124388	146002	169435	193922	211725	207308	198591	188197	174546	169774
	% Difference	5%	-2%	13%	-38%	-43%	-33%	-26%	-19%	-11%	-15%	-14%	-17%	-19%	-15%
North Dakota	Baseline	568379	608553	610005	694934	687702	693022	706747	772834	746920	772664	717928	695969	656875	612367
	2020	582824	588829	665720	424871	385746	465455	526634	611126	659034	658636	616155	583734	539995	527393
	% Difference	3%	-3%	9%	-39%	-44%	-33%	-25%	-21%	-12%	-15%	-14%	-16%	-18%	-14%

TABLE 5: StreetLight Volume by State - WEEKENDS														
JURISDICTION	DATA PERIOD	PRE-PANDEMIC			PANDEMIC			NEW NORMAL						
		Jan 1 - Jan 31	Feb 1 - Feb 29	Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31
Minnesota	Baseline	179375	167199	161702	202674	211429	215017	211521	199003	202616	208252	198521	205411	187462	185390
	2020	163769	202349	193883	76652	100680	139729	141737	164036	164201	185435	181292	180435	156648	155329
	% Difference	-9%	21%	20%	-62%	-52%	-35%	-33%	-18%	-19%	-11%	-9%	-12%	-16%	-16%
North Dakota	Baseline	500997	479882	472949	557748	584214	614718	557842	542178	558153	553094	559147	565156	534023	514542
	2020	477247	574689	552893	230421	274091	378449	395147	455571	466366	517837	521524	508256	450597	438585
	% Difference	-5%	20%	17%	-59%	-53%	-38%	-29%	-16%	-16%	-6%	-7%	-10%	-16%	-15%

Source: Metro COG

Overall, the FM Area was impacted uniformly, regardless of the rules or regulations implemented by state or local governments. Charts 8 & 9 show how traffic volumes compared to the baseline data. The charts show an increase in traffic volumes just before the pandemic timeframe and a plummeting of volumes as soon as mitigation policies and emergency declarations are enacted by State and local governments. Traffic volumes also peaked in the first half of March, 2020, which is atypical compared to the baseline data which has peaks in early and late summer.





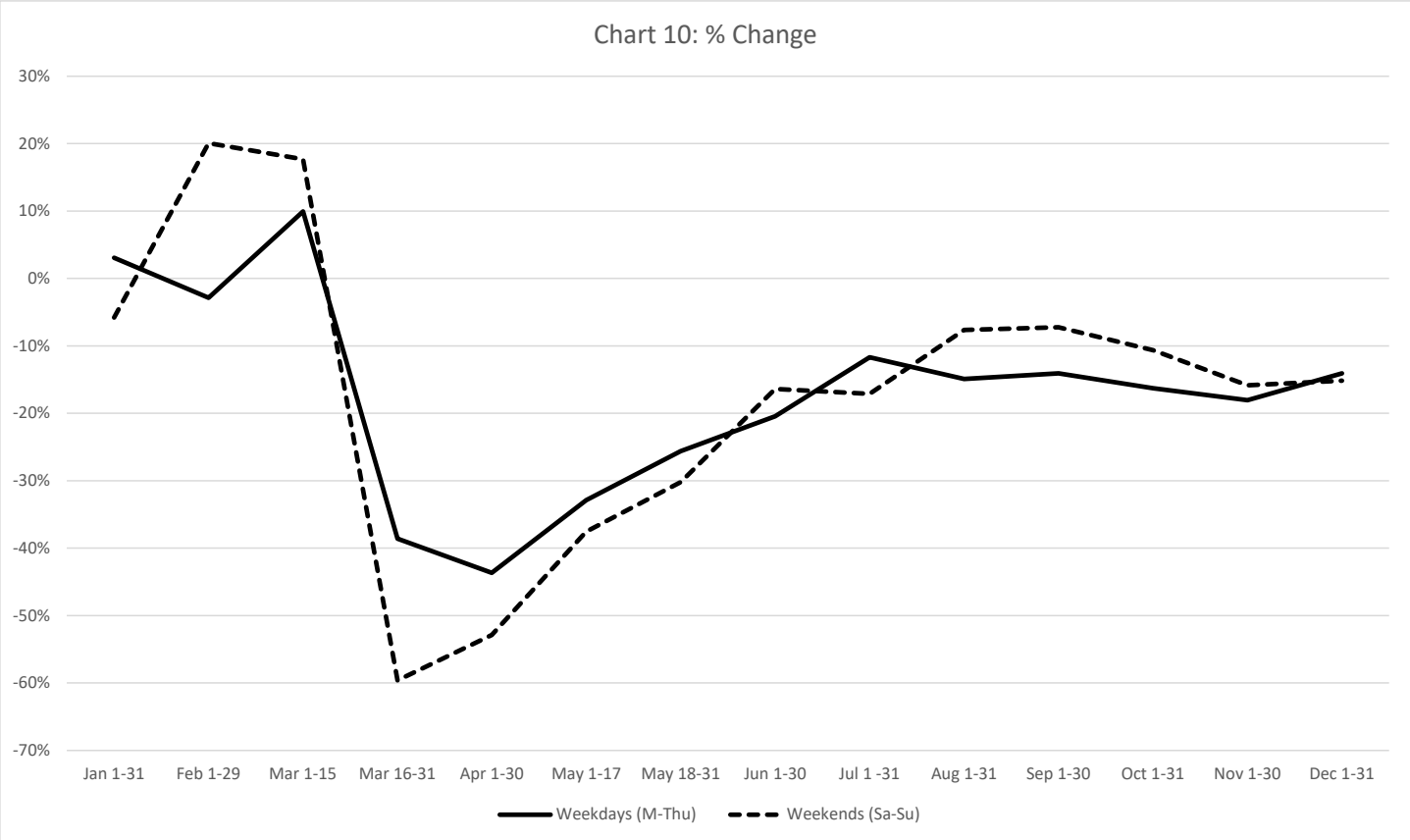
Source: Metro COG

TABLE 6: StreetLight Volume Metro-wide														
JURISDICTION	DATA PERIOD	PRE-PANDEMIC			PANDEMIC			NEW NORMAL						
		Jan 1 - Jan 31	Feb 1 - Feb 29	Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31
Weekdays	Baseline	750574	803401	802257	918240	905304	911163	935654	1011930	985881	1017747	948045	921906	872154	811217
	2020	773711	780298	882148	563872	510134	611457	696069	805048	870759	865944	814746	771931	714541	697167
	% Difference	3%	-3%	10%	-39%	-44%	-33%	-26%	-20%	-12%	-15%	-14%	-16%	-18%	-14%
Weekends	Baseline	680372	647081	634651	760422	795643	829735	769363	741181	760769	761346	757668	770567	721485	699932
	2020	641016	777038	746776	307073	374771	518178	536884	619607	630567	703272	702816	688691	607245	593914
	% Difference	-6%	20%	18%	-60%	-53%	-38%	-30%	-16%	-17%	-8%	-7%	-11%	-16%	-15%

Source: Metro COG

Another consistent observation of 2020 traffic volumes is that weekends were consistently the most impacted day types for both increases and decreases from January until June. The pre-pandemic timeframe saw the greatest increase in traffic volumes as FM Area residents braced for the pandemic's impact, then as emergency orders and business restrictions are enacted in the second half of March, weekend days see the greatest decrease in traffic volumes and even more so than weekday volumes. Beginning with the month of June, and with the exception of July and December, weekend volumes bounce back to become less impacted than weekday volumes. This may have been caused by both States easing business restrictions

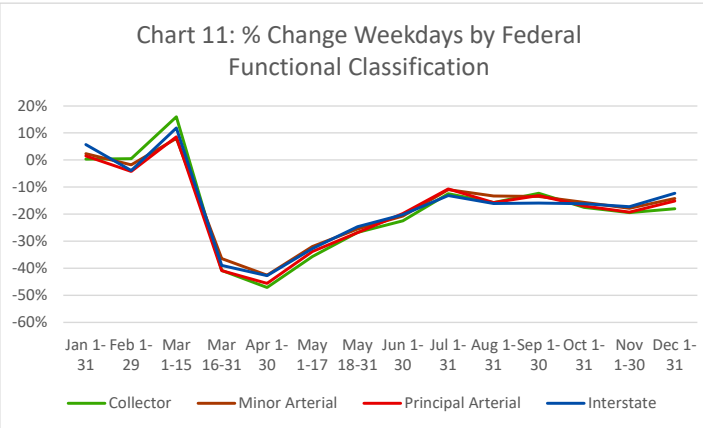
in the month of June such as allowing outdoor dining or allowing salons and barbershops to reopen. The ease of restrictions appears to have caused more traffic on the weekends as FM Area residents begin getting back to a sense of normalcy. Business restrictions are reinstated in November and December, 2020, which is likely why those weekends show more decrease in traffic volumes. See Chart 10 for detail on how weekdays and weekend days changed in comparison to the baseline volumes.

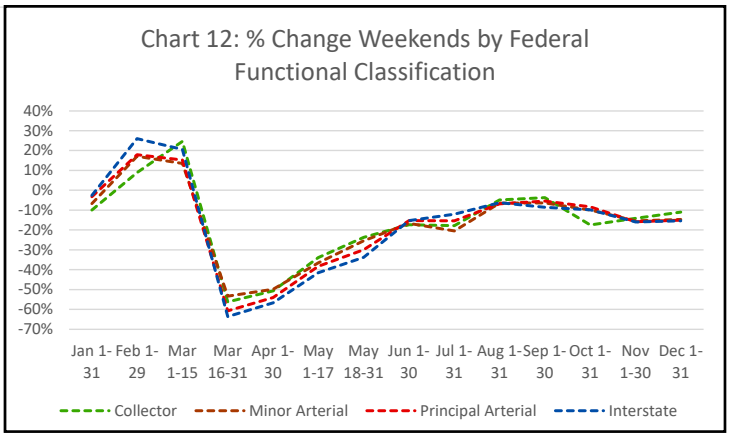


Policies intended to mitigate the affects of the pandemic had a major impact on traffic volumes during the pandemic timeframe however, the FM Area did not see the peak of COVID-19 cases and related deaths until October/November, 2020. The COVID-19 wave in the fall of 2020 caused State and local governments to reinstate rules and regulations on businesses and public gatherings however, the decrease in traffic volumes is much less dramatic than the decrease seen during the pandemic timeframe, even as COVID-19 spikes. This may be because FM Area residents were better equipped (social distancing, face covering, sanitizer, personal protective equipment, etc.) to go about their daily lives and may have had a better understanding of the seriousness of the virus.

Federal Functional Classification and Traffic Volumes

Metro COG also compared roadways not only by jurisdiction but also by Federal Functional Classification (FFC). By analyzing the biggest changes from baseline volumes, it becomes apparent that depending upon the day of the week, certain FFC roadways are more resilient than others, especially during the pandemic timeframe and beginning of the new normal timeframe. On weekdays for example, Collector roadways saw the most impact in traffic volumes, with roadways appearing more resilient to change as the FFC goes up from Minor Arterial through Interstate. On weekends however, Interstate roadways saw the most impact in traffic volumes, with roadways appearing more resilient to change as the FFC goes down from Principal Arterial through Collector. The differences seen between different classified roadways during different days of the week likely has to do with the purpose of the trips people are taking during the week vs. weekend. See Charts 11 and 12 for details on maximum and minimum traffic volume changes for differing FFC roadways.





Source: Metro COG

Monitoring Traffic Volume Levels

Metro COG will be continuously tracking traffic volume through StreetLight to help determine how close to 'normal' traffic becomes including how long the COVID-19 pandemic may impact traffic in the FM Area. Traffic volumes in Minnesota are still down slightly more than volumes in North Dakota but the FM Area as a whole is still seeing decreased volumes of -14 to -16% as of December 2020. See Tables 6 & 7 for details regarding where traffic volumes are through the most recent StreetLight data available.

TABLE 7: Monitoring StreetLight Volume by Jurisdiction - WEEKDAYS

JURISDICTION	DATA PERIOD	PRE-PAN	PANDEMIC			NEW NORMAL								
		2020											2021	
		Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31	**Jan 1 - Jan 31**	**Feb 1 - Feb 28**
Fargo	Baseline	315081	360994	355428	357056	365373	399516	382010	398746	368728	359219	338965	316869	295257	316247
	2020-2021	344846	211611	191164	235487	272092	316474	336014	336116	316127	299848	275729	270227	281130	282938
	% Difference	9%	-41%	-46%	-34%	-26%	-21%	-12%	-16%	-14%	-17%	-19%	-15%	**-5%**	**-11%**
Moorhead	Baseline	153249	179078	174351	175222	181108	191059	190076	195045	183520	180402	171456	158403	145287	155997
	2020-2021	175348	110597	98925	116145	135469	154266	167736	163327	157089	150480	139839	135879	157611	160860
	% Difference	14%	-38%	-43%	-34%	-25%	-19%	-12%	-16%	-14%	-17%	-18%	-14%	**8%**	**3%**
West Fargo	Baseline	147462	166970	166137	167983	170687	186659	182455	186959	174600	168375	158955	147749	136561	146153
	2020-2021	160437	106630	97291	114984	127271	147326	161510	161260	150014	141943	132133	128583	151140	154194
	% Difference	9%	-36%	-41%	-32%	-25%	-21%	-11%	-14%	-14%	-16%	-17%	-13%	**11%**	**6%**
Dilworth	Baseline	39003	44228	43251	42919	47799	48037	48885	50038	46597	45535	43823	40447	36908	38851
	2020-2021	41080	28404	25463	29857	33966	39656	43989	43981	41502	37717	34707	33895	37110	38588
	% Difference	5%	-36%	-41%	-30%	-29%	-17%	-10%	-12%	-11%	-17%	-21%	-16%	**1%**	**-1%**
Horace	Baseline	10482	10795	11291	11851	12036	13320	12074	13314	12363	11693	11211	10263	10482	10795
	2020-2021	11189	6796	6218	7253	9385	10164	11481	11626	10874	10194	9656	9265	15408	16473
	% Difference	7%	-37%	-45%	-39%	-22%	-24%	-5%	-13%	-12%	-13%	-14%	-10%	**47%**	**53%**

TABLE 8: Monitoring StreetLight Volume by Jurisdiction - WEEKENDS

JURISDICTION	DATA PERIOD	PRE-PAN	PANDEMIC			NEW NORMAL								
		2020											2021	
		Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31	**Jan 1 - Jan 31**	**Feb 1 - Feb 28**
Fargo	Baseline	252875	296626	306454	319278	296120	281590	289161	289714	297035	297738	281903	273448	266147	256848
	2020	296375	112861	137795	194225	201081	233435	246822	270655	274274	268838	235633	232119	261174	273057
	% Difference	17%	-62%	-55%	-39%	-32%	-17%	-15%	-7%	-8%	-10%	-16%	-15%	**-2%**	**6%**
Moorhead	Baseline	126700	160670	165917	170399	166222	155966	158745	164766	156160	162238	148064	146483	140811	131673
	2020	151983	59391	78487	109009	112730	129626	130837	147567	143198	142235	123682	123626	146053	151049
	% Difference	20%	-63%	-53%	-36%	-32%	-17%	-18%	-10%	-8%	-12%	-16%	-16%	**4%**	**15%**
West Fargo	Baseline	110037	130561	138880	147720	130861	130294	134496	131690	131056	133709	126060	120547	117425	132804
	2020	128259	58780	68148	92112	97033	111068	109772	123591	123625	119709	107482	103233	130870	135816
	% Difference	17%	-55%	-51%	-38%	-26%	-15%	-18%	-6%	-6%	-10%	-15%	-14%	**11%**	**2%**
Dilworth	Baseline	35002	42004	45512	44618	45299	43037	43871	43486	42361	43173	39398	38907	35002	42004
	2020	41900	17261	22193	30720	29007	34410	33364	37868	38094	38200	32966	31703	37804	36924
	% Difference	20%	-59%	-51%	-31%	-36%	-20%	-24%	-13%	-10%	-12%	-16%	-19%	**8%**	**-12%**
Horace	Baseline	8270	8360	9941	10308	8569	9302	8079	8842	9093	9370	8590	8144	8270	8360
	2020	8381	4930	5539	6591	6955	7028	6939	7560	8334	8295	7425	7168	12217	12673
	% Difference	1%	-41%	-44%	-36%	-19%	-24%	-14%	-14%	-8%	-11%	-14%	-12%	**48%**	**52%**

Source: Metro COG

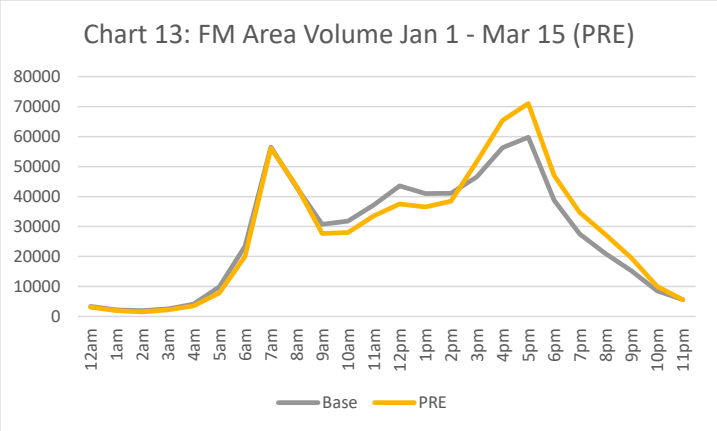
Volumes by Hour

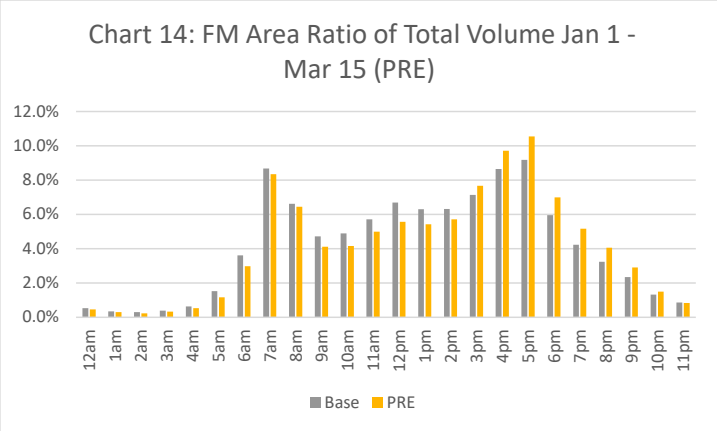
Metro COG dived deeper into traffic volume data by analyzing volumes by hour across the FM Area. Similar to the overall traffic volume analysis described above, the hourly analysis shows that the FM Area performed similarly, regardless of the jurisdiction. Looking at hourly volumes, Metro COG noticed that the pandemic had a large impact to when people travel and how traffic volumes are distributed throughout the day.

When comparing volumes by hour, Metro COG also calculated the volume of each hour as a ratio of the total volume of the day. The intention was to see where changes in travel patterns were occurring regardless of the difference of volume between the baseline data and the 2020 data.

PRE-PANDEMIC

During the pre-pandemic timeframe there is a flurry of activity across the FM Area. Chart 13 details volumes by hour.





Source: Metro COG

When looking at the hourly analysis of volumes, the pre-pandemic/2020 data appears very similar to that of the base data from 12:00 a.m. until 9:00 a.m. but then is less than baseline from 10:00 a.m. until 3:00 p.m. Almost all of the increase in volume is accounted for from 3:00 p.m. to 11:59 p.m.
The ratio of volumes as shown in Chart 14 shows the greatest increase of volume, +1.4%, occurred between 5:00 – 6:00 p.m. The greatest decrease of volume, -1.1% occurred between 12:00 – 1:00 p.m.

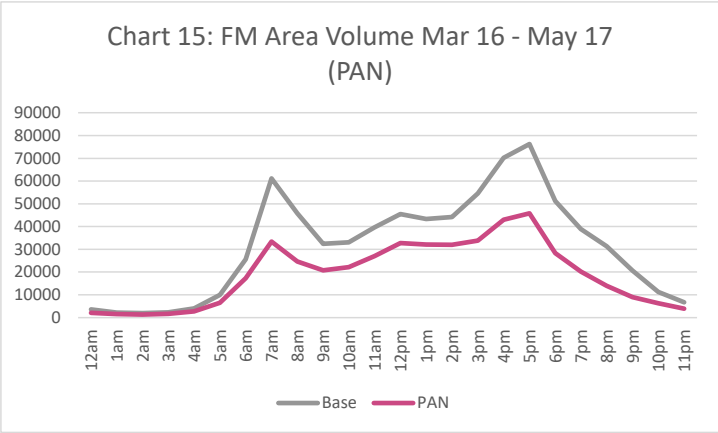
Interestingly, it appears that during the pre-pandemic timeframe, FM Area residents prepared for the impending pandemic outside of regular business hours and into the evening, likely running errands and or stocking up on necessities after their work day.

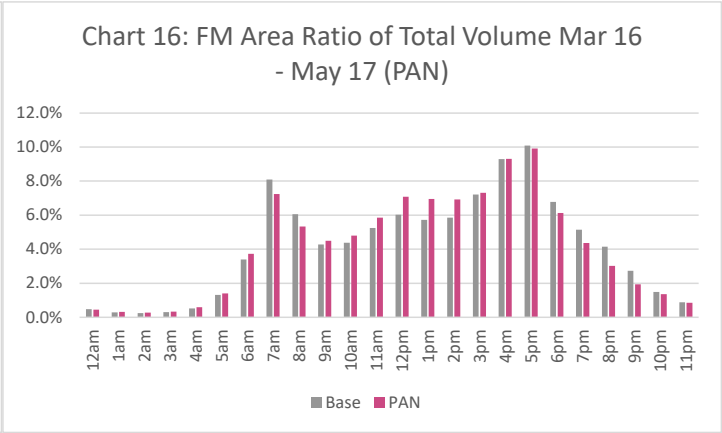
PANDEMIC

During the pandemic timeframe there is a significant impact to traffic volumes. Chart 15 details volumes by hour.

When looking at the hourly analysis of volumes, the pandemic timeframe data appears very similar to that of the base data but simply reflects an overall decrease in traffic volumes.

The ratio of volumes as shown in Chart 16 tells a different story however, showing that from 9:00 a.m. until 4:00 p.m. the ratio of total volume is above the baseline ratio which suggests more trips throughout the day are occurring outside of normal peak times, also known as peak spreading. The greatest increase of volume, +1.2%, occurred between 1:00 – 2:00 p.m. The greatest decrease of volume, -1.1%, occurred between 8:00 – 9:00 p.m.



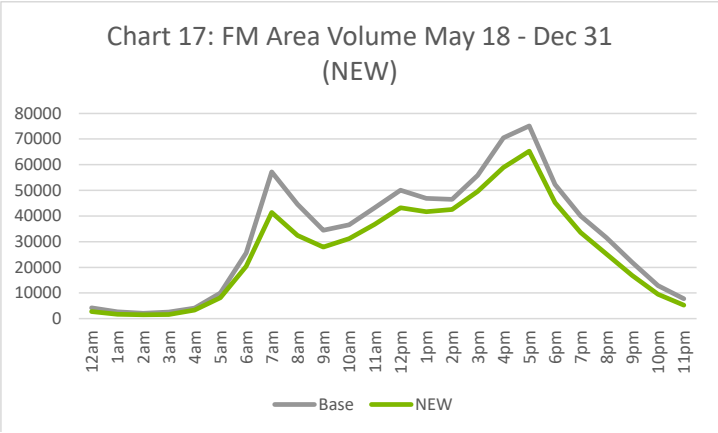


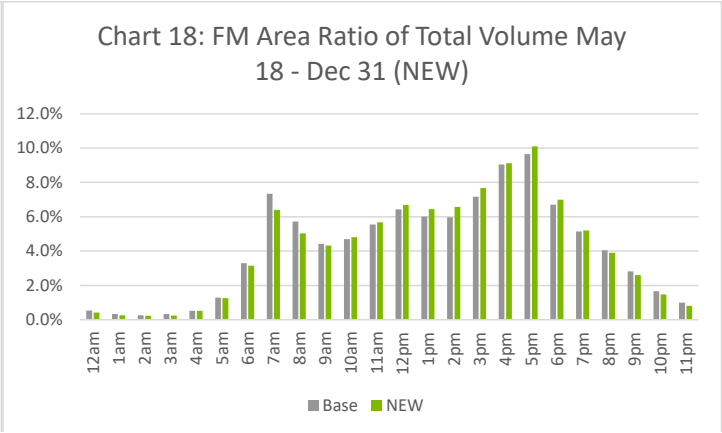
Source: Metro COG

During the pandemic timeframe, it appears that the evening peak (as a ratio of total volume) is much more resilient than the morning peak, with the evening peak (5-6pm) ratio decreasing -0.2% and the morning peak (7-8am) ratio decreasing -0.9%.

NEW NORMAL

During the new normal timeframe traffic volumes start coming back up toward baseline levels. Chart 17 details volumes by hour.





Source: Metro COG

When looking at the hourly analysis of volumes, the new normal timeframe data appears very similar to that of the base data but simply reflects a slight decrease in traffic volumes.

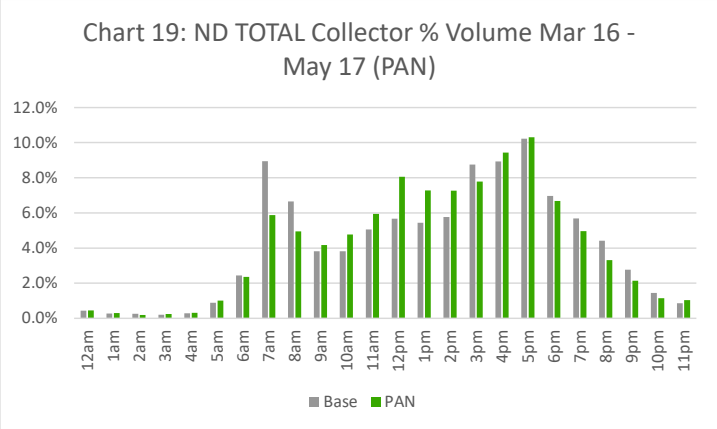
The ratio of volumes as shown in Chart 18 tells a similar story to the pandemic timeframe's Chart 16 however, not as dramatic. The ratio of total volumes for the new normal timeframe shows that from 10:00 a.m. until 7:00 p.m. the ratio of total volume is above the baseline ratio which suggests more trips throughout the day are still occurring outside of normal peak times including the evening peak. The greatest increase of volume, +0.6%, occurred between 2:00 – 3:00 p.m. The greatest decrease of volume, -0.9%, occurred between 7:00 – 8:00 a.m.

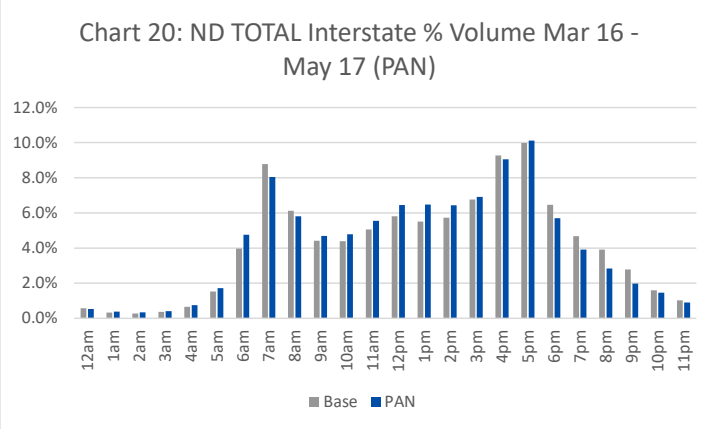
During the new normal timeframe, evening peak (as a ratio of volume) is higher than the baseline data and the morning peak is still significantly impacted, with the evening peak (5-6pm) ratio increasing +0.4% and the morning peak (7-8am) decreasing -0.9%. There may be numerous reasons as to why the evening peak is higher than the morning peak during the pandemic and new normal timeframes but may most likely be caused by distance learning opportunities and less school related morning traffic or even work-from-home schedules which may not require traveling to the office in the mornings.

Not only have traffic volumes been impacted but the times during the day in which people choose to travel have also been significantly impacted. Metro COG recognizes that a lot of the change seen in the ratio of total volume may be largely contributed to distance learning and work-from-home policies however, there may be other factors at play such as limited business hours at night. The data is revealing in how telecommuting options and work schedules may impact peak hour and other traffic volume ratios moving forward. Especially, as telecommuting opportunities become more of a permanent option for the FM Area workforce.

Federal Functional Classification and Traffic Volumes by Hour

Similarly to the overall volume comparison between different federally functionally classified roadways, there also seems to be some difference when comparing volumes by hour. For this example, North Dakota roadways are being analyzed on weekdays during the pandemic timeframe however, there is no apparent difference in the volume by hour trend for the Minnesota.



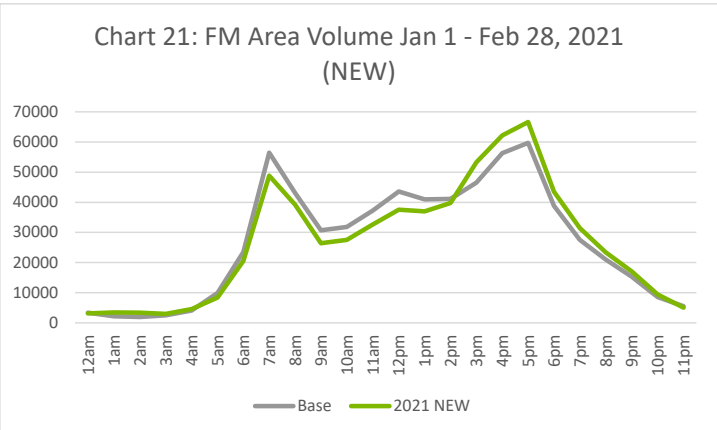


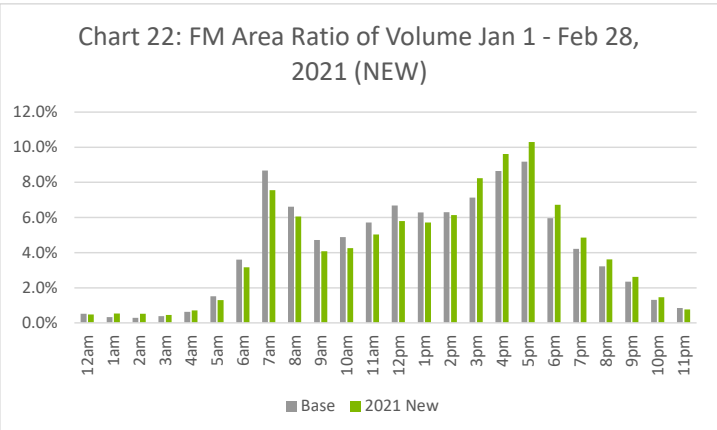
Source: Metro COG

As seen in Charts 19 & 20, collector roadways show greater peak spreading, especially during the pandemic timeframe. Collector roadways saw the greatest decrease in ratio between 7:00 - 8:00 a.m., -3.1%, while interstates saw a decrease of -0.7% during the same 7:00 - 8:00 a.m. hour. The greatest increase in ratio for collectors was between 12:00 - 1:00 p.m, +2.4%, while interstates saw an increase of +0.6% during the same 12:00 - 1:00 p.m. hour. The resiliency of interstates vs. collectors may be a good indication of the roadway network working properly and that interstates provide a critical link for goods and services outside of the FM Area.

Monitoring Traffic Volumes by Hour

Metro COG will be continuously tracking traffic volumes by hour through StreetLight to help determine





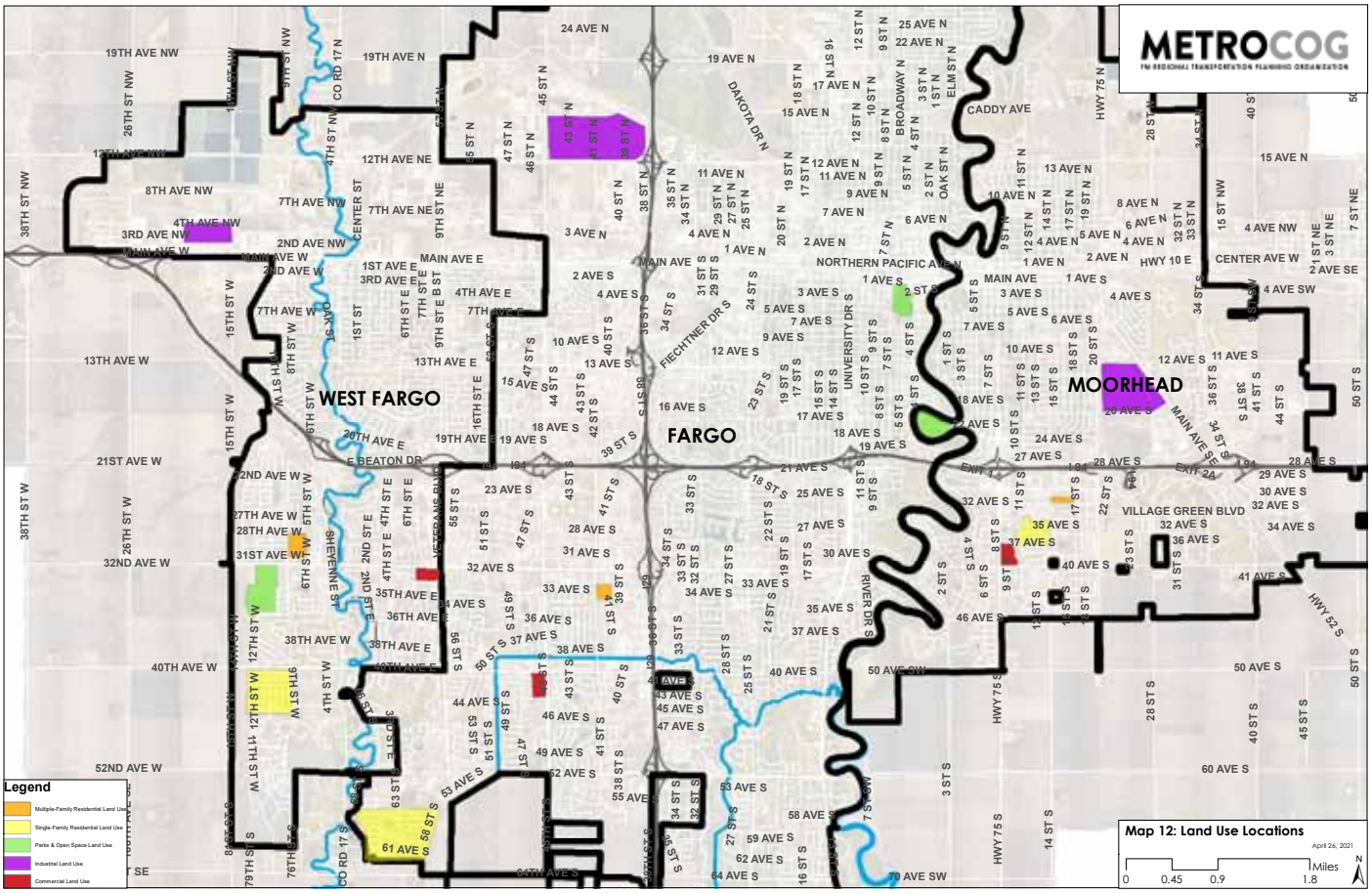
Source: Metro COG

how close to 'normal' traffic becomes including how long the COVID-19 pandemic may impact traffic in the FM Area. For the first two months of 2021, it appears that the morning peak (7-8am) is still significantly impacted, -1.1%, and the evening peak (5-6pm) has bounced back, up +1.1%. Volume ratios also appear to have shifted down through the middle part of the day which may indicate some direction toward noramalcy. See Tables 21 & 22 for details regarding weekday traffic volumes by hour for Jan 1 - Feb 28 StreetLight data.

FM Area Land Use Analysis

Metro COG's analysis of various land uses across the FM Area resulted in some interesting results however, the data appears to be inconsistent and provides only a general idea of what may have happened on the ground. Because StreetLight origin-destination data is used for the land use analyses, the baseline and 2020 levels of activity were derived from the number of trips that start and end at the various locations as shown on Map 12. When StreetLight is determining a trip end for example, the person/vehicle/device must be stopped or not move more than five-meters for a duration of five or more minutes. In this case, the land use analyses may be missing trips if for instance, someone arrives and spends less than five minutes at the following land uses. With that said, the data does appear to reflect to some degree circumstances on the ground during the COVID-19 pandemic and general conclusions about land use can be made.

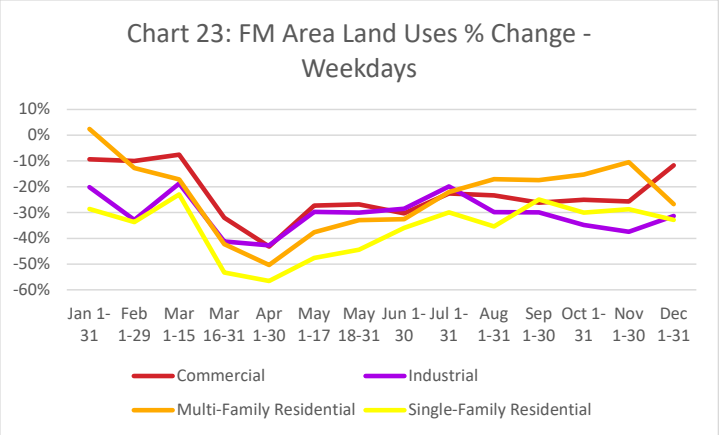
Map 12 - Land Uses

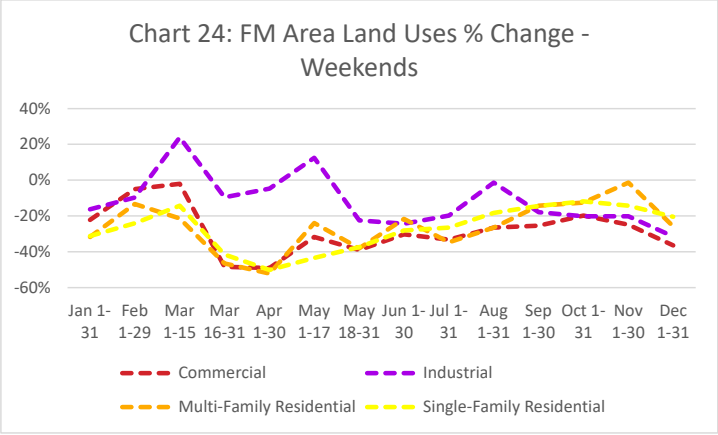


Source: Metro COG

Weekdays

During the week, it appears that commercial and industrial land uses are the most resilient to change however, starting in the month of August, 2020, industrial land use trends down to become the most impacted land use. Similarly, the residential land uses are dramatically impacted during weekdays up until July, 2020, when multi-family residential trends up to become the most resilient land use. Chart 22 details land uses percent change from baseline levels of activity.





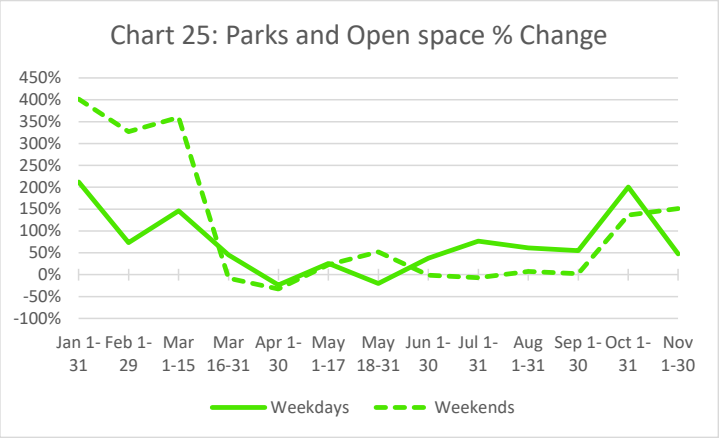
Source: Metro COG

Weekends

On weekends, it appears that industrial land uses are the most resilient to change however, starting in the month of September, 2020, industrial and commercial land uses trend down becoming the most impacted land uses. Chart 23 details land uses percent change from baseline levels of activity.

Parks and Open Space

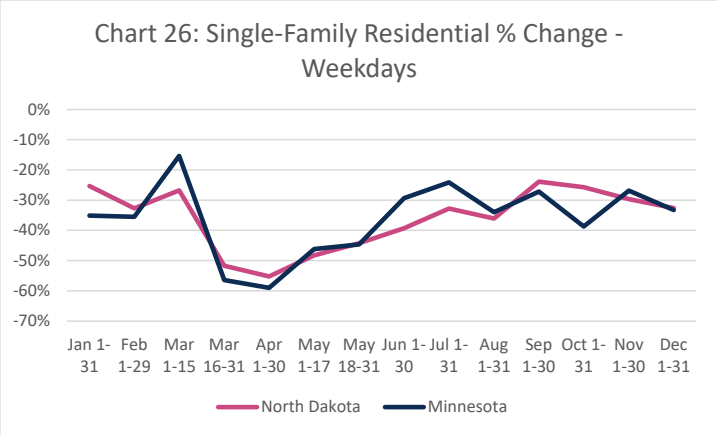
The parks and open space data is not included as part of Charts 22 or 23 because the percent change from baseline data is wildly higher than the other land uses and would have impacted the legibility of the aforementioned charts. Parks and open spaces saw huge increases of trips at the beginning of the year and throughout 2020, proving to be the most resilient land use studied in this report. There were time periods where parks and open space activity was down but overall, the activity for the year was up. Metro COG also saw similar results in the 2021 Bicycle and Pedestrian Count Report which indicated bicycle and pedestrian activity was up across the FM Area and especially for recreational trips (shared use paths, trails, etc.). Through the pandemic, public trails, parks, and open spaces proved to be critical infrastructure for FM Area residents. Chart 24 details parks and open space percent change from baseline levels of activity.

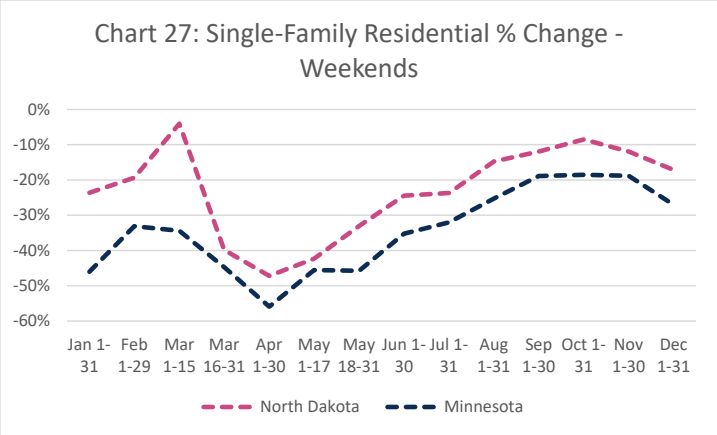


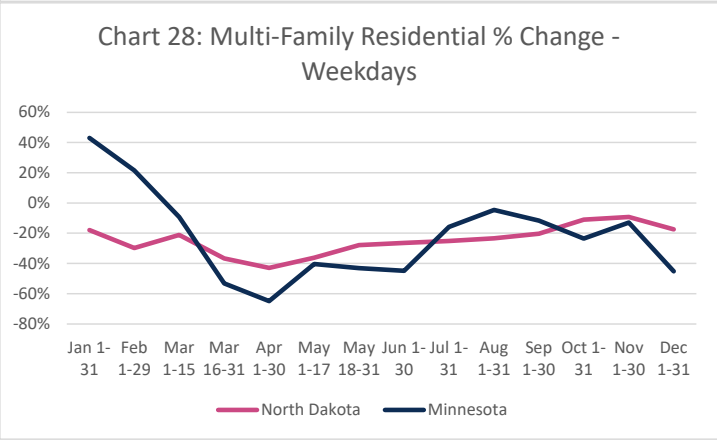
Source: Metro COG

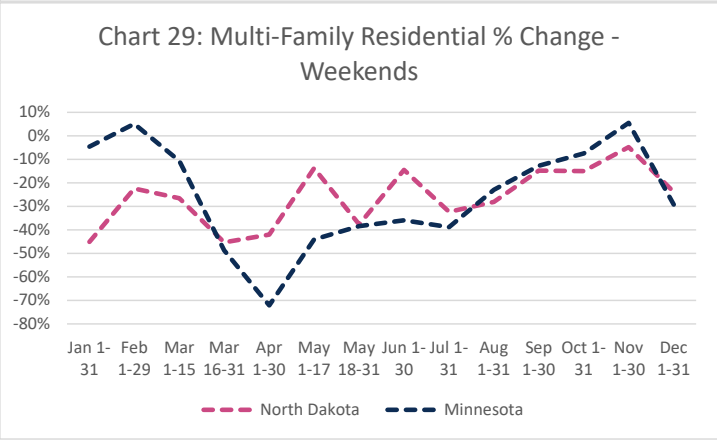
North Dakota vs. Minnesota Land Use Comparison

Similar to the traffic volume comparison, Metro COG assumed that the land use data would reflect the different policy direction of both States, with Minnesota traffic having an obviously more dramatic impact however, this was not the case. There was no distinguishable patterns as to why each State within the FM Area saw an increase or decrease. Each land use and day type (weekday vs. weekend) were different and the only recognizable pattern found by Metro COG Staff were for residential land uses. In both multi-family and single-family residential land uses, the Minnesota-side did see a greater decrease from the baseline activity which likely reflects the more stringent business restrictions and stay-at-home order for the State. Charts 25, 26, 27, and 28 detail how residential land uses changed throughout 2020 by State.









