

Comprehensive Plan City of Jordan

Approved April 20, 2020



TABLE OF CONTENTS

- 1. Introduction1-1**
 - A. Purpose1-1
 - B. History and Regional Setting1-1
 - C. Planning Framework1-4

- 2. Land Use2-1**
 - A. Purpose and Community Designation.....2-1
 - B. Community Profile and Forecasts2-3
 - C. Existing Land Use.....2-12
 - D. Future Land Use2-18
 - E. Staged Development and Redevelopment2-36
 - F. Natural Resources2-41
 - G. Special Resource Protection.....2-58

- 3. Transportation3-1**
 - A. Purpose and Transportation Analysis Zones3-1
 - B. Roadways.....3-3
 - C. Transit3-44
 - D. Bicycling and Walking3-47
 - E. Aviation3-48
 - F. Freight3-49
 - G. Goals and Implementation.....3-52

- 4. Water Resources**
 - A. Wastewater and Comprehensive Sewer Plan.....4-1
 - B. Water Supply Plan4-30
 - C. Local Water Management Plan.....4-37

- 5. Parks & Trails.....5-1**
 - A. Introduction and Purpose5-1
 - B. Park Classifications5-2
 - C. Existing Park and Recreation Inventory5-3
 - D. Park Evaluation and Recommendations5-21
 - E. Trails and Pedestrian Ways5-29
 - F. Community Input in Parks and Recreation5-38
 - G. Administration, Maintenance, and Operations.....5-41
 - H. Financial Resources.....5-43
 - I. Goals and Policies.....5-43

- 6. Housing.....6-1**
 - A. Purpose6-1
 - B. Existing Housing Assessment6-1
 - C. Goals and Policies.....6-16
 - D. Implementation Plan6-19

- 7. Resilience7-1**
 - A. Overview7-1

B. Community Baseline	7-1
C. Existing Conditions.....	7-4
D. Goals and Policies.....	7-13
E. Implementation	7-14
8. Economic Competitiveness	8-1
A. Overview	8-1
B. Key Industries/Centers of Employment	8-1
C. Redevelopment	8-3
D. Education and Workforce.....	8-4
E. Business Development	8-7
F. Economic Information and Monitoring	8-7
G. Strategic Initiatives	8-12
H. Economic Development Strategic Plan.....	8-13
I. Economic Development Land Use Plan.....	8-14
9. Public Facilities & Services.....	9-1
A. Introduction.....	9-1
B. Existing Community Facilities.....	9-1
C. Other Community Facilities	9-5
D. Municipal Boards, Commissions, and Committees	9-8
E. Projected Growth and Facility Needs	9-9
F. Public Facilities and Services Goals and Policies.....	9-10
10. Implementation	10-1
A. Introduction.....	10-1
B. Official Controls	10-1
C. Capital Improvement Plan.....	10-6
D. Housing Plan	10-6
E. Growth Areas and Annexation.....	10-7
F. Implementation Steps and Timeline.....	10-7
G. Comprehensive Plan Review and Revision.....	10-12

MAPS

2. Land Use	
Map 2-1: Community Designation.....	2-2
Map 2-2: Existing Land Use.....	2-14
Map 2-3: Redevelopment Sites	2-17
Map 2-4: 2040 Future Land Use	2-22
Map 2-5: Post 2040 Future Land Use	2-24
Map 2-6: Development Staging	2-38
Map 2-7: Topography.....	2-44
Map 2-8: Soils and Aggregate Resources.....	2-46
Map 2-9: Significant Biological Resources	2-48
Map 2-10: Significant Hydrological Resources	2-51
Map 2-11: Development Constraints.....	2-55
3. Transportation	
Map 3-1: Regional Location	3-2
Map 3-2: Existing Functional Class	3-4

