

Monitoring Report

Chapter 2

HOUSING

Updated June 2016



The Bismarck-Mandan Monitoring Report is considered a “living” document. Timely updates of each chapter are made as data becomes available. Each chapter of the Monitoring Report lists the month and year of its last revision.

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2 HOUSING

Housing characteristics are important considerations in transportation planning as they can provide valuable information regarding transportation and trending data within the region. Characteristics such as type of housing and number of persons per household, for instance, can be a determinate in trip generation rates. This chapter identifies a variety of housing information including existing conditions, recent trends, and future projections.

EXISTING CONDITIONS

Figure 2.1 identifies a variety of existing housing conditions in the Bismarck-Mandan Metropolitan Planning Organization (MPO) area in comparison to State and national housing data. The information is based on 2010-2014 US Census Bureau American Community Survey data and may not be reflective of current recent trends.

In comparison to State and national data, the MPO jurisdictions have significantly lower vacancy rates. The median value of homes in the MPO area is higher than median housing values throughout North Dakota, though these values are still typically lower than the median housing value of the United States. Other housing characteristics are relatively consistent between the MPO jurisdictions, the State, and Nation. A higher degree of variability can be noted among the various jurisdictions within the MPO.

Figure 2.1: Existing Housing Conditions for the Bismarck-Mandan MPO Area, North Dakota, and the United States – 2014

	Bismarck	Lincoln	Mandan	Burleigh	Morton	North Dakota	United States
Vacancy Rate	5.00%	0.00%	5.38%	4.87%	7.66%	11.87%	12.45%
Owner Occupied	64.82%	99.60%	72.84%	70.53%	77.28%	72.59%	64.35%
Renter Occupied	35.18%	0.40%	27.16%	29.42%	22.72%	38.84%	35.65%
Units in Structure							
1 Detached	46.67%	93.41%	62.49%	54.85%	68.41%	60.49%	61.65%
1 Attached	7.77%	6.09%	4.52%	7.05%	3.54%	5.39%	5.82%
2	5.49%	0.00%	1.45%	4.59%	1.15%	2.14%	3.75%
3 or 4	4.18%	0.00%	5.38%	3.37%	3.81%	3.93%	4.43%
5 to 9	5.84%	0.00%	5.63%	4.68%	4.30%	3.91%	4.78%
10 to 19	6.73%	0.00%	3.02%	5.49%	2.61%	5.53%	4.48%
20 to 49	8.68%	0.00%	0.30%	7.01%	2.41%	7.64%	3.57%
50 or more	4.97%	0.00%	1.25%	3.97%	0.85%	3.05%	5.03%
Mobile Home	9.68%	0.50%	13.23%	8.98%	12.84%	7.89%	6.41%
Boat, RV, Van, etc.	0.00%	0.00%	0.00%	0.00%	0.07%	0.04%	0.08%
Median Value	\$169,600	\$157,700	\$157,700	\$182,300	\$156,400	\$145,000	\$175,700
Persons/Household							
1 Person	33.13%	14.57%	30.83%	29.25%	28.43%	31.19%	27.57%
2 Person	34.84%	32.24%	34.07%	35.83%	36.21%	36.51%	33.56%
3 Person	15.17%	17.66%	16.05%	15.30%	16.14%	14.05%	15.82%
4 Person	10.57%	22.85%	12.83%	12.42%	12.28%	10.86%	13.19%
5 Person	4.77%	8.48%	5.15%	5.26%	5.58%	4.96%	6.05%
6 Person	1.06%	4.19%	0.55%	1.30%	0.83%	1.57%	2.32%
7 Person	0.46%	0.00%	0.51%	0.63%	0.54%	0.86%	1.48%
Average Household Size	2.21	2.86	2.31	2.32	2.35	2.32	2.63
Owner Occupied	2.4	2.86	2.49	2.49	2.5	2.5	2.7
Renter Occupied	1.88	2	1.83	1.92	1.86	1.99	5.52

Based on Tables B11016, B25002, B25003, B25010, B25024, and B25077 of the 2010-2014 US Census Bureau American Community Survey