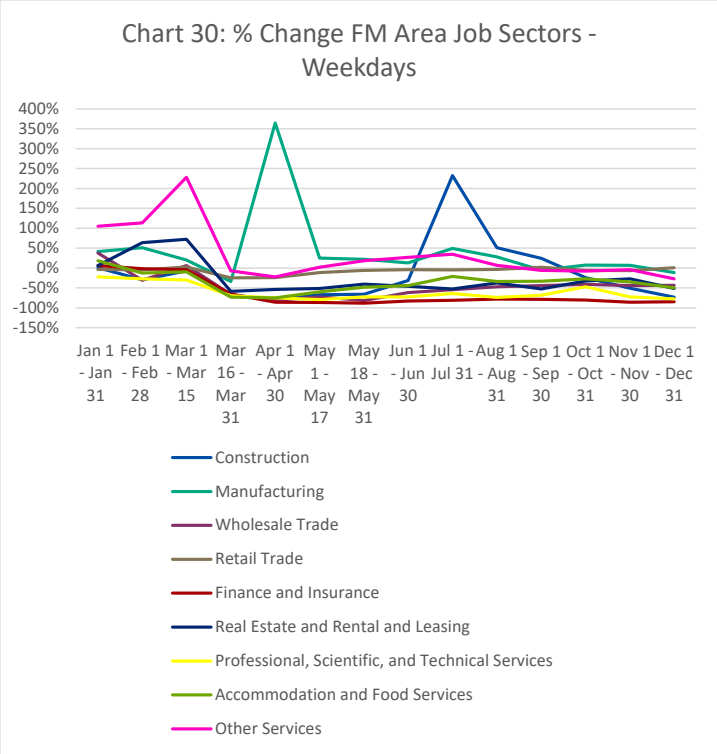
Source: Metro COG

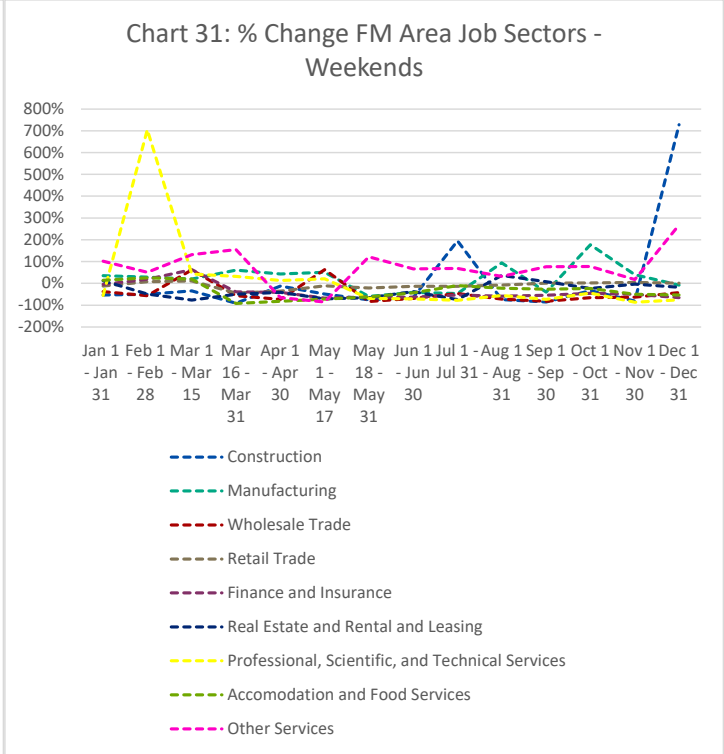
FM Area Major Employer Analysis

Metro COG's analysis of major employers across the FM Area provided some interesting results. Similar to the land use analysis, StreetLight origin-destination data was used to measure trip starts and ends. The baseline and 2020 levels of activity were derived from the number of trips that start and end at the various locations as shown on Map 13. When StreetLight is determining a trip end for example, the person/vehicle/device must be stopped or not move more than five-meters for a duration of five or more minutes. In this case, the major employer analyses may be missing trips if for instance, someone arrives and departs within five minutes at the following major employers. With that said, the data appears to respond to the what is happening on the ground during the COVID-19 pandemic and interesting data regarding major employers by job sector can be seen in Charts 29 and 30.

For weekdays, the most resilient job sector in terms of level of activity was manufacturing which had only three timeframes with decreases from the baseline activity levels. Manufacturing also had the greatest increase of activity, +364%, during the month of April, 2020, during the middle of the pandemic timeframe where every other job sector saw significant decrease in levels of activity.

The job sector with the greatest decrease in level of activity was finance and insurance which had dramatic decreases starting in the pandemic timeframe and continuing through the new normal timeframe. The finance and insurance job sector also saw the greatest overall decrease of activity, -88%, during the May 18 – 31, 2020 time period. Both the finance and insurance job sector and the professional, scientific, and technical services job sector had the greatest consistent and lasting decreases of activity with -85% and -78% decrease respectively, in December, 2020. Metro COG attributes the lasting decreases to work-from-home policies enacted by major employers such as US Bank, BCBSND, Noridian Healthcare Solutions, Microsoft, John Deere, and Eide Bailly which make up the finance and insurance job sector and professional, scientific, and technical



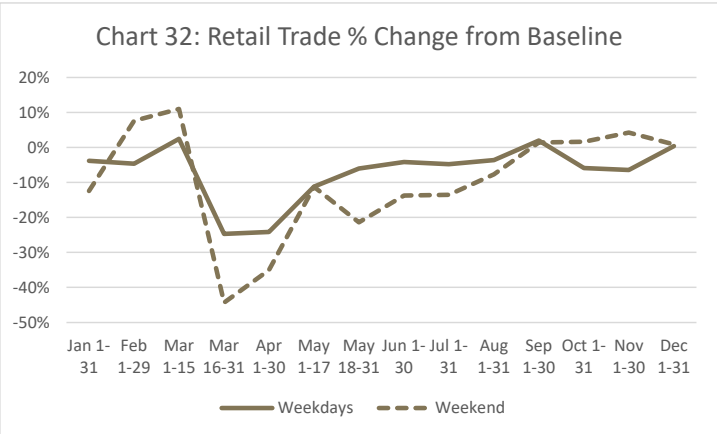


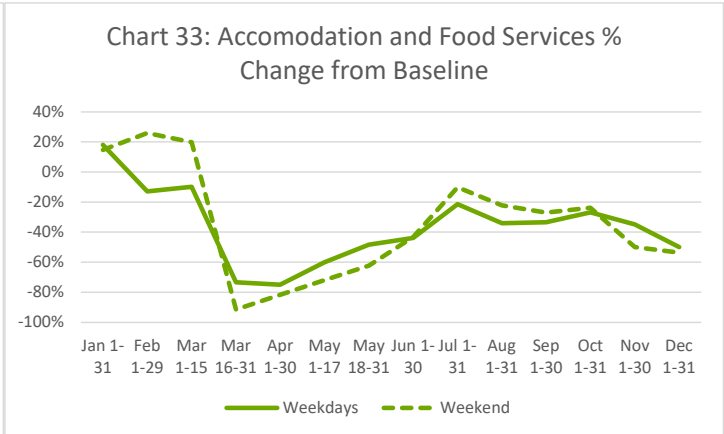
Source: Metro COG

services job sector.

Weekend data appears to be more inaccurate for certain job sectors such as manufacturing and professional, scientific, and technical services due in part to the smaller baseline sample size associated with weekend activity for those job sectors. The weekend data overall appears to follow a similar pattern as weekdays.

As far as job sectors getting back to normal, the retail trade sector, which includes numerous big box stores, appears to have reached some level of normalcy as soon as September, 2020. See Chart 31 for more detail on how activity levels were impacted for retail trade. It is important to note that retail trade trip activity may not reflect pick-up or curbside orders if the vehicle is stopped for less than 5 minutes.





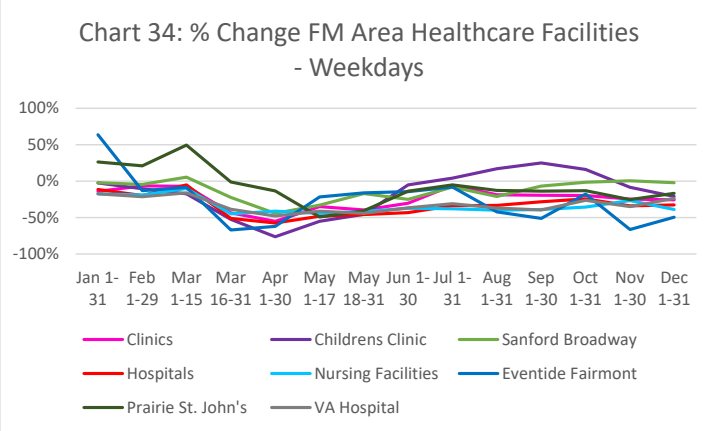
Source: Metro COG

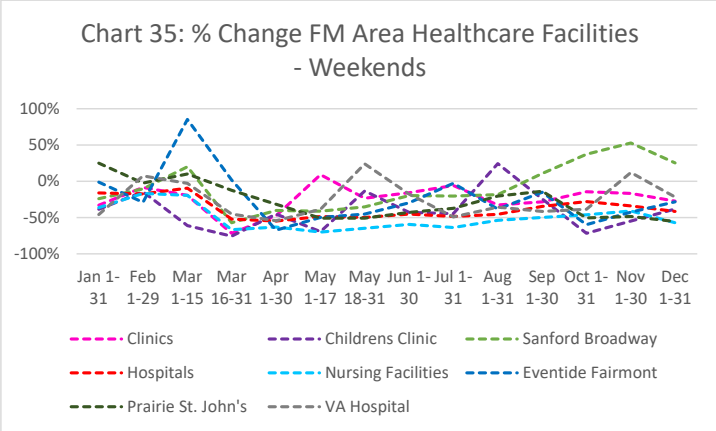
Aside from manufacturing and possibly construction job sectors, the accommodation and food services job sector has seen one of the longest lasting impacts as far as trip activity which may not be attributable to work-from-home policies. The accommodation and food services trip activity did see less impacts through the summer but as of December, 2020, the job sector was still seeing a decrease of greater than -50%. This is indicative of State and local policies regarding this job sector as COVID-19 surged in the FM Area. See Chart 32 for more detail on how activity levels were impacted for accommodation and food services which includes

restaurants and hotels. The data may appear worse than reality however, because the trip activity data collected in StreetLight may not reflect curbside pick-up, to-go, or delivery activity if the vehicle was stopped for less than 5 minutes.

FM Area Healthcare Analyses

Metro COG's analysis of healthcare across the FM Area also provided some interesting results. Again, similar to the major employer analyses, StreetLight origin-destination data was used to measure trip starts and ends to gather data regarding the level of activity at various healthcare facilities. The baseline and 2020 levels of activity were derived from the number of trips that start or end at the various healthcare facilities as shown on Map 14. Again, healthcare activity levels may be subject to how StreetLight determines trip ends as the data may be missing trips if for instance, someone arrives and departs within five minutes at said healthcare facilities. Another example that could potentially skew the results of the data would be a drive-through COVID-19 testing site, which could skew the level of activity higher or lower based on how StreetLight determines trips. With that said, the data appears to respond to the what is happening on the ground during the COVID-19 pandemic and interesting data regarding a variety of major healthcare facilities can be seen in Charts 33 & 34.





Source: Metro COG

Pandemic Timeframe

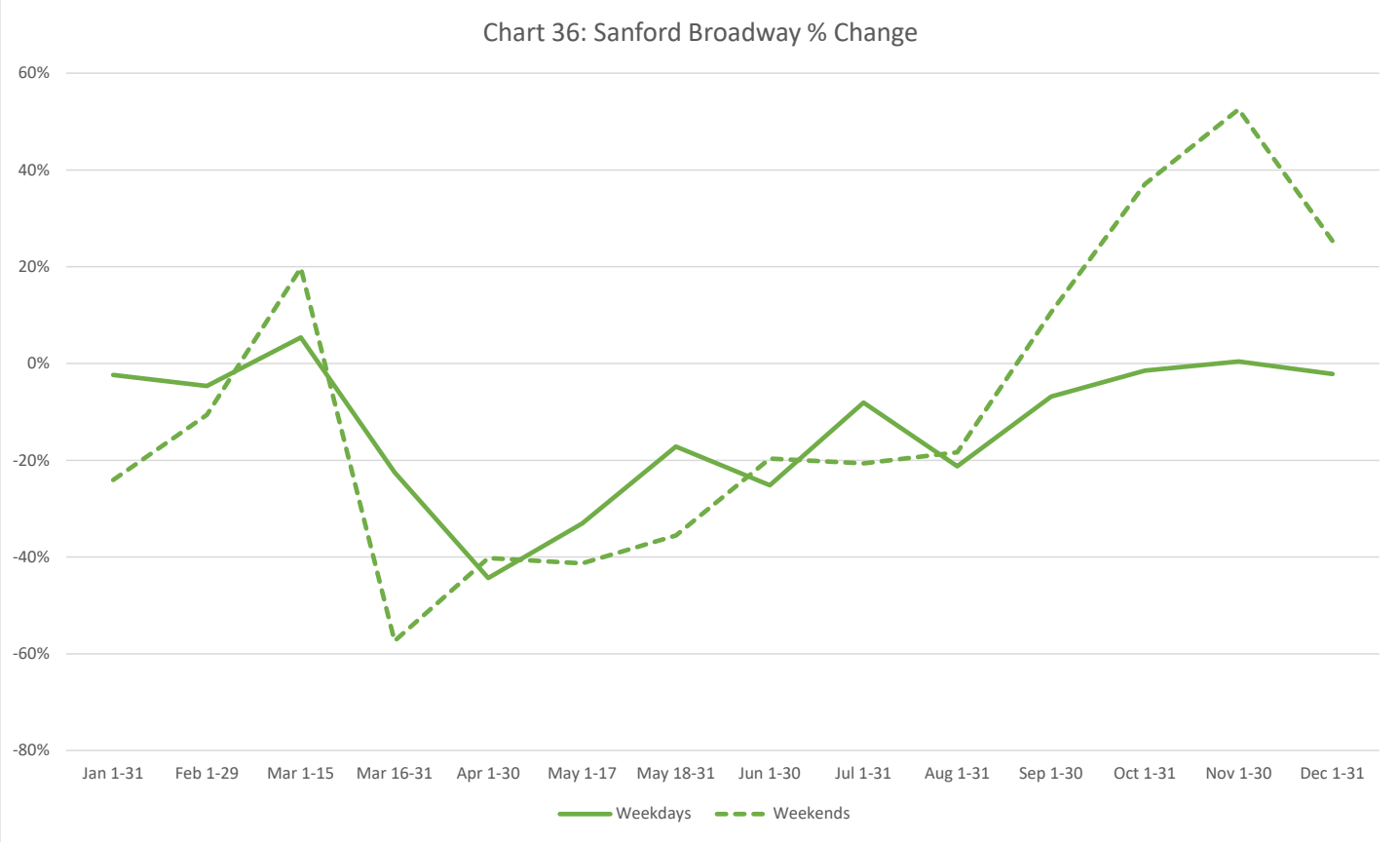
The healthcare facility data shows some really interesting results regarding the impacts of the COVID-19 pandemic. During the pandemic timeframe for example, the most resilient facilities based on trip activity are Prairie St. John's, Sanford Broadway, and the VA Hospital. The greatest impacted facilities during the pandemic timeframe were Eventide Fairmont, Nursing Facilities (i.e. nursing homes/assisted living facilities), Children's Clinic, Hospitals, and other Clinics. Many healthcare facilities enacted policies restricting visitors and encouraging tele-visits (virtual) for non-essential appointments.

New Normal Timeframe

At the end of the pandemic timeframe and beginning of the new normal timeframe the most resilient facilities based on trip activity changes slightly to include Eventide Fairmont, Sanford Broadway, and other Clinics. However, starting June, 2020, Sanford Children's Clinic, Prairie St. John's, and Sanford Broadway become the most resilient healthcare facilities. The greatest impacted healthcare facilities through the new normal timeframe remained fairly consistent with Nursing Facilities, Hospitals, and VA Hospital having the greatest continuous impacts. The facilities having the greatest continuous impacts throughout the COVID-19 pandemic are typically where vulnerable populations most susceptible to the virus either live (nursing facilities) or receive medical care.

Sanford Broadway Campus

Interestingly, the data surrounding activity at the Sanford Broadway Medical Campus closely reflects what was happening on the ground during 2020. The Sanford Broadway Campus is home to numerous specialty clinics/departments where tele-visits may not be an option for appropriate healthcare (i.e. routine echocardiograms to take images of a patient's heart cannot be conducted virtually) therefore, activity levels were less impacted than other clinics. In addition, the Sanford Broadway Campus is home to the Sanford COVID-19 unit, where many COVID-19 patients were transferred for treatment from across the region[1]. Chart 35 details the percent change of trip activity throughout 2020.



Source: Metro COG

Figure 8 - Cass County Active Positive COVID-19 Cases

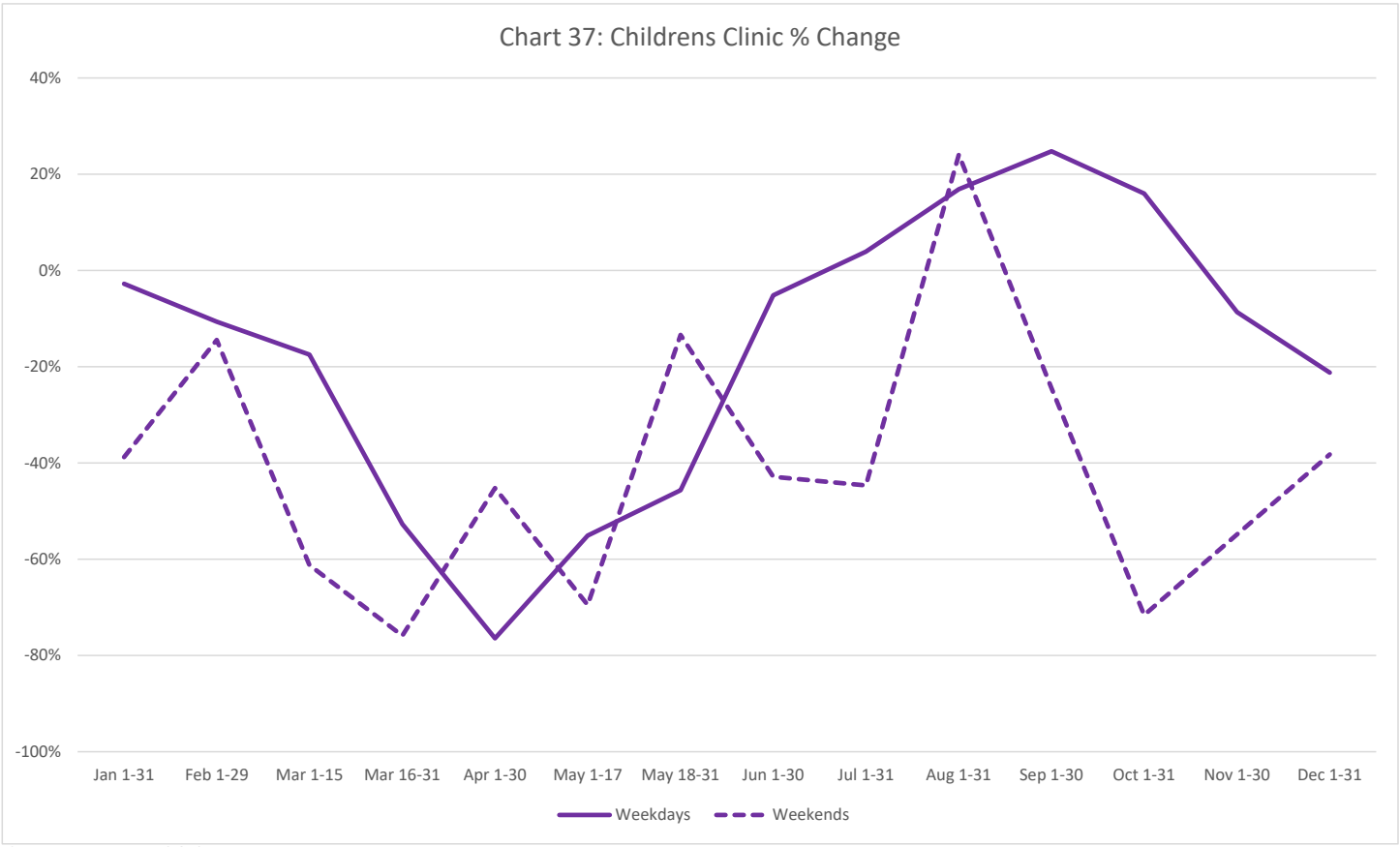
Source: North Dakota Department of Health

Comparing the same data to the number of new COVID-19 cases which follows COVID-19 hospitalizations very closely, there is a positive correlation between cases and the activity at Sanford Broadway, especially as healthcare facilities were becoming overwhelmed across the region between August and December, 2020.

[1] Source: Kevin Wallevand. (2020) "The trials and triumphs of health care workers on Sanford Health's COVID-19 unit" The Forum and WDAY, November 30, 2020.

Sanford Children's Clinic

The Sanford Children's Clinic activity levels also presented some interesting results through 2020. The Children's Clinic saw a significant decrease in activity during the pandemic timeframe however, starting in June and going through October, 2020, the Children's Clinic saw an increase in activity, the most increase of any healthcare facility analyzed as part of this study. This may be attributable to wellness visits, which may take place outside of the school year, however the Centers for Disease Control and Prevention recently published a study that showed COVID-19 cases spiking for young adults and children in early summer[1]. Whether attributable to COVID-19 or not, the Children's Clinic saw the greatest increase in trip activity throughout the second half of the year. Chart 36 details the percent change of trip activity throughout 2020.

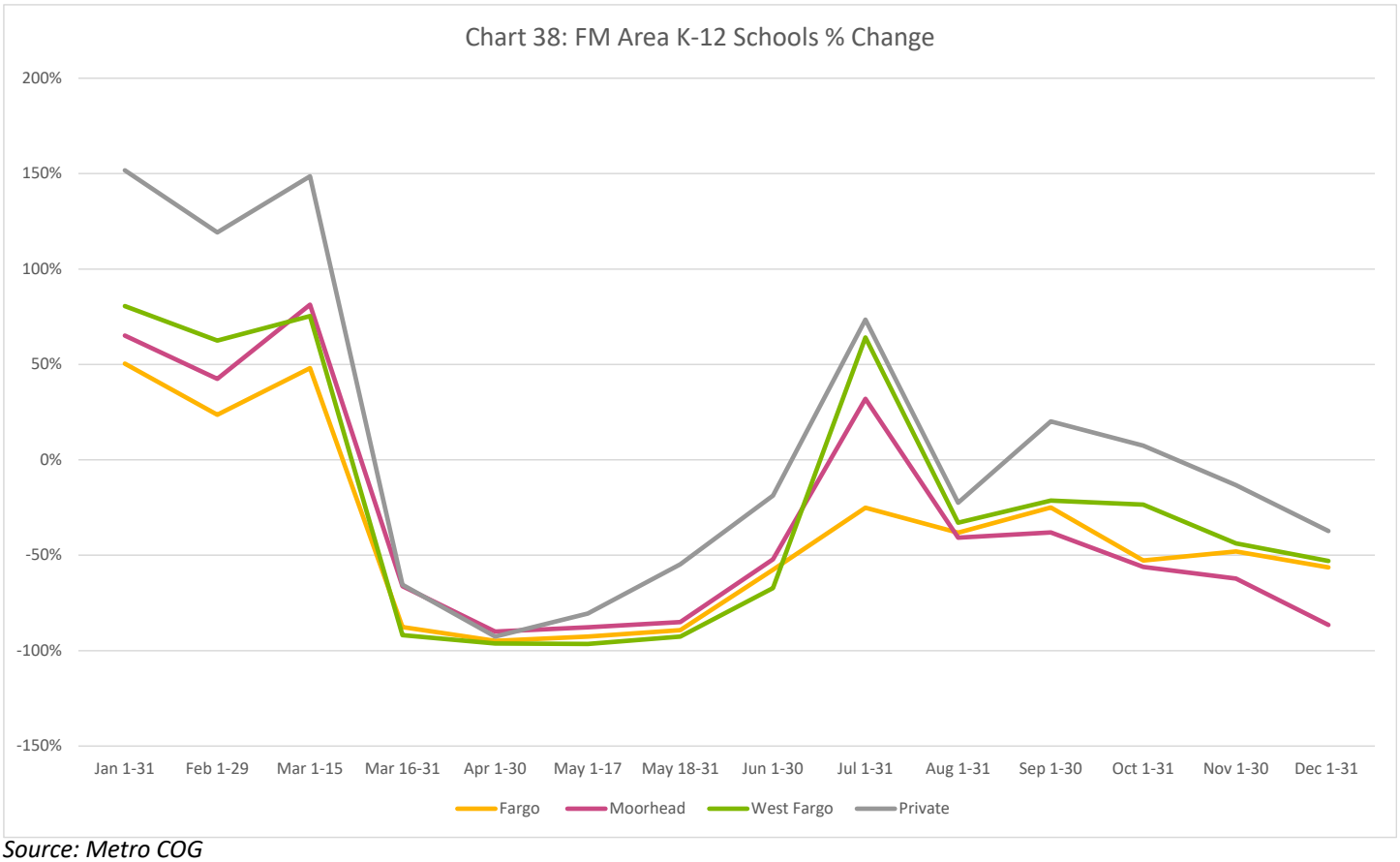


Source: Metro COG

FM Area Education Analysis

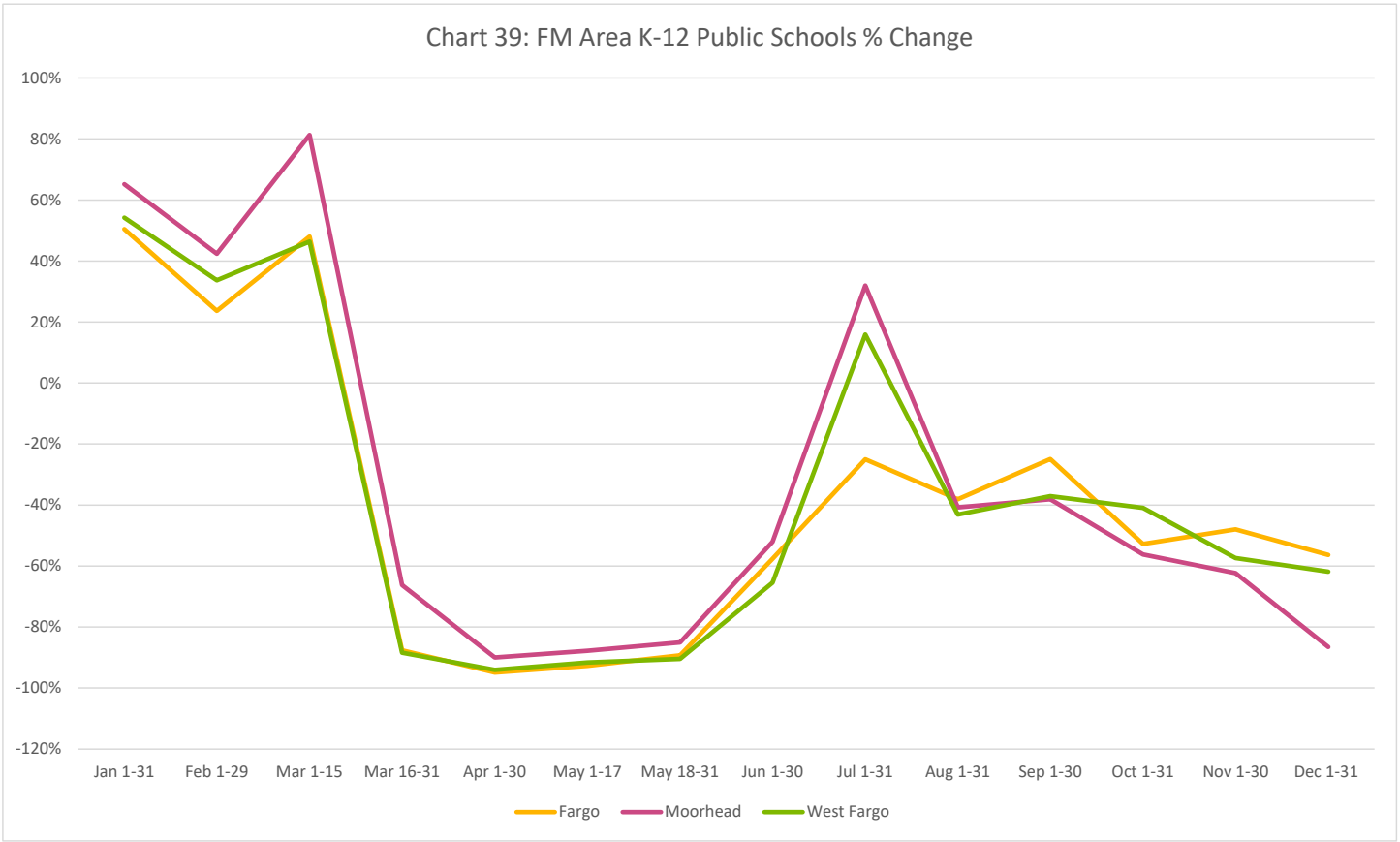
The results of Metro COG's analysis of education across the FM Area were somewhat expected but interesting to see. Again, similar to the previous land use/major employer analyses, StreetLight origin-destination data was used to measure trip starts and ends to gather data regarding the level of activity at various educational institutions across the FM Area. The baseline and 2020 levels of activity were derived from the number of trips that start and end at the various educational institutions as shown on Map 15. Again, educational institution activity levels may be subject to how StreetLight determines trips as the data may be missing trips if for instance, someone arrives and departs within five minutes at said location. Another example that could potentially skew the results of the data would be a drive-through COVID-19 testing site, which could skew the level of activity higher or lower based on how StreetLight determines trips. With that said, the data certainly responds to the what is happening on the ground during the COVID-19 pandemic. Chart 37 shows the percent change from baseline data for all K-12 schools by school district.

[1] Source: Source: CDC. COVID-19 Trends Among Persons Aged 0-24 Years – United States, March 1 – December 12, 2020 [Report]. (2021) Retrieved from https://www.cdc.gov/mmwr/volumes/70/wr/mm7003e1.htm



Source: Metro COG

All K-12 schools in the FM Area saw greater than normal activity during the pre-pandemic timeframe which is consistent with regional population growth and the flurry of activity observed just prior to the pandemic timeframe. During the pandemic timeframe all K-12 schools saw similar major decreases in activity with Fargo



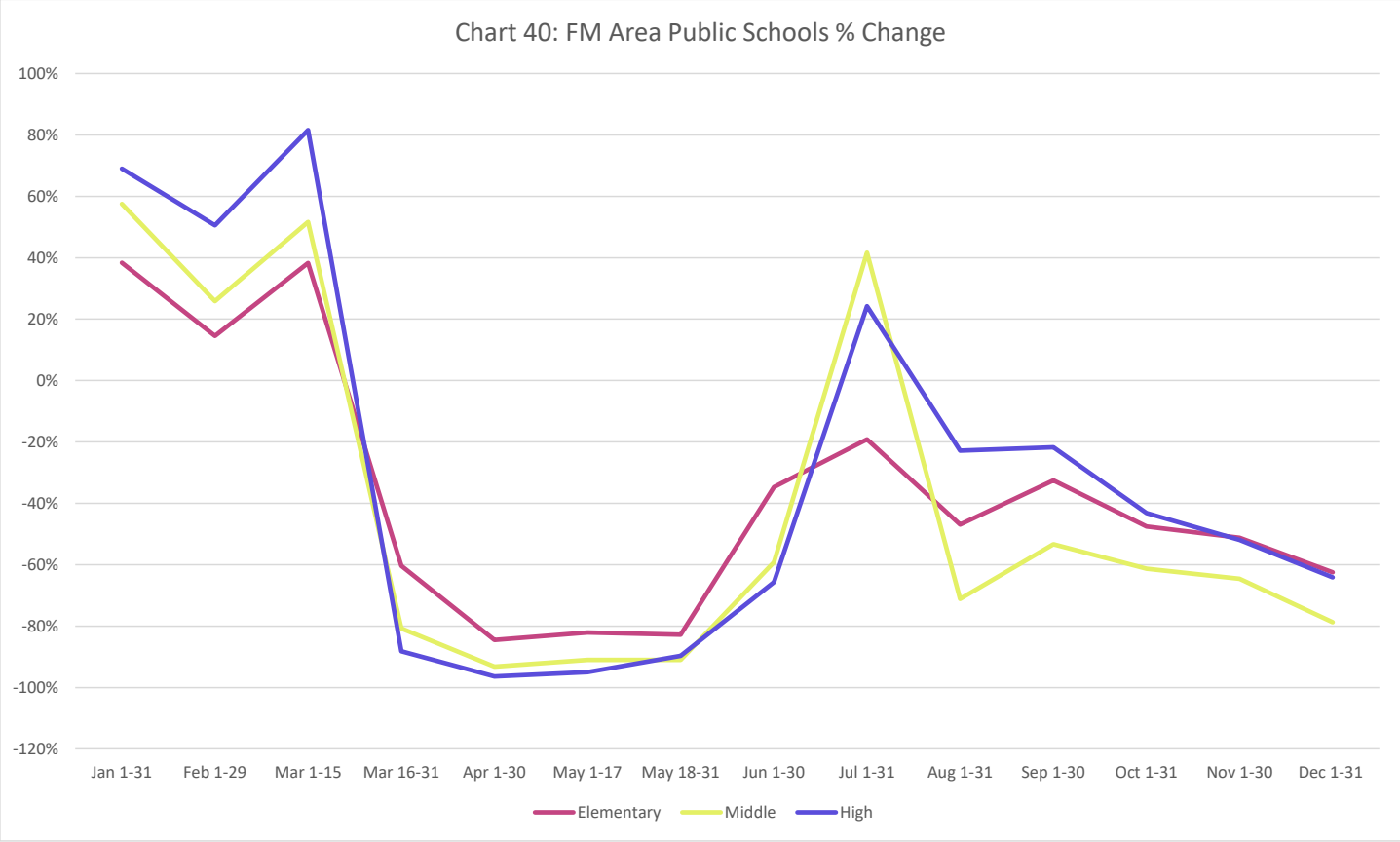
Source: Metro COG

public schools having the largest decrease, -95%, from April 1st through April 31, and private schools having the least impact, -65%, from March 16th through March 31st. At the start of the academic year, K-12 school activity rebounded and was not as severely impacted by the COVID-19 pandemic however, there is more variation of impact depending upon the school district. During the new normal timeframe, Moorhead public schools consistently had the greatest decrease, with activity trending downward through the end of the year to a low point, -87%, from December 1st through December 31st. Private schools were by far the most resilient and were the only K-12 schools to see an increase in activity, which peaked at +20%, from September 1st through September 30th. Private schools did trend downward however not as dramatically as public schools, ending the year with a decrease in activity, -37%, from December 1st through December 31st.
Excluding private schools, Chart 38 shows the percent change from baseline data for all K-12 public schools by school district. Interestingly, Moorhead public schools appear to be slightly more resilient through the pandemic timeframe however, during the new normal timeframe, Moorhead schools trend downward to become the most impacted based upon activity levels. This is a somewhat unexpected result based upon the policy and regulatory environments of Minnesota and North Dakota, especially during the pandemic timeframe.

Metro COG cannot account for the flurry of activity shown by the data at K-12 schools across the FM Area during the month of July however, the increase may be related to summer classes or other summer education programs that may be programmed by K-12 public schools during the month of July.

Another interesting observation of the data was how activity levels were impacted depending upon public school grade level. Chart 39 shows the percent change from baseline data for all K-12 public schools by grade levels.

Interestingly, during the pre-pandemic timeframe, all schools have higher activity levels than the baseline data. High schools have the largest increase and elementary schools have the smallest increase in activity however,

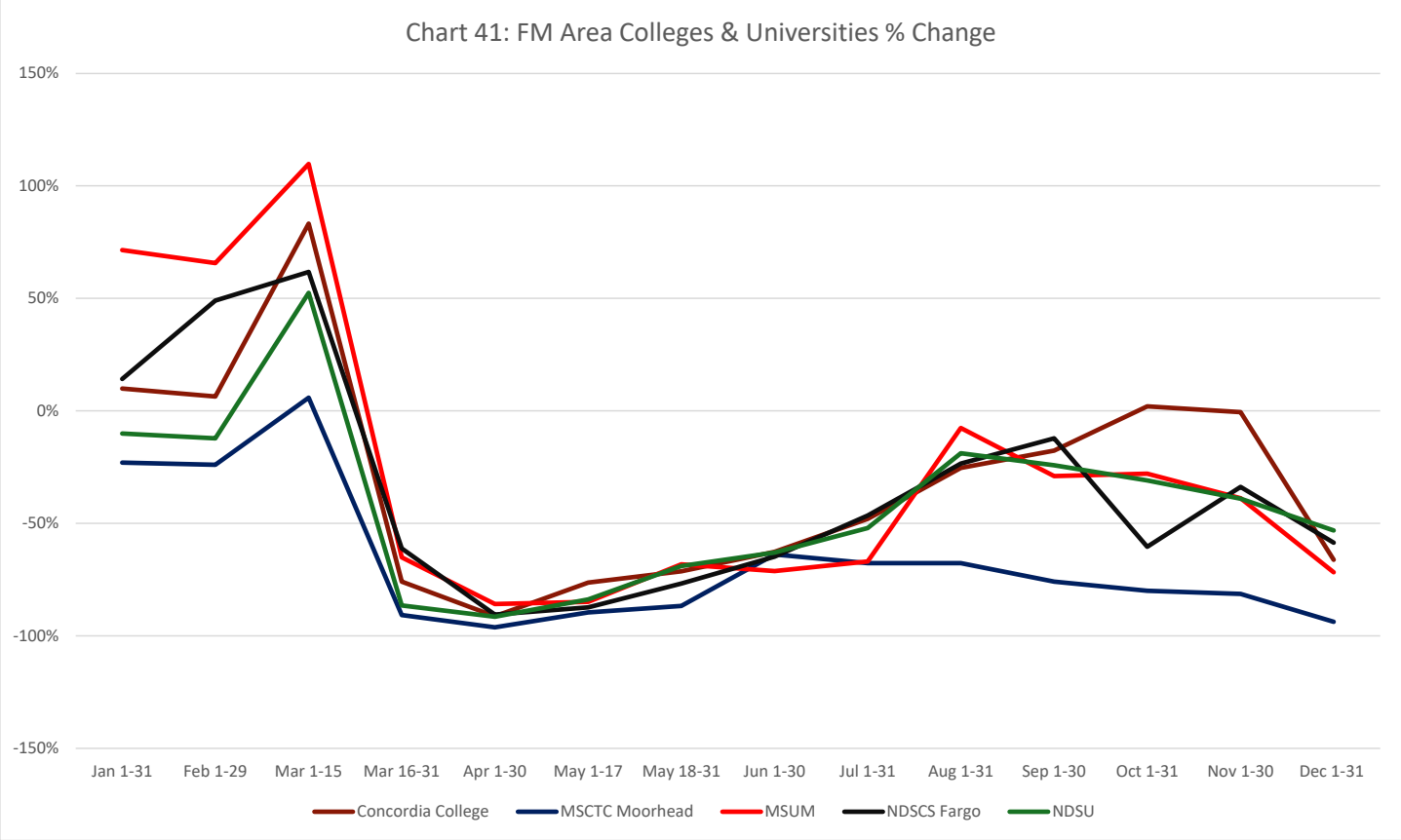


Source: Metro COG

when the pandemic timeframe begins, high schools have the largest decrease and elementary schools have the smallest decrease in activity. During the new normal and start of the academic year, the least impacted schools vary slightly between high schools and elementary schools with middle schools having consistently greater impact.

The flurry of activity at middle and high schools during the month of July shows up again as similar to Chart 38 however, the spike is not as prominent for elementary schools. Metro COG may attribute the July spike with summer educational programs or COVID-19 testing locations as middle and high school facilities may be better suited for such COVID-19 testing sites.

As seen in Chart 40, higher educational institutions were also greatly impacted in 2020. Interestingly, all FM Area colleges and universities had similar impacts during the pandemic timeframe. NDSCS was the least impacted, averaging -80%, and MSCTC was the most impacted, averaging -92%, during the pandemic timeframe.



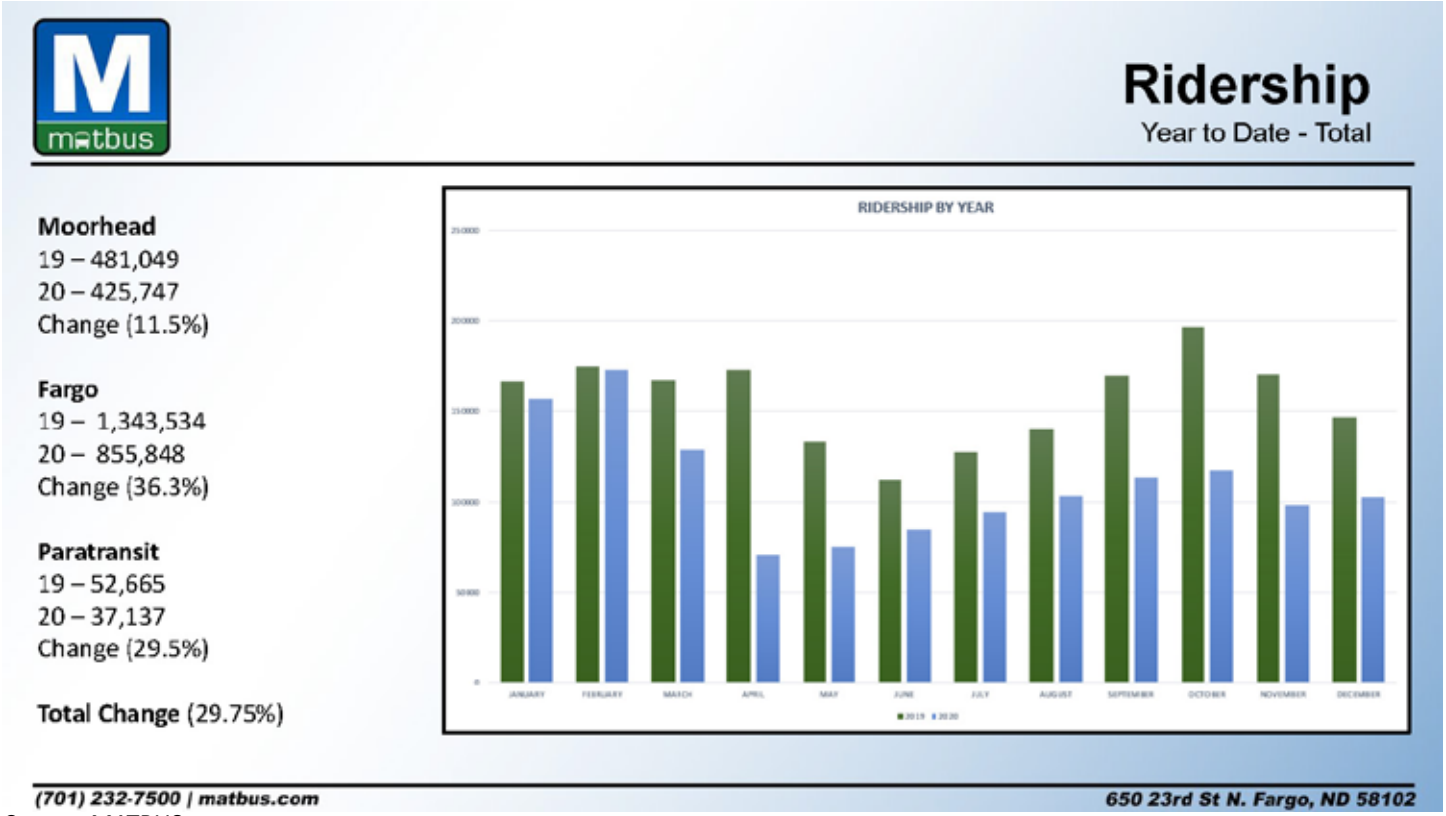
Source: Metro COG

During the new normal timeframe activity levels appear to be approaching normal for most FM Area colleges and universities. Concordia College was the only institution to record an increase in activity, +2%, during the month of October, 2020. MSCTC Moorhead had the greatest and most consistent impact to activity reaching a low point, -94%, during the month of December, 2020. Activity levels will likely fluctuate as institutions continue to enact policies and guidelines related to COVID-19 mitigation but also as more and more students seek higher educational opportunities through distance learning.