Map 3-3: Existing Roadway Jurisdiction	3-8
Map 3-4: Existing and Planned Non-Motorized Facilities	3-15
Map 3-5: Existing Parks and Recreation Areas	3-16
Map 3-6: Existing Traffic Volumes and Crash Data	3-19
Map 3-7: Principal Arterial Conversion Study	3-27
Map 3-8: Traffic Analysis Zones	3-31
Map 3-9: 2040 Roadway Functional Class	3-34
Map 3-10: 2040 Traffic Volumes (Scenario 1)	3-36
Map 3-11: 2040 Traffic Volumes (Scenario 2)	3-37
Map 3-12: 2040 Traffic Volumes (Scenario 3)	3-38
Map 3-13: 2040 Traffic Volume to Capacity (Scenario 1)	3-39
Map 3-14: 2040 Traffic Volume to Capacity (Scenario 2)	3-40
Map 3-15: 2040 Traffic Volume to Capacity (Scenario 3)	3-41
Map 3-16: Number of Travel Lanes	3-43
Map 3-17: Transit Market Areas	3-46
Map 3-18: Freight, Rail & Heavy Commercial Corridors	3-51
4. Water Resources	
Map 4-1: MCES Sanitary Sewer Meter Service Area	4-2
Map 4-2: Sewershed Overview – Ultimate Growth Boundary	4-4
Map 4-3: Sewershed Detail 1	4-5
Map 4-4: Sewershed Detail 2	4-6
Map 4-5: Sewershed Detail 3	4-7
Map 4-6: Sewershed Detail 4	4-8
Map 4-7: Sewershed Overview – 2040 Growth Boundary	4-11
Map 4-8: Future Land Use and Density – Ultimate Growth	4-12
Map 4-9: Future Land Use – 2040 Boundary	4-13
Map 4-10: Subsurface Sewage Treatment Systems	4-28
Map 4-11: Water Supply Systems Interconnections	4-30
Map 4-12 Existing and Proposed Water Distribution System	4-31
Map 4-13: Watershed Drainage District Map	4-64
5. Parks and Trails	
Map 5-1: Existing Park and Recreational Areas	5-11
Map 5-2: Park Search Areas	5-22
Map 5-3: Regional Trail Network	5-32
Map 5-4: Regional Parks and Trails	5-34
Map 5-5: Spring Lake Trail Alignment	5-35
Map 5-6: Regional Bicycle Transportation Network	5-36
Map 5-7: Snowmobile Trails	5-37
6. Housing	
Map 6-1: Value of Occupied Units	6-3
7. Resilience	
Map 7-1: Solar Resource Map	7-9
9. Public Facilities & Services	
Map 9-1: Jordan Fire Department Service Area	9-3
Map 9-2: Scott County School Districts	9-5
10. Implementation	

Map 10-1: Existing Zoning	10-4
---------------------------------	------

TABLES

2. Land Use

Table 2-1: Population, Housing, and Employment Projections	2-6
Table 2-2: Owner Occupied Household Types	2-8
Table 2-3: Jordan 2010 Age Group Distribution	2-9
Table 2-4: Existing Land Use	2-12
Table 2-5: Residential Acres by Type	2-13
Table 2-6: Net Residential Densities	2-13
Table 2-7: Vacant Parcel Inventory for Jordan 2018	2-15
Table 2-8: Planned Land Use Characteristics	2-19
Table 2-9: Guided Land Use Acres in 2040 Boundary	2-21
Table 2-10: Planned Residential Density Ranges	2-26
Table 2-11: Land Needed to Accommodate Residential Growth	2-29
Table 2-12: Land Needed to Accommodate Job Growth	2-30
Table 2-13: Future Land Use Units, Jobs, and Acres	2-37

3. Transportation

Table 3-1: Typical Traffic Capacity by Roadway Type/Configuration	3-9
Table 3-2: Highway Level of Service	3-10
Table 3-3: Urban Street Level of Service	3-11
Table 3-4: Roadway Access Standards	3-12
Table 3-5: Access Spacing Guidelines for Collector Roadways	3-13
Table 3-6: Roadway Grade Design Standards	3-13
Table 3-7: Roadway Design Speed Guidelines	3-17
Table 3-8: 2040 TAZ Data	3-32