RECENT TRENDS

The Bismarck-Mandan MPO area is broken down into smaller geographic units identified as Transportation Analysis Zones (TAZs). There are currently 364 TAZs which comprise the MPO area. TAZs are used in the Bismarck-Mandan MPO transportation model and help project future traffic conditions using current household and employment data. The Bismarck-Mandan MPO collects building permit data (by TAZ) for all jurisdictions, throughout the MPO area. This data helps to identify growth patterns within the region and serves to provide population estimates during times between the US Census Bureau Decennial Census collection. In general Burleigh and Morton County have experienced a heightened level of growth in residential dwelling unit permits since 2010. **Figure 2.2** identifies a simple annual growth rate of 3.22% for the past five years. The highest annual percent change in growth was 4.27% in 2012. Since 2012, housing permit trends have declined. However trends are still significantly higher than historic population growth patterns of approximately 1% to 1.5% annual growth.

Map 2.1 displays percent growth of dwelling units per TAZ with dwelling unit permit locations from 2010-2015. Generally the most significant recent dwelling unit growth has been experienced in the following areas: northwest Bismarck; northeast Bismarck; south Bismarck; Lincoln area; southeast Mandan; southwest Mandan; and north Mandan.

AREA HOUSING PROJECTIONS

Recently both the Bismarck-Mandan MPO and the 2012 North Dakota Housing Needs Assessment developed housing projections for the Bismarck-Mandan MPO area.

Bismarck-Mandan MPO Projections

The Bismarck-Mandan MPO projects dwelling units growth for the years 2025 and 2040. The projected dwelling units are distributed throughout the region using a process of computer modeling and input from the Bismarck-Mandan MPO member jurisdictions. Population, housing, and employment projections were last developed in 2012 to the horizon years of 2025 and 2040. Three scenarios were developed for future housing and employment needs within the Bismarck-Mandan MPO area which included low growth, moderate growth, and high growth scenarios. The low growth scenario represented the historic growth rate of approximately 1.5% annual residential dwelling unit growth between 2010 and 2040. The moderate growth scenario represented a heightened level of growth between 2010 and 2025 of 2.5% annual residential dwelling unit growth, then leveling off to approximately 1% growth between 2025 and 2040. The high growth scenario represented a significantly heightened level of growth between 2010 and 2025 of approximately 3.5% annual residential dwelling unit growth then leveling off to approximately 1% growth between 2025 and 2040. Both the moderate growth and high growth scenario were intended to represent varying degrees of influence the recent energy development in Western North Dakota would have on the Bismarck-Mandan MPO area. The Bismarck-Mandan MPO Policy Board adopted the “High Growth” scenario. The following **Figure 2.3** represents the Bismarck-Mandan MPO area “High Growth” scenario. As previously noted these projections represent a simple annual rate of growth of 3.5% between 2010 and 2025 and approximately 1% between 2025 and 2040.

The projected household change by TAZ can be viewed on map **Map 2.2** titled “Dwelling Unit Growth Projections per TAZ: 2010-2040.”

Figure 2.2: Bismarck-Mandan MPO Combined Jurisdiction Building Permit Trends 2010 to 2015

2010	Total Dwelling Units	47,833
	New Dwelling Units	893
2011	Total Dwelling Units	48,726
	2010-2011 % Change	1.87%
	New Dwelling Units	2,079
2012	Total Dwelling Units	50,805
	2011-2012 % Change	4.27%
	New Dwelling Units	1,738
2013	Total Dwelling Units	52,543
	2012-2013 % Change	3.42%
	New Dwelling Units	1,753
2014	Total Dwelling Units	54,296
	2013-2014 % Change	3.34%
	New Dwelling Units	1,235
2015	Total Dwelling Units	55,531
	2014-2015 % Change	2.27%
	2010-2015 % Change	16.09%
2010-2015 Simple Annual Rate of Change		3.22%

Total Dwelling Units 2010 is based on the 2010 US Census Bureau data. New Dwelling Unit data obtained from the City of Bismarck, City of Mandan, and Morton County Building Inspections Divisions.