Transit

Transit was also greatly impacted throughout 2020. MATBUS ridership data shows significant impact to ridership at the beginning of the pandemic timeframe with a slow uptick in ridership toward the end of the year.

Figure 9 - Matbus Ridership Year to Date



Source: MATBUS

Route specific data shows how routes across the metro have changed. City of Fargo routes appeared to be more impacted, especially in relation to NDSU and college ridership. Fargo's greatest decreased ridership occurred on route 13U, -55%, which connects downtown Fargo to NDSU campus. Interestingly, Route 25 (TapRide) in Fargo saw the only ridership increase in the City, +239%, which is a relatively new (2019) service

Figure 10 - Annual Ridership by Route

Ridership
Annual Fargo by Route

Period	Route 11	Route 13	Route 13U	Route 14	Route 15	Route 16	Route 17
2019	74,592	120,856	39,970	148,180	321,702	37,213	40,524
2020	55,227	64,803	17,626	115,371	300,090	23,913	34,209
Change	(26.07%)	(46.38%)	(55.01%)	(22.15%)	(6.72%)	(35.75%)	(15.59%)

Period	Route 18	Route 20	Route 24	LinkFM	Route 25 (TapRide)	Paratransit
2019	49,730	38,047	26,369	29,959	1,975	53,350
2020	31,035	31,040	18,396	0	6,705	37,137
Change	(37.60%)	(18.42%)	(30.24%)	--	239%	(30.39%)

Period	Route 31	Route 32E	Route 32W	Route 33	Route 34	NDSU TapRide
2019	28,679	142,691		186,414	51,452	5,167
2020	10,465	53,917		69,518	21,298	2,122
Change	(63.51%)	(62.22%)		(62.71%)	(58.61%)	(59.04%)

(701) 232-7500 | matbus.com
650 23rd St N. Fargo, ND 58102

Source: MATBUS

that provides on-demand transit service to and from the Fargo industrial park. Routes 31, 32W, 33, 34, and NDSU TapRide which provide service to NDSU specifically, saw the greatest decrease in ridership in 2020, all of which had a decrease of -58% or more.

Paratransit service was down -30% in 2020.

Moorhead routes appeared to be the most resilient with routes 3 and 5 having increases from 2019 ridership

Figure 11 - Annual Ridership by Route Moorhead

Ridership
Annual Moorhead by Route

Period	Route 1	Route 2	Route 3	Route 4	Route 5	Route 6	Route 9
2019	80,046	117,197	57,732	151,207	52,511	16,710	5,646
2020	61,976	91,236	60,435	138,038	54,076	15,244	4,742
Change	(22.58%)	(22.16%)	4%	(18.71%)	2.9%	(18.78%)	(16.12%)

Source: MATBUS

and no other routes having a decrease in ridership greater than -23%.
Transit ridership through the pandemic took a major hit however, transit proved to be a critical and resilient component of the FM Area's regional transportation system. Undoubtedly, the impacts of adjacent land uses, businesses, and institutions played a major role in which tranist routes were most impacted but the service was still provided throughout 2020 for residents who rely on MATBUS to get around the FM Area. Metro COG will continue to monitor ridership levels to determine when ridership is back to pre-pandemic levels.

Bicycle and Pedestrian Activity

During the COVID-19 Pandemic and throughout 2020 it appeared, just from stepping outside, that bicycle and pedestrian activity was increasing. This was not only a national trend but well documented in the 2021 Bicycle and Pedestrian Count Report, also prepared by Metro COG. The bicycle and pedestrian counts for 2020 showed that activity on certain types of facilities was significantly higher, those facilities included shared use paths and other recreation facilities[1].

Another verification of the increase in activity was that during 2020 the FM Area and the rest of the nation saw an increase in demand for bicycles paired with complicated supply-chain issues that made it nearly impossible to purchase a new bike at times.[2] Regardless of why it happened, Metro COG hopes that the increase in bicycle and pedestrian activity sticks with FM Area residents, as investment and encouragement of alternate modes of transportation is a major goal for the agency.

Figure 12 - Strava Logo

Source: Strava

Strava Data[3]

Metro COG also utilized a new data set from the mobile application Strava, which is

[1] The 2021 Bicycle and Pedestrian Count Report may be found here: http://www.fmmetrocog.org/application/files/ 3916/1859/9743 /2021_BP_Count_Report.pdf

[2] Source: Lucie Krisman. (2020) " North Dakota bike shops adjust to national bicycle shortage" North Dakota Newspaper Association, June 8, 2020.

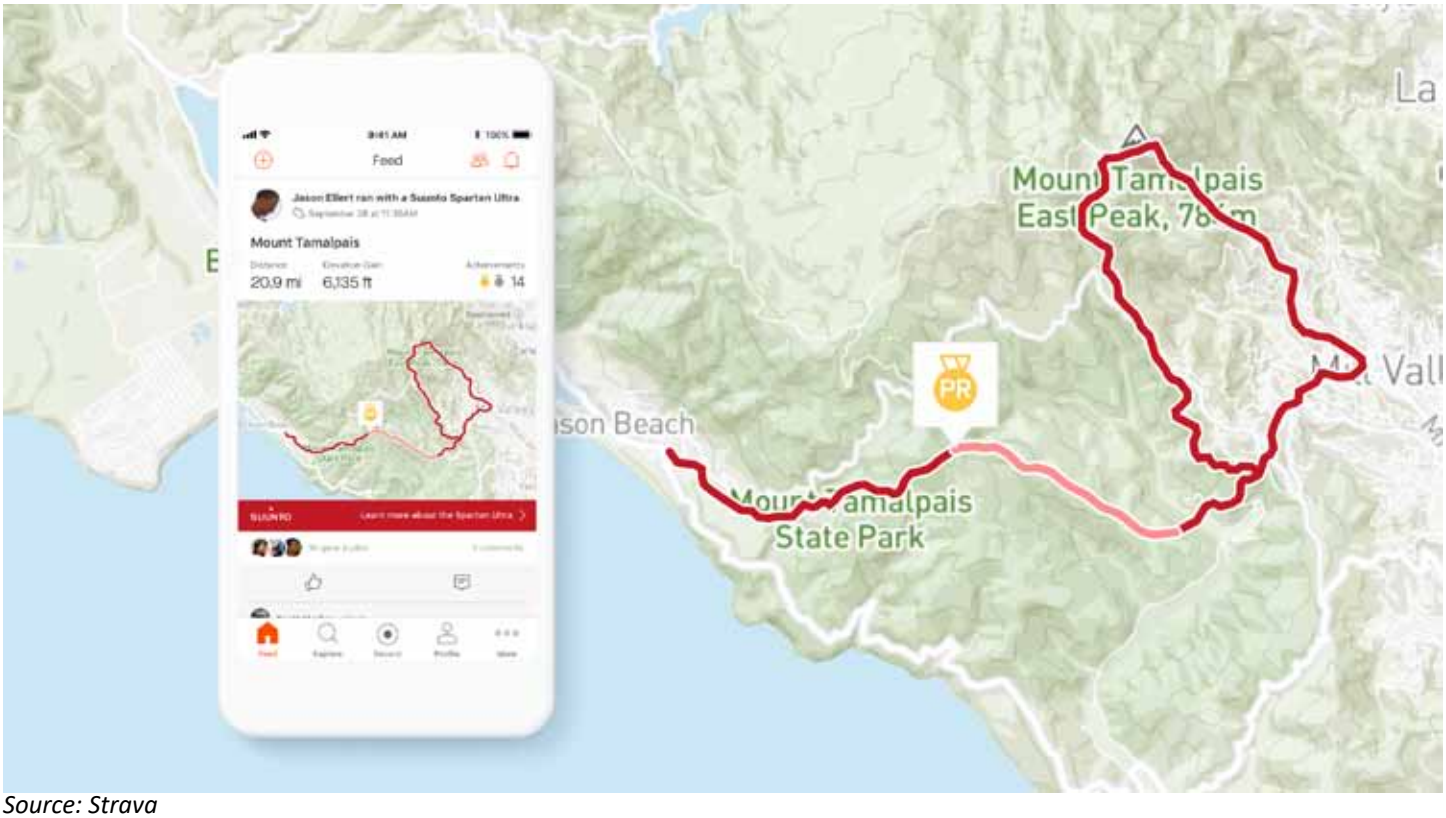
[3] This report includes aggregated and de-identified data from Strava Metro

available to local jurisdictions for transportation planning related purposes. The data appears to be a robust and useful tool that may help Metro COG identify trends or glean other interesting information about bicycle and pedestrian activity within the FM Area.

What is Strava?

Strava is a free internet application used for tracking human-powered transport, including but not limited to running, walking/hiking, and cycling, using GPS software. Strava Metro is a partnership program that gives organizations access to the full dataset of Strava app users. The bike data is useful for understanding the volume of cyclists on any given street or trail. With access to a particular jurisdiction, the data is viewable across a series of maps which can help to visualize the volume of bike activity in a certain areas, corridors, or street segments. All data is anonymous except for basic information on gender and age. As of 2021, Strava

Figure 13 - Strava Interface



Source: Strava

has 76 million users worldwide and counting.

STRAVA LIMITATIONS

Due to the nature of the application, Strava Metro data comes with some limitations.

The data does not capture all bike users and only captures those that use the Strava app to record their rides. This may mean that the data may naturally skew towards a younger demographic, those who are tech-savvy and have access to a mobile device. This may also mean that bike trips are mostly recorded by leisure riders who use the app primarily as a fitness tool. Strava does state however, that commute activities are growing in popularity on the app.[1] Despite these limitations, Strava usership continues to grow. The data can still be useful in understanding trends and for locating popular routes and trails.

[1] Source: https://www.businessofapps.com/data/strava-statistics/

[2] Data taken from Strava Metro "People" yearly totals from 2019 and 2020. This is further detailed in this report under the sub-header "Trips vs. People".

[3] All totals were calculated by adding data results from both Cass and Clay counties

As a growing platform, it should be noted that new Strava app users in 2020 may offset some of the increases in bike ridership. This being said, the increase in Strava users between 2019 (42 million) and 2020 (55 million)[2] is lower as a percentage than the growth in bike ridership in Cass and Clay counties over the same period (30.95% increase in overall app users compared to a 60.34% increase in bike riders on the app in Cass and Clay counties)[2]. This may indicate that bicycle and pedestrian activity is gaining popularity in the FM Area, even more so than other parts of the country.

Strava Analysis and Methodology

Metro COG staff had access to data through Strava Metro for Cass and Clay counties. Data was collected for 2019 and 2020, including summary graphs from the "dashboard" and "streets" map. Data was also downloaded for all "streets" segments across both counties by month (from January 2019 to December 2020). Strava Metro data is automatically collected for all days of the week and at all hours of the day.

TRIPS VS. PEOPLE[3]

Strava Metro categorizes the data between "trips" and "people".

"Trips" refers to the number of individual ride activities logged onto the Strava app. Regardless of how long the trip takes or how long a user may pause, the user themselves is in control of when a trip activity starts and ends.

"People" refers to the number of individual Strava users logging onto the app to record trips for the particular mode of transport. Therefore, it is expected that the number of trips will exceed the number or people as users may record multiple trips on the app.

Trips

Trips saw a 62.4% increase in bike ride activities taken between 2019 (26,484) and 2020 (43,009).

Figure 14 - Cass County Strava Trips

Figure 15 - Clay County Strava Trips

Source: Strava

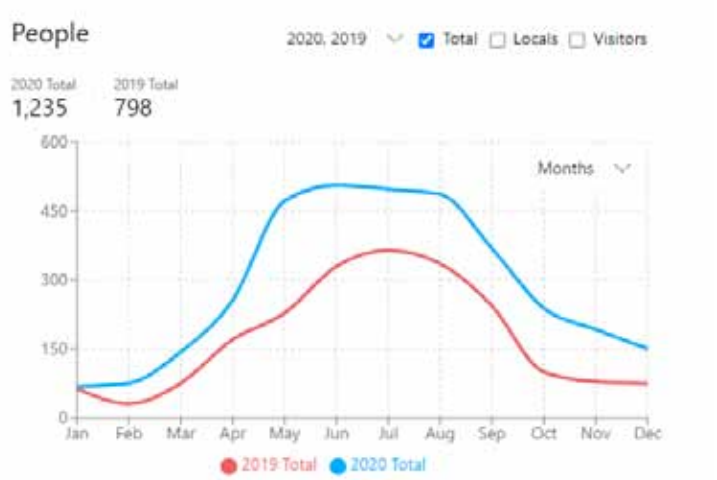
This is a significant increase as compared to 2019 trips, however more people are using the Strava App in the FM Area.

People

Over this same period, the number of bike users on the Strava app increased by 60.34% (from 1,954 people in 2019 to 3,133 in 2020).

Figure 16 - Cass County Strava People

Figure 17 - Clay County Strava People



Source: Strava

There is 2.06% difference between trips and people therefore, it does appear that there was an increase in 2020 activity that cannot be solely attributable to more users on the app.

OTHER DATA GLEANED FROM STRAVA

Data downloaded from Strava can provide some really interesting information such as demographics, trip type (leisure vs. commute), and popular timeframes for activity. See the following figures for examples of how the data appears when exported from the Strava dashboard. Raw data may also be available for Metro COG's local partners for transporation planning related activities.

Figure 18 - Cass County Demographics

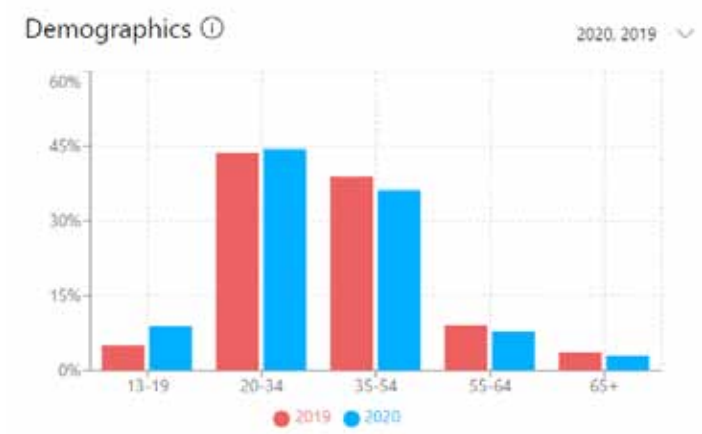
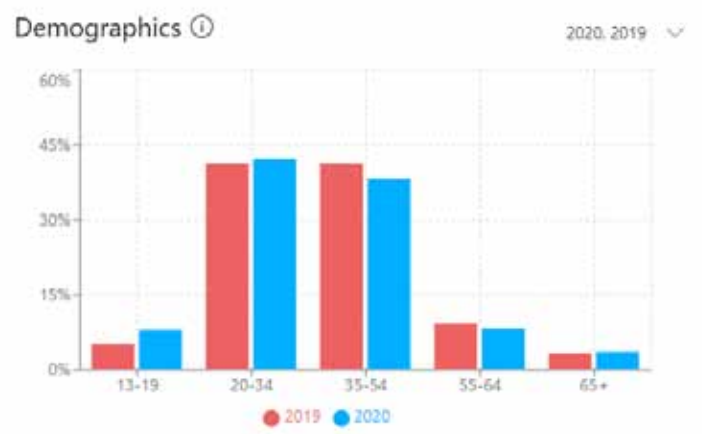


Figure 19 - Clay County Demographics



Source: Strava

Simple profiles in the Strava app allow access to basic anonymous deomgraphic data. Strava profile can be linked to Facebook, Google, and other social media accounts.

Trip data from Strava can be used to pinpoint when trips are occuring and what the purpose of a particular trip may be. The tourism information, as shown in Figures 21 & 22 may also shed some insight on where people are biking in the FM Area, for example visitors make up more trips in Clay County than Cass County: is that attributable to the differing populations in either County or is something else going on?

Figure 20 - Cass County 2020 Trips

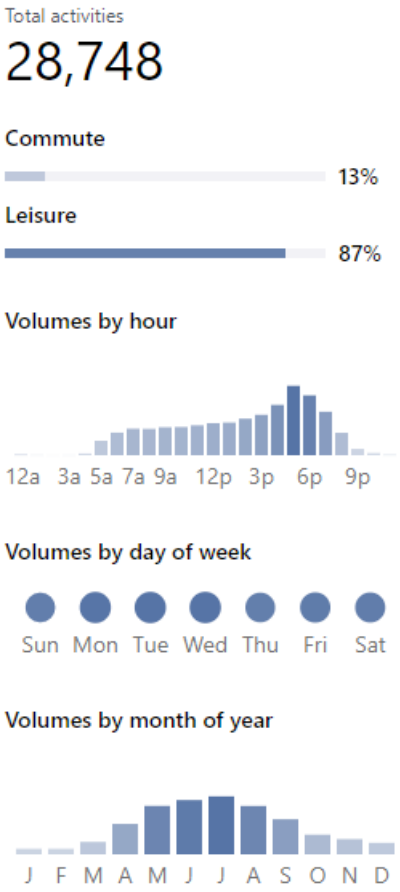
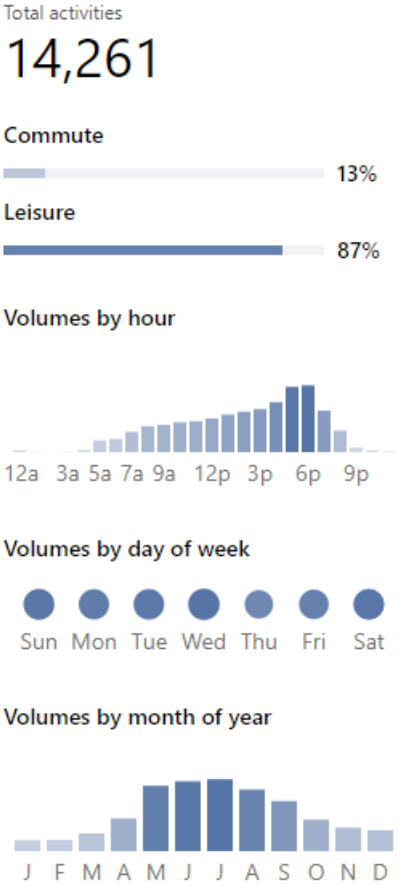


Figure 21 - Clay County 2020 Trips



Source: Strava

Metro COG and Strava

Moving forward, Metro COG will continue to monitor the use of Strava in the FM Area as it will likely continue to provide interesting and robust dataset. The information will be helpful for local jurisdictions to analyze bike and pedestrian activity, especially as more and more active residents in our region utlize the application's features.

Figure 22 - Cass County Tourism

Figure 23 - Clay County Tourism

Source: Strava

Conclusion

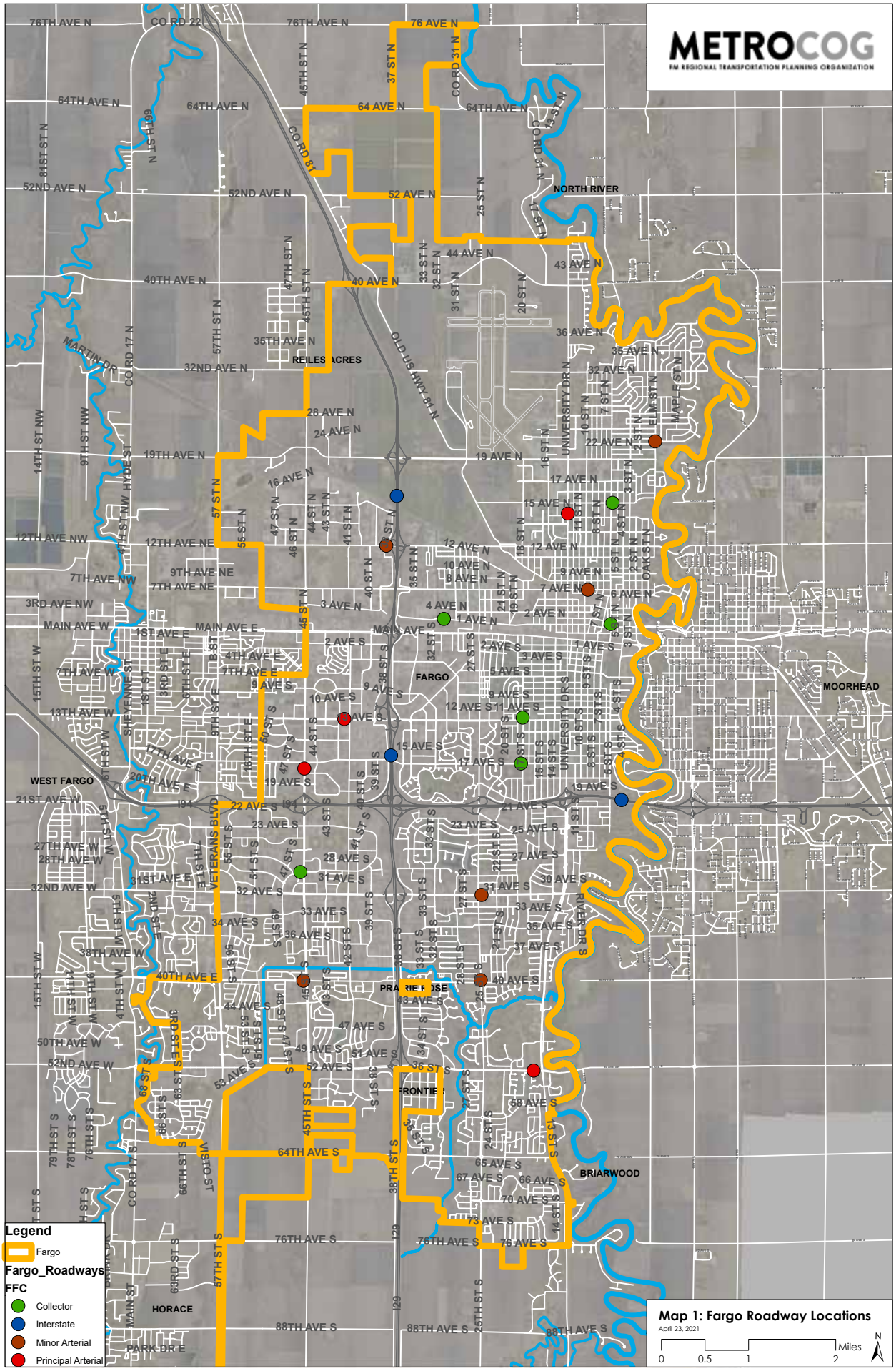
The COVID-19 pandemic has impacted travel in the FM Area substantially throughout 2020 however, travel patterns appear to be coming back to historically normal levels. For better or for worse, the 2020 impact on travel will be felt for some time into the future for numerous reasons, whether that be decreased tax revenues and tighter budgets for transportation infrastructure, peak spreading, decreased volume, or teleworking/ telelearning options for FM Area residents. Based upon the information provided in this report Metro COG has a much better understanding about the resiliency of the transportation system for the region as a whole. For example, how interstates are more resilient on weekdays and less resilient on weekends while collectors are less resilient on weekdays and more resilient on weekends, how PM peak-hour traffic has come back

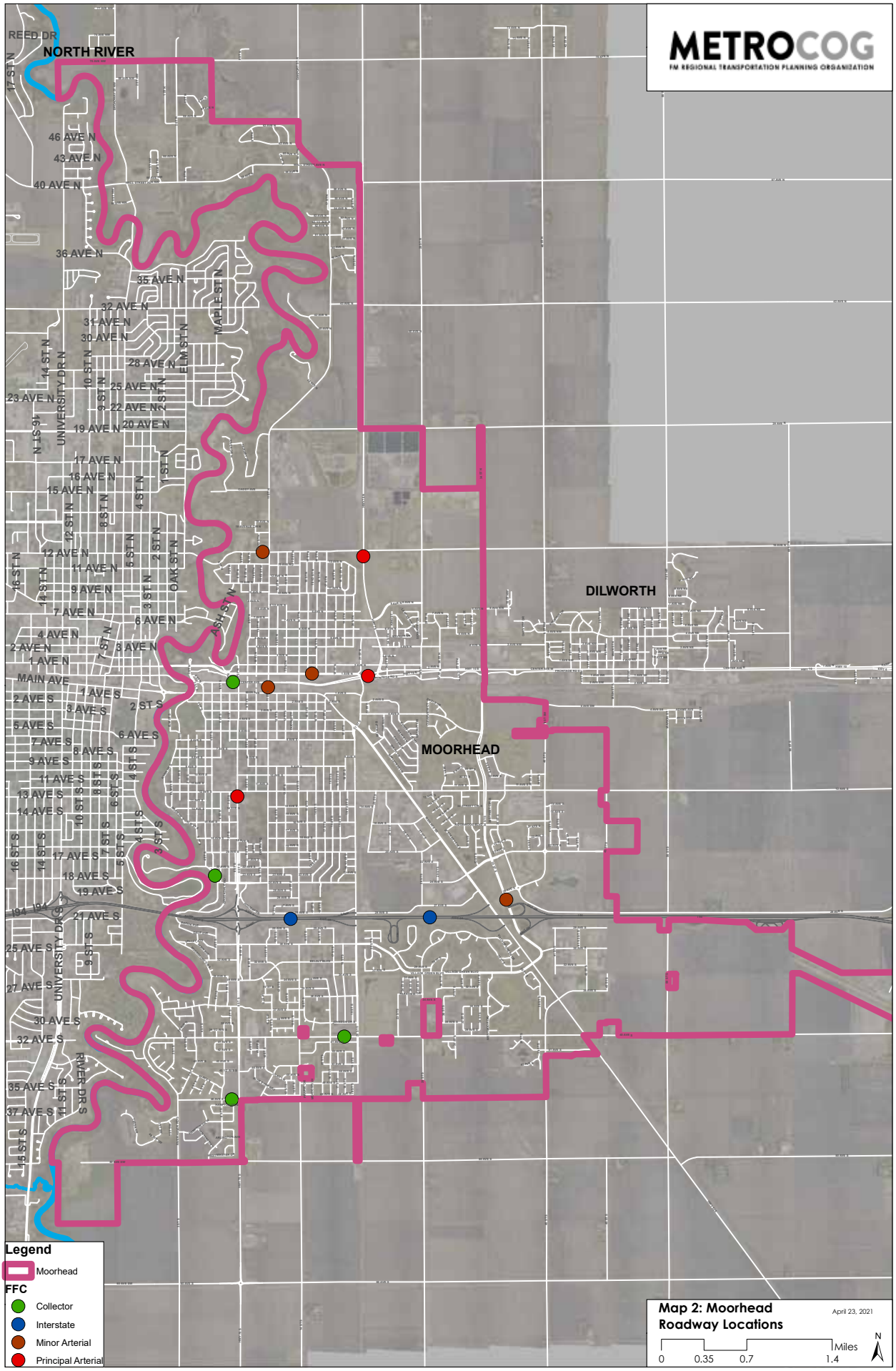
quicker than AM peak-hour traffic and peak spreading is more pronounced on collector roadways vs. interstate roadways, how critical transit service is to area residents and the importance of MATBUS' relationship with local colleges and universties, or what an asset bike and pedestrian infrastructure is with how much activity there seemed to be on facilities and in parks over the past year. If not only a snapshot of how 2020 impacted travel in the region, the information contained herein may also be useful to address current and future policies that impact the transportation system and help guide investment to critical parts of the FM Area transporation system.

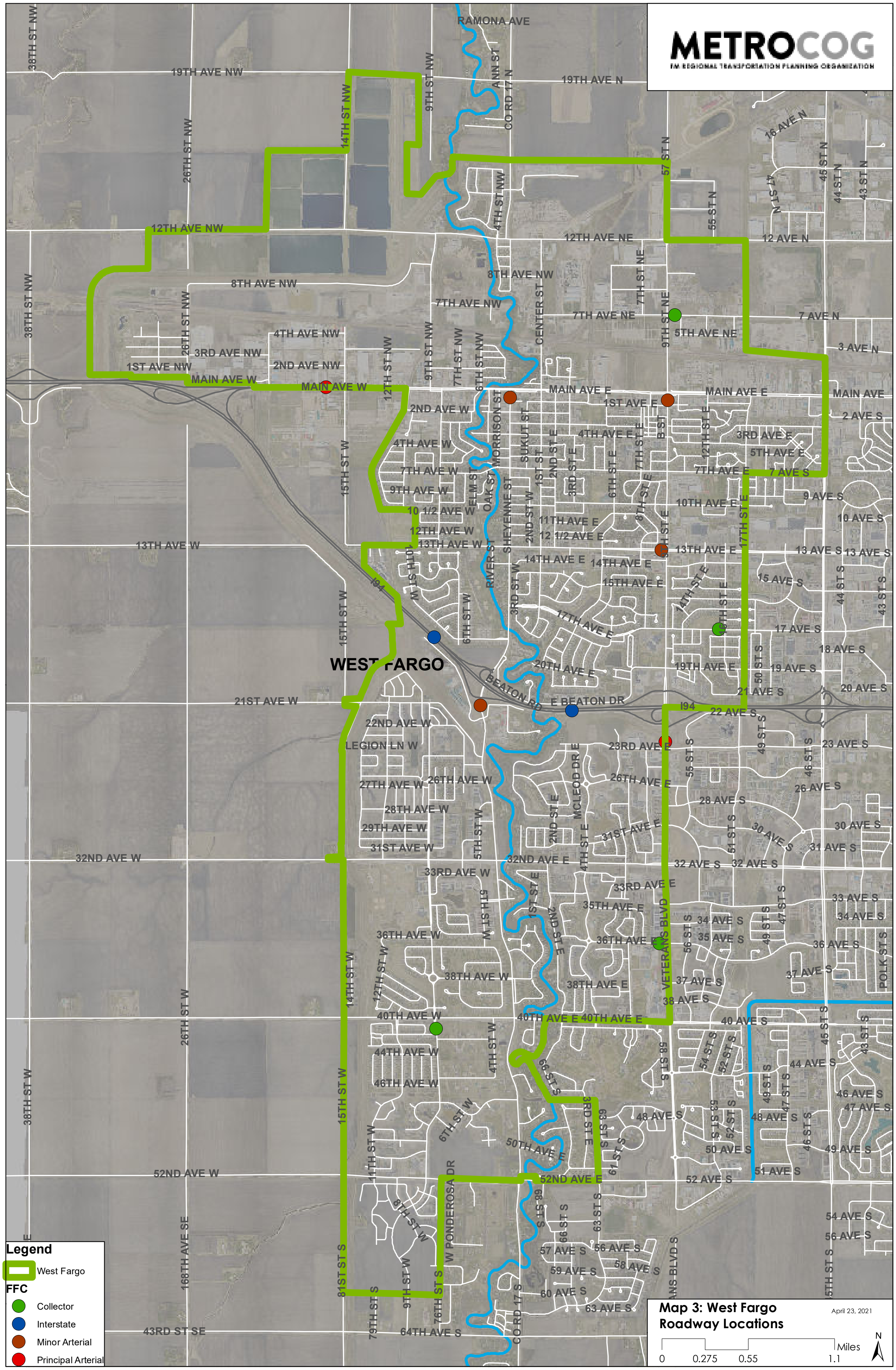
Appendix

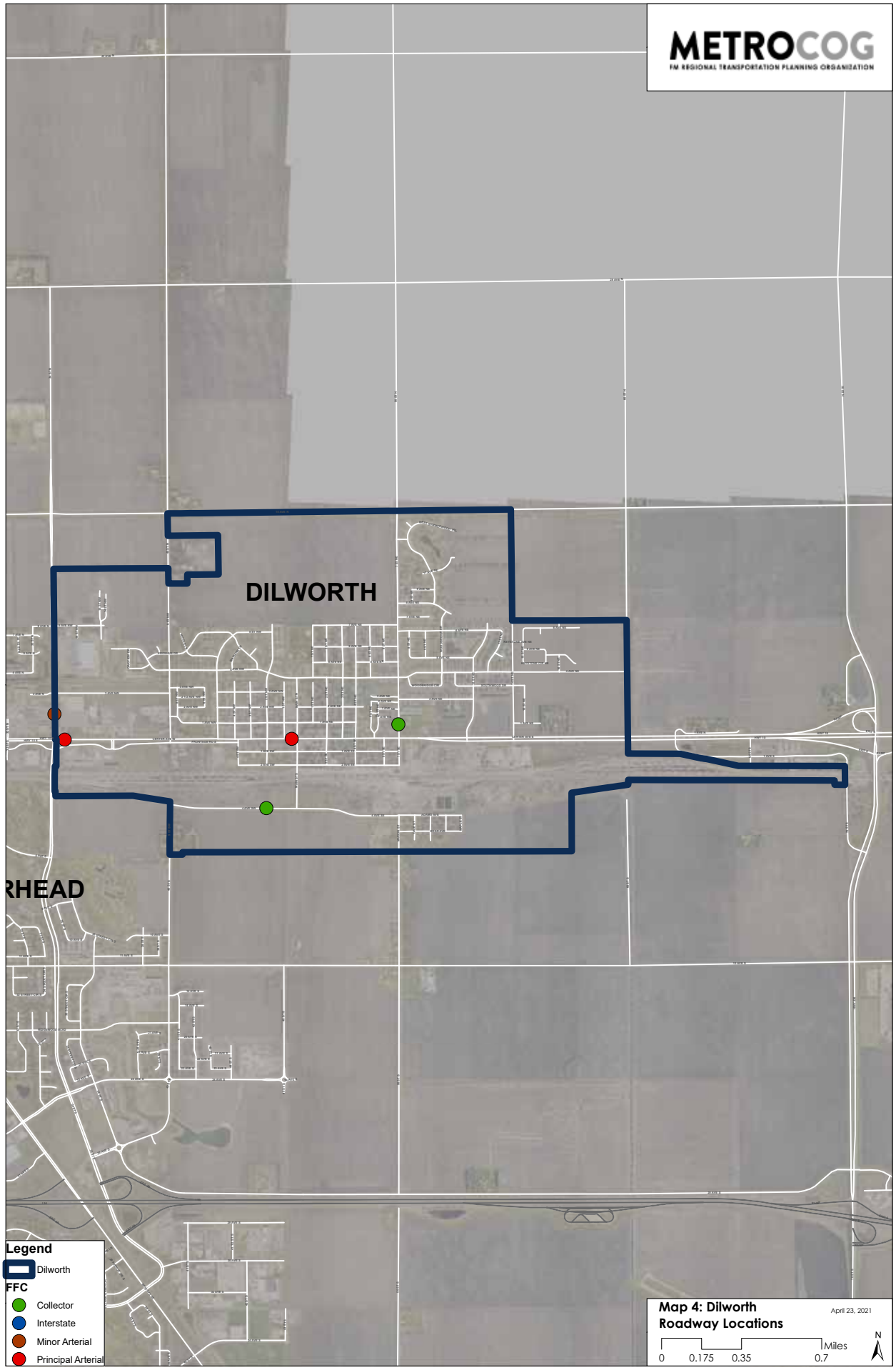
Fargo-Moorhead-West Fargo COVID-19 Analysis and Monitoring

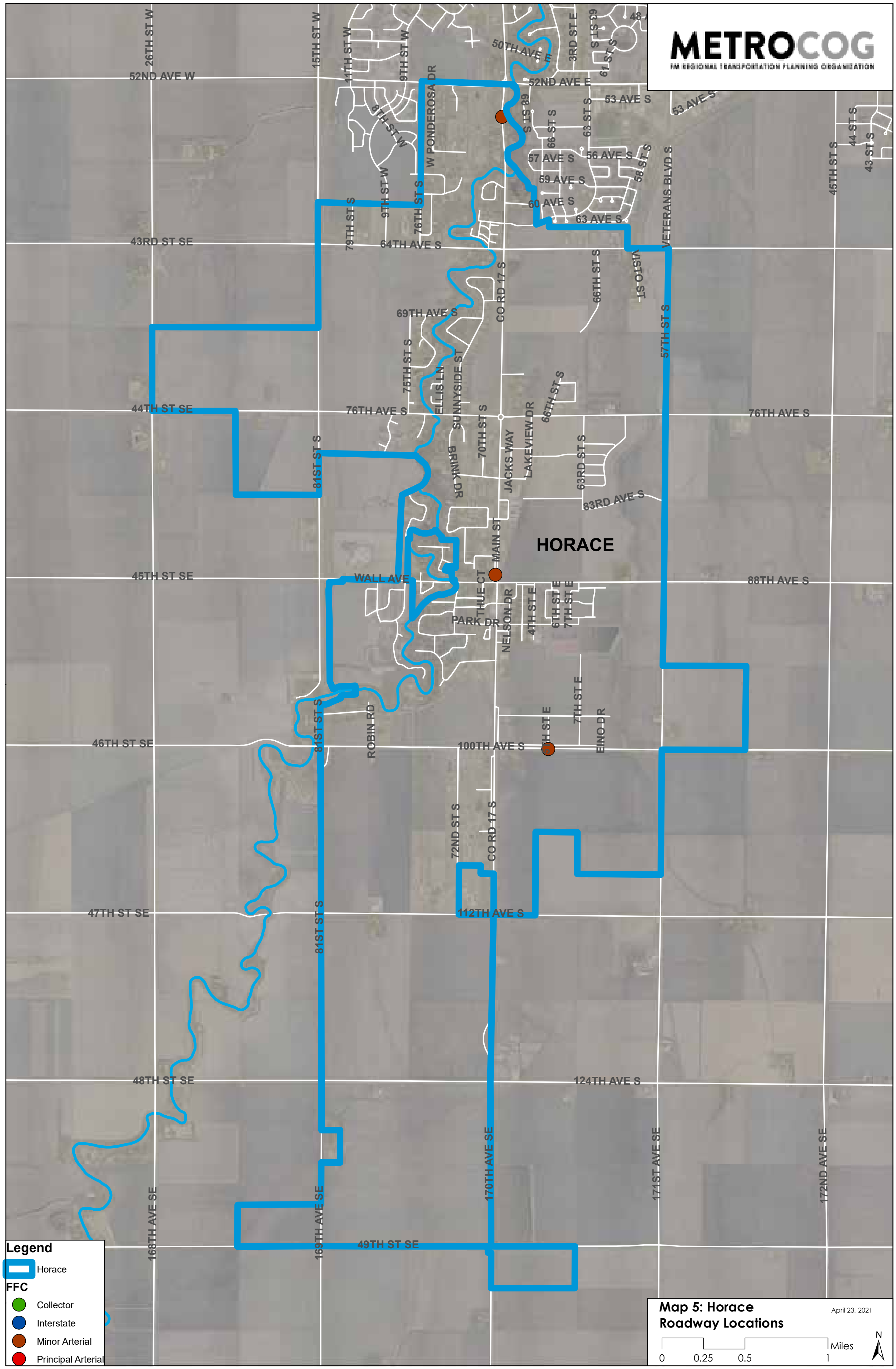
Please contact Luke Champa, Assistant Transportation Planner, at Champa@fmmetrocog.org or (701) 532-5107 to request any raw data in table format as part of this report.