4. Water Resources

Table 4-1: Forecasts	4-1
Table 4-2: Metropolitan Disposal System Forecasts	4-1
Table 4-3: Community and Subsurface Treatment Systems Forecast	4-1
Table 4-4: Locally Owned & Operated Treatment Systems Forecast	4-1
Table 4-5: Wastewater Treatment Plant Pretreatment Components	4-15
Table 4-6: Wastewater Treatment Plant Aeration Basins	4-15
Table 4-7: Wastewater Treatment Plant Final Clarifiers	4-16
Table 4-8: Wastewater Treatment Plant Disinfection	4-16
Table 4-9: Newly Served Sanitary Sewered Areas in 2040 Boundary	4-24
Table 4-10: Newly Served Sanitary Sewered Areas in UGB	4-24
Table 4-11: Cost Estimate of Proposed Sanitary Sewer 2040 Expansion	4-25
Table 4-12: Individual Sewage Treatment Systems in City Limits	4-27
Table 4-13: Historic Water Demand	4-32
Table 4-14: Future Water Demand Projections	4-33
Table 4-15: Water Treatment	4-33
Table 4-16: Water Storage	4-33
Table 4-17: Water Source Data	4-34
Table 4-18: Water System CIP	4-36
Table 4-19: Stormwater Management System Approximate Costs	4-53
Table 4-20: Stormwater Area Charge Cost Summary	4-53

5. Parks and Trails	
Table 5-1: Jordan Park Inventory.....	5-19
6. Housing	
Table 6-1: Existing Housing Conditions.....	6-2
Table 6-2: Housing Costs as a Percent of Household Income.....	6-2
Table 6-3: Value of Owner-Occupied Homes.....	6-4
Table 6-4: Types of Housing in Jordan.....	6-4
Table 6-5: Rental Housing Units in Jordan.....	6-7
Table 6-6: Senior Housing in Scott County.....	6-8
Table 6-7: Age of Housing Units.....	6-9
Table 6-8: Household Composition.....	6-10
Table 6-9: Affordable Housing Need Allocation for Jordan.....	6-12
Table 6-10: Section 8 Income Guidelines.....	6-13
Table 6-11: Future Land Use Designation Density.....	6-14
Table 6-12: Staging of Affordable Units in 2021-2030.....	6-15
Table 6-13: Jordan Available Residential Lots.....	6-15
Table 6-14: Existing Housing Needs Implementation Tools.....	6-19
Table 6-15: Projected Housing Needs Implementation Tools.....	6-20
7. Resilience	
Table 7-1: Participants in Excel Energy Rebate Program.....	7-7
Table 7-2: Jordan Rooftop Solar Resource.....	7-8
Table 7-3: Best Practices Completed in Jordan.....	7-16
8. Economic Competitiveness	
Table 8-1: Major Employers.....	8-2
Table 8-2: Employment Projections.....	8-3
Table 8-3: Means of Transportation to Work.....	8-6
Table 8-4: Comparative Economic Data.....	8-8
Table 8-5: Projected Commercial/Industrial Acre Demand.....	8-11
10. Implementation	
Map 10-1: Zoning District Guidelines.....	10-2
Map 10-2: Implementation Goals, Tools, and Timeline.....	10-8

APPENDICES

- Appendix A: NPDES Permit**
- Appendix B: Local Water Supply Plan**
- Appendix C: Geometric Design Standards**
- Appendix D: Scott County Traffic Model Update**
- Appendix E: Scott County Comprehensive Housing Needs Update**
- Appendix F: Capital Improvements Program**
- Appendix G: Orderly Annexation Agreement with St. Lawrence Township**
- Appendix H: Adjacent Jurisdiction Comments and Responses**
- Appendix I: Resolution and Reports**

INTRODUCTION

PURPOSE

The City of Jordan Comprehensive Plan is a dynamic planning tool intended to guide the future growth and development of the city. The Comprehensive Plan is based on local and regional historical facts, trends, and governmental planning standards. This Comprehensive Plan for Jordan, Minnesota is reflective of the community planning process conducted from 2016 to 2018. Pursuant to Minnesota Statutes 462.355 and 473.864, the City of Jordan has identified a need to proactively plan for areas beyond the city limits and ensure utilities, transportation, parks, and various land uses are planned accordingly.

This Comprehensive Plan utilizes information from the Metropolitan Council's System Statement for Jordan. This Plan recognizes and analyzes population, household, and employment projections and their impact on local and regional infrastructure systems including transportation, wastewater, surface water, water, and regional parks. It also considers the impact growth within and around Jordan will have on Scott County and the region.