Figure 2.3: Projected Households for the Bismarck-Mandan MPO Area (High Growth Scenario)

2010	2025	2040
45,265	68,997	79,241

Information based on 2010 US Census Bureau and projections developed by the Bismarck-Mandan MPO in 2012.

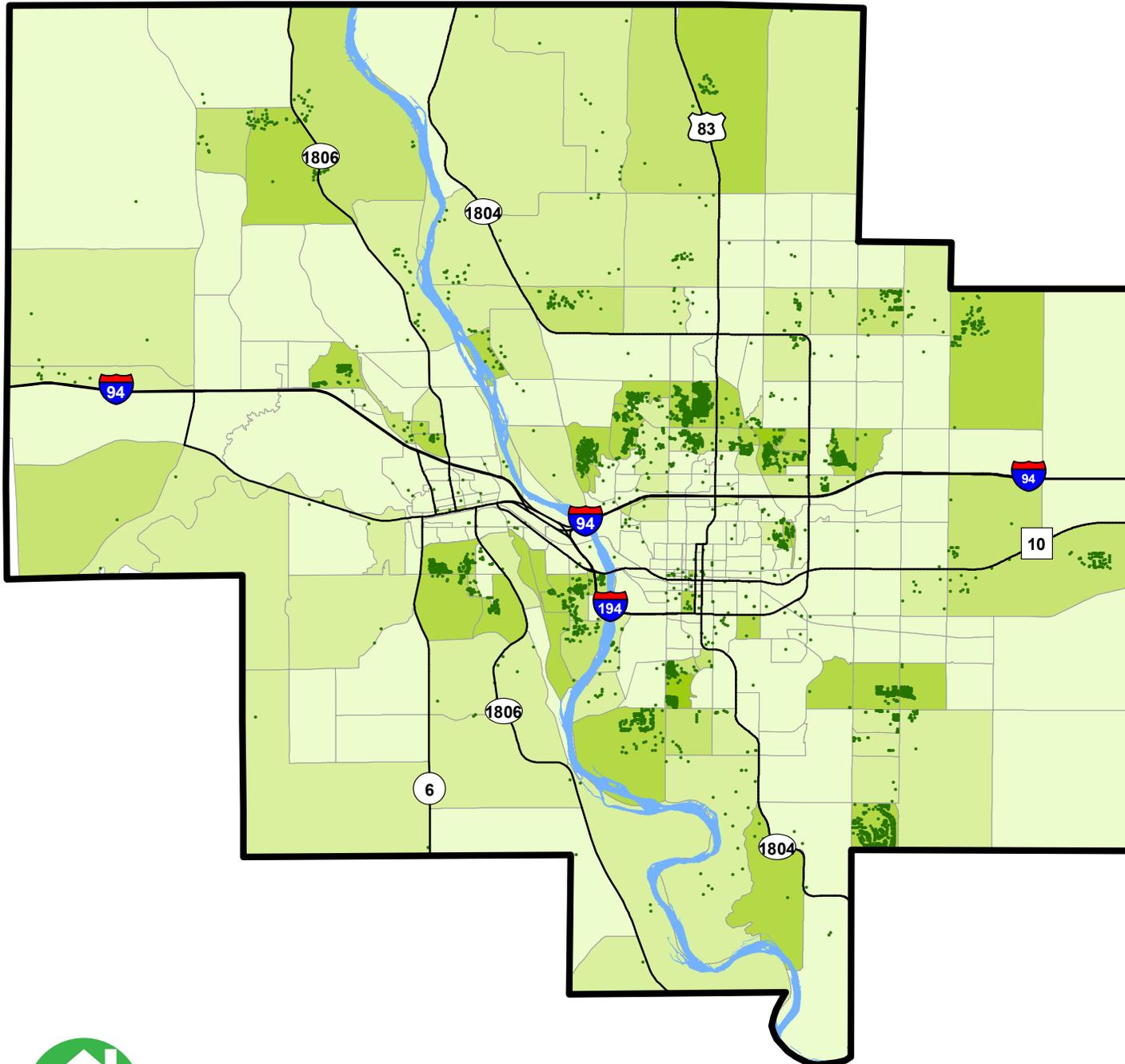
Map 2.1 Dwelling Unit Growth per MPO Transportation Analysis Zones (TAZ)