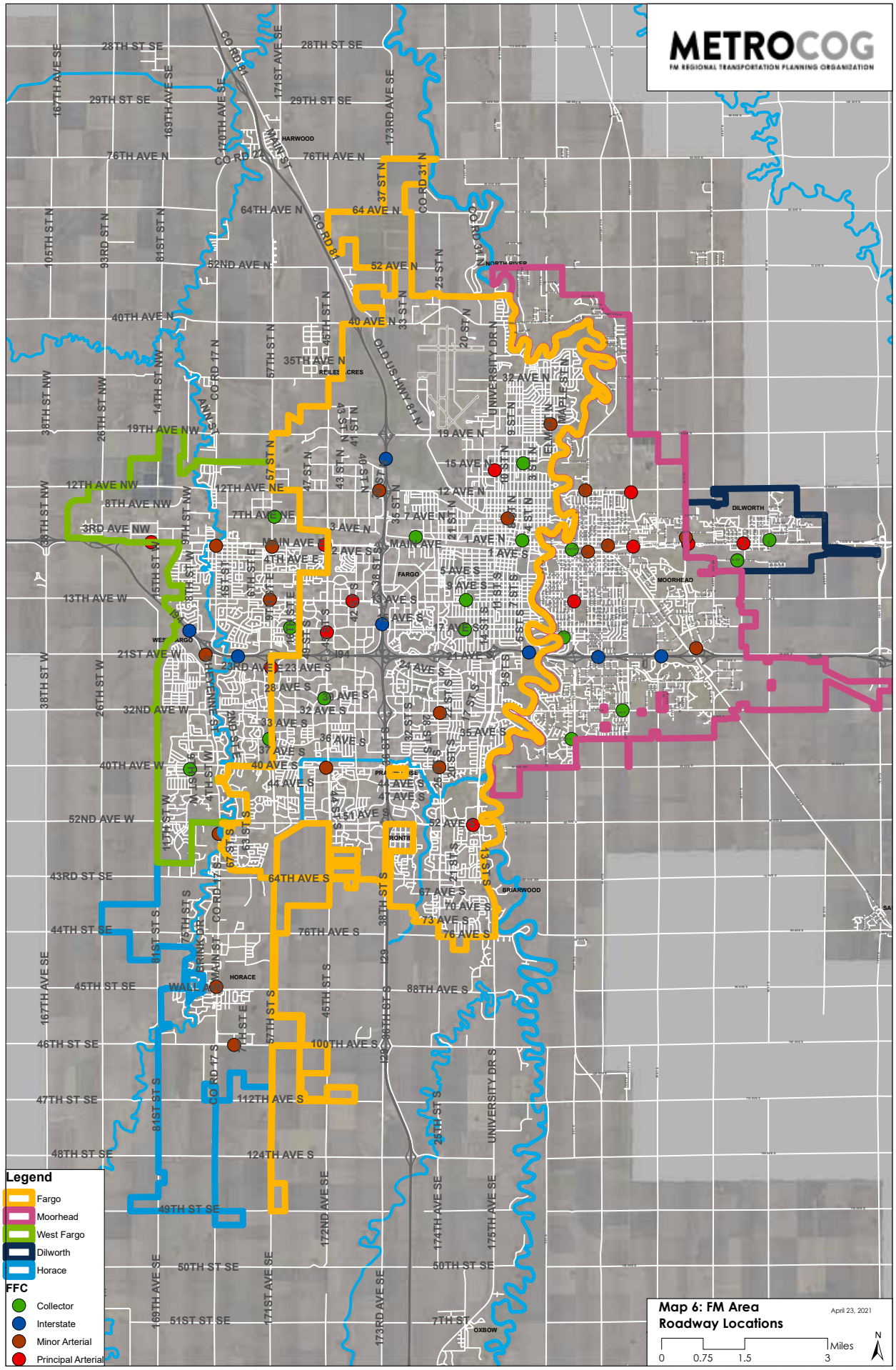

METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
Legend
Fargo
Fargo_Roadways
FFC
Collector
Interstate
Minor Arterial
Principal Arterial
Map 1: Fargo Roadway Locations
April 23, 2021
Miles
0
0.5
1
2
N
FARGO
WEST FARGO
MOORHEAD
NORTH RIVER
REILES ACRES
PRAIRIE ROSE
FRONTIER
BRIARWOOD
HORACE

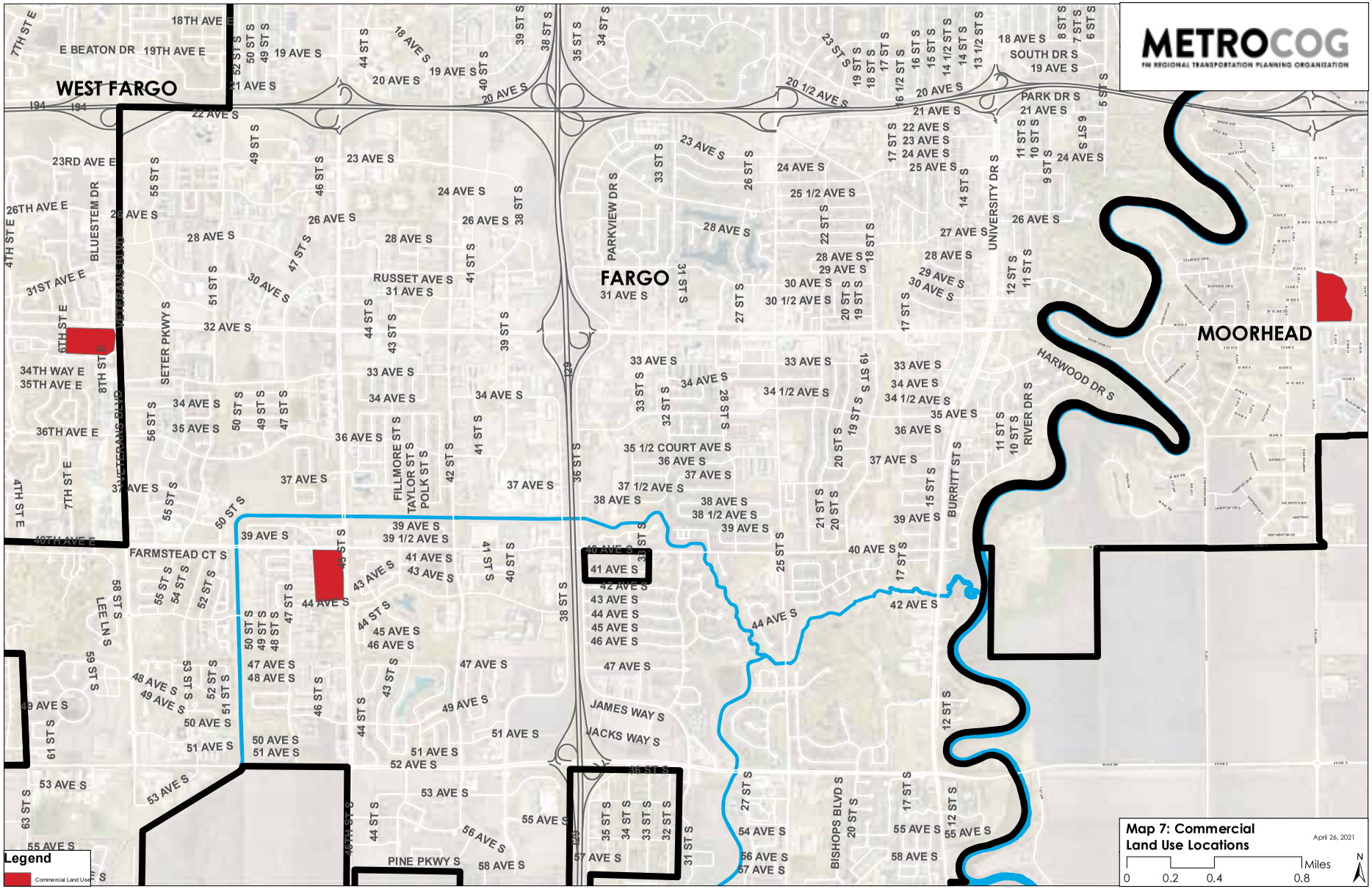

METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
NORTH RIVER
DILWORTH
MOORHEAD
REED DR
46 AVE N
43 AVE N
40 AVE N
36 AVE N
35 AVE N
32 AVE N
31 AVE N
30 AVE N
28 AVE N
25 AVE N
23 AVE N
22 AVE N
20 AVE N
19 AVE N
17 AVE N
16 AVE N
15 AVE N
12 AVE N
11 AVE N
9 AVE N
7 AVE N
6 AVE N
4 AVE N
3 AVE N
2 AVE N
1 AVE N
MAIN AVE
1 AVE S
2 AVE S
3 AVE S
5 AVE S
6 AVE S
7 AVE S
8 AVE S
9 AVE S
11 AVE S
13 AVE S
14 AVE S
17 AVE S
18 AVE S
19 AVE S
21 AVE S
25 AVE S
27 AVE S
30 AVE S
32 AVE S
35 AVE S
37 AVE S
1 ST N
2 ST N
3 ST N
4 ST N
5 ST N
6 ST N
7 ST N
8 ST N
10 ST N
12 ST N
14 ST N
16 ST N
17 ST N
OAK ST N
ASH ST N
MAPLE ST N
ELM ST N
UNIVERSITY DR N
2 ST S
3 ST S
4 ST S
5 ST S
6 ST S
7 ST S
8 ST S
10 ST S
11 ST S
12 ST S
14 ST S
16 ST S
UNIVERSITY DR S
RIVER DR S
194
94
Legend
Moorhead
FFC
Collector
Interstate
Minor Arterial
Principal Arterial
Map 2: Moorhead
Roadway Locations
April 23, 2021
Miles
0
0.35
0.7
1.4
N

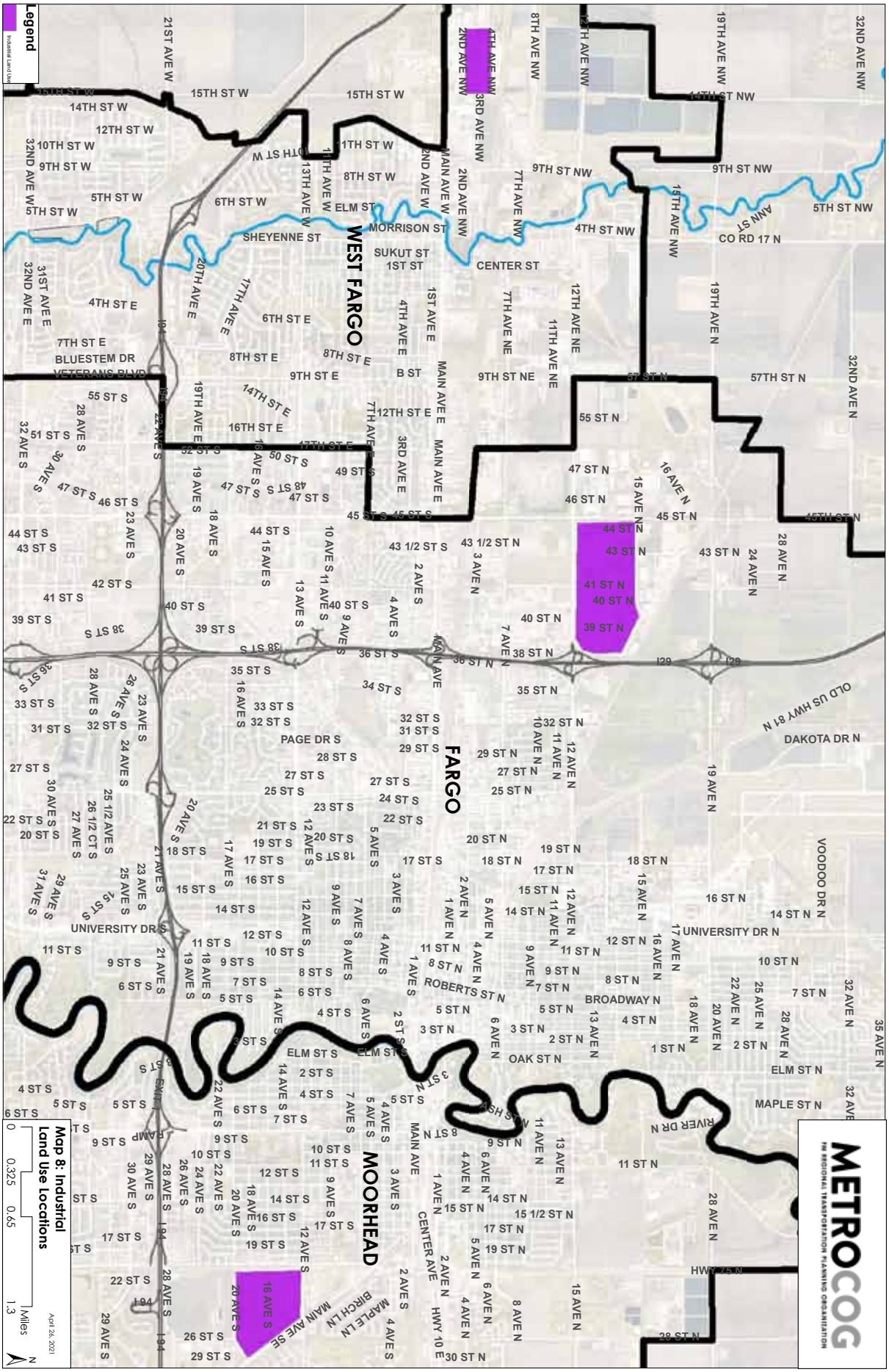

METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
Map 3: West Fargo Roadway Locations
April 23, 2021
0 0.275 0.55 1.1 Miles
N
Legend
West Fargo
FFC
Collector
Interstate
Minor Arterial
Principal Arterial
WEST FARGO
RAMONA AVE
19TH AVE NW
19TH AVE N
12TH AVE NW
12TH AVE NE
12 AVE N
8TH AVE NW
7TH AVE NW
7TH AVE NE
7 AVE N
4TH AVE NW
3RD AVE NW
2ND AVE NW
1ST AVE NW
MAIN AVE W
MAIN AVE E
MAIN AVE
13TH AVE W
21ST AVE W
32ND AVE W
52ND AVE W
43RD ST SE
64TH AVE S
I94
E BEATON DR
BEATON RD
VETERANS BLVD
SHEYENNE ST
CENTER ST
38TH ST NW
26TH ST NW
14TH ST NW
9TH ST NW
57 ST N
15TH ST W
14TH ST W
81ST ST S
40TH AVE W
40TH AVE E
52ND AVE E
45 ST S
CO RD 17 N
CO RD 17 S

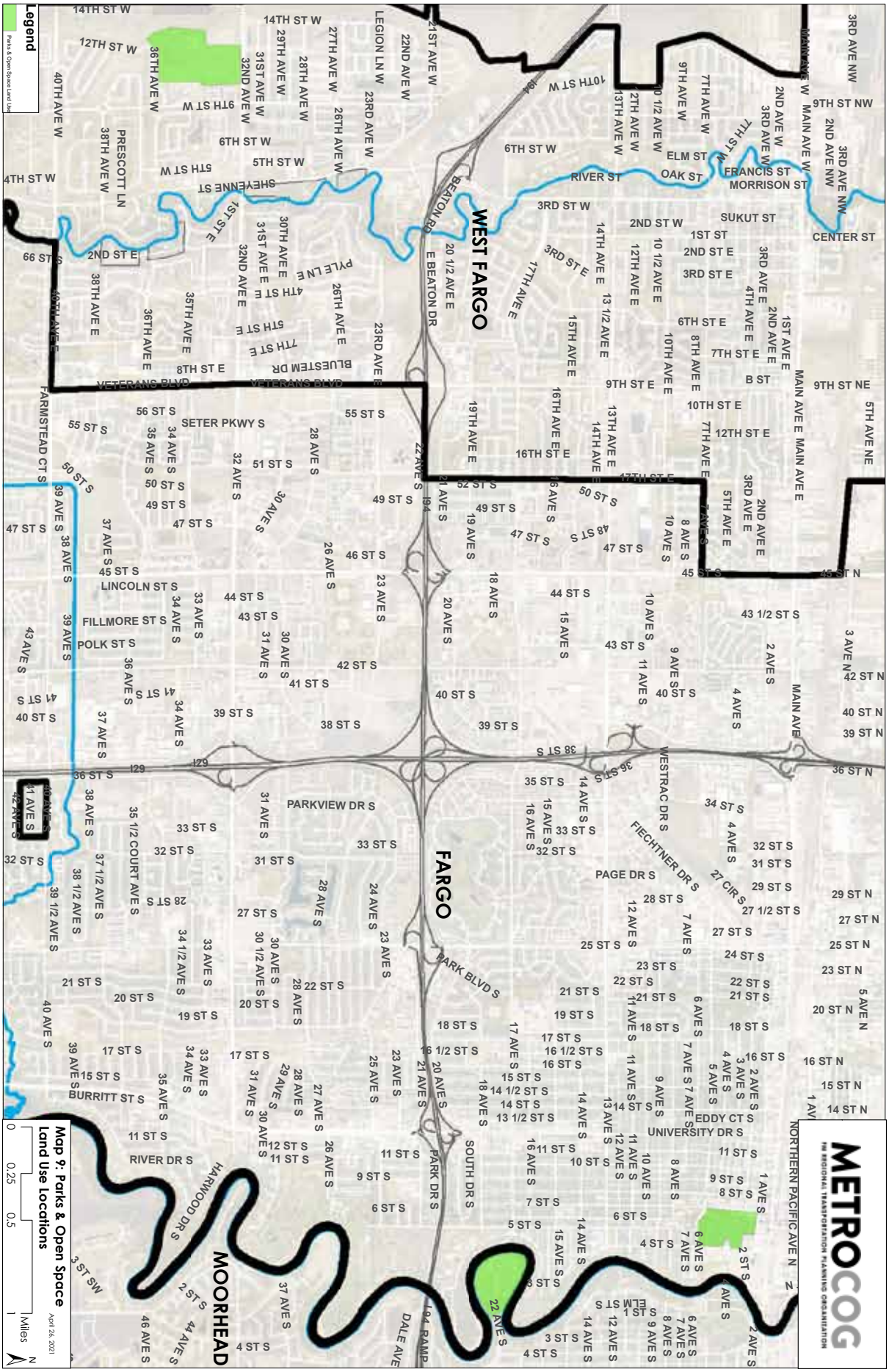

METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
DILWORTH
RHEAD
Legend
Dilworth
FFC
Collector
Interstate
Minor Arterial
Principal Arterial
Map 4: Dilworth
Roadway Locations
April 23, 2021
Miles
0
0.175
0.35
0.7
N


METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
Map 5: Horace
Roadway Locations
April 23, 2021
0 0.25 0.5 1 Miles
N
Legend
Horace
FFC
Collector
Interstate
Minor Arterial
Principal Arterial
HORACE
52ND AVE W
52ND AVE E
53 AVE S
43RD ST SE
64TH AVE S
69TH AVE S
44TH ST SE
76TH AVE S
83RD AVE S
45TH ST SE
WALL AVE
88TH AVE S
PARK DR
46TH ST SE
100TH AVE S
47TH ST SE
112TH AVE S
48TH ST SE
124TH AVE S
49TH ST SE
26TH ST W
15TH ST W
81ST ST S
79TH ST S
76TH ST S
W PONDEROSA DR
CO RD 17 S
VETERANS BLVD S
57TH ST S
45TH ST S
MAIN ST
JACKS WAY
LAKEVIEW DR
SUNNYSIDE ST
ROBIN RD
72ND ST S
168TH AVE SE
169TH AVE SE
170TH AVE SE
171ST AVE SE
172ND AVE SE


METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
Legend
Fargo
Moorhead
West Fargo
Dilworth
Horace
FFC
Collector
Interstate
Minor Arterial
Principal Arterial
Map 6: FM Area
Roadway Locations
April 23, 2021
0
0.75
1.5
3
Miles
N
FARGO
MOORHEAD
WEST FARGO
DILWORTH
HORACE
HARWOOD
NORTH RIVER
BRIARWOOD
OXBOW
I-94
I-29


METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
WEST FARGO
FARGO
MOORHEAD
Map 7: Commercial Land Use Locations
April 26, 2021
Miles
0 0.2 0.4 0.8
N
Legend
Commercial Land Use


Legend
Industrial Land Use
Map 8: Industrial Land Use Locations
0
0.325
0.65
1.3
Miles
N
April 26, 2021
METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
WEST FARGO
FARGO
MOORHEAD
MAIN AVE
CENTER AVE
ROBERTS ST N
BROADWAY N
OAK ST N
ELM ST N
MAPLE ST N
RIVER DR N
UNIVERSITY DR S
UNIVERSITY DR N
DAKOTA DR N
VOODOO DR N
OLD US HWY 81 N
PAGE DR S
SHEYENNE ST
MORRISON ST
SUKUT ST
CENTER ST
ELM ST
CO RD 17 N
HWY 75 N
HWY 10 E
I-94
I-29
BLUESTEM DR
VETERANS BLVD
MAIN AVE SE
MAPLE LN
BIRCH LN


Legend
Parks & Open Space Land Use
Map 9: Parks & Open Space
Land Use Locations
April 26, 2021
0
0.25
0.5
1
Miles
N
METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
WEST FARGO
FARGO
MOORHEAD
MAIN AVE
MAIN AVE E
MAIN AVE W
MAIN AVE NW
MAIN AVE NE
9TH ST NW
9TH ST NE
5TH AVE NE
CENTER ST
SUKUT ST
1ST ST
2ND ST W
3RD ST W
2ND ST E
3RD ST E
6TH ST E
7TH ST E
9TH ST E
10TH ST E
12TH ST E
B ST
ELM ST
OAK ST
RIVER ST
FRANCIS ST
MORRISON ST
6TH ST W
5TH ST W
4TH ST W
14TH ST W
12TH ST W
2ND ST E
SHEYENNE ST
PRESCOTT LN
VETERANS BLVD
BLUESTEM DR
PYLE LN E
SETER PKWY S
FARMSTEAD CT S
LINCOLN ST S
FILLMORE ST S
POLK ST S
PARKVIEW DR S
PAGE DR S
FIECHTNER DR S
WESTRAC DR S
EDDY CT S
UNIVERSITY DR S
NORTHERN PACIFIC AVE N
BURRITT ST S
RIVER DR S
HARWOOD DR S
PARK BLVD S
PARK DR S
SOUTH DR S
DALE AVE
I-94
I-94 RAMP
I29
BEATON RD
E BEATON DR
LEGION LN W
PRESCOTT LN
14TH ST W
12TH ST W
9TH AVE W
7TH AVE W
2ND AVE W
3RD AVE W
2ND AVE NW
3RD AVE NW
10TH ST W
13TH AVE W
12TH AVE W
10 1/2 AVE W
9TH AVE W
7TH AVE W
36TH AVE W
40TH AVE W
38TH AVE W
32ND AVE W
31ST AVE W
29TH AVE W
28TH AVE W
27TH AVE W
26TH AVE W
23RD AVE W
22ND AVE W
21ST AVE W
9TH ST W
7TH ST W
6TH ST W
5TH ST W
4TH ST W
2ND ST E
1ST ST E
66 ST S
40TH AVE E
38TH AVE E
36TH AVE E
35TH AVE E
32ND AVE E
31ST AVE E
30TH AVE E
26TH AVE E
23RD AVE E
20 1/2 AVE E
19TH AVE E
17TH AVE E
16TH AVE E
15TH AVE E
14TH AVE E
13 1/2 AVE E
13TH AVE E
12TH AVE E
10 1/2 AVE E
10TH AVE E
8TH AVE E
7TH AVE E
5TH AVE E
4TH AVE E
3RD AVE E
2ND AVE E
1ST AVE E
4TH ST E
5TH ST E
7TH ST E
8TH ST E
55 ST S
56 ST S
50 ST S
49 ST S
47 ST S
45 ST S
45 ST N
43 1/2 ST S
42 ST S
42 ST N
41 ST S
40 ST S
40 ST N
39 ST S
39 ST N
38 ST S
36 ST S
36 ST N
35 ST S
34 ST S
33 ST S
32 ST S
31 ST S
29 ST S
29 ST N
28 ST S
27 1/2 ST S
27 ST S
27 ST N
25 ST S
25 ST N
24 ST S
23 ST S
23 ST N
22 ST S
21 ST S
20 ST S
20 ST N
19 ST S
18 ST S
17 ST S
16 1/2 ST S
16 ST S
16 ST N
15 ST S
15 ST N
14 1/2 ST S
14 ST S
14 ST N
13 1/2 ST S
12 ST S
11 ST S
10 ST S
9 ST S
8 ST S
7 ST S
6 ST S
5 ST S
4 ST S
3 ST S
2 ST S
1 ST S
55 AVE S
51 ST S
50 ST S
49 ST S
47 ST S
46 ST S
45 ST S
44 ST S
43 ST S
42 ST S
41 ST S
40 ST S
39 ST S
38 ST S
37 AVE S
36 AVE S
35 AVE S
34 AVE S
33 AVE S
32 AVE S
31 AVE S
30 AVE S
28 AVE S
26 AVE S
24 AVE S
23 AVE S
22 AVE S
21 AVE S
20 AVE S
19 AVE S
18 AVE S
16 AVE S
15 AVE S
14 AVE S
13 AVE S
12 AVE S
11 AVE S
10 AVE S
9 AVE S
8 AVE S
7 AVE S
6 AVE S
5 AVE S
4 AVE S
3 AVE S
2 AVE S
1 AVE S
3 AVE N
2 AVE N
1 AVE N
49 ST S
47 ST S
46 ST S
45 ST S
44 ST S
43 ST S
42 ST S
41 ST S
40 ST S
39 ST S
38 ST S
37 AVE S
36 AVE S
35 AVE S
34 AVE S
33 AVE S
32 AVE S
31 AVE S
30 AVE S
28 AVE S
26 AVE S
24 AVE S
23 AVE S
22 AVE S
21 AVE S
20 AVE S
19 AVE S
18 AVE S
16 AVE S
15 AVE S
14 AVE S
13 AVE S
12 AVE S
11 AVE S
10 AVE S
9 AVE S
8 AVE S
7 AVE S
6 AVE S
5 AVE S
4 AVE S
3 AVE S
2 AVE S
1 AVE S
43 AVE S
41 AVE S
39 AVE S
38 AVE S
37 AVE S
36 AVE S
35 1/2 COURT AVE S
37 1/2 AVE S
38 1/2 AVE S
39 1/2 AVE S
34 1/2 AVE S
30 1/2 AVE S
29 AVE S
27 AVE S
25 AVE S
23 AVE S
21 AVE S
20 AVE S
18 AVE S
16 1/2 ST S
15 ST S
14 1/2 ST S
14 ST S
13 1/2 ST S
12 ST S
11 ST S
9 ST S
6 ST S
4 ST S
3 ST S
2 ST S
1 ST S
3 ST SW
2 ST S
44 AVE S
46 AVE S
37 AVE S
4 ST S
22 AVE S
1 AVE S
2 AVE S
3 ST S
4 ST S
1 ST S
ELM ST S
6 AVE S
7 AVE S
8 AVE S
9 AVE S
12 AVE S
14 AVE S
2 ST S
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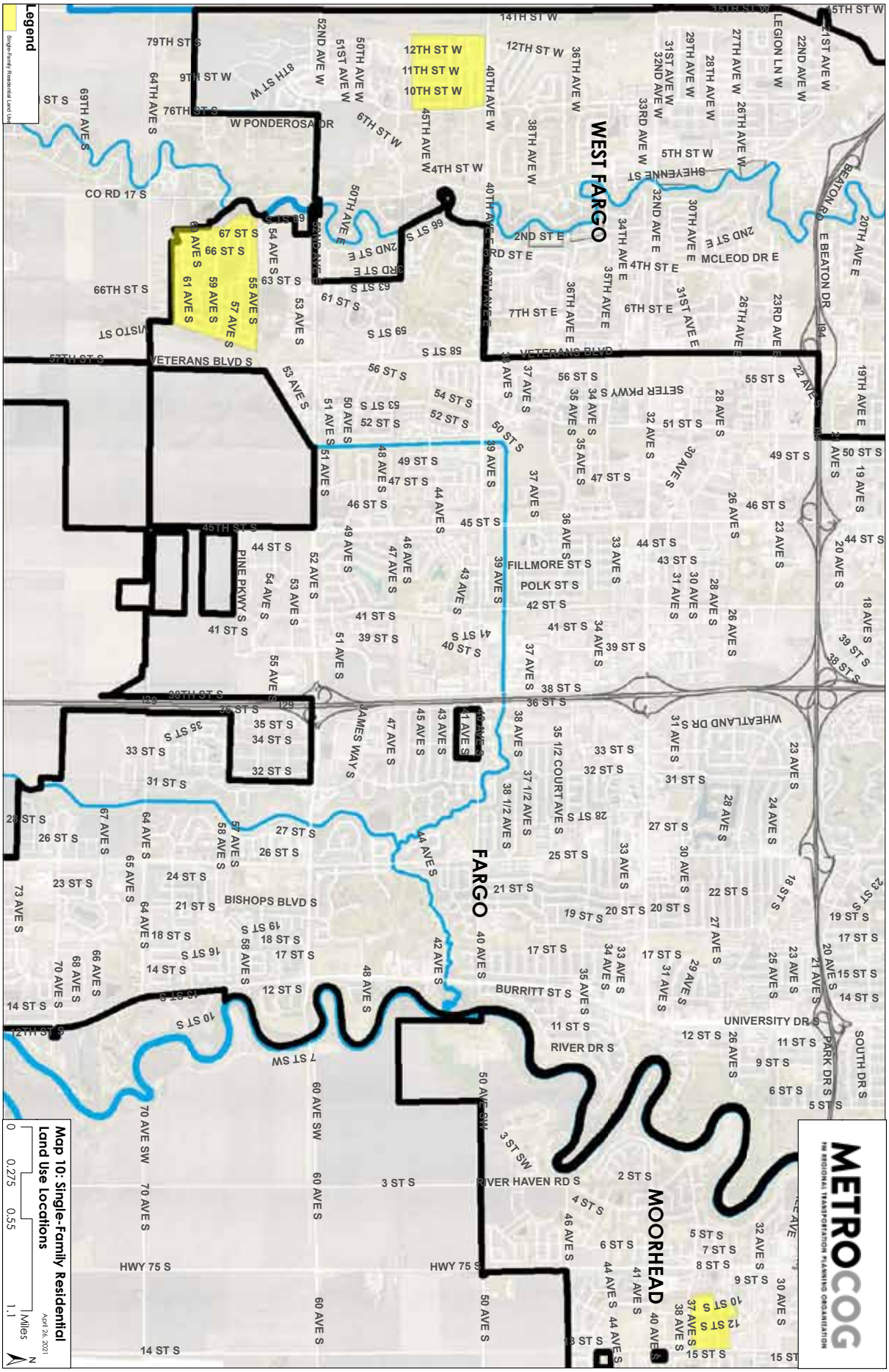
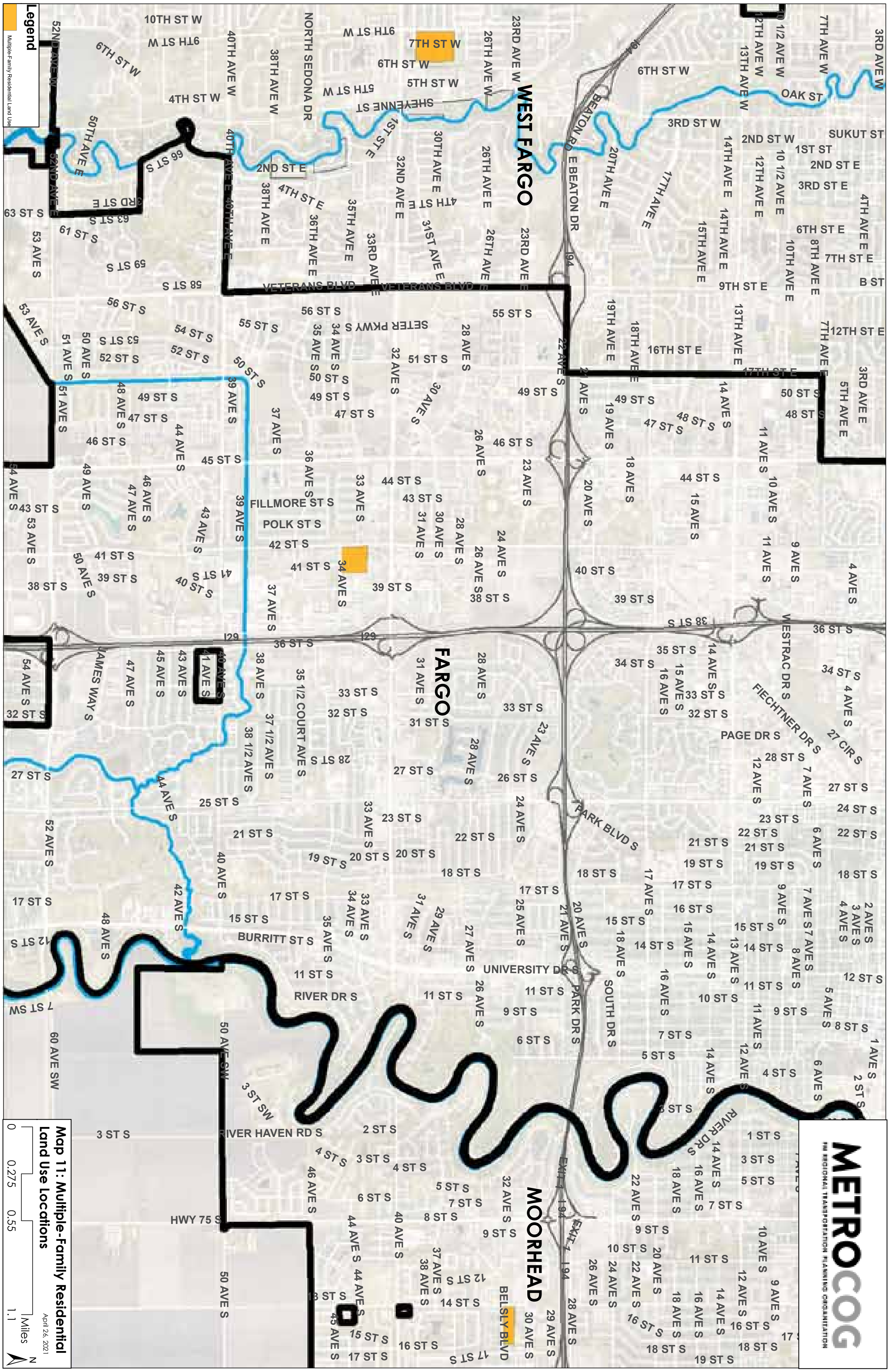
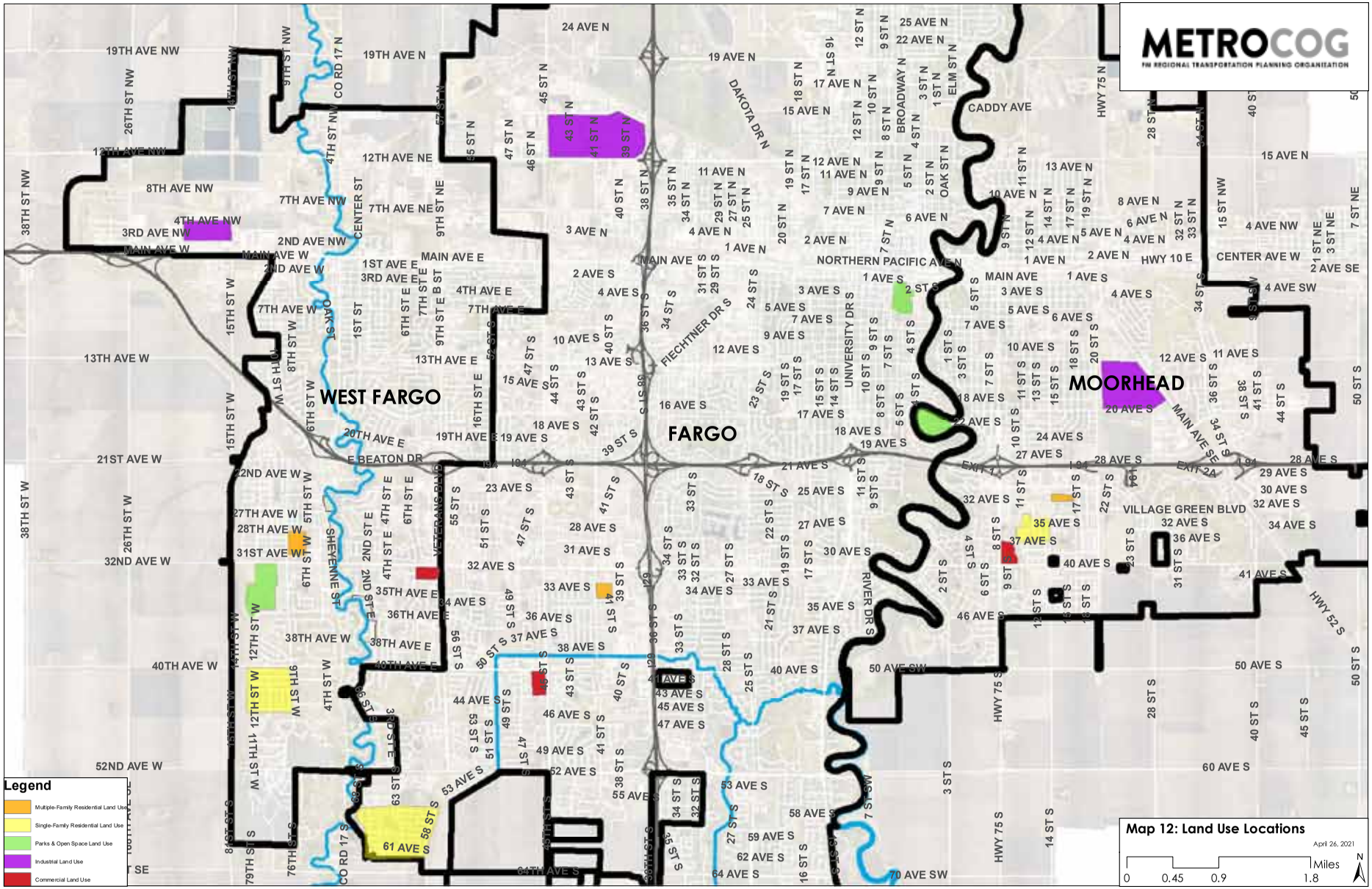
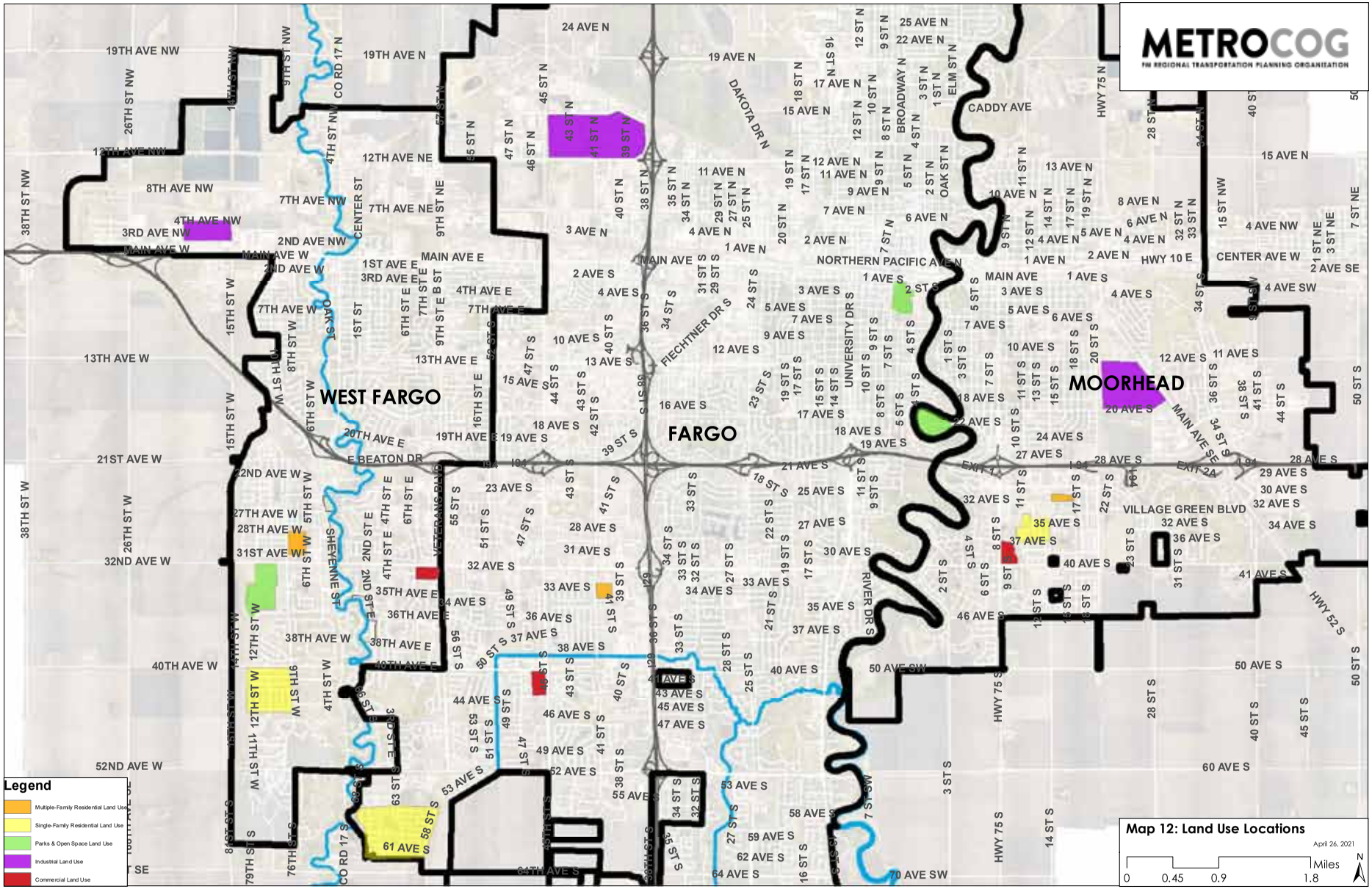
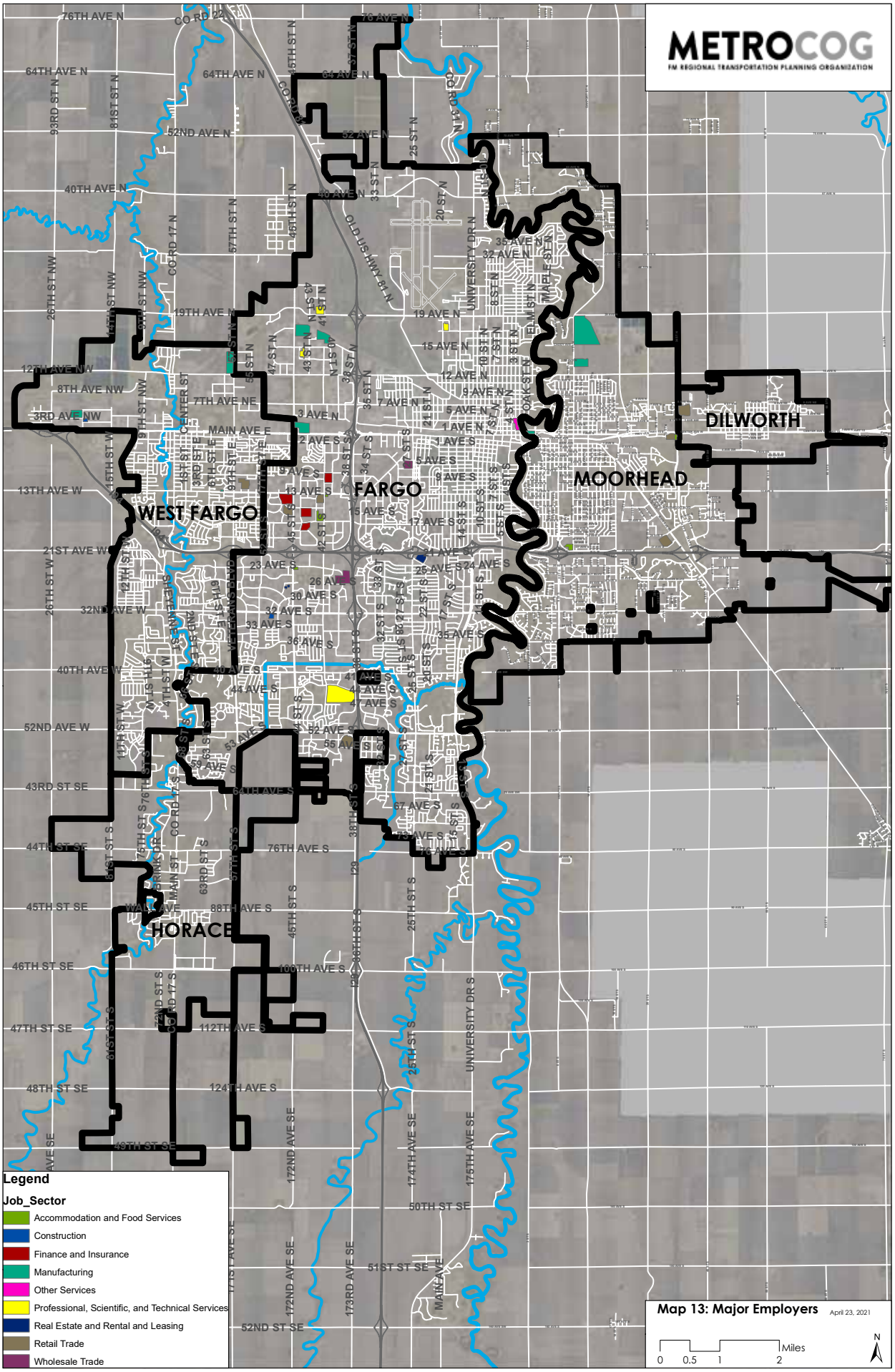
2 AVE N
3 AVE N
42 ST N
40 ST N
39 ST N
36 ST N
34 ST S
32 ST S
31 ST S
29 ST N
27 ST N
25 ST N
23 ST N
20 ST N
16 ST N
15 ST N
14 ST N
5 AVE N
4 AVE S
3 AVE S
2 AVE S
1 AVE S
7 AVE S
6 AVE S
5 AVE S
4 AVE S
3 AVE S
2 AVE S
1 AVE S
9 AVE S
8 AVE S
7 AVE S
6 AVE S
12 AVE S
14 AVE S
2 ST S
1 AVE S
2 AVE S

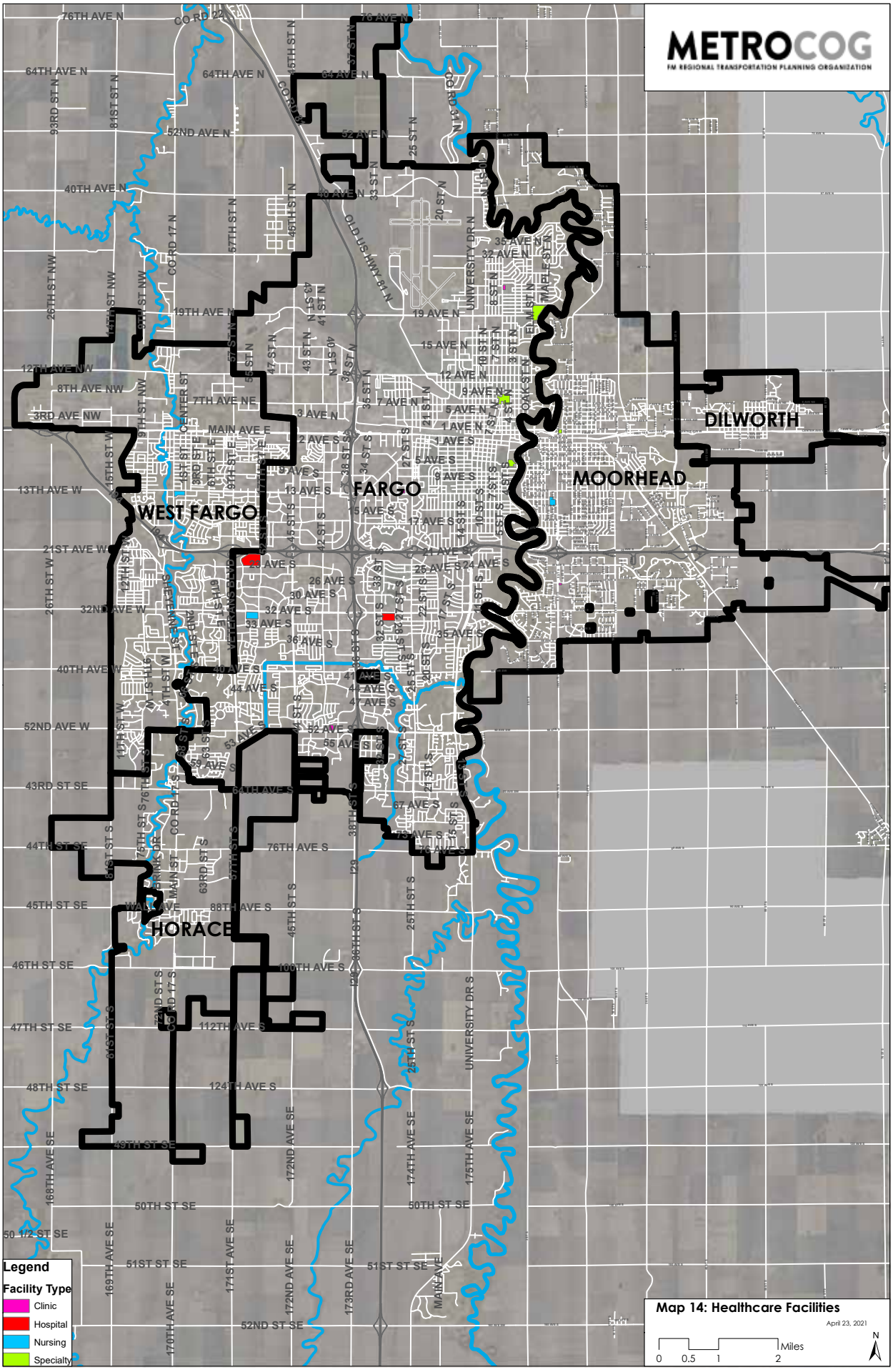

Legend
Single-Family Residential Land Use
Map 10: Single-Family Residential Land Use Locations
April 26, 2021
0 0.275 0.55 1.1 Miles
N
METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
WEST FARGO
FARGO
MOORHEAD
BISHOPS BLVD S
BURRITT ST S
UNIVERSITY DR S
RIVER DR S
RIVER HAVEN RD S
VETERANS BLVD S
VETERANS BLVD
SHEYENNE ST
MCLEOD DR E
E BEATON DR
W PONDEROSA DR
CO RD 17 S
FILLMORE ST S
POLK ST S
WHEATLAND DR S
SETER PKWY S
PINE PKWY S
JAMES WAY S
HWY 75 S
14TH ST W
12TH ST W
11TH ST W
10TH ST W
9TH ST W
8TH ST W
7TH ST W
5TH ST W
4TH ST W
2ND ST E
4TH ST E
6TH ST E
7TH ST E
79TH ST S
76TH ST S
66TH ST S
57TH ST S
45TH ST S
41 ST S
36TH ST S
30TH ST S
28 ST S
23 ST S
14 ST S
12TH ST S
3 ST S
2 ST S
14 ST S