The Comprehensive Plan identifies the type, amount, and pattern of growth that has taken place within the city and utilizes this information for the planning of future growth. Accordingly, the Comprehensive Plan provides a knowledge base for instituting a hierarchy of policies that will assist the community in processing a variety of development issues on a defined policy level. This information and policy base will allow decision-makers to evaluate and guide proposals benefiting the residents of Jordan, and fulfilling the City's goals and objectives. The plan includes proposed land uses outside of the City's current corporate boundaries. This does not require this land to be developed, but establishes policies and recommendations to guide the development when it does occur. While the plan is intended to serve as a 20+-year guide, it should be reviewed and updated as needed to adequately address development as it occurs.

HISTORY AND REGIONAL SETTING

I. HISTORY

Founded in 1854. The 160 acres previously known as "Holmes Mill" was platted in 1853 by William Holmes. Holmes, along with his wife and son, constructed a log home at the current site of Water Street and Broadway Street. A year later, the Varner family moved to the village. William Varner, along with his wife and ten children, resided at what is now Varner Street and First Street. The City of Jordan was founded in 1854 and was later named after the biblical River Jordan. The City was incorporated in 1891.

Sawmills. One of the earliest industries in Jordan reported to be in operation included two sawmills which were established in the 1850s.



The Jordan Brewery Inc. Early businesses in Jordan included a hotel, school, tavern, post office, and the Jordan Brewery Inc., which was founded in the mid-1800s by Frank Nicolin. Along with the brewery, Nicolin opened a general store and later a second brewery plant. In 1867 he sold one of the breweries and constructed another one in Jordan. Following Nicolin's departure from the brewery business, the brewery was known as the Schutz and Hilgers City Brewery, and was a popular gathering place for area residents. Just four years prior to Prohibition in 1920, the brewery was sold to Cedar Lawn Hatchery. The facility became the largest egg incubator of its sort. The "Brewery," which served as an antique store with residential apartments on the upper level, was damaged in heavy rains and landslide in 2014. It has since been repaired and reopened with new uses.

The brewery caves. According to an article by Kevin Busse in the *American Breweriana Journal*, Issue 87, August 1997, brewery caves were built behind the brewery into the bluffs, as a method of cooling beer and to "move material used in the brewing process before electricity was introduced in the Minnesota River Valley." According to the article, the University of Minnesota explored the caves in 1981 and mapped and photographed the caves with details including ventilation shafts, room sizes, and distance into the hills. Geologists studied the history of the white sandstone which provided information on the 50 million year old land. The article notes that the University of Minnesota has recommended that the caves should be "preserved for geological interests" even if the brewery is someday demolished. Data gathered during the exploration provided information on the water quality issues in Southeastern Minnesota.

Development of "Fairground Park/Mini-Met." In 1888, the land across from the brewery sold for \$2,700 to two individuals, Schultz and Kaiser, who also purchased the brewery in 1902. The brewery became known as the "Schutz and Hilgers City Brewery" from 1902 to Prohibition. This land, across from the brewery, became a private park for social gatherings and baseball games. Baseball has been an important sport in the City of Jordan, with over 100 years of history on this site. The Mini-Met ballpark is considered one of the best amateur baseball fields in the state. The baseball field is used as the home field for the Jordan Millers, Ahlers, the Jordan High School baseball team, and the Jordan Brewers. This has been the host site for state amateur baseball tournaments.

Jordan was selected as the site for the original Scott County Fair around 1914. The park site was the location of the Scott County Fair from approximately 1914 until 1973. In 1960 "Fairground Park" and its barns were damaged by a flood. Numerous original buildings were demolished. In 1969, the State Baseball Tournament was held at "Fairground Park." Following positive press in the St. Paul Pioneer Press, which compared the ballpark to the Metropolitan Stadium, the site became referred to as the "Mini-Met" baseball park in Jordan. In 1972, the Fair Board purchased 80 acres of land in St. Lawrence Township. In 1973, the City of Jordan purchased "Fairgrounds Park," with the