Percent Increase: 2010 - 2015

 MPO Boundary
 Dwelling Unit Permit Locations (2011-2015)

Dwelling Unit Growth per TAZ Percent Change (2010-2015)

-  0% - 5%
-  5% - 25%
-  25% - 50%
-  50% - 100%
-  100% or Greater



Map created by W.R.H. June 2016. Map based on data maintained by the City of Bismarck and the Bismarck-Mandan MPO. Building permit information was based on data maintained by the City of Bismarck, the City of Mandan, and Burleigh and Morton Counties.

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2012 North Dakota Statewide Housing Needs Assessment Projections

A North Dakota Statewide Housing Needs Assessment was conducted by the Center for Social Research at North Dakota State University. This assessment for the North Dakota Housing Finance Agency aimed to identify statewide housing needs throughout the State. **Figure 4.4** represents housing projections developed by the North Dakota State Housing Needs Assessment to the year 2025 for Burleigh and Morton Counties. The projections identified in **Figure 4.4** represent a simple annual rate of growth of 1.8% between 2010 and 2025. Projections beyond 2025 were not conducted as part of the assessment.

Figure 4.4: 2012 North Dakota Statewide Housing Needs Assessment Projections (Burleigh and Morton Counties)

2010	2025	2040
46,386	58,927	Not Conducted

Information based on "2012 North Dakota Statewide Housing Needs Assessment" (Table 3 page 86).

RECENT TRENDS COMPARED TO AREA PROJECTIONS

Both the Bismarck-Mandan MPO projections and the 2012 North Dakota Statewide Housing Needs Assessment projections depict a heightened level of growth from historic growth rates. Recent growth trends may be more consistent with the projections adopted by the Bismarck-Mandan MPO Policy Board. However, it is important to note that five years is not necessarily sufficient time to determine the accuracy of long term projections. In any given year a high degree of variability may occur. For instance the flooding events which occurred in the Bismarck-Mandan MPO area may have had some influence on

residential building permits issued in 2011 and 2012. Building permit activity will continue to be monitored in comparison to area projections.

In general the distribution of projected housing units by the Bismarck-Mandan MPO is consistent with recent building permit activity. **Map 2.3** shows comparison of 2015 TAZ growth to the 2040 projection. TAZ growth is expected to occur through time. Percentages between 0 and 100% indicate continued growth as expected until 2040. Areas above 100% indicate advanced growth beyond what was anticipated by the model. These locations indicate a potential opportunity to re-evaluate and divide TAZ boundaries in the future.