Map 11: Multiple-Family Residential Land Use Locations
April 26, 2021
Legend
Multiple-Family Residential Land Use
0 0.275 0.55 1.1
Miles
N
WEST FARGO
FARGO
MOORHEAD
METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION


METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
WEST FARGO
FARGO
MOORHEAD
Legend
Multiple-Family Residential Land Use
Single-Family Residential Land Use
Parks & Open Space Land Use
Industrial Land Use
Commercial Land Use
Map 12: Land Use Locations
April 26, 2021
Miles
0
0.45
0.9
1.8
N


METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
WEST FARGO
FARGO
MOORHEAD
Legend
Multiple-Family Residential Land Use
Single-Family Residential Land Use
Parks & Open Space Land Use
Industrial Land Use
Commercial Land Use
Map 12: Land Use Locations
April 26, 2021
Miles
0
0.45
0.9
1.8
N


METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
FARGO
WEST FARGO
MOORHEAD
DILWORTH
HORACE
Legend
Job_Sector
Accommodation and Food Services
Construction
Finance and Insurance
Manufacturing
Other Services
Professional, Scientific, and Technical Services
Real Estate and Rental and Leasing
Retail Trade
Wholesale Trade
Map 13: Major Employers
April 23, 2021
Miles
0 0.5 1 2
N


METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
FARGO
WEST FARGO
MOORHEAD
DILWORTH
HORACE
Legend
Facility Type
Clinic
Hospital
Nursing
Specialty
Map 14: Healthcare Facilities
April 23, 2021
Miles
0
0.5
1
2
N

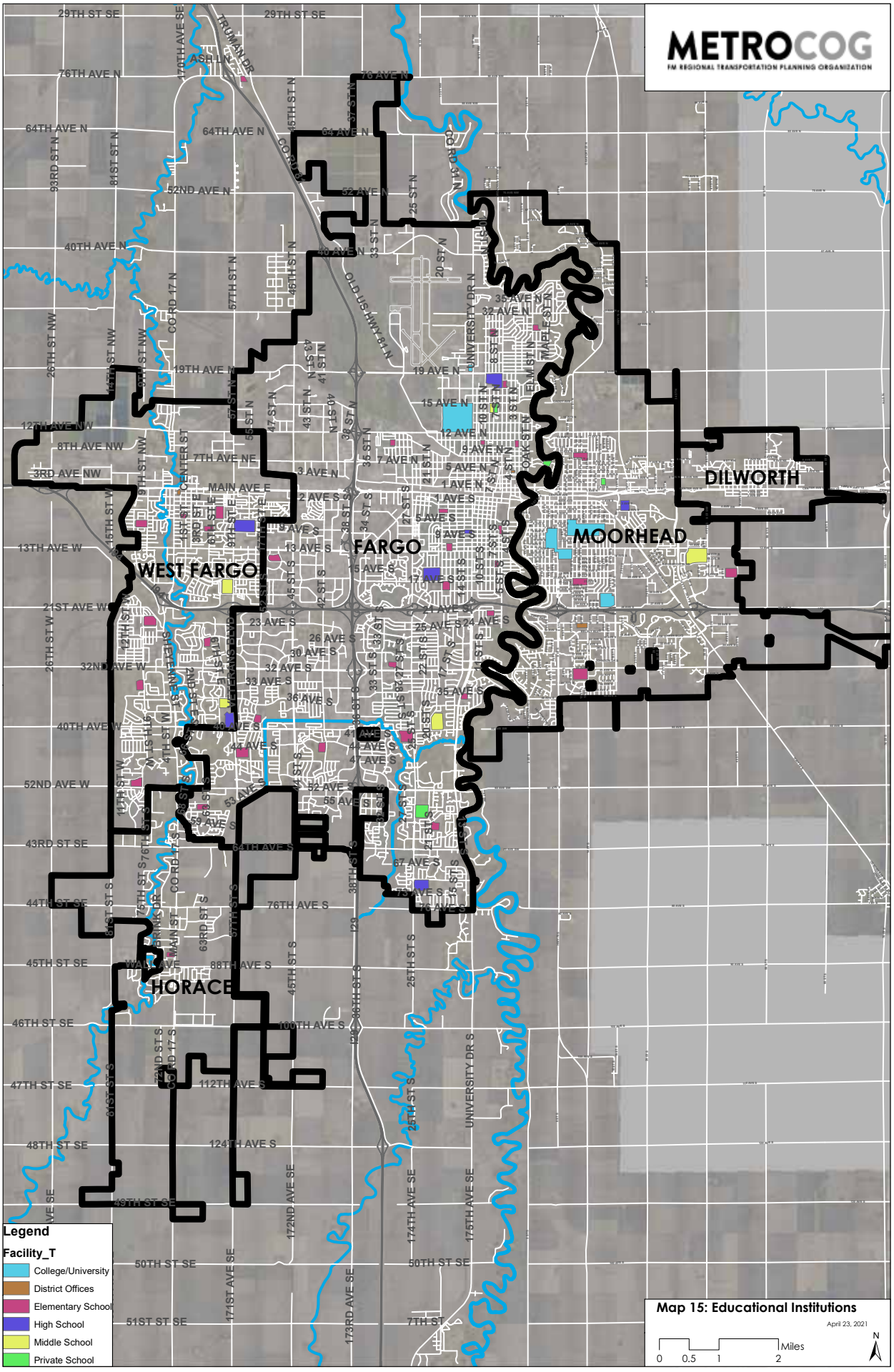

METROCOG
FM REGIONAL TRANSPORTATION PLANNING ORGANIZATION
FARGO
MOORHEAD
WEST FARGO
DILWORTH
HORACE
Legend
Facility_T
College/University
District Offices
Elementary School
High School
Middle School
Private School
Map 15: Educational Institutions
April 23, 2021
Miles
0 0.5 1 2
N

TABLE 1: StreetLight Data Comparison

FARGO

ROAD	AVG STL VOL	2015 AADT OFFICIAL COUNT
12th Ave N just W of I-29	17377	16700
13th Ave S just W of 42nd St S	29628	25150
15th Ave N just E of Broadway	2247	2095
17th Ave S just W of 17th St S	7958	5300
17th St just N of 13th Ave S	2724	2605
1st Ave N just W of 29th St N	2441	1525
25th St S just N of 40th Ave S	8734	10325
30th Ave S just W of 45th St S	6316	4680
32nd Ave S just E of 25th St S	14764	18325
40th Ave S just W of 45th St S	17172	14425
45th St S just S of 17th Ave S	31812	35015
52nd Ave S just W of University	7826	9095
7th Ave N just E of 10th St N	4271	11770
Broadway just S of 2nd Ave N	9203	5510
Elm St just N of 22nd Ave N	5229	5105
I-29 just N of the junction with I-94	57709	63705
I-29 just S of the 19th Ave N Interchange	32645	32532
I-94 just W of the Red River	72311	73191
University Dr just N of 14th Ave N	8889	1020

WEST FARGO

ROAD	AVG STL VOL	2015 AADT OFFICIAL COUNT
13th Ave E just W of 9th St E	14697	14775
17th Ave E just W of 16th St E	6450	5235
36th Ave E just W of Vets Blvd	3242	5460
7th Ave NE just E of 9th St NE	2426	3185
9th St just S of Main Ave	7513	8635
9th St W just S of 40th Ave W	2227	2340
I-94 just W of the Sheyenne Interchange	17688	18405
I-94 just W of Vets Blvd Interchange	28438	31810
Main Ave just W of 15th St	6628	7665
Main Ave just W of 45th St	22587	20075
Sheyenne St just S of Main Ave	6044	6665
Sheyenne St just S of the I-94 Interchange	11079	17530
Veterans Blvd just S of the I-94 Interchange	28619	26015

HORACE

ROAD	AVG STL VOL	2015 AADT OFFICIAL COUNT
100th Ave S Just E of CR 17	2381	1175
CR 17 - Just N of 88th Ave S	3690	3515
CR 17 - Just S of 52nd Ave S	4495	5910

MOORHEAD

ROAD	AVG STL VOL	2015 AADT OFFICIAL COUNT
11th St S just S of Center Ave	3974	5560
15th Ave N just W of 11th St N	7865	8135
1st Ave N just W of 16th St N	6283	9825
34th St S just S of 26th Ave S	12053	20305
40th Ave S just W of 20th St S	2918	3225
46th Ave S just W of 8th St	1724	1700
Center Ave just W of 8th St	7073	7010
I-94 just E of the 8th St/US 75 Interchange	47794	43290
I-94 just E of the Moorhead Rest Area	35276	33325
S Rivershore Dr just E of 5th St S	3314	5175
US 10 just W of US 75	20093	22000
US 75 (8th St S) just S of 12th Ave S	17752	19700
US 75 just S of 15th Ave N	5508	6065

DILWORTH

ROAD	AVG STL VOL	2015 AADT OFFICIAL COUNT
34th St just S of 3rd Ave NW	10372	8020
4th Ave SW just W of Main St S	488	3180
7th St NE just N of Center Ave (US 10)	2419	4120
Center Ave (US 10) just W of Main St	14736	15100
US 10 just E of 34th St	16191	18700
	46268	

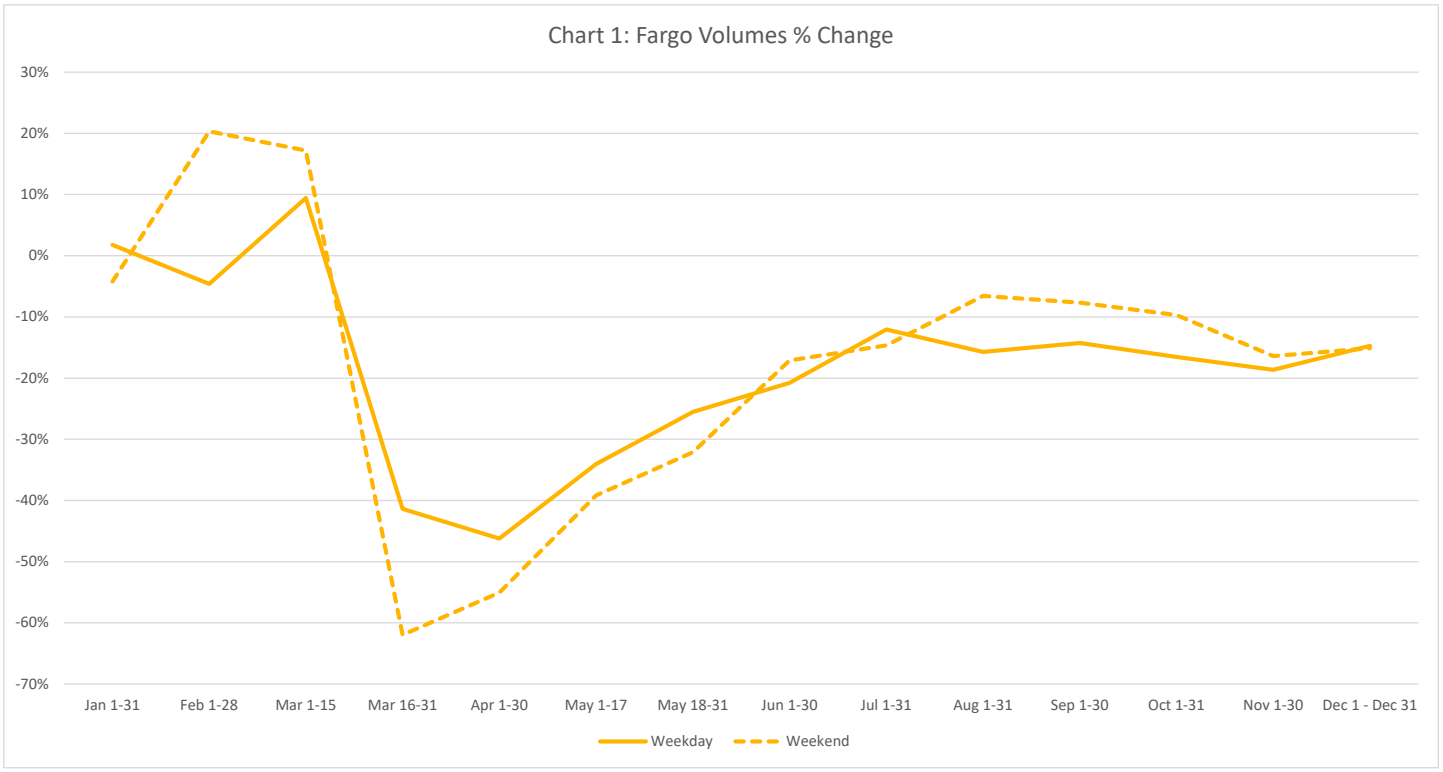


Chart 1: Fargo Volumes % Change
30%
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
-70%
Jan 1-31
Feb 1-28
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1 - Dec 31
Weekday
Weekend

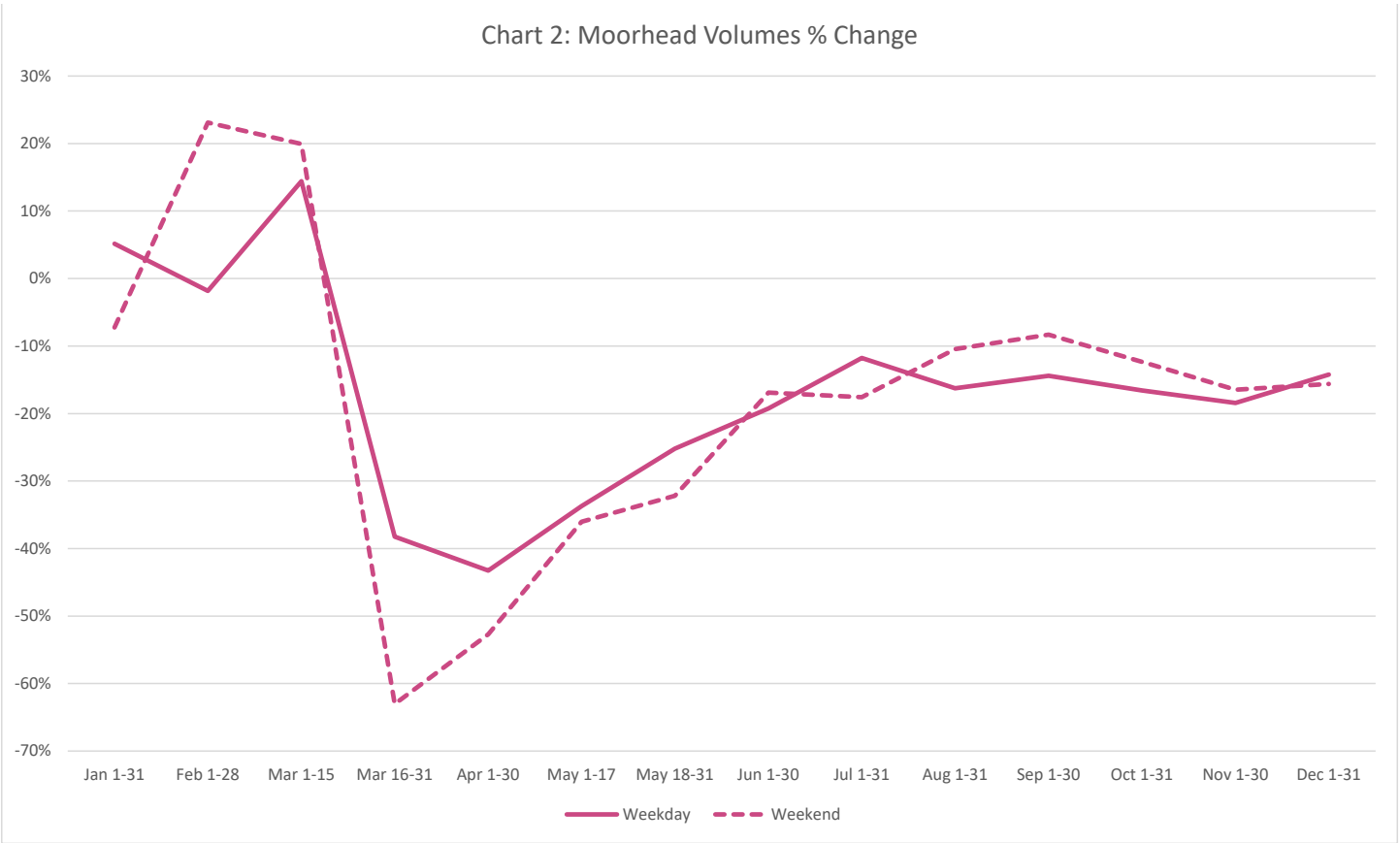


Chart 2: Moorhead Volumes % Change
30%
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
-70%
Jan 1-31
Feb 1-28
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Weekday
Weekend

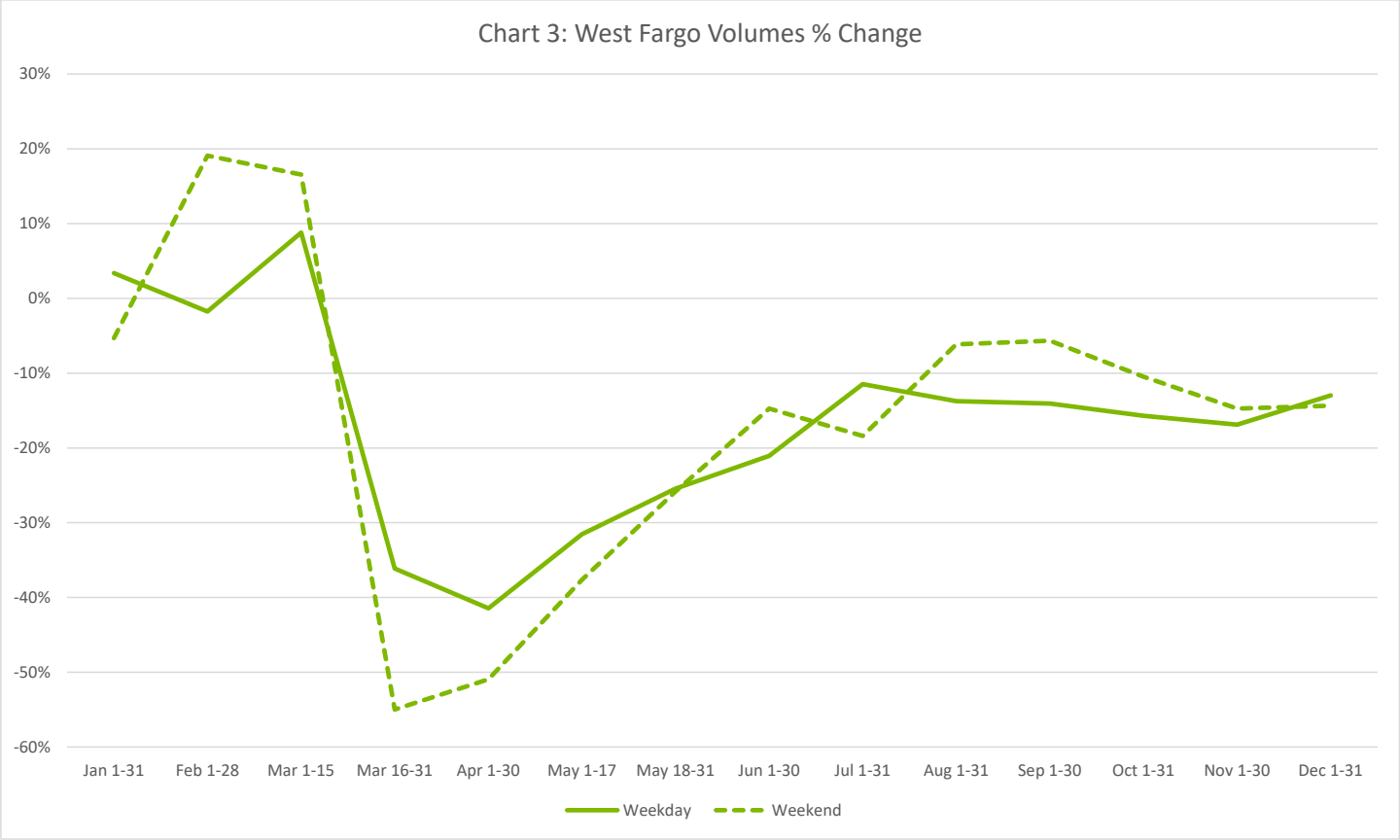


Chart 3: West Fargo Volumes % Change
30%
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
Jan 1-31
Feb 1-28
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Weekday
Weekend

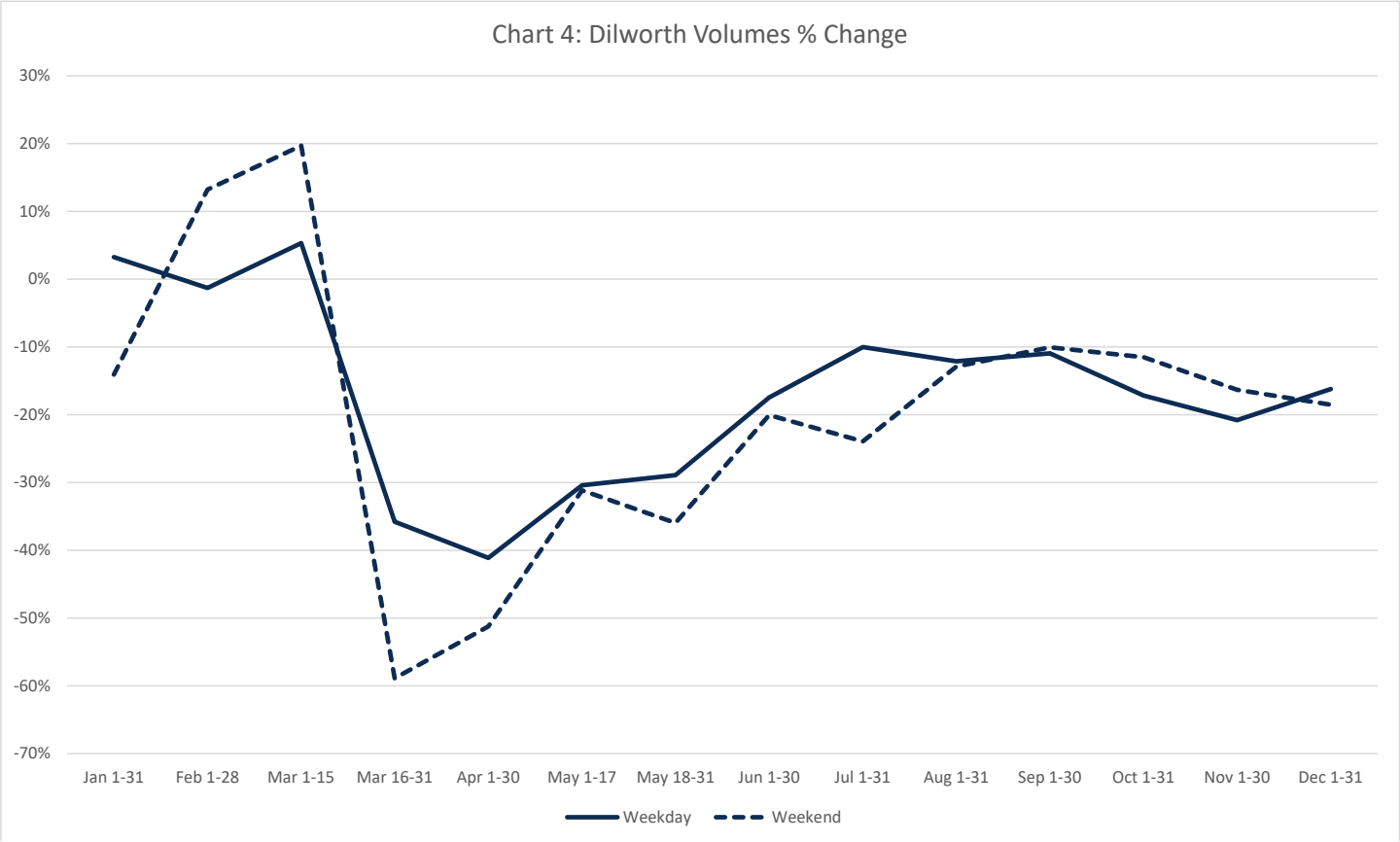


Chart 4: Dilworth Volumes % Change
30%
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
-70%
Jan 1-31
Feb 1-28
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Weekday
Weekend

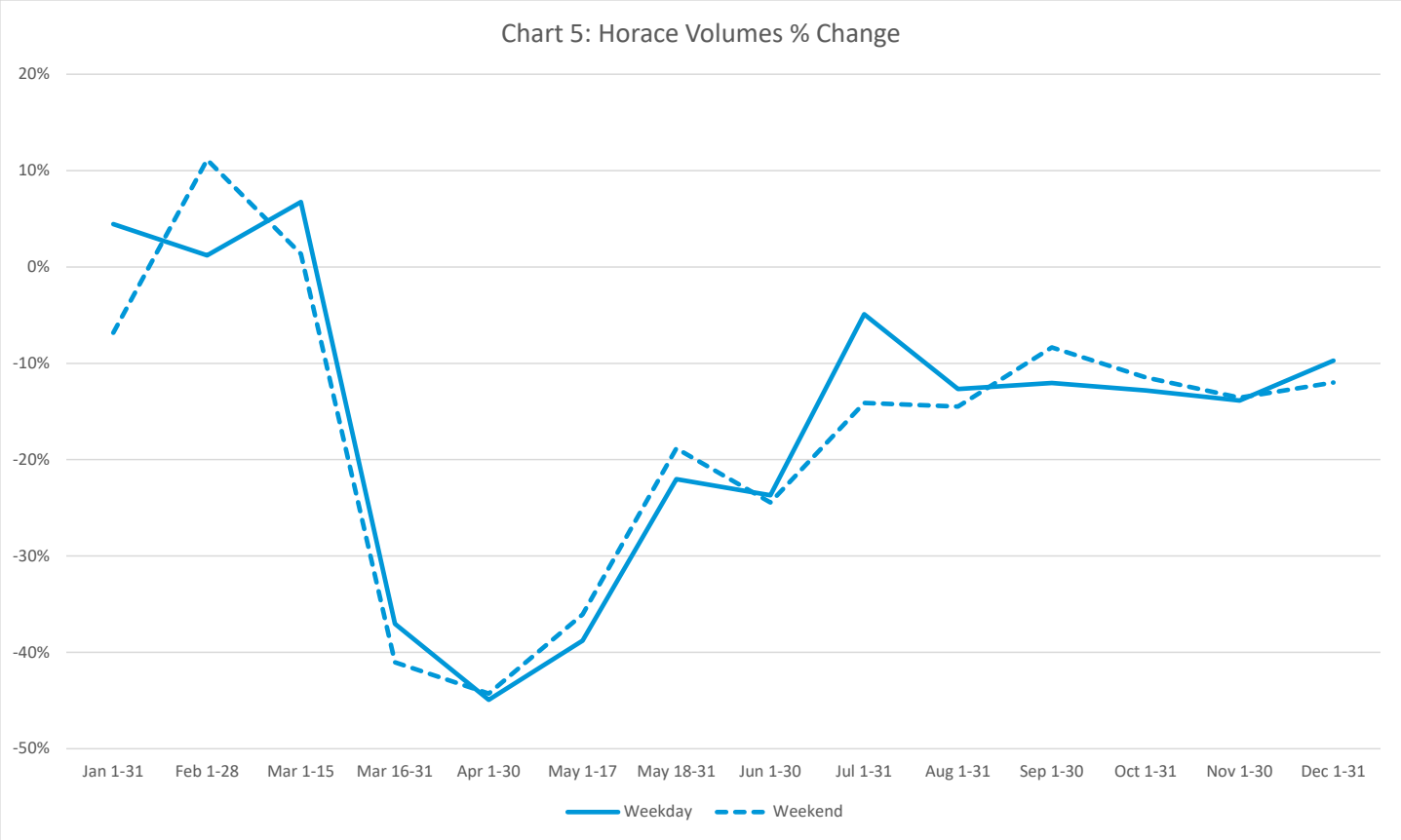


TABLE 2: StreetLight Volume by Jurisdiction - WEEKDAYS

JURISDICTION	DATA PERIOD	PRE-PANDEMIC			PANDEMIC			NEW NORMAL							
		Jan 1 - Jan 31	Feb 1 - Feb 29	Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31
Fargo	Baseline	295257	316247	315081	360994	355428	357056	365373	399516	382010	398746	368728	359219	338965	316869
	2020	300510	301675	344846	211611	191164	235487	272092	316474	336014	336116	316127	299848	275729	270227
	% Difference	**2%**	**-5%**	**9%**	**-41%**	**-46%**	**-34%**	**-26%**	**-21%**	**-12%**	**-16%**	**-14%**	**-17%**	**-19%**	**-15%**
Moorhead	Baseline	145287	155997	153249	179078	174351	175222	181108	191059	190076	195045	183520	180402	171456	158403
	2020	152781	153127	175348	110597	98925	116145	135469	154266	167736	163327	157089	150480	139839	135879
	% Difference	**5%**	**-2%**	**14%**	**-38%**	**-43%**	**-34%**	**-25%**	**-19%**	**-12%**	**-16%**	**-14%**	**-17%**	**-18%**	**-14%**
West Fargo	Baseline	136561	146153	147462	166970	166137	167983	170687	186659	182455	186959	174600	168375	158955	147749
	2020	141157	143577	160437	106630	97291	114984	127271	147326	161510	161260	150014	141943	132133	128583
	% Difference	**3%**	**-2%**	**9%**	**-36%**	**-41%**	**-32%**	**-25%**	**-21%**	**-11%**	**-14%**	**-14%**	**-16%**	**-17%**	**-13%**
Dilworth	Baseline	36908	38851	39003	44228	43251	42919	47799	48037	48885	50038	46597	45535	43823	40447
	2020	38106	38342	41080	28404	25463	29857	33966	39656	43989	43981	41502	37717	34707	33895
	% Difference	**3%**	**-1%**	**5%**	**-36%**	**-41%**	**-30%**	**-29%**	**-17%**	**-10%**	**-12%**	**-11%**	**-17%**	**-21%**	**-16%**
Horace	Baseline	9113	9467	10482	10795	11291	11851	12036	13320	12074	13314	12363	11693	11211	10263
	2020	9519	9582	11189	6796	6218	7253	9385	10164	11481	11626	10874	10194	9656	9265
	% Difference	**4%**	**1%**	**7%**	**-37%**	**-45%**	**-39%**	**-22%**	**-24%**	**-5%**	**-13%**	**-12%**	**-13%**	**-14%**	**-10%**

TABLE 3: StreetLight Volume by Jurisdiction - WEEKENDS

JURISDICTION	DATA PERIOD	PRE-PANDEMIC			PANDEMIC			NEW NORMAL							
		Jan 1 - Jan 31	Feb 1 - Feb 29	Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31
Fargo	Baseline	266147	256848	252875	296626	306454	319278	296120	281590	289161	289714	297035	297738	281903	273448
	2020	254897	309081	296375	112861	137795	194225	201081	233435	246822	270655	274274	268838	235633	232119
	% Difference	**-4%**	**20%**	**17%**	**-62%**	**-55%**	**-39%**	**-32%**	**-17%**	**-15%**	**-7%**	**-8%**	**-10%**	**-16%**	**-15%**
Moorhead	Baseline	140881	131673	126700	160670	165917	170399	166222	155966	158745	164766	156160	162238	148064	146483
	2020	130693	162123	151983	59391	78487	109009	112730	129626	130837	147567	143198	142235	123682	123626
	% Difference	**-7%**	**23%**	**20%**	**-63%**	**-53%**	**-36%**	**-32%**	**-17%**	**-18%**	**-10%**	**-8%**	**-12%**	**-16%**	**-16%**
West Fargo	Baseline	117425	111517	110037	130561	138880	147720	130861	130294	134496	131690	131056	133709	126060	120547
	2020	111175	132804	128259	58780	68148	92112	97033	111068	109772	123591	123625	119709	107482	103233
	% Difference	**-5%**	**19%**	**17%**	**-55%**	**-51%**	**-38%**	**-26%**	**-15%**	**-18%**	**-6%**	**-6%**	**-10%**	**-15%**	**-14%**
Dilworth	Baseline	38494	35526	35002	42004	45512	44618	45299	43037	43871	43486	42361	43173	39398	38907
	2020	33076	40226	41900	17261	22193	30720	29007	34410	33364	37868	38094	38200	32966	31703
	% Difference	**-14%**	**13%**	**20%**	**-59%**	**-51%**	**-31%**	**-36%**	**-20%**	**-24%**	**-13%**	**-10%**	**-12%**	**-16%**	**-19%**
Horace	Baseline	7919	7852	8270	8360	9941	10308	8569	9302	8079	8842	9093	9370	8590	8144
	2020	7378	8727	8381	4930	5539	6591	6955	7028	6939	7560	8334	8295	7425	7168
	% Difference	**-7%**	**11%**	**1%**	**-41%**	**-44%**	**-36%**	**-19%**	**-24%**	**-14%**	**-14%**	**-8%**	**-11%**	**-14%**	**-12%**

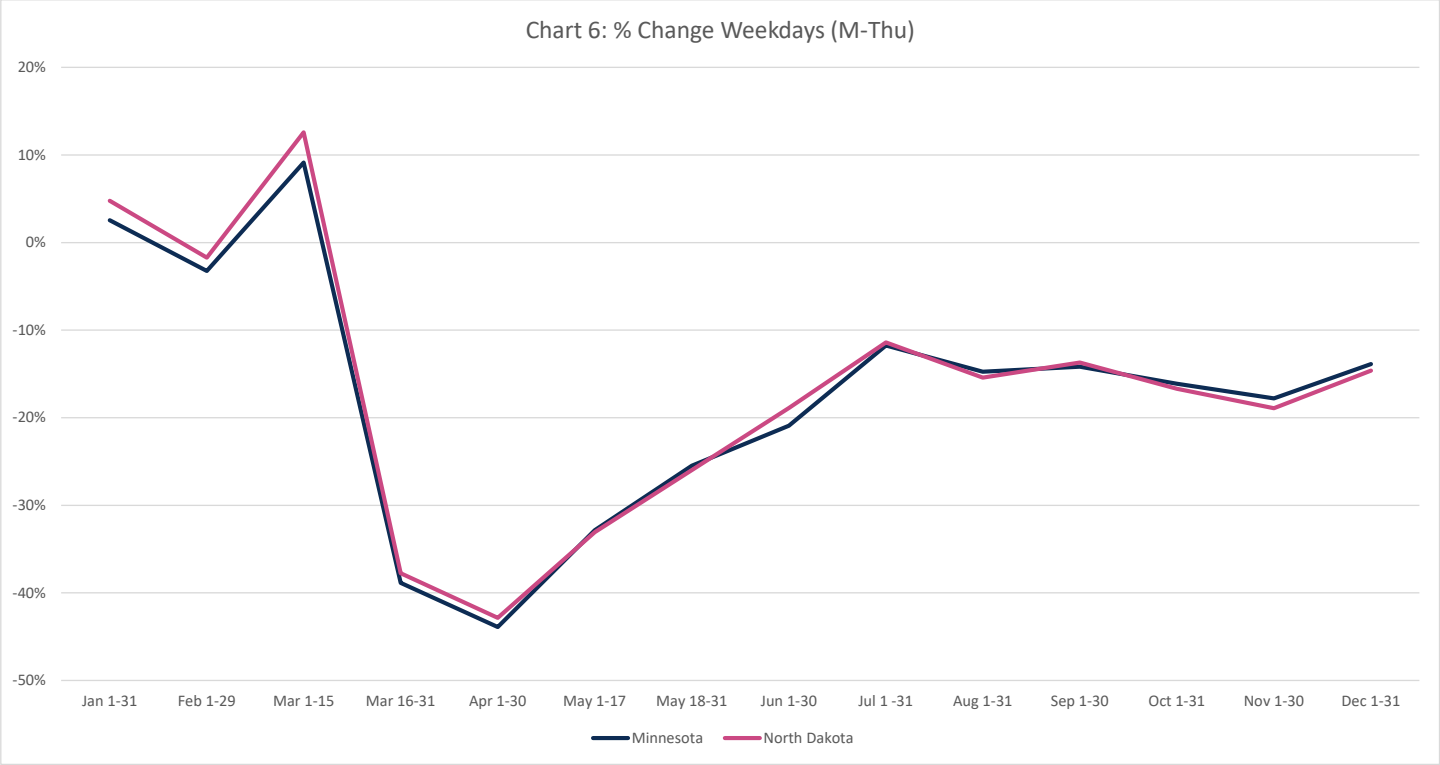


Chart 6: % Change Weekdays (M-Thu)
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1 -31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Minnesota
North Dakota

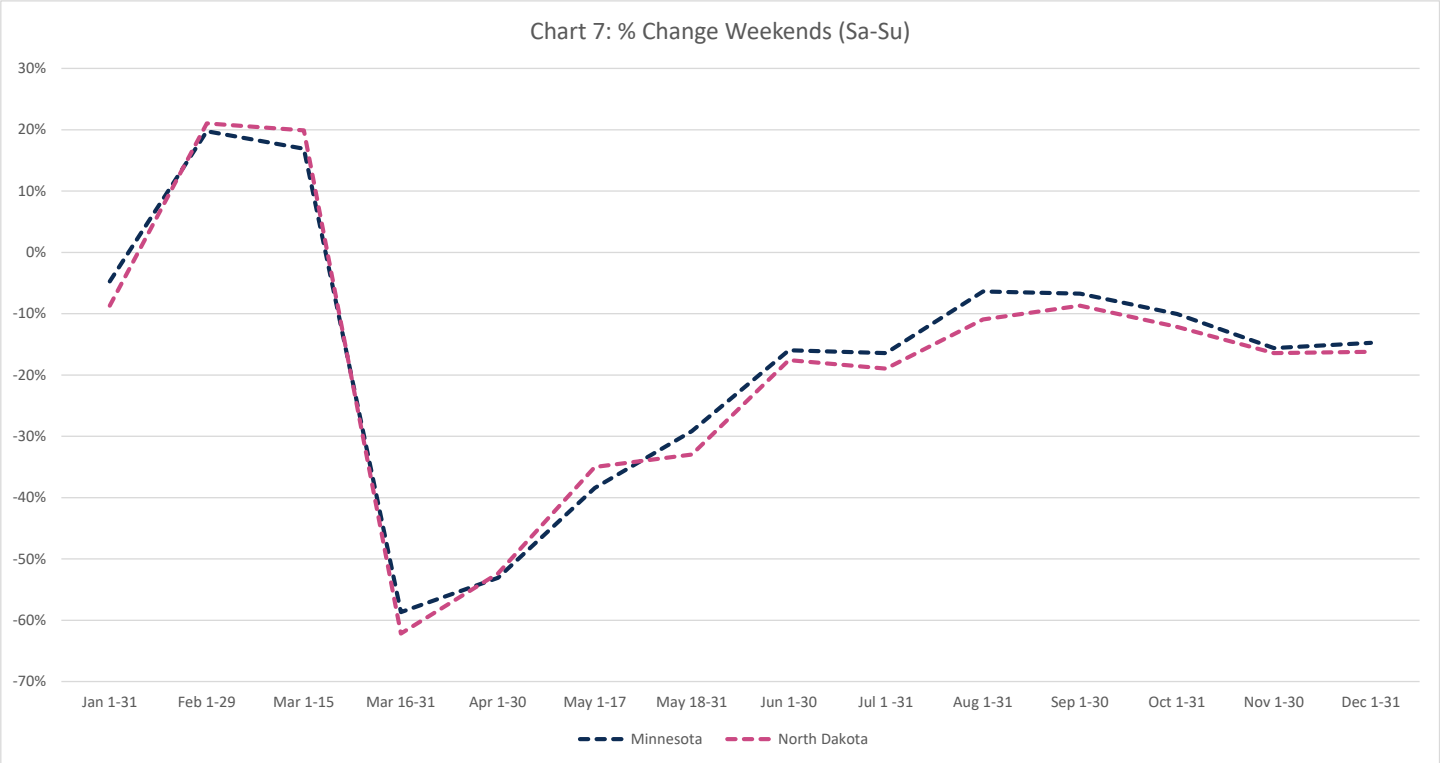
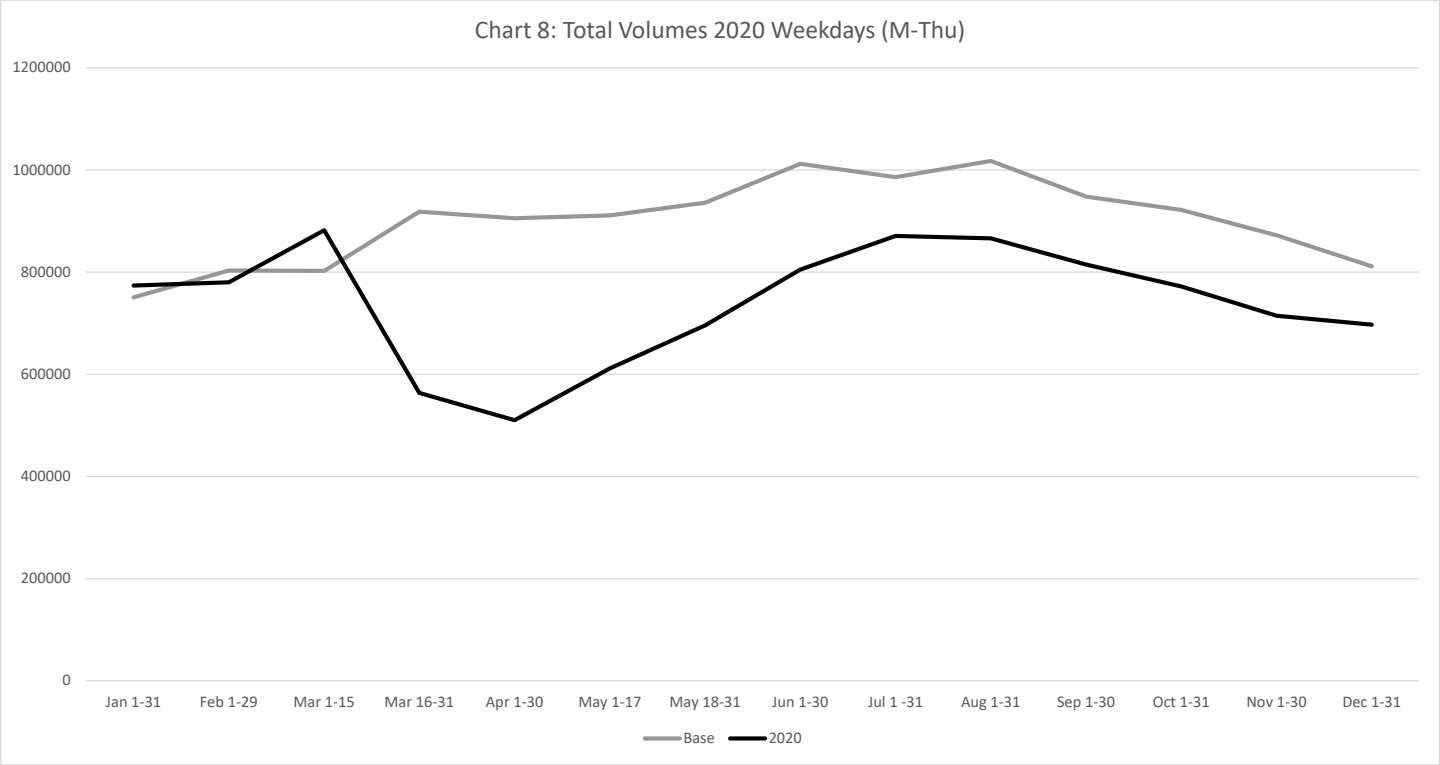


Chart 7: % Change Weekends (Sa-Su)
30%
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
-70%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1 -31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Minnesota
North Dakota

TABLE 4: StreetLight Volume by State - WEEKDAYS															
JURISDICTION	DATA PERIOD	PRE-PANDEMIC			PANDEMIC			NEW NORMAL							
		Jan 1 - Jan 31	Feb 1 - Feb 29	Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31
Minnesota	Baseline	182195	194848	192252	223306	217602	218141	228907	239096	238961	245083	230117	225937	215279	198850
	2020	190887	191469	216428	139001	124388	146002	169435	193922	211725	207308	198591	188197	174546	169774
	% Difference	5%	-2%	13%	-38%	-43%	-33%	-26%	-19%	-11%	-15%	-14%	-17%	-19%	-15%
North Dakota	Baseline	568379	608553	610005	694934	687702	693022	706747	772834	746920	772664	717928	695969	656875	612367
	2020	582824	588829	665720	424871	385746	465455	526634	611126	659034	658636	616155	583734	539995	527393
	% Difference	3%	-3%	9%	-39%	-44%	-33%	-25%	-21%	-12%	-15%	-14%	-16%	-18%	-14%

TABLE 5: StreetLight Volume by State - WEEKENDS															
JURISDICTION	DATA PERIOD	PRE-PANDEMIC			PANDEMIC			NEW NORMAL							
		Jan 1 - Jan 31	Feb 1 - Feb 29	Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31
Minnesota	Baseline	179375	167199	161702	202674	211429	215017	211521	199003	202616	208252	198521	205411	187462	185390
	2020	163769	202349	193883	76652	100680	139729	141737	164036	164201	185435	181292	180435	156648	155329
	% Difference	-9%	21%	20%	-62%	-52%	-35%	-33%	-18%	-19%	-11%	-9%	-12%	-16%	-16%
North Dakota	Baseline	500997	479882	472949	557748	584214	614718	557842	542178	558153	553094	559147	565156	534023	514542
	2020	477247	574689	552893	230421	274091	378449	395147	455571	466366	517837	521524	508256	450597	438585
	% Difference	-5%	20%	17%	-59%	-53%	-38%	-29%	-16%	-16%	-6%	-7%	-10%	-16%	-15%



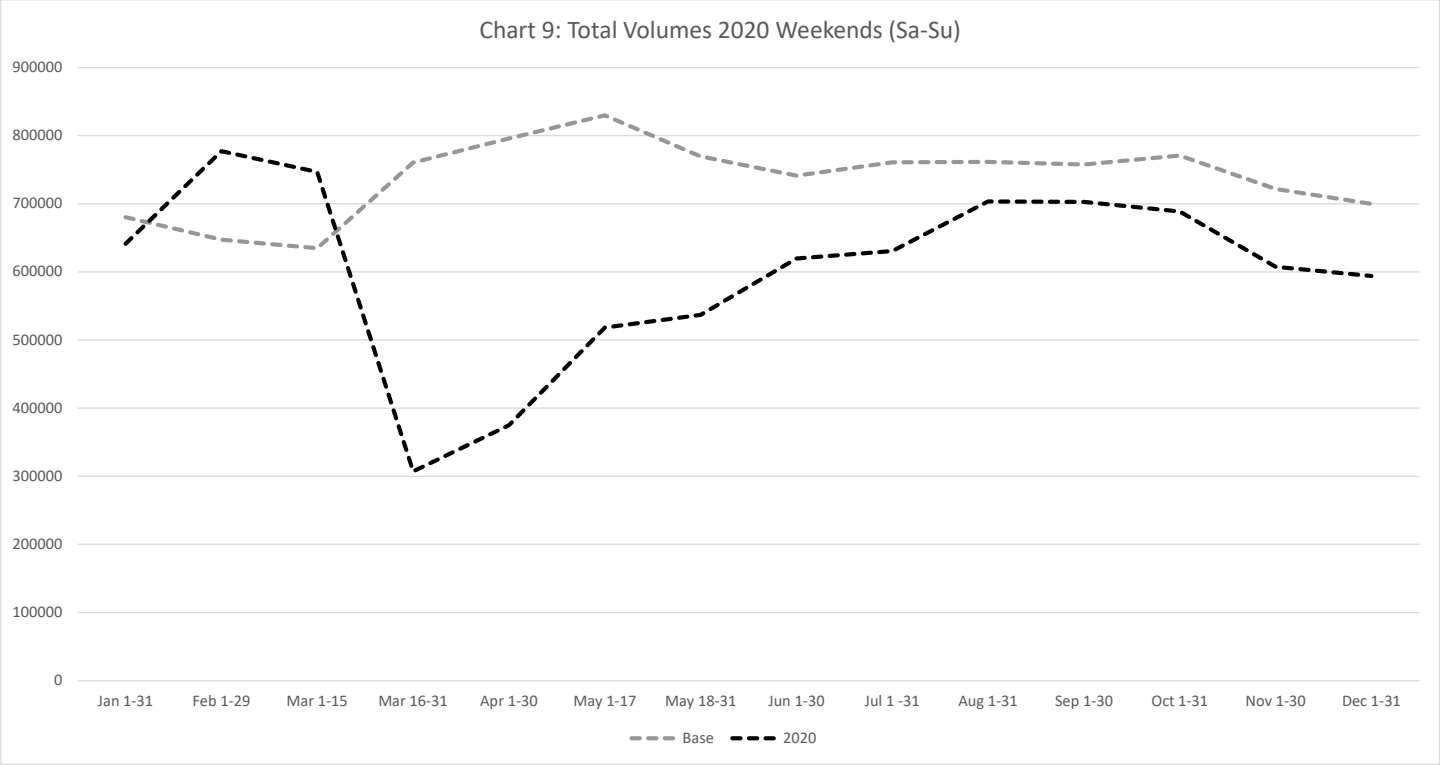
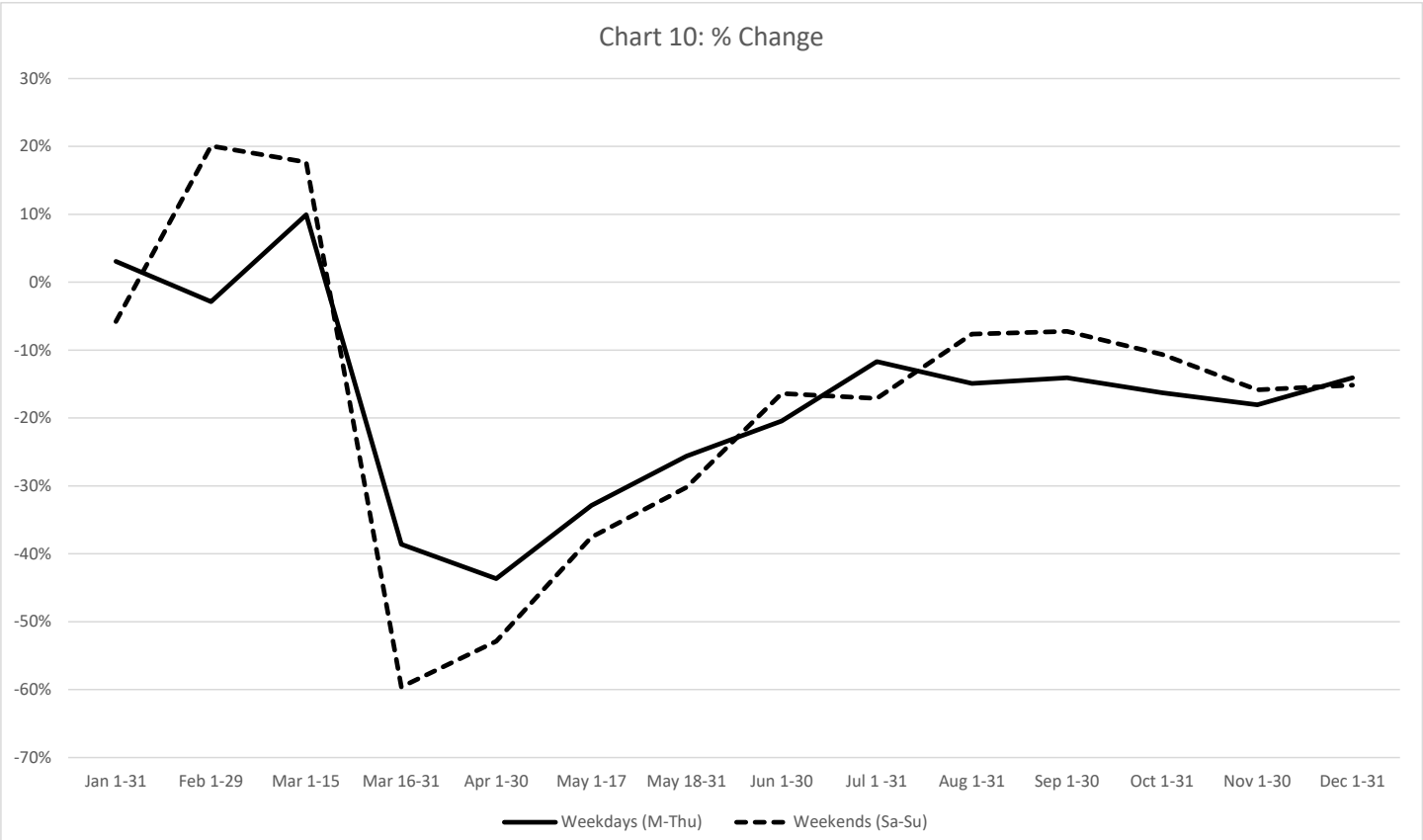


TABLE 6: StreetLight Volume Metro-wide

JURISDICTION	DATA PERIOD	PRE-PANDEMIC			PANDEMIC			NEW NORMAL							
		Jan 1 - Jan 31	Feb 1 - Feb 29	Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31
Weekdays	Baseline	750574	803401	802257	918240	905304	911163	935654	1011930	985881	1017747	948045	921906	872154	811217
	2020	773711	780298	882148	563872	510134	611457	696069	805048	870759	865944	814746	771931	714541	697167
	% Difference	**3%**	**-3%**	**10%**	**-39%**	**-44%**	**-33%**	**-26%**	**-20%**	**-12%**	**-15%**	**-14%**	**-16%**	**-18%**	**-14%**
Weekends	Baseline	680372	647081	634651	760422	795643	829735	769363	741181	760769	761346	757668	770567	721485	699932
	2020	641016	777038	746776	307073	374771	518178	536884	619607	630567	703272	702816	688691	607245	593914
	% Difference	**-6%**	**20%**	**18%**	**-60%**	**-53%**	**-38%**	**-30%**	**-16%**	**-17%**	**-8%**	**-7%**	**-11%**	**-16%**	**-15%**



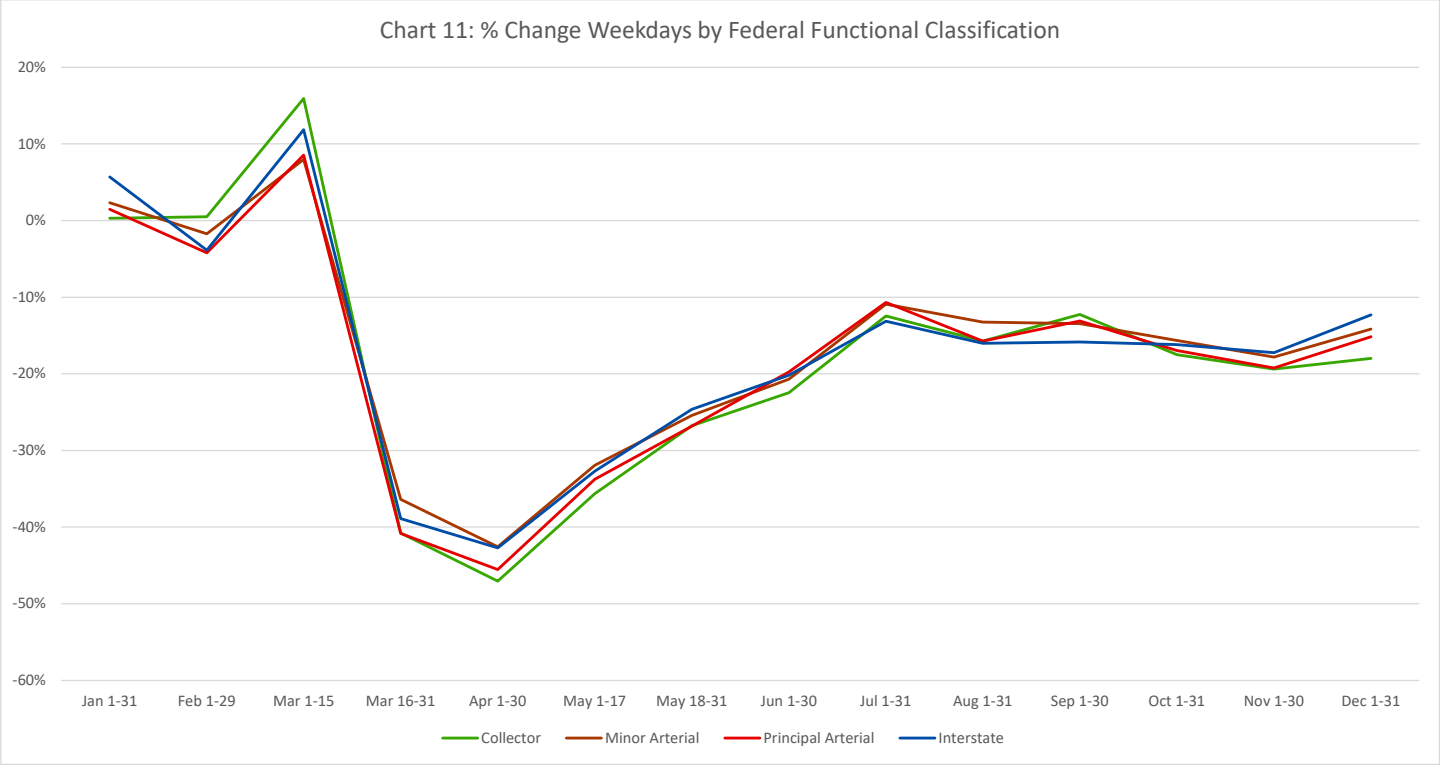


Chart 11: % Change Weekdays by Federal Functional Classification
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Collector
Minor Arterial
Principal Arterial
Interstate

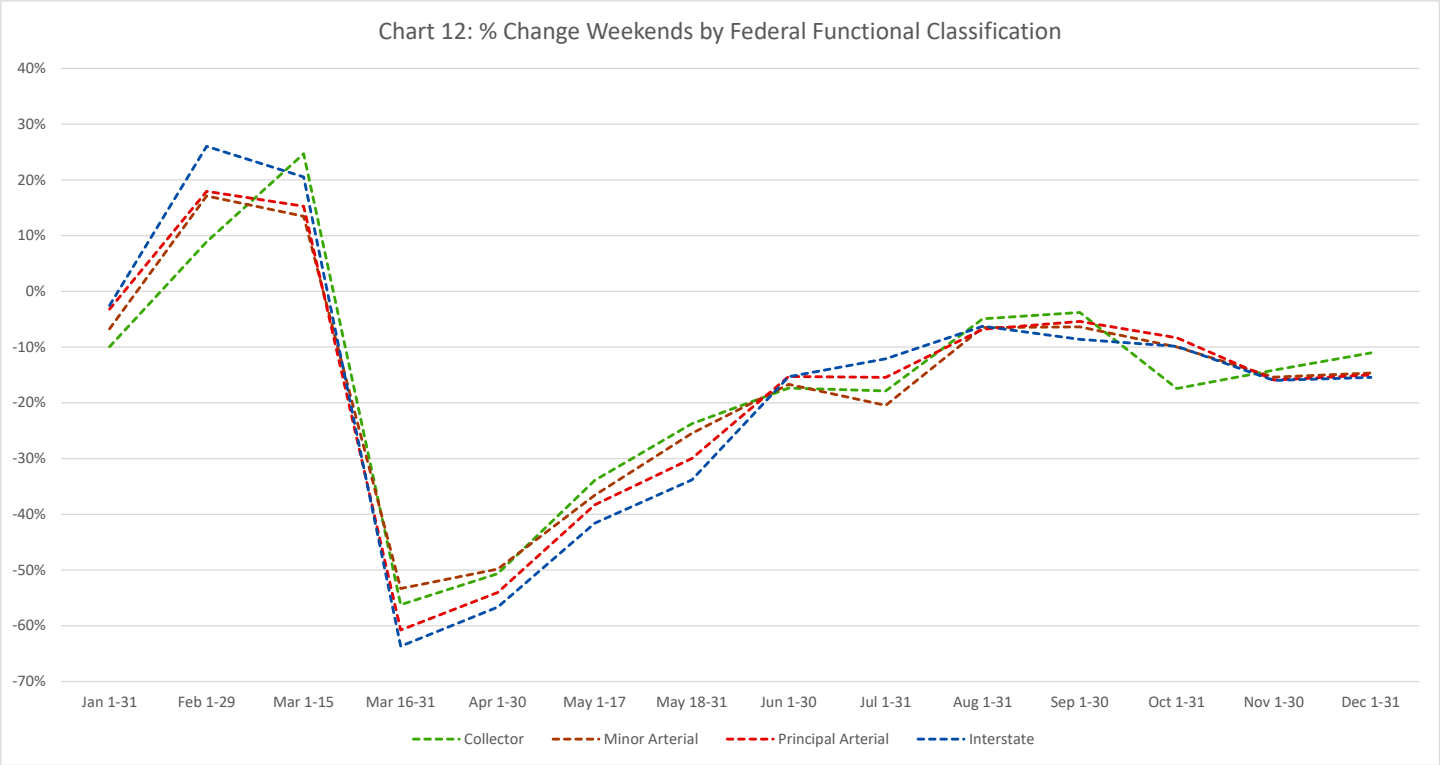


Chart 12: % Change Weekends by Federal Functional Classification
40%
30%
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
-70%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Collector
Minor Arterial
Principal Arterial
Interstate

TABLE 7: Monitoring StreetLight Volume by Jurisdiction - WEEKDAYS

JURISDICTION	DATA PERIOD	PRE-PAN	PANDEMIC			NEW NORMAL									
		2020												2021	
		Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31	**Jan 1 - Jan 31**	**Feb 1 - Feb 28**
Fargo	Baseline	315081	360994	355428	357056	365373	399516	382010	398746	368728	359219	338965	316869	295257	316247
	2020-2021	344846	211611	191164	235487	272092	316474	336014	336116	316127	299848	275729	270227	281130	282938
	% Difference	9%	-41%	-46%	-34%	-26%	-21%	-12%	-16%	-14%	-17%	-19%	-15%	**-5%**	**-11%**
Moorhead	Baseline	153249	179078	174351	175222	181108	191059	190076	195045	183520	180402	171456	158403	145287	155997
	2020-2021	175348	110597	98925	116145	135469	154266	167736	163327	157089	150480	139839	135879	157611	160860
	% Difference	14%	-38%	-43%	-34%	-25%	-19%	-12%	-16%	-14%	-17%	-18%	-14%	**8%**	**3%**
West Fargo	Baseline	147462	166970	166137	167983	170687	186659	182455	186959	174600	168375	158955	147749	136561	146153
	2020-2021	160437	106630	97291	114984	127271	147326	161510	161260	150014	141943	132133	128583	151140	154194
	% Difference	9%	-36%	-41%	-32%	-25%	-21%	-11%	-14%	-14%	-16%	-17%	-13%	**11%**	**6%**
Dilworth	Baseline	39003	44228	43251	42919	47799	48037	48885	50038	46597	45535	43823	40447	36908	38851
	2020-2021	41080	28404	25463	29857	33966	39656	43989	43981	41502	37717	34707	33895	37110	38588
	% Difference	5%	-36%	-41%	-30%	-29%	-17%	-10%	-12%	-11%	-17%	-21%	-16%	**1%**	**-1%**
Horace	Baseline	10482	10795	11291	11851	12036	13320	12074	13314	12363	11693	11211	10263	10482	10795
	2020-2021	11189	6796	6218	7253	9385	10164	11481	11626	10874	10194	9656	9265	15408	16473
	% Difference	7%	-37%	-45%	-39%	-22%	-24%	-5%	-13%	-12%	-13%	-14%	-10%	**47%**	**53%**

TABLE 8: Monitoring StreetLight Volume by Jurisdiction - WEEKENDS

JURISDICTION	DATA PERIOD	PRE-PAN	PANDEMIC			NEW NORMAL									
		2020												2021	
		Mar 1 - Mar 15	Mar 16 - Mar 31	Apr 1 - Apr 30	May 1 - May 17	May 18 - May 31	Jun 1 - Jun 30	Jul 1 - Jul 31	Aug 1 - Aug 31	Sep 1 - Sep 30	Oct 1 - Oct 31	Nov 1 - Nov 30	Dec 1 - Dec 31	**Jan 1 - Jan 31**	**Feb 1 - Feb 28**
Fargo	Baseline	252875	296626	306454	319278	296120	281590	289161	289714	297035	297738	281903	273448	266147	256848
	2020	296375	112861	137795	194225	201081	233435	246822	270655	274274	268838	235633	232119	261174	273057
	% Difference	17%	-62%	-55%	-39%	-32%	-17%	-15%	-7%	-8%	-10%	-16%	-15%	**-2%**	**6%**
Moorhead	Baseline	126700	160670	165917	170399	166222	155966	158745	164766	156160	162238	148064	146483	140811	131673
	2020	151983	59391	78487	109009	112730	129626	130837	147567	143198	142235	123682	123626	146053	151049
	% Difference	20%	-63%	-53%	-36%	-32%	-17%	-18%	-10%	-8%	-12%	-16%	-16%	**4%**	**15%**
West Fargo	Baseline	110037	130561	138880	147720	130861	130294	134496	131690	131056	133709	126060	120547	117425	132804
	2020	128259	58780	68148	92112	97033	111068	109772	123591	123625	119709	107482	103233	130870	135816
	% Difference	17%	-55%	-51%	-38%	-26%	-15%	-18%	-6%	-6%	-10%	-15%	-14%	**11%**	**2%**
Dilworth	Baseline	35002	42004	45512	44618	45299	43037	43871	43486	42361	43173	39398	38907	35002	42004
	2020	41900	17261	22193	30720	29007	34410	33364	37868	38094	38200	32966	31703	37804	36924
	% Difference	20%	-59%	-51%	-31%	-36%	-20%	-24%	-13%	-10%	-12%	-16%	-19%	**8%**	**-12%**
Horace	Baseline	8270	8360	9941	10308	8569	9302	8079	8842	9093	9370	8590	8144	8270	8360
	2020	8381	4930	5539	6591	6955	7028	6939	7560	8334	8295	7425	7168	12217	12673
	% Difference	1%	-41%	-44%	-36%	-19%	-24%	-14%	-14%	-8%	-11%	-14%	-12%	**48%**	**52%**

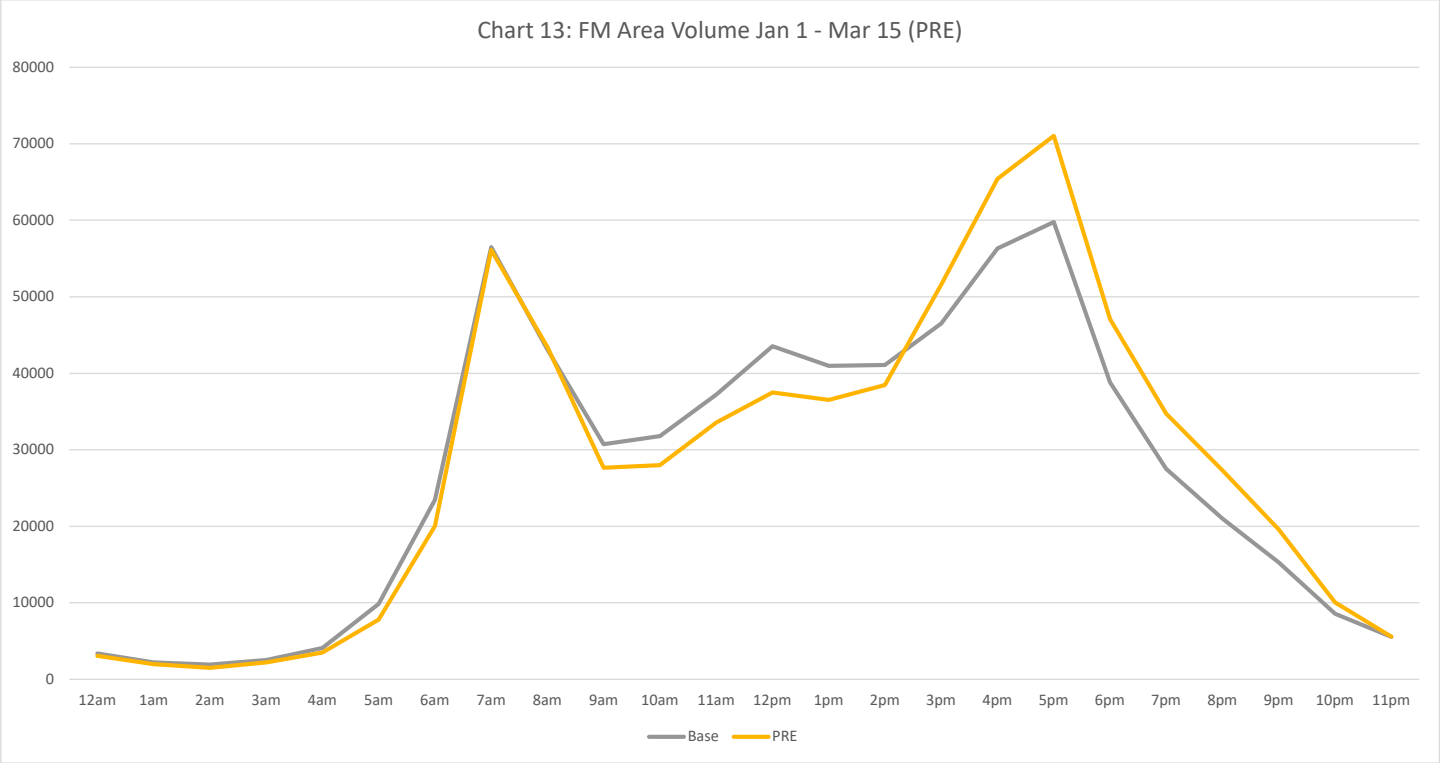


Chart 13: FM Area Volume Jan 1 - Mar 15 (PRE)
80000
70000
60000
50000
40000
30000
20000
10000
0
12am
1am
2am
3am
4am
5am
6am
7am
8am
9am
10am
11am
12pm
1pm
2pm
3pm
4pm
5pm
6pm
7pm
8pm
9pm
10pm
11pm
Base
PRE

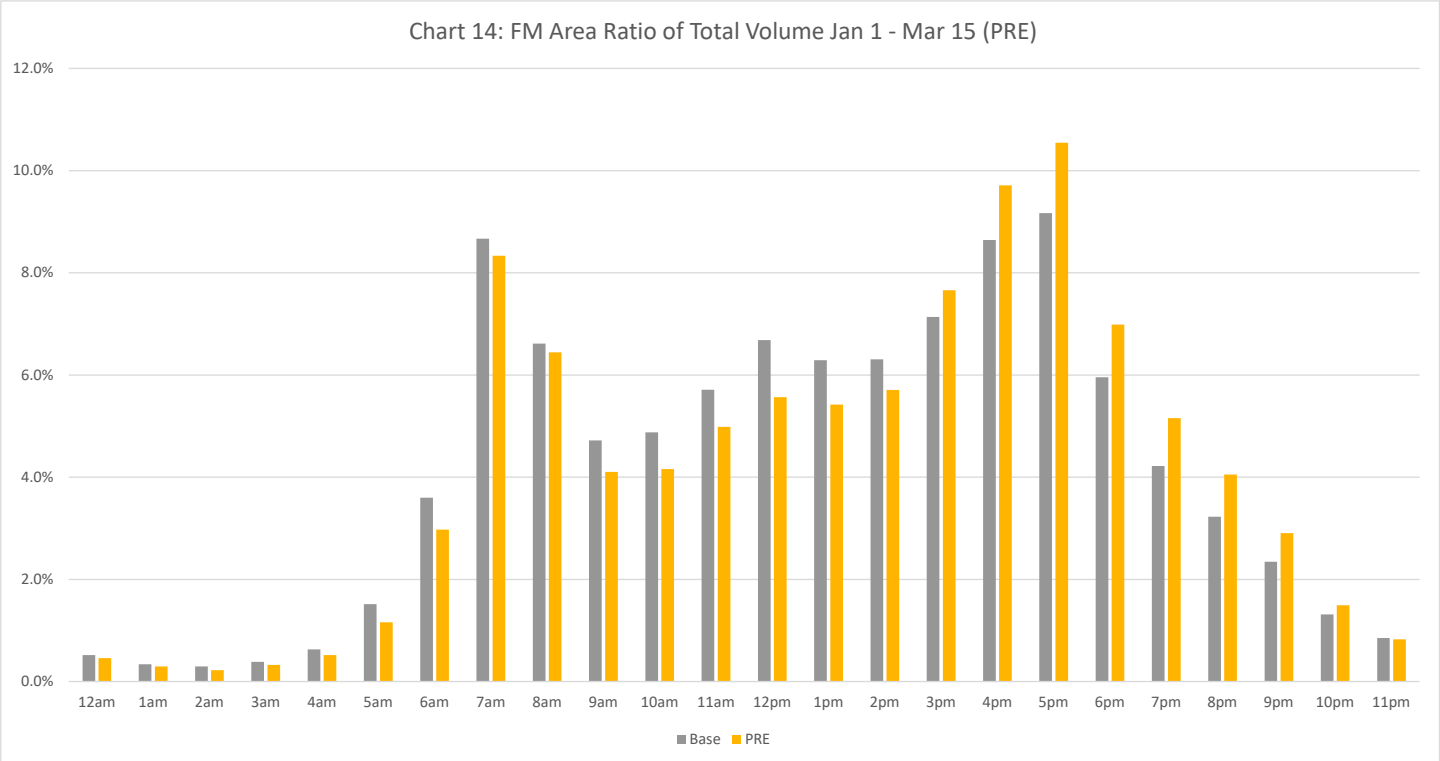


Chart 14: FM Area Ratio of Total Volume Jan 1 - Mar 15 (PRE)
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
12am
1am
2am
3am
4am
5am
6am
7am
8am
9am
10am
11am
12pm
1pm
2pm
3pm
4pm
5pm
6pm
7pm
8pm
9pm
10pm
11pm
Base
PRE

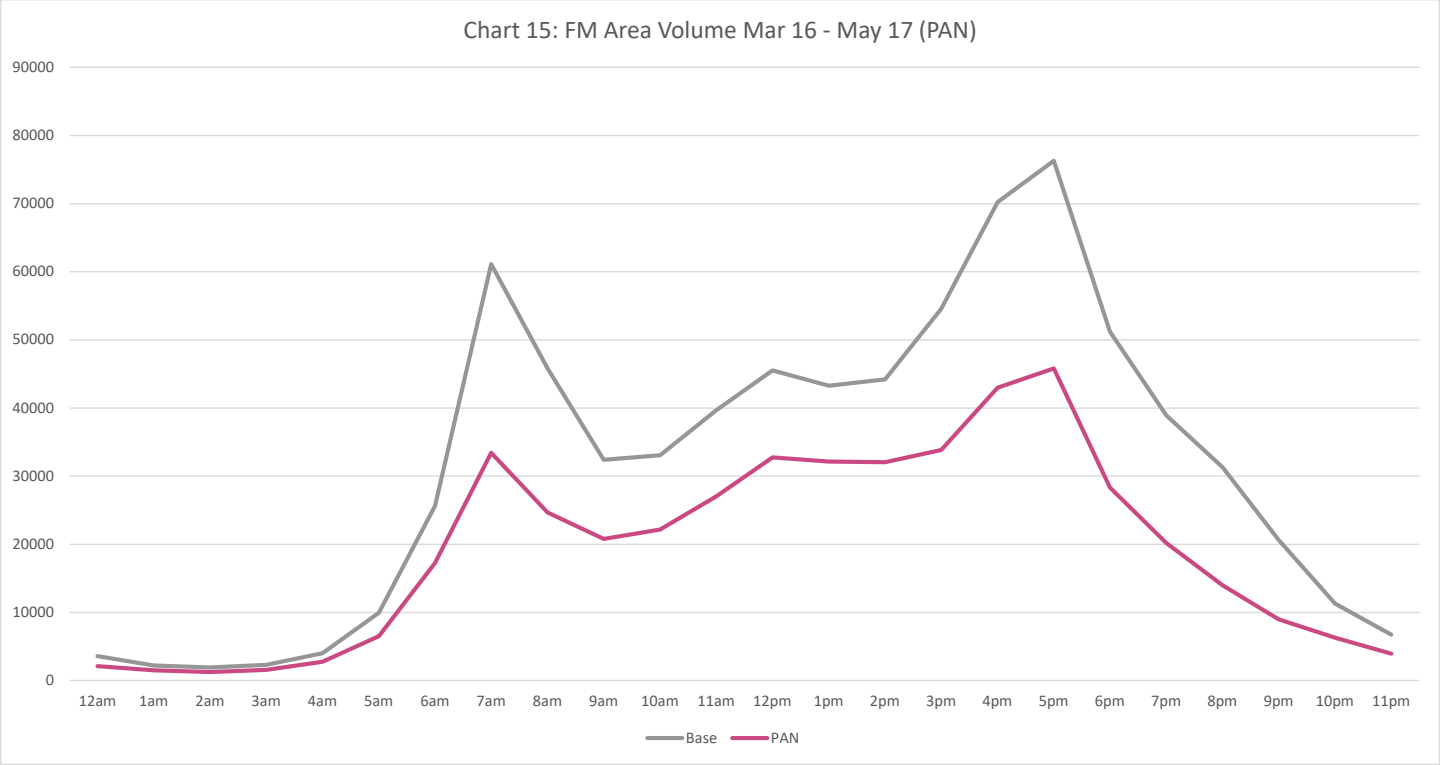


Chart 15: FM Area Volume Mar 16 - May 17 (PAN)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
12am
1am
2am
3am
4am
5am
6am
7am
8am
9am
10am
11am
12pm
1pm
2pm
3pm
4pm
5pm
6pm
7pm
8pm
9pm
10pm
11pm
Base
PAN

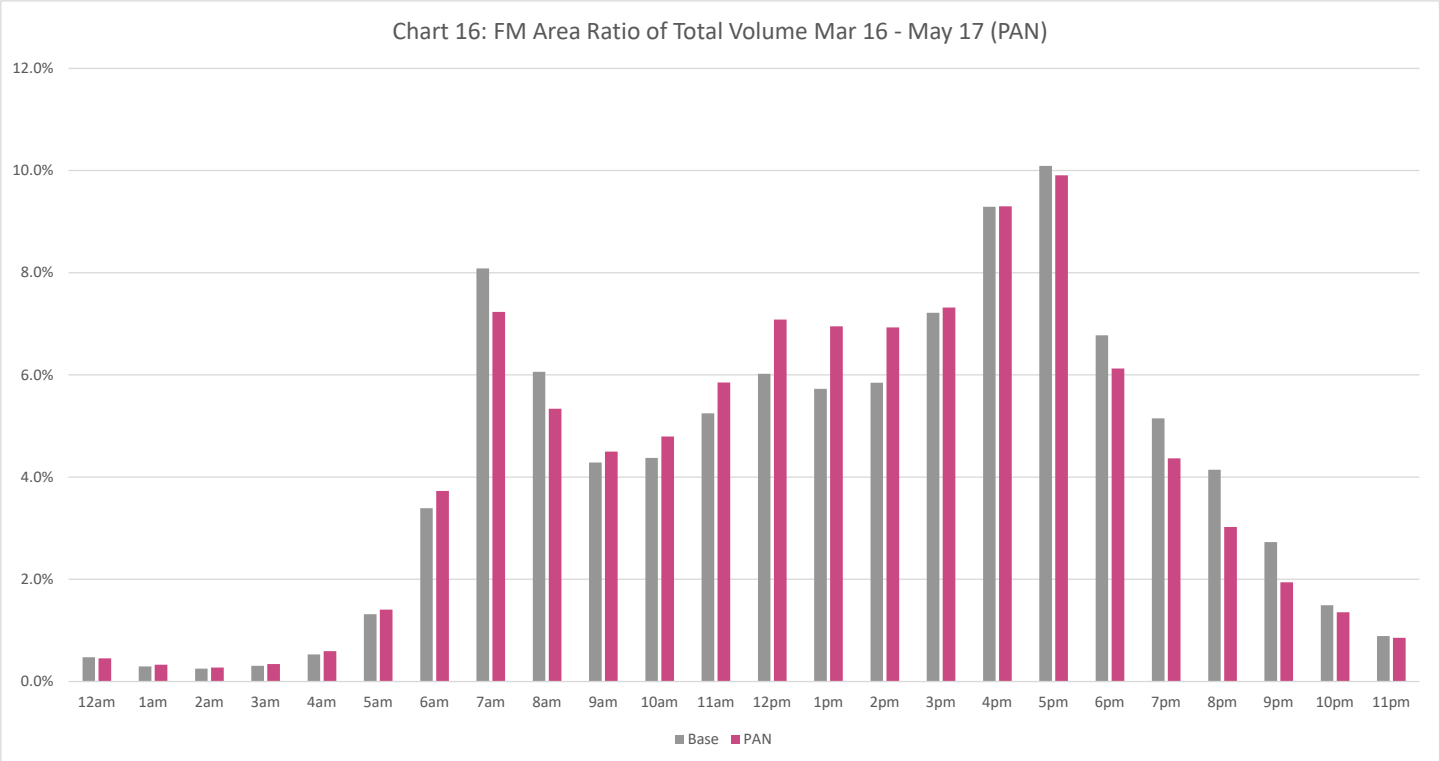


Chart 16: FM Area Ratio of Total Volume Mar 16 - May 17 (PAN)
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
12am
1am
2am
3am
4am
5am
6am
7am
8am
9am
10am
11am
12pm
1pm
2pm
3pm
4pm
5pm
6pm
7pm
8pm
9pm
10pm
11pm
Base
PAN

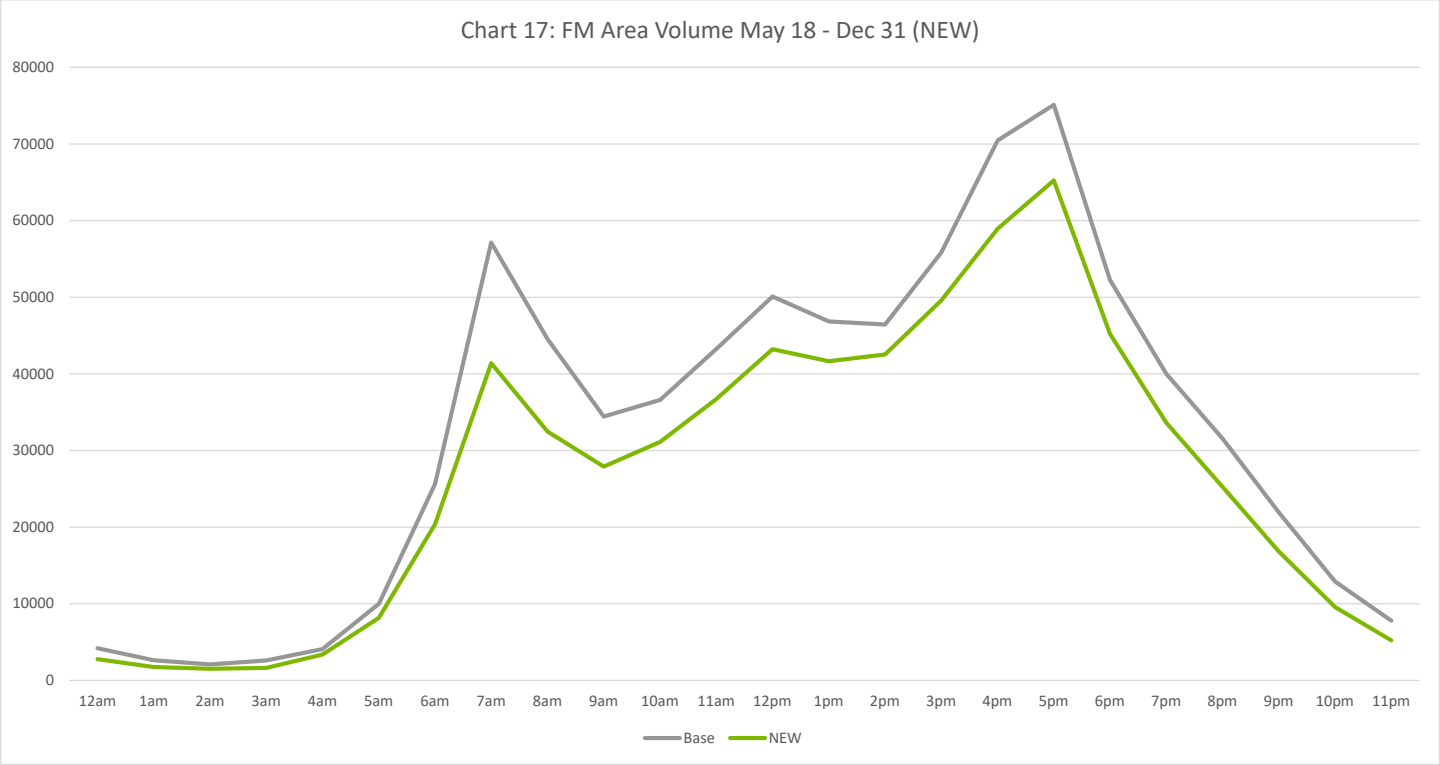


Chart 17: FM Area Volume May 18 - Dec 31 (NEW)
80000
70000
60000
50000
40000
30000
20000
10000
0
12am
1am
2am
3am
4am
5am
6am
7am
8am
9am
10am
11am
12pm
1pm
2pm
3pm
4pm
5pm
6pm
7pm
8pm
9pm
10pm
11pm
Base
NEW