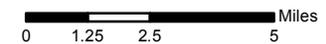
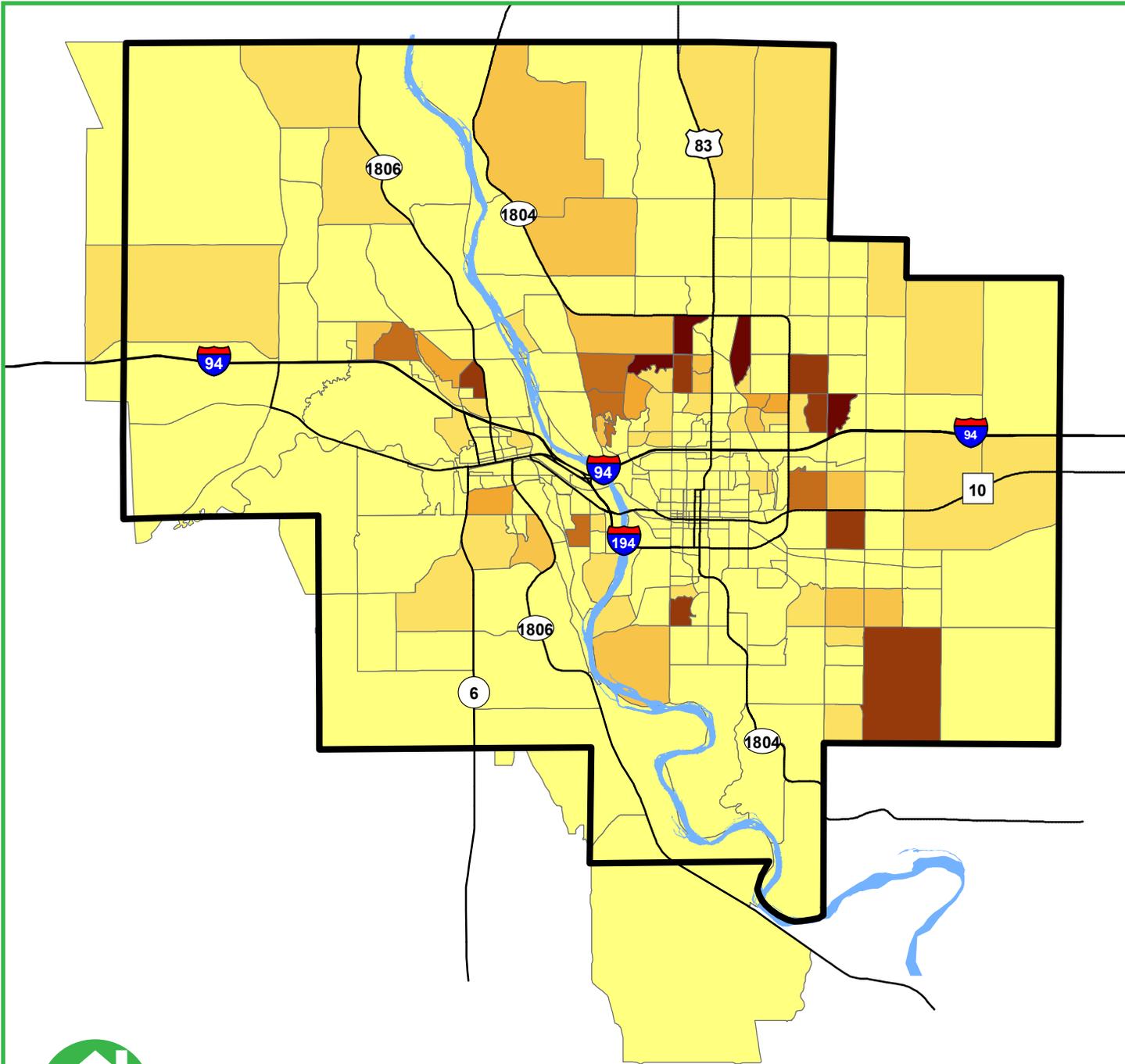
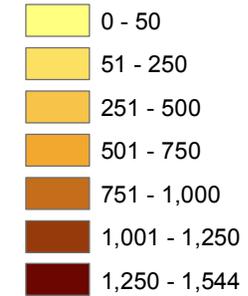


Map 2.2 Dwelling Unit Growth Projections per TAZ: 2010-2040

High Growth Assumption
(3.5% Annual)

 MPO Boundary

New Dwelling Units



Map created by W.R.H. June 2016. Map based on data maintained by the City of Bismarck and the Bismarck-Mandan MPO. The change in households between 2010-2040 was based on the "High Growth" scenario developed by the Bismarck-Mandan MPO.