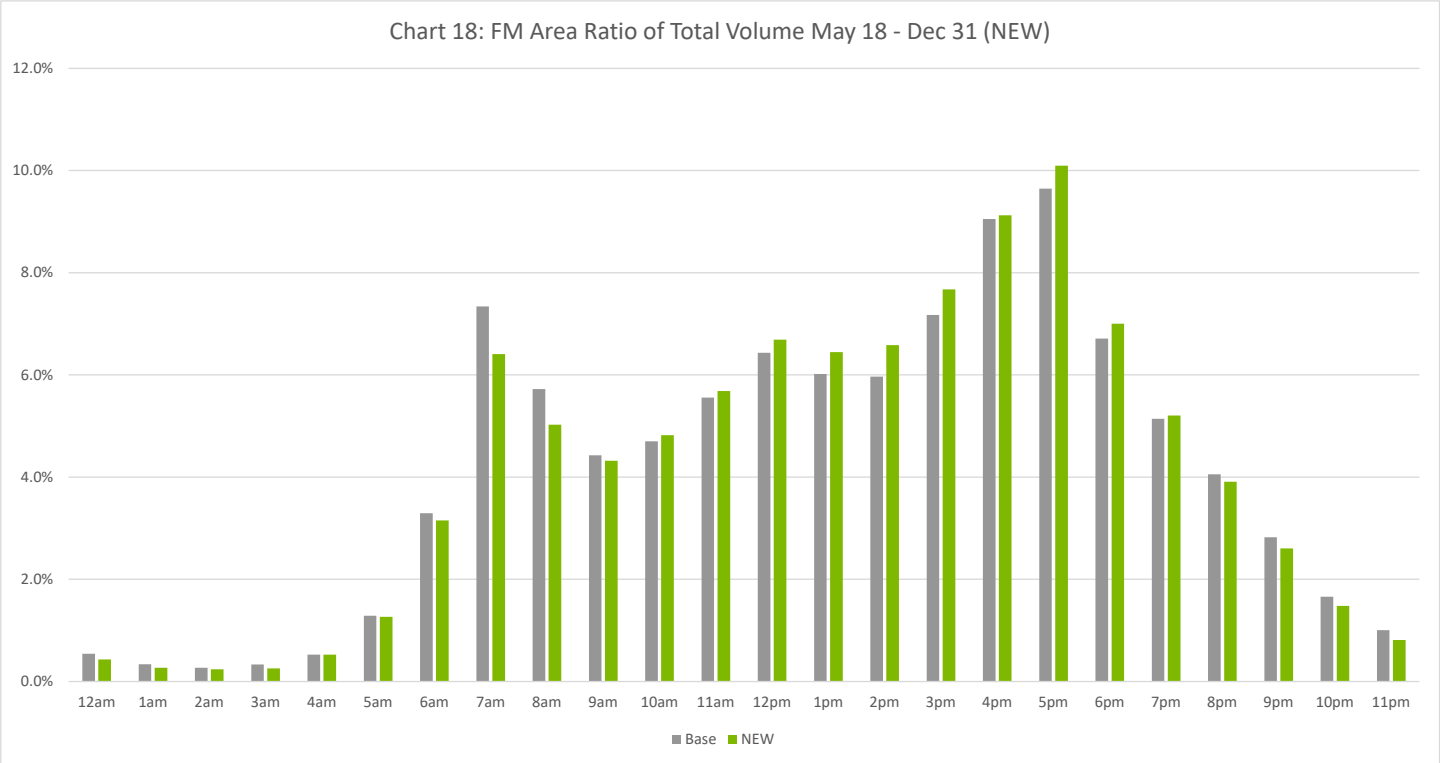


Chart 18: FM Area Ratio of Total Volume May 18 - Dec 31 (NEW)
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
12am
1am
2am
3am
4am
5am
6am
7am
8am
9am
10am
11am
12pm
1pm
2pm
3pm
4pm
5pm
6pm
7pm
8pm
9pm
10pm
11pm
Base
NEW

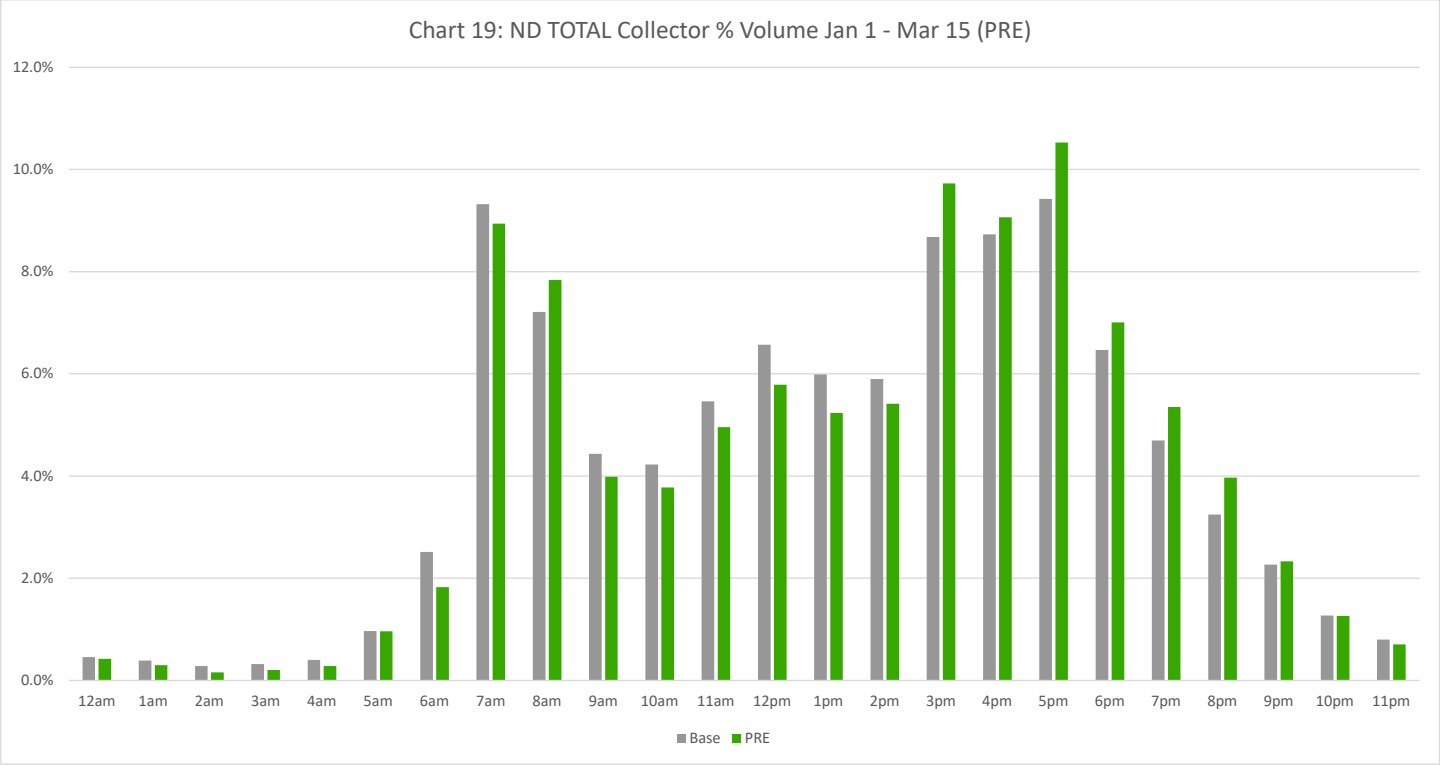


Chart 19: ND TOTAL Collector % Volume Jan 1 - Mar 15 (PRE)
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
12am
1am
2am
3am
4am
5am
6am
7am
8am
9am
10am
11am
12pm
1pm
2pm
3pm
4pm
5pm
6pm
7pm
8pm
9pm
10pm
11pm
Base
PRE

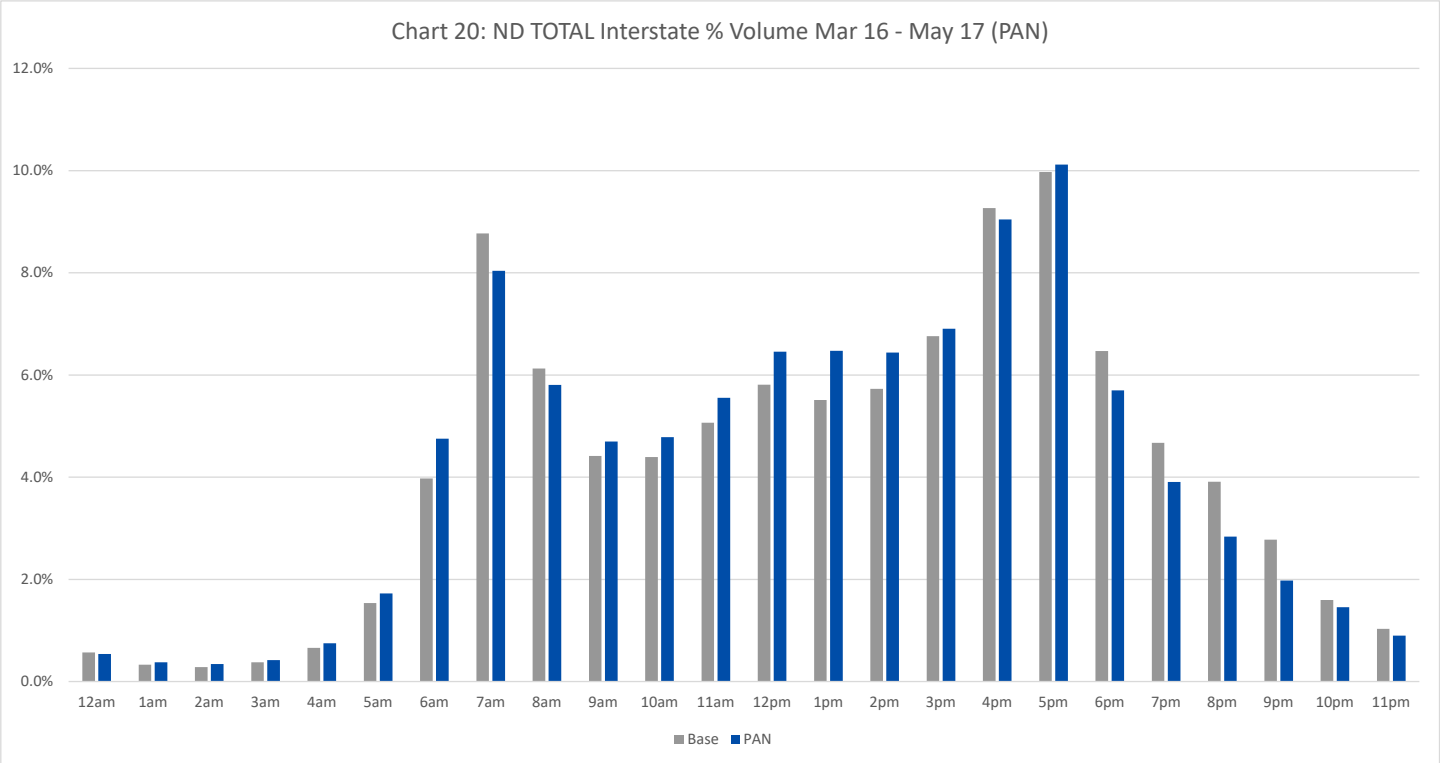


Chart 20: ND TOTAL Interstate % Volume Mar 16 - May 17 (PAN)
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
12am
1am
2am
3am
4am
5am
6am
7am
8am
9am
10am
11am
12pm
1pm
2pm
3pm
4pm
5pm
6pm
7pm
8pm
9pm
10pm
11pm
Base
PAN

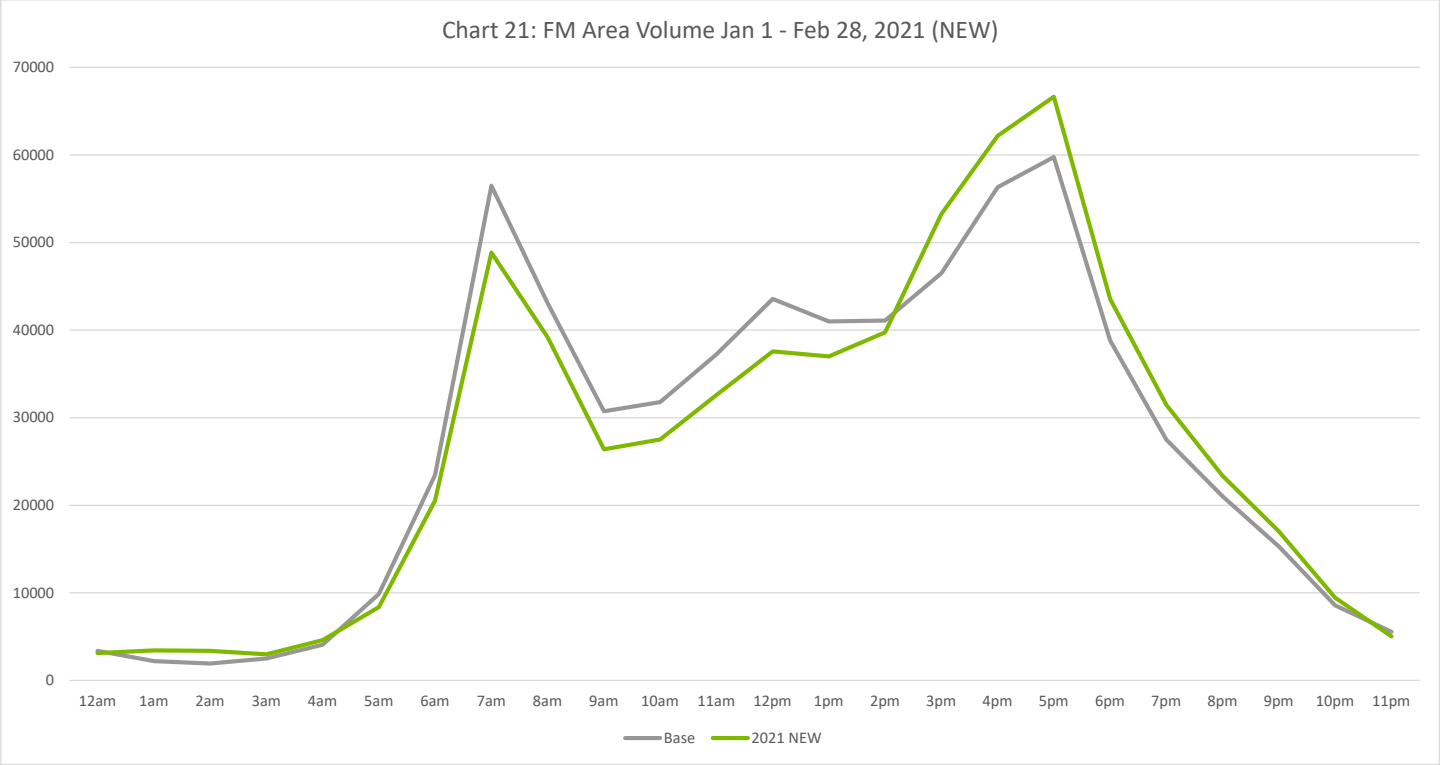


Chart 21: FM Area Volume Jan 1 - Feb 28, 2021 (NEW)
70000
60000
50000
40000
30000
20000
10000
0
12am
1am
2am
3am
4am
5am
6am
7am
8am
9am
10am
11am
12pm
1pm
2pm
3pm
4pm
5pm
6pm
7pm
8pm
9pm
10pm
11pm
Base
2021 NEW

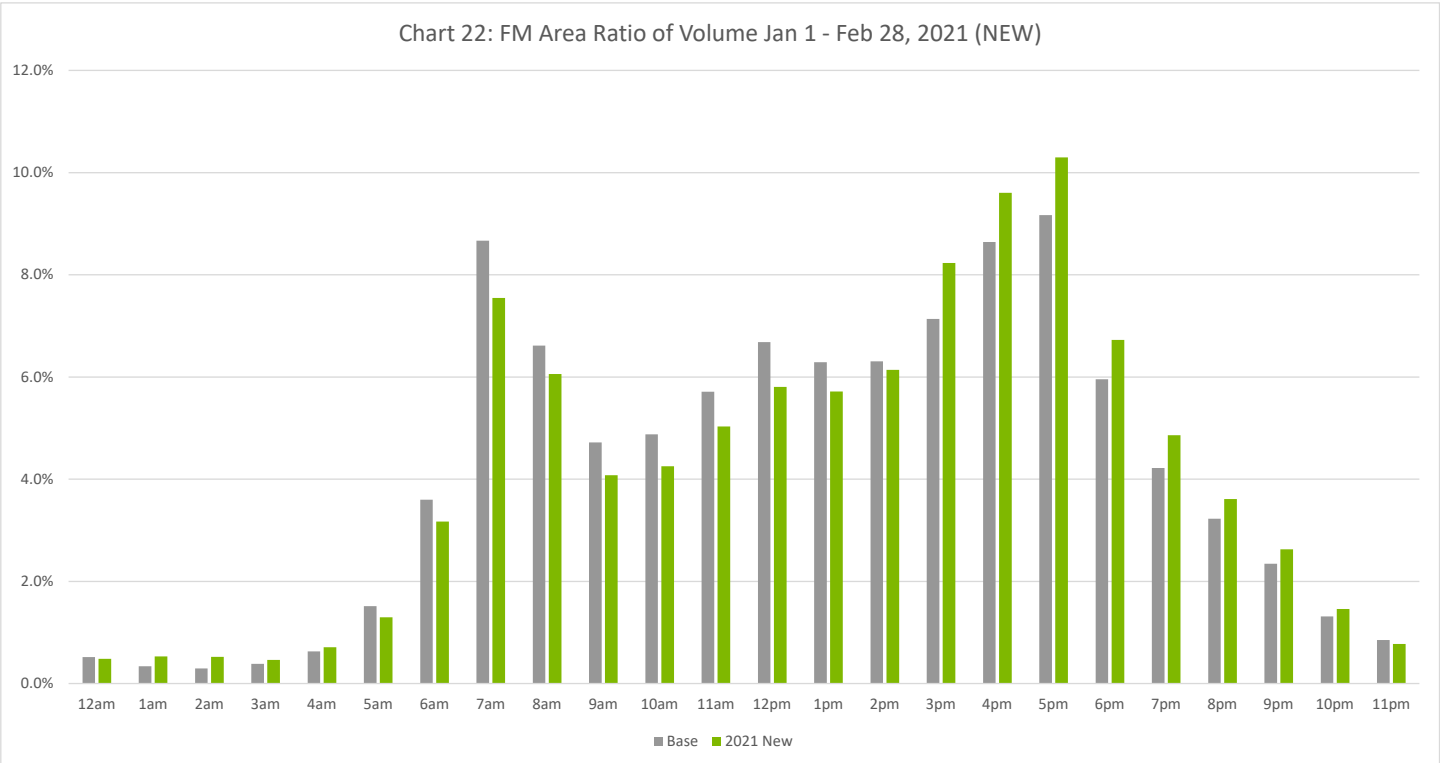


Chart 22: FM Area Ratio of Volume Jan 1 - Feb 28, 2021 (NEW)
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
12am
1am
2am
3am
4am
5am
6am
7am
8am
9am
10am
11am
12pm
1pm
2pm
3pm
4pm
5pm
6pm
7pm
8pm
9pm
10pm
11pm
Base
2021 New

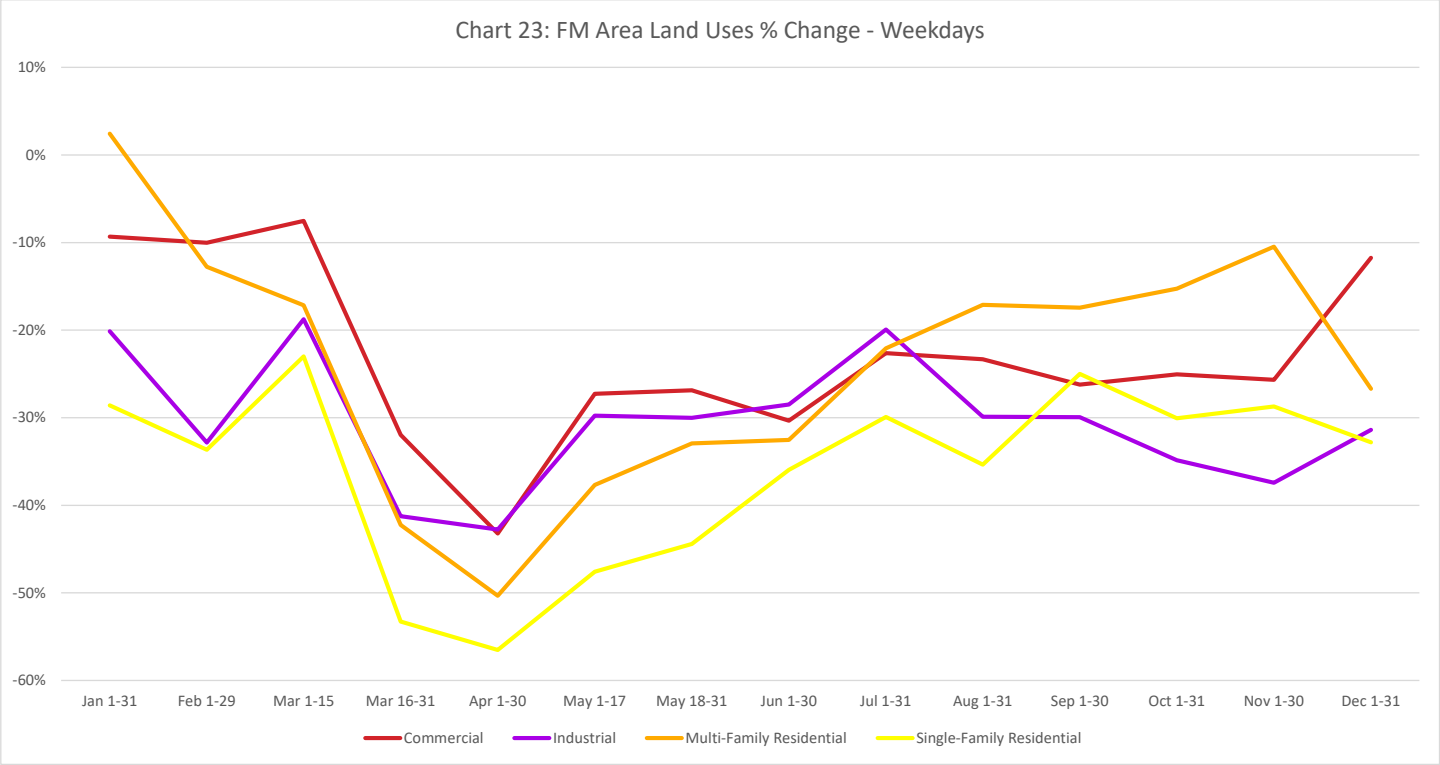


Chart 23: FM Area Land Uses % Change - Weekdays
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Commercial
Industrial
Multi-Family Residential
Single-Family Residential

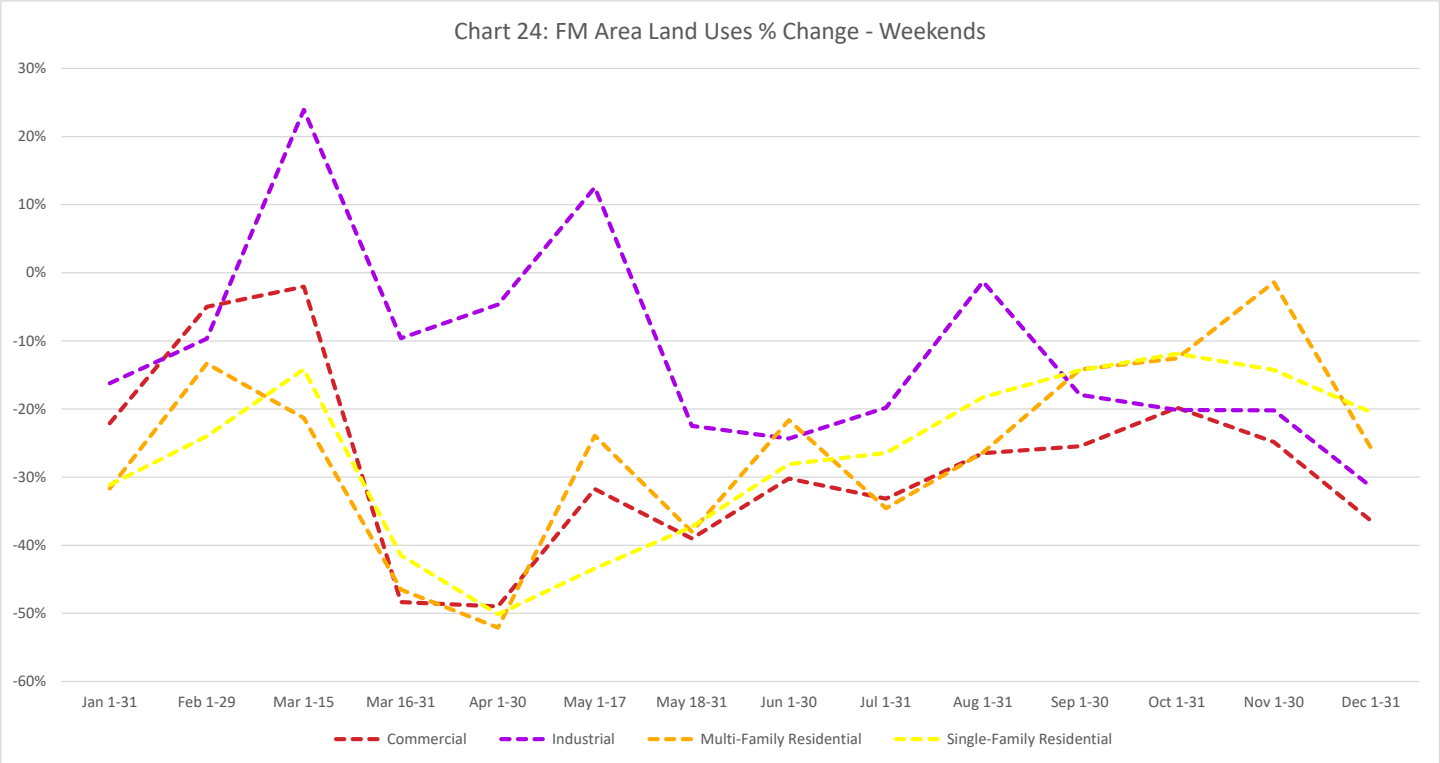


Chart 24: FM Area Land Uses % Change - Weekends
30%
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Commercial
Industrial
Multi-Family Residential
Single-Family Residential

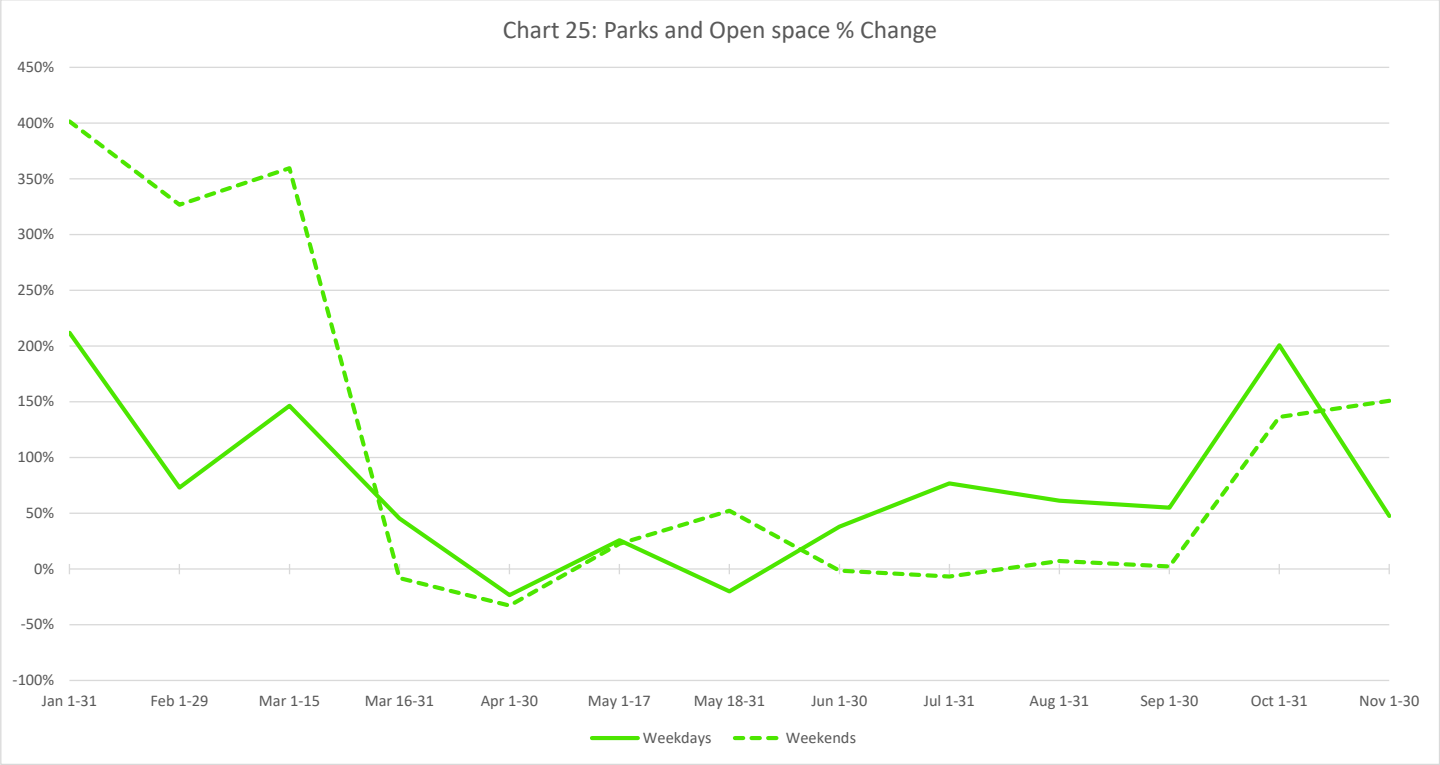


Chart 25: Parks and Open space % Change
450%
400%
350%
300%
250%
200%
150%
100%
50%
0%
-50%
-100%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Weekdays
Weekends

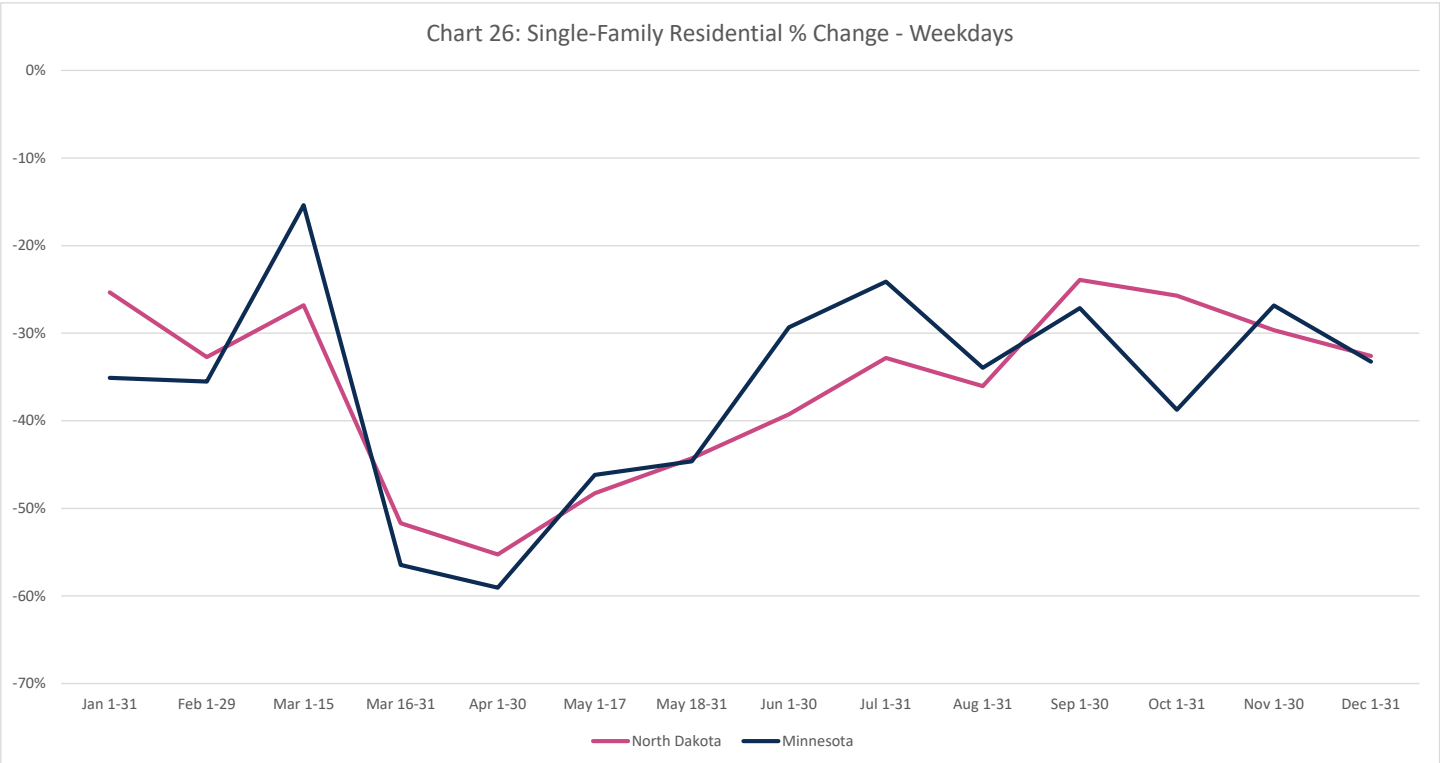


Chart 26: Single-Family Residential % Change - Weekdays
0%
-10%
-20%
-30%
-40%
-50%
-60%
-70%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
North Dakota
Minnesota

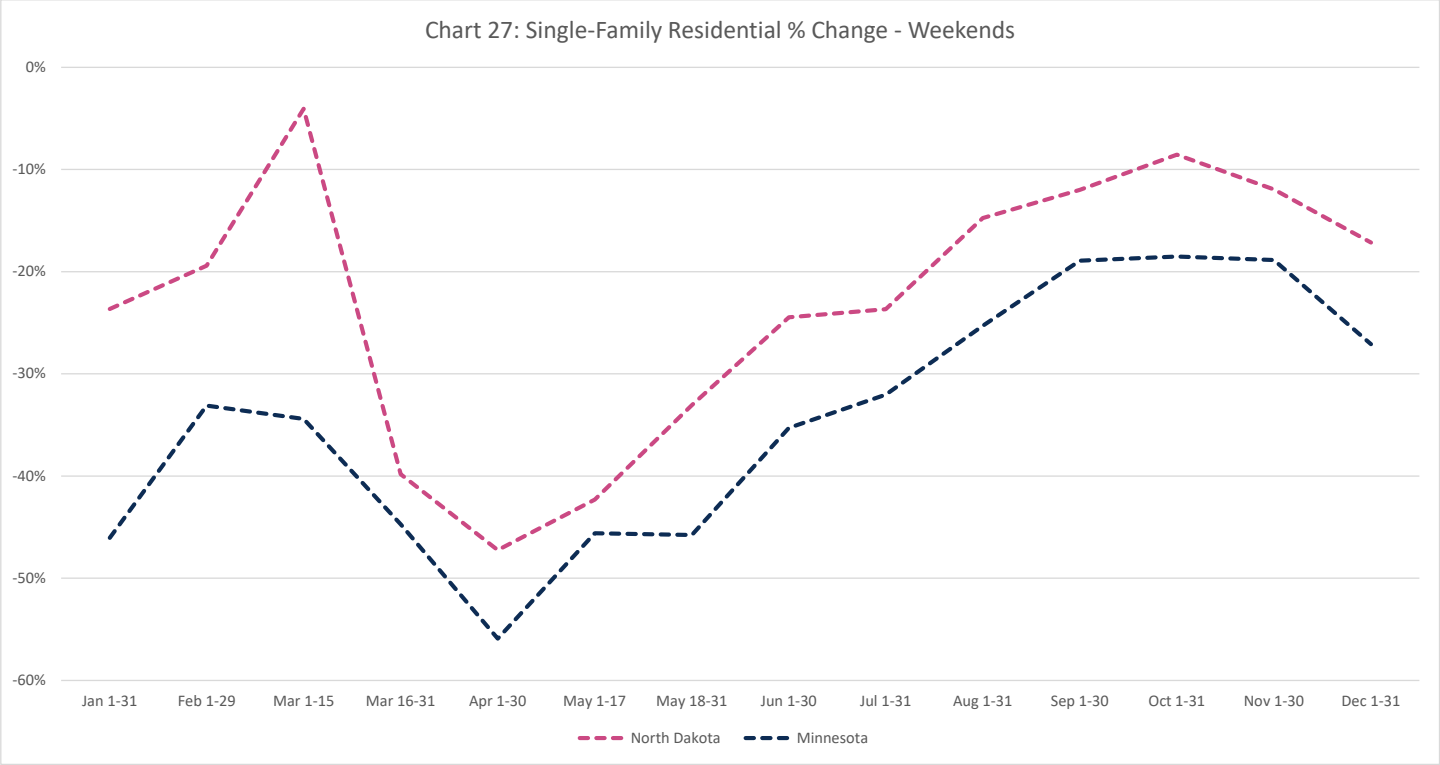


Chart 27: Single-Family Residential % Change - Weekends
0%
-10%
-20%
-30%
-40%
-50%
-60%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
North Dakota
Minnesota

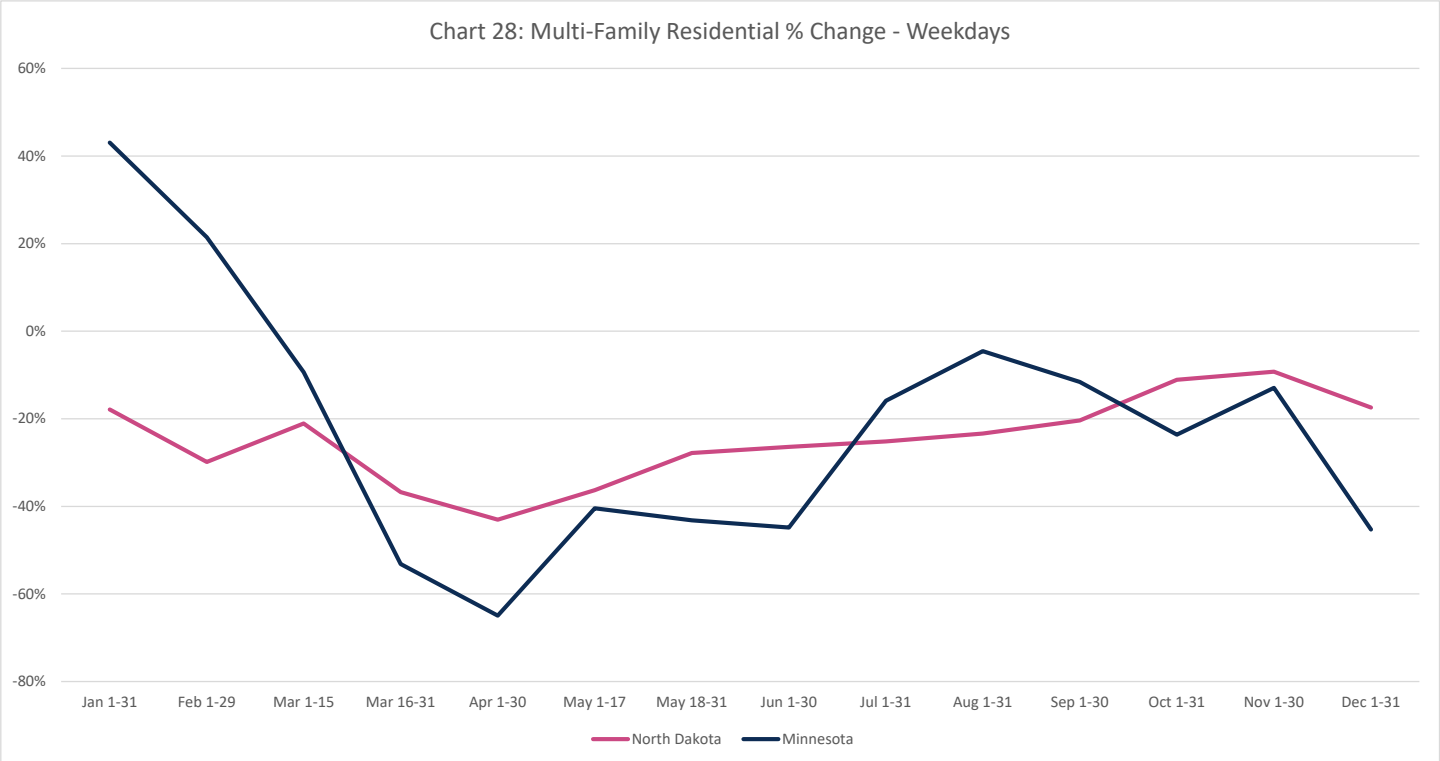


Chart 28: Multi-Family Residential % Change - Weekdays
60%
40%
20%
0%
-20%
-40%
-60%
-80%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
North Dakota
Minnesota

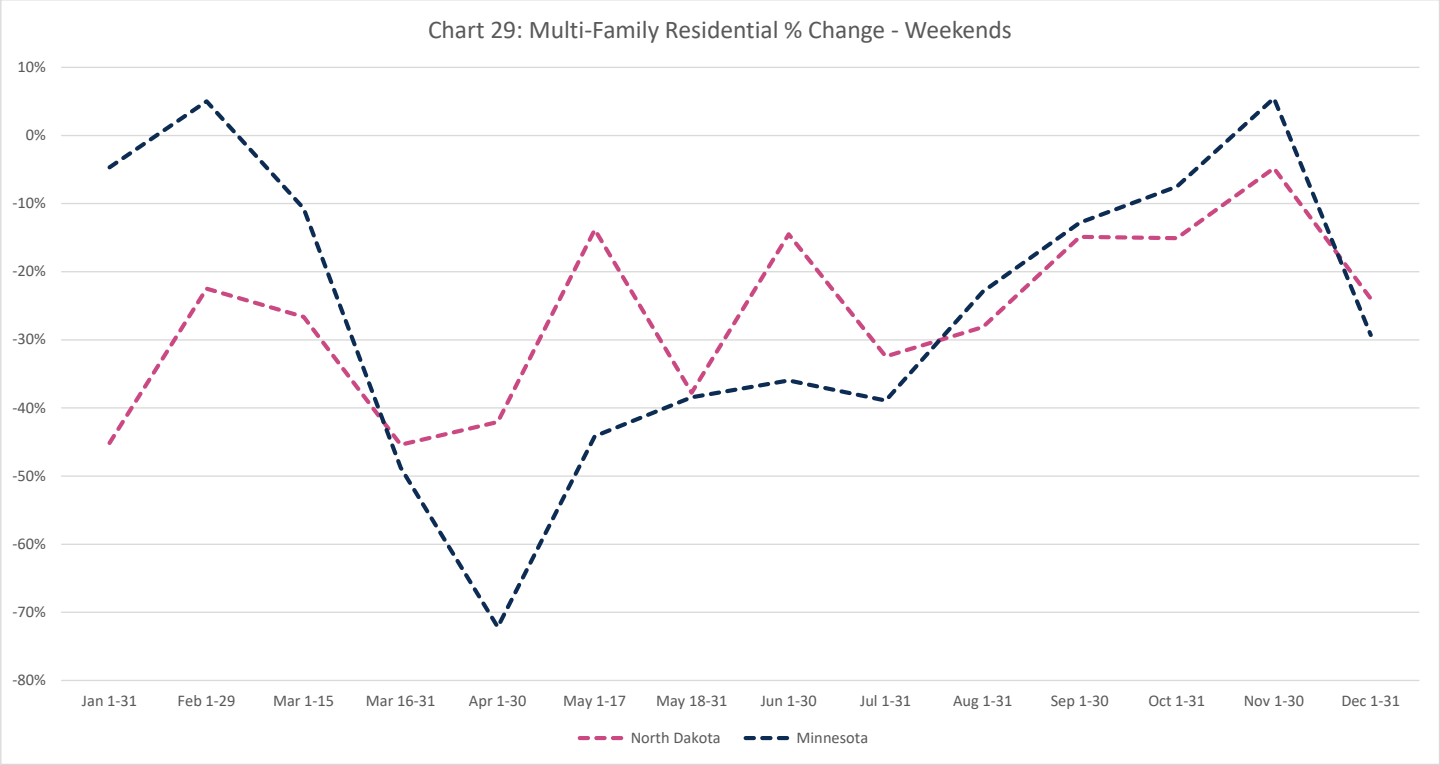


Chart 29: Multi-Family Residential % Change - Weekends
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
-70%
-80%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
North Dakota
Minnesota

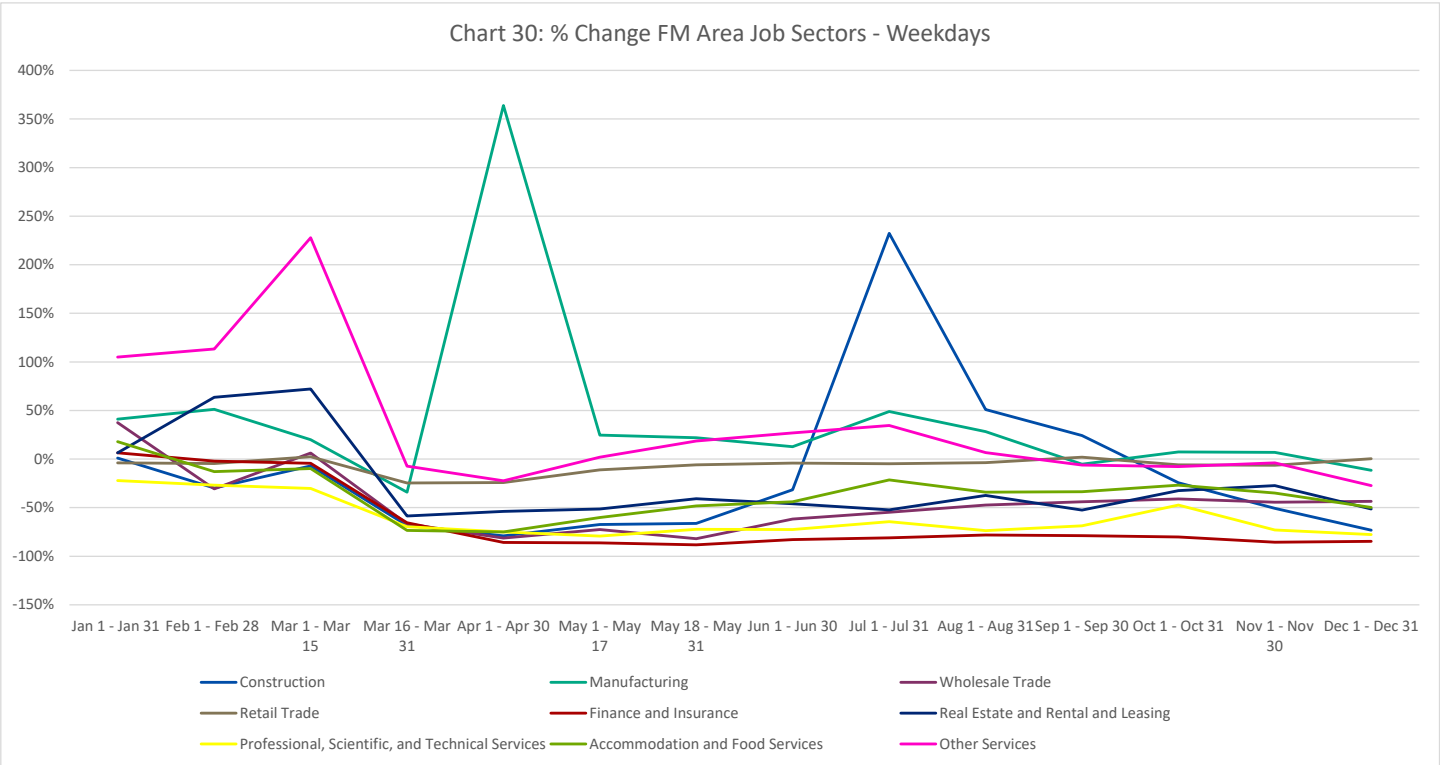


Chart 30: % Change FM Area Job Sectors - Weekdays
400%
350%
300%
250%
200%
150%
100%
50%
0%
-50%
-100%
-150%
Jan 1 - Jan 31
Feb 1 - Feb 28
Mar 1 - Mar 15
Mar 16 - Mar 31
Apr 1 - Apr 30
May 1 - May 17
May 18 - May 31
Jun 1 - Jun 30
Jul 1 - Jul 31
Aug 1 - Aug 31
Sep 1 - Sep 30
Oct 1 - Oct 31
Nov 1 - Nov 30
Dec 1 - Dec 31
Construction
Manufacturing
Wholesale Trade
Retail Trade
Finance and Insurance
Real Estate and Rental and Leasing
Professional, Scientific, and Technical Services
Accommodation and Food Services
Other Services

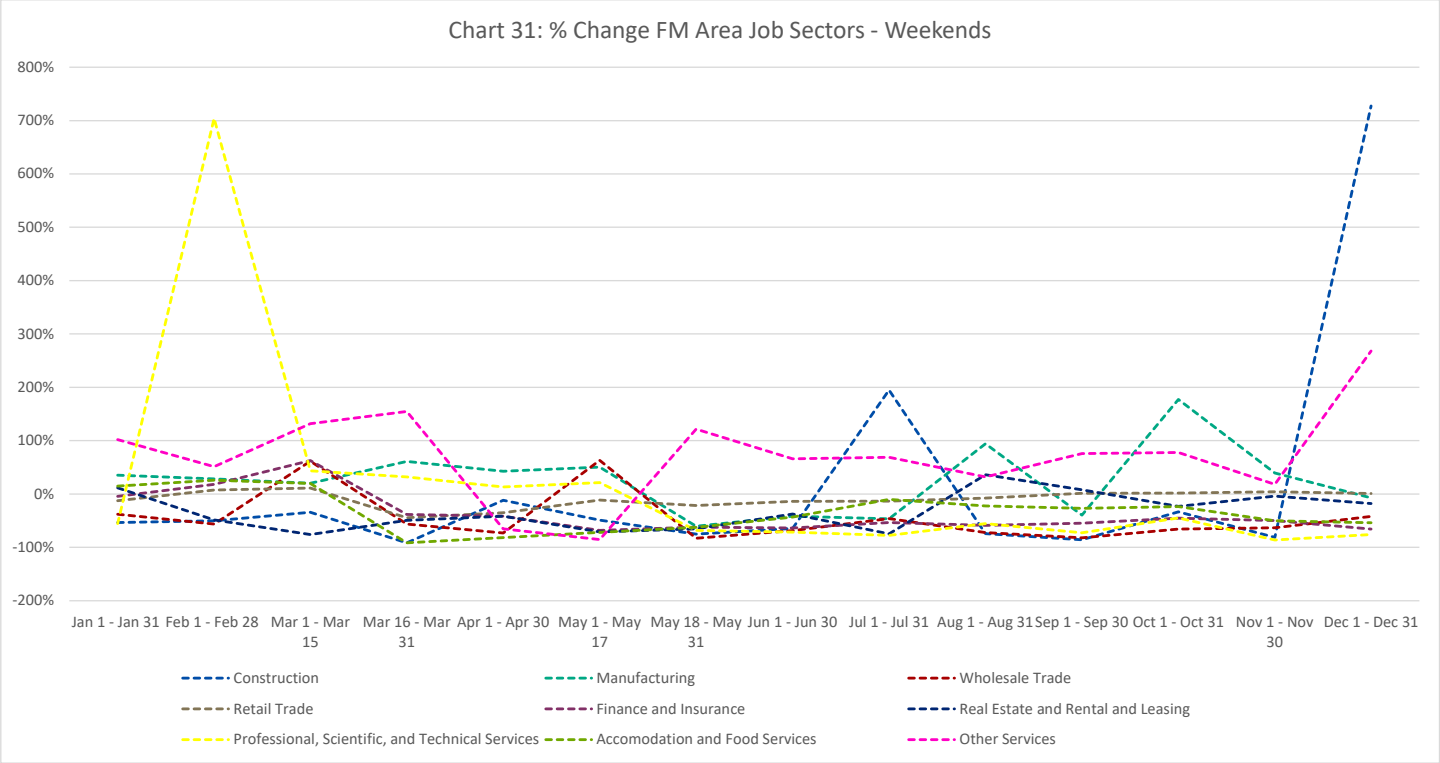


Chart 31: % Change FM Area Job Sectors - Weekends
800%
700%
600%
500%
400%
300%
200%
100%
0%
-100%
-200%
Jan 1 - Jan 31
Feb 1 - Feb 28
Mar 1 - Mar 15
Mar 16 - Mar 31
Apr 1 - Apr 30
May 1 - May 17
May 18 - May 31
Jun 1 - Jun 30
Jul 1 - Jul 31
Aug 1 - Aug 31
Sep 1 - Sep 30
Oct 1 - Oct 31
Nov 1 - Nov 30
Dec 1 - Dec 31
Construction
Manufacturing
Wholesale Trade
Retail Trade
Finance and Insurance
Real Estate and Rental and Leasing
Professional, Scientific, and Technical Services
Accomodation and Food Services
Other Services

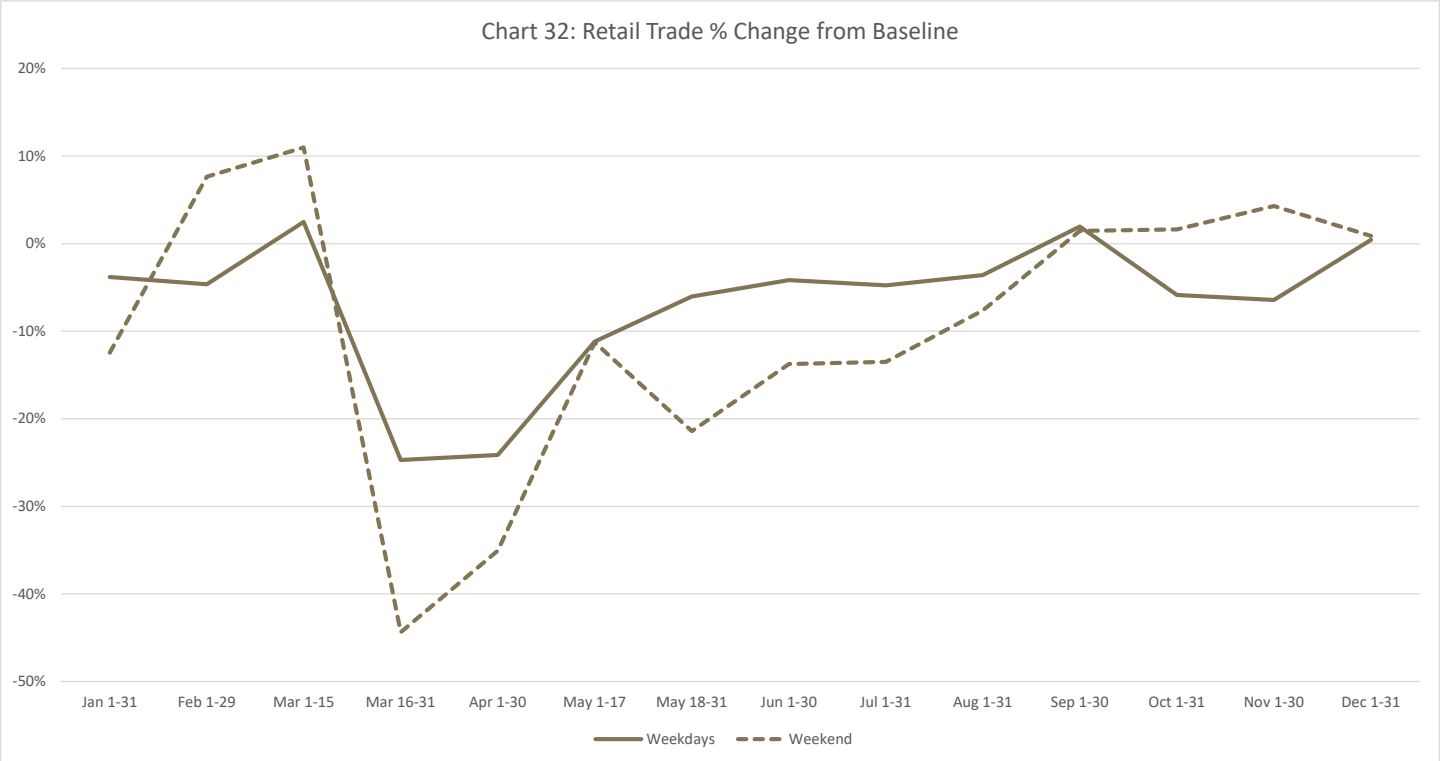


Chart 32: Retail Trade % Change from Baseline
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Weekdays
Weekend

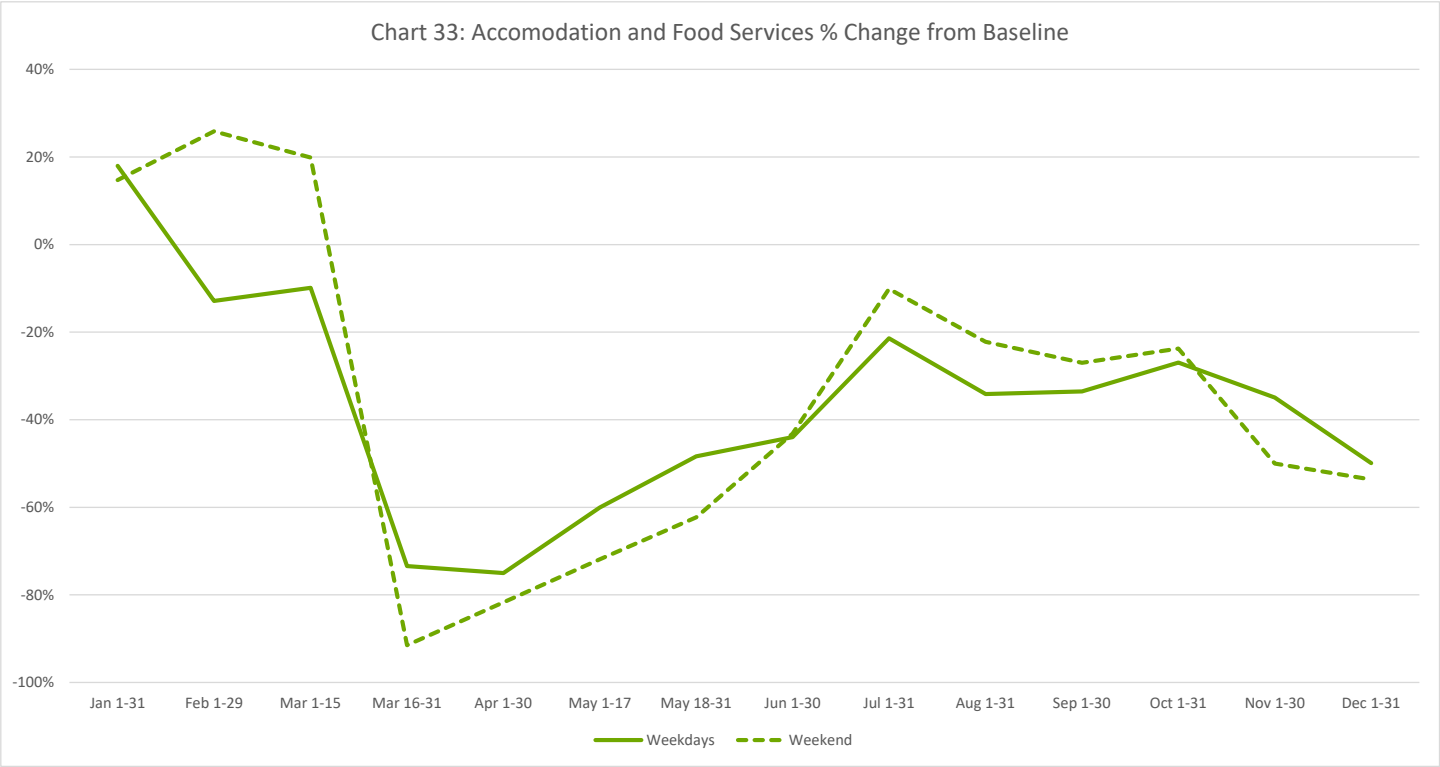


Chart 33: Accomodation and Food Services % Change from Baseline
40%
20%
0%
-20%
-40%
-60%
-80%
-100%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Weekdays
Weekend

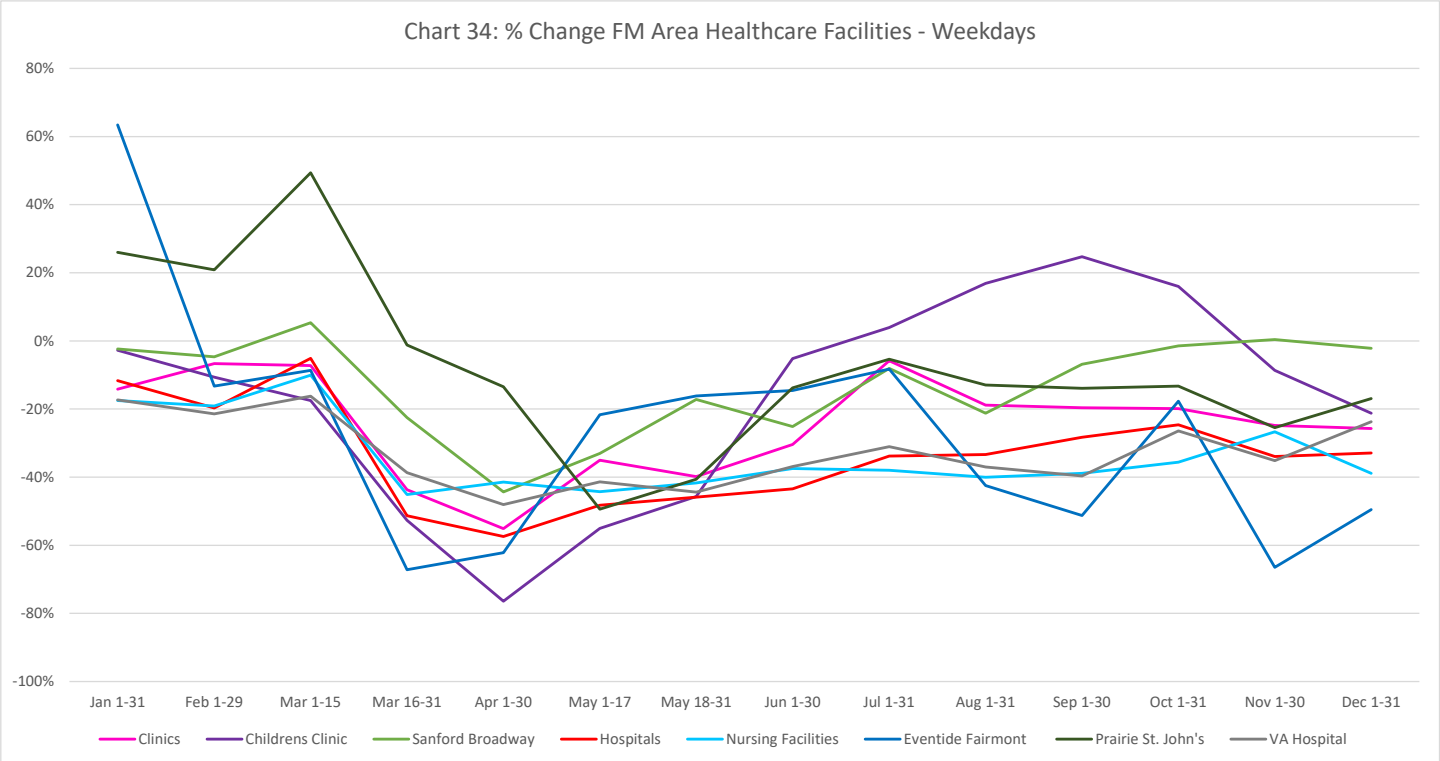


Chart 34: % Change FM Area Healthcare Facilities - Weekdays
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
-100%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Clinics
Childrens Clinic
Sanford Broadway
Hospitals
Nursing Facilities
Eventide Fairmont
Prairie St. John's
VA Hospital

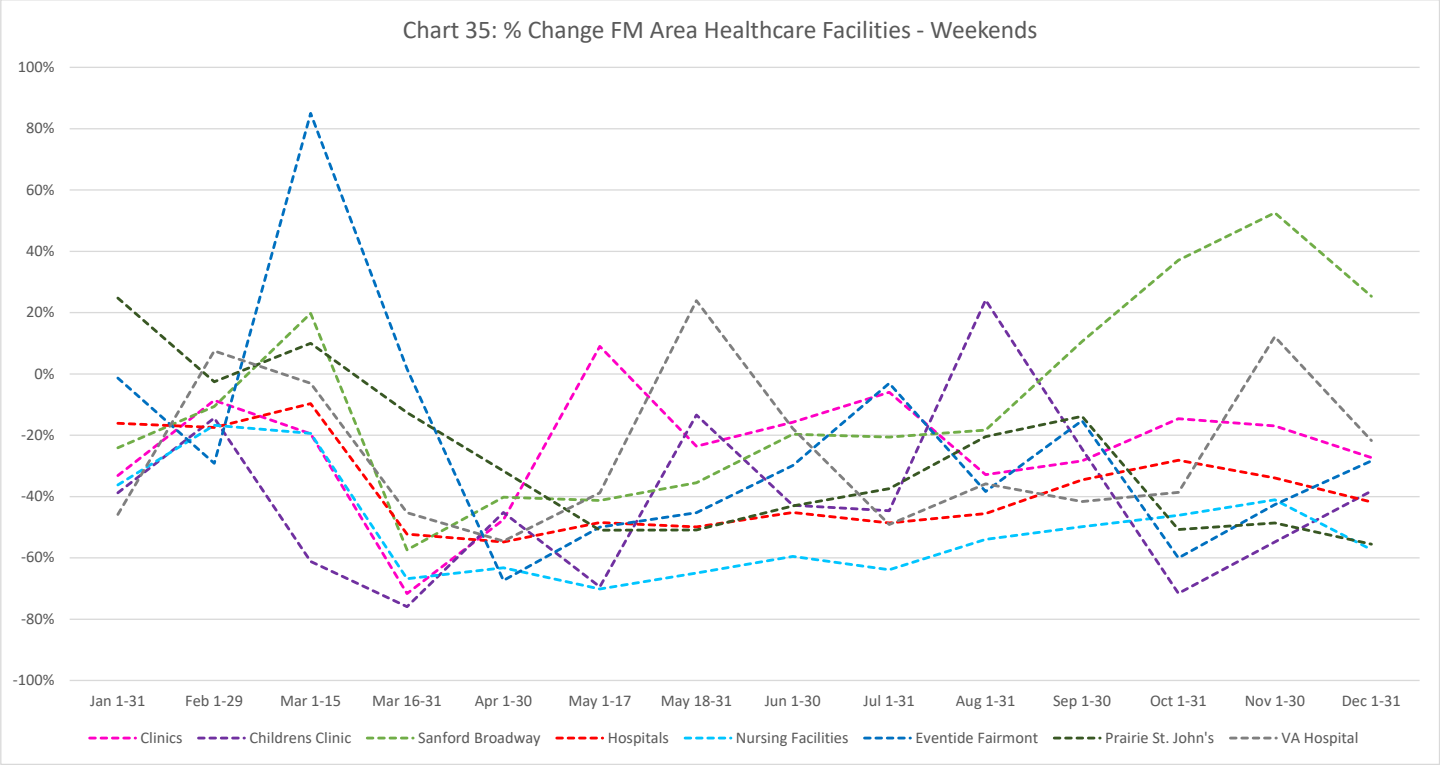


Chart 35: % Change FM Area Healthcare Facilities - Weekends
100%
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
-100%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Clinics
Childrens Clinic
Sanford Broadway
Hospitals
Nursing Facilities
Eventide Fairmont
Prairie St. John's
VA Hospital

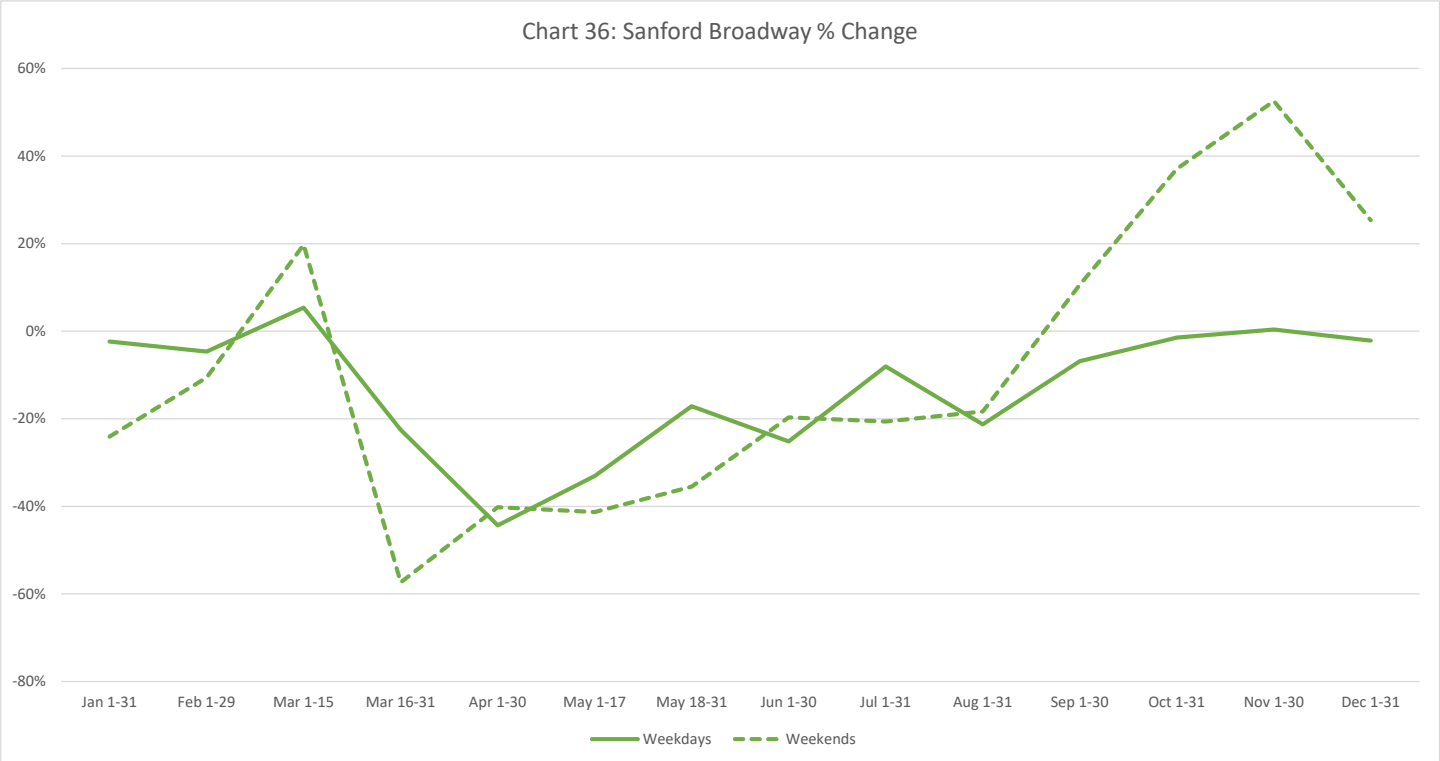


Chart 36: Sanford Broadway % Change
60%
40%
20%
0%
-20%
-40%
-60%
-80%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Weekdays
Weekends

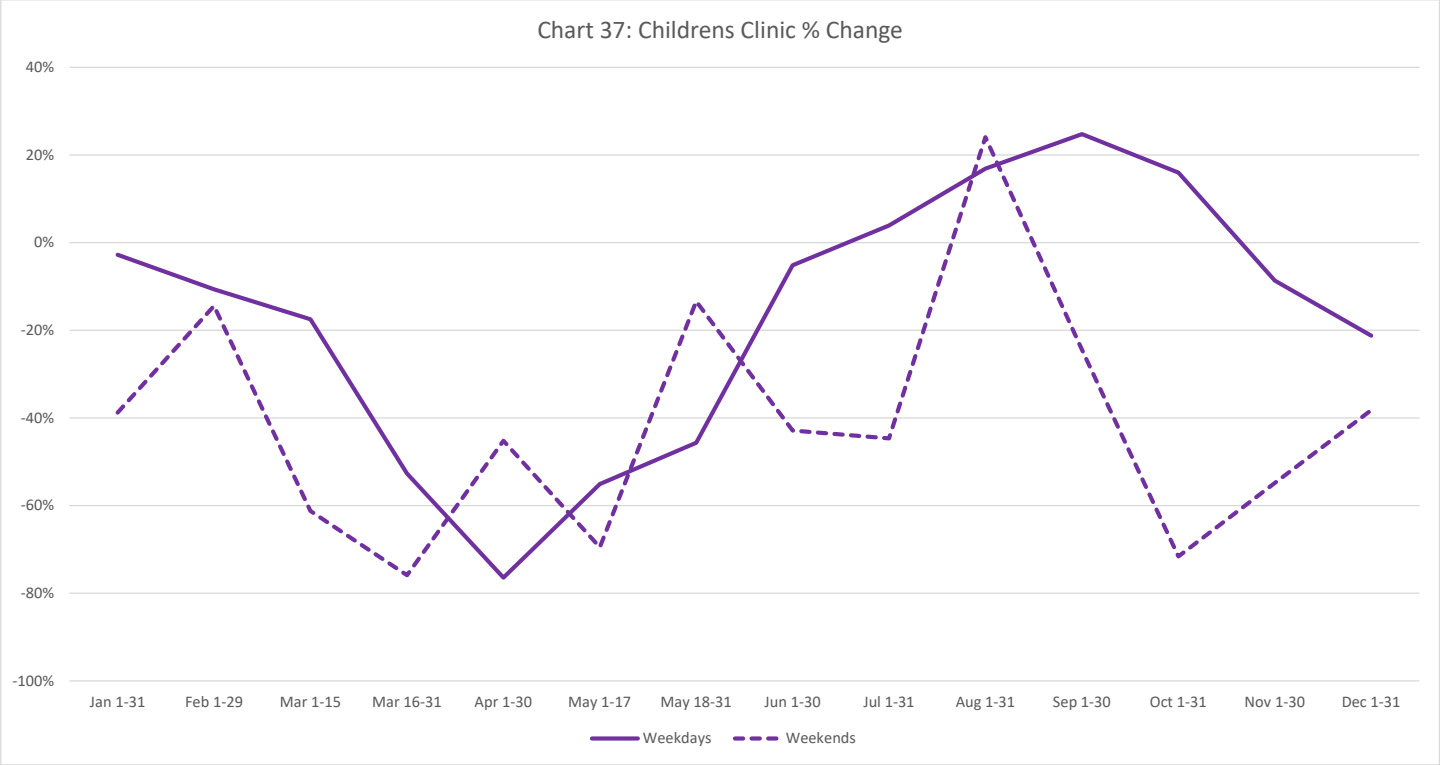


Chart 37: Childrens Clinic % Change
40%
20%
0%
-20%
-40%
-60%
-80%
-100%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Weekdays
Weekends

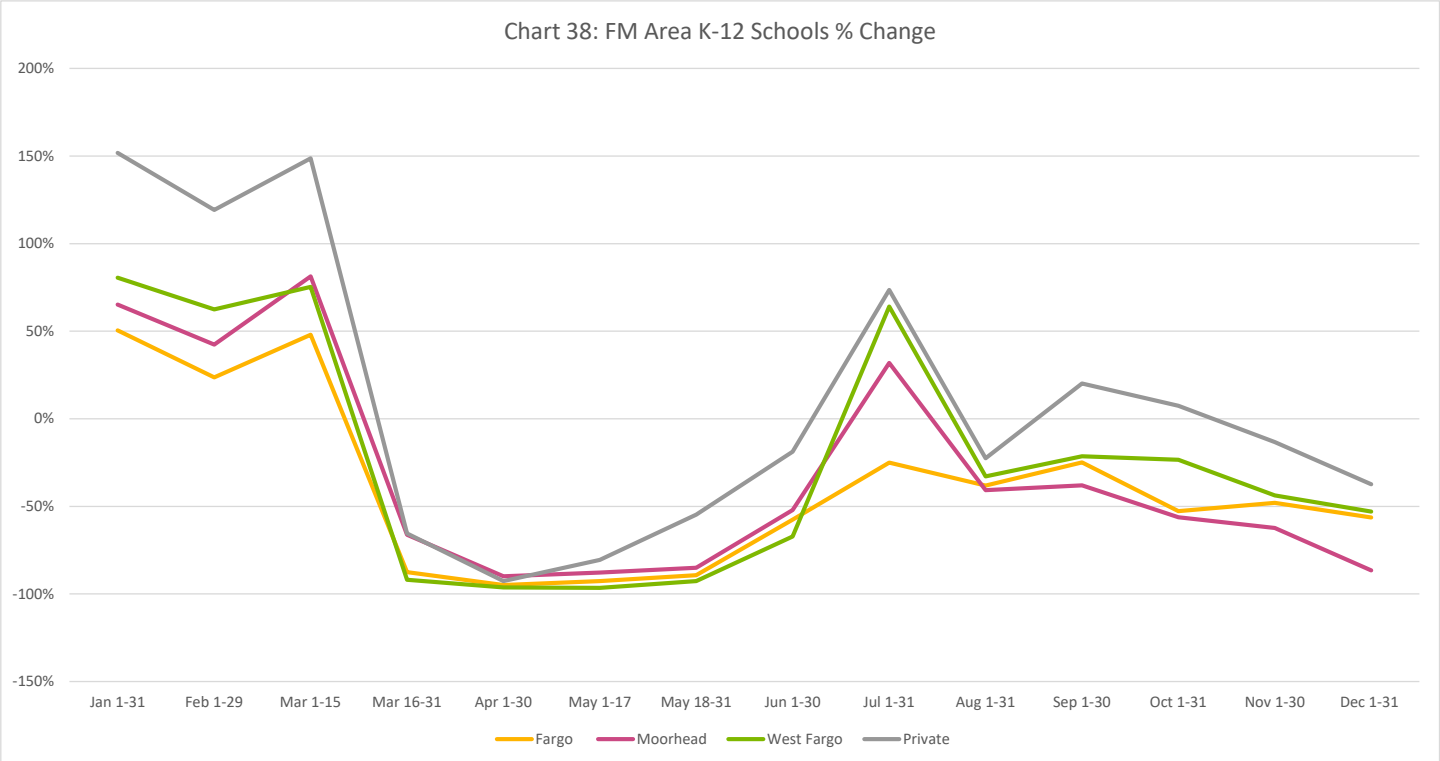


Chart 38: FM Area K-12 Schools % Change
200%
150%
100%
50%
0%
-50%
-100%
-150%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Fargo
Moorhead
West Fargo
Private

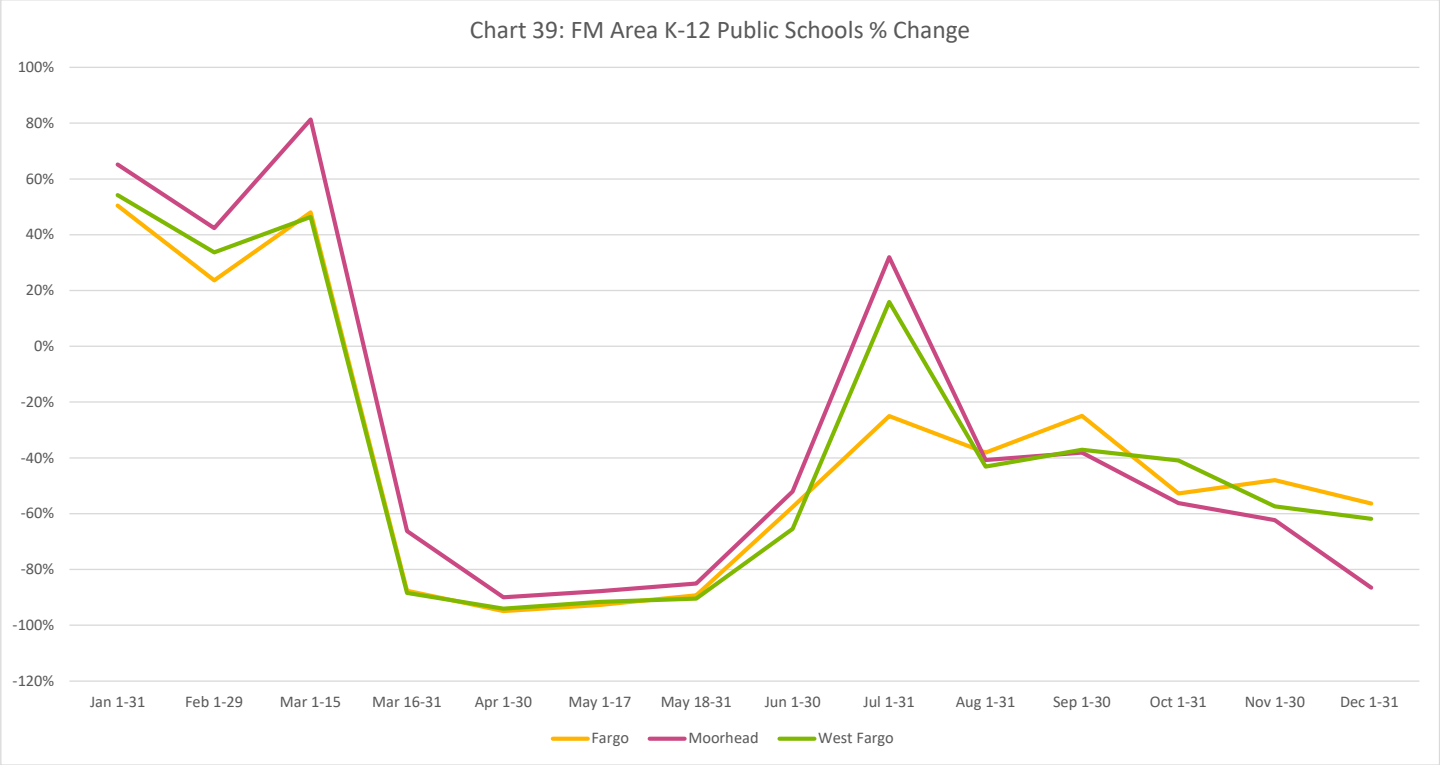


Chart 39: FM Area K-12 Public Schools % Change
100%
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
-100%
-120%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Fargo
Moorhead
West Fargo

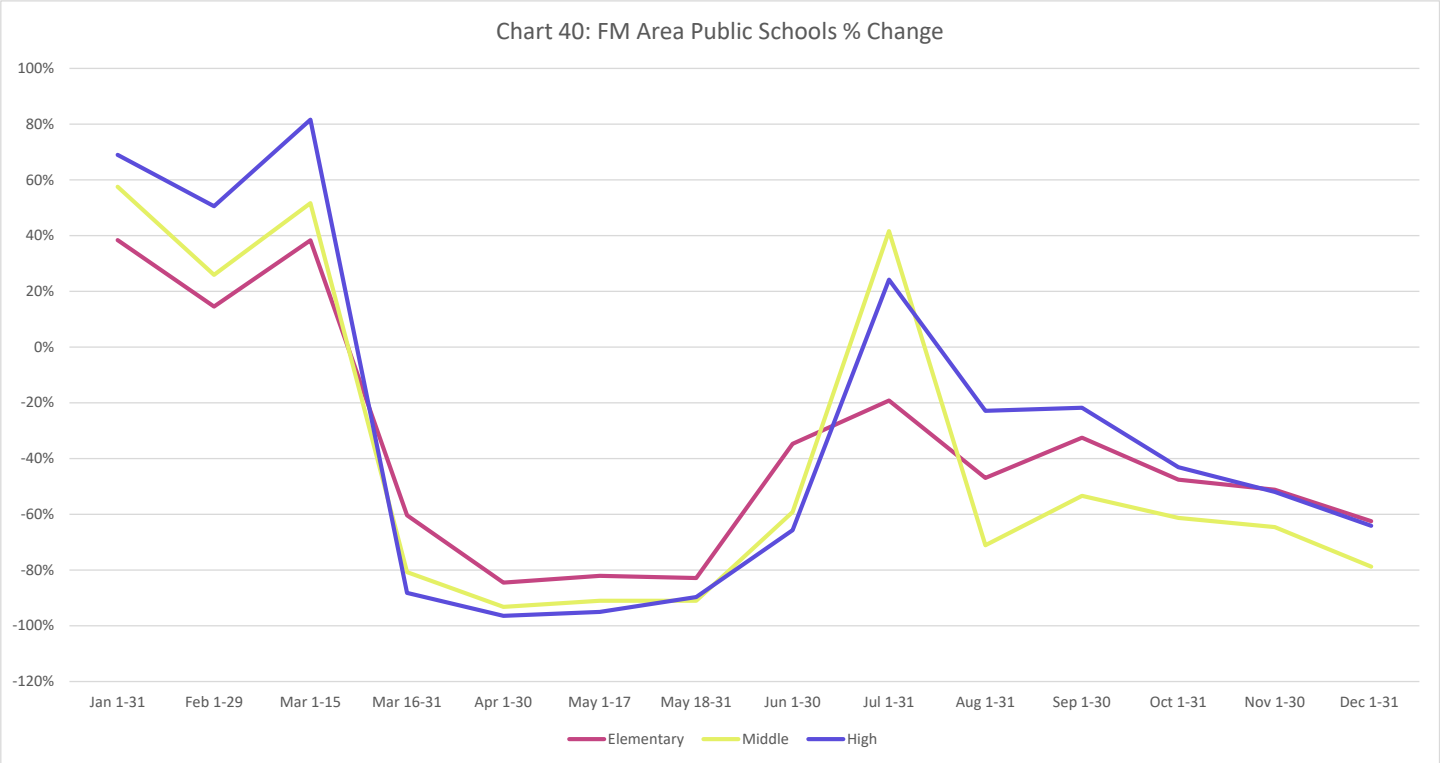


Chart 40: FM Area Public Schools % Change
100%
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
-100%
-120%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Elementary
Middle
High

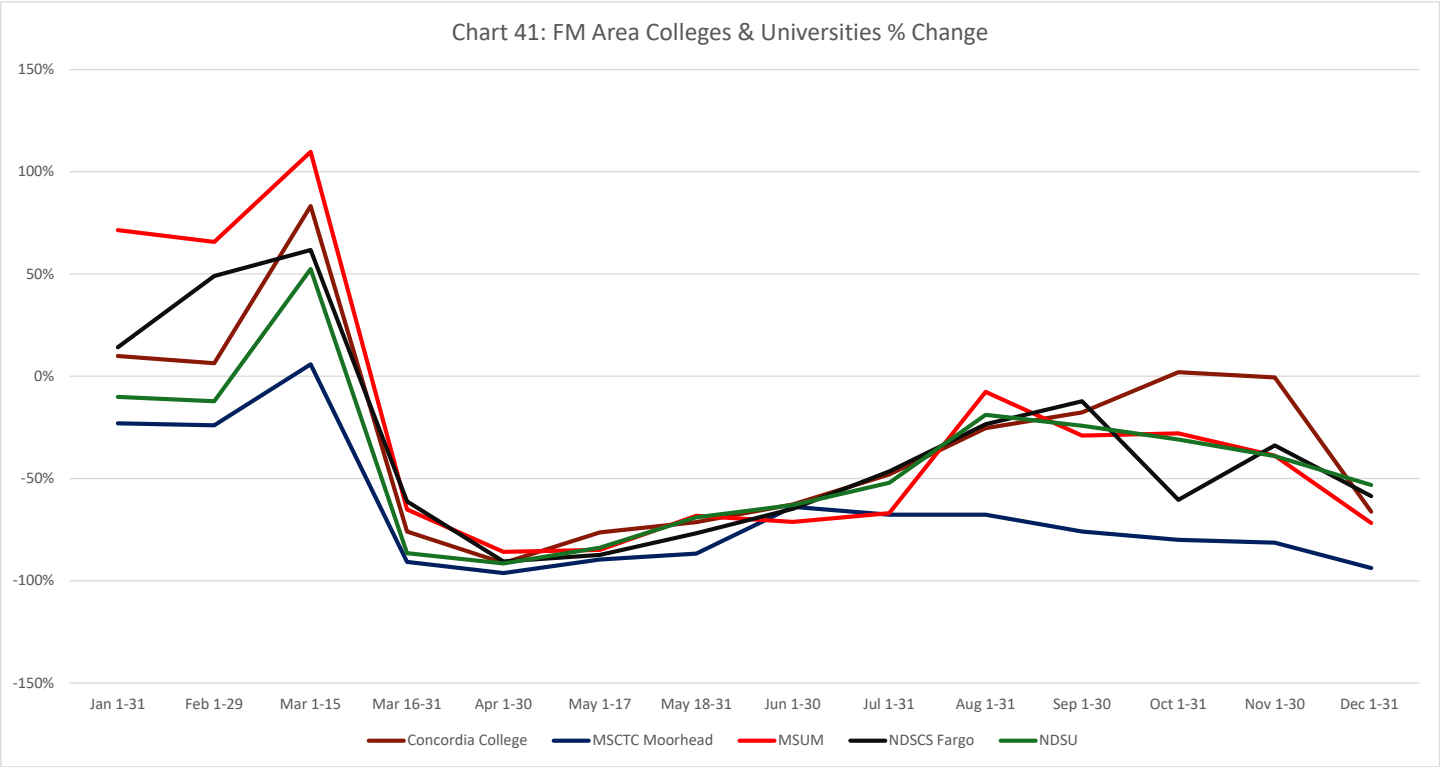


Chart 41: FM Area Colleges & Universities % Change
150%
100%
50%
0%
-50%
-100%
-150%
Jan 1-31
Feb 1-29
Mar 1-15
Mar 16-31
Apr 1-30
May 1-17
May 18-31
Jun 1-30
Jul 1-31
Aug 1-31
Sep 1-30
Oct 1-31
Nov 1-30
Dec 1-31
Concordia College
MSCTC Moorhead
MSUM
NDSCS Fargo
NDSU