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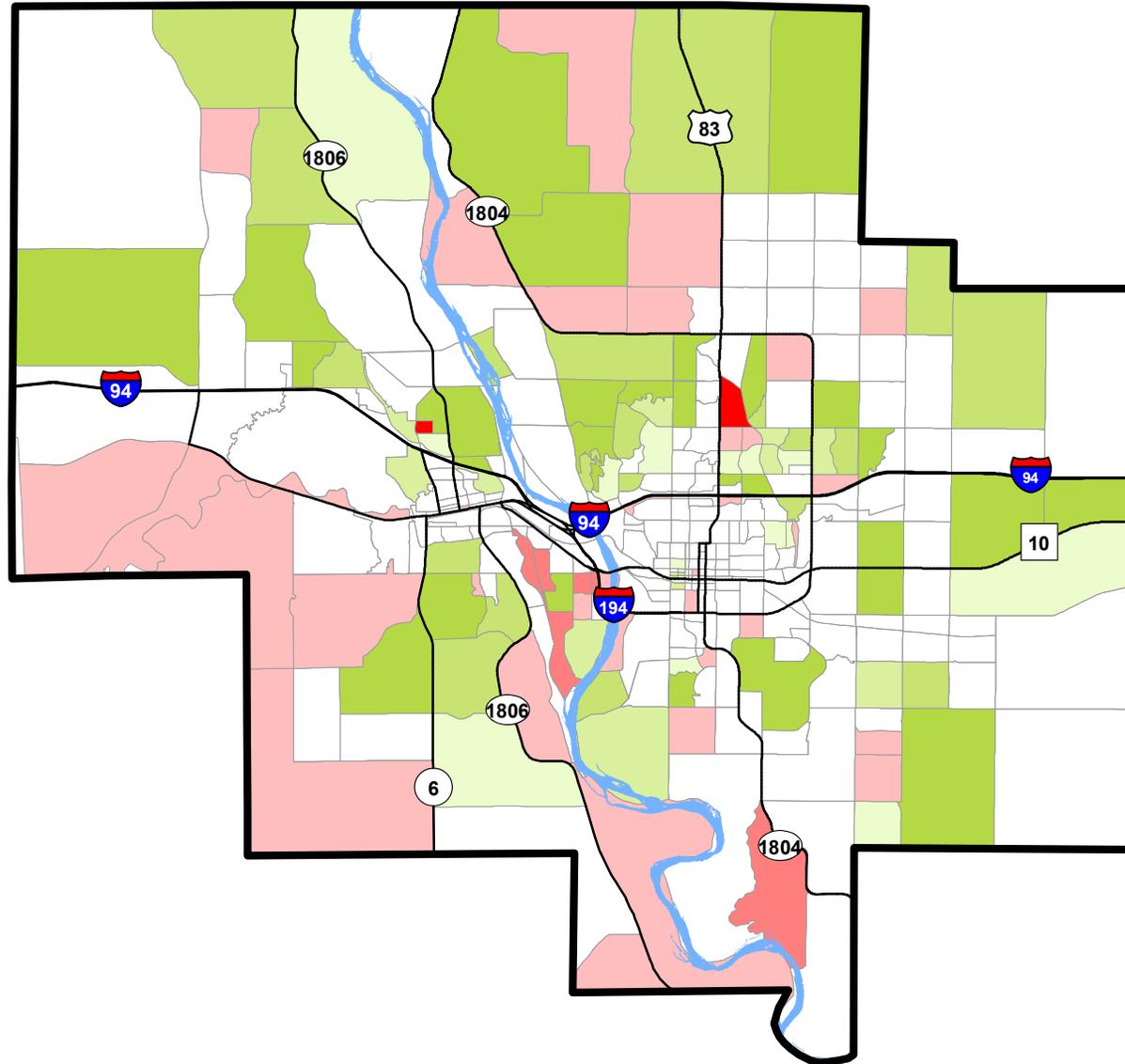
Map 2.3: Percent TAZ 2015 Dwelling Unit Growth compared to 2040 Projected Growth

High Growth Assumption

 MPO Boundary

Percentage of Growth (2015 / 2040)

-  0% - 25%
-  25% - 50%
-  50% - 75%
-  75% - 95%
-  95% - 110%
-  110% - 250%
-  250% - 500%
-  500% - 750%
-  750% or Greater



Map created by W.R.H. June 2016. Map based on data maintained by the City of Bismarck and the Bismarck-Mandan MPO. The change in households between 2010-2040 was based on the "High Growth" scenario developed by the Bismarck-Mandan MPO, 2015 Dwelling Unit Growth Based on Building Permit Activity for all MPO jurisdictions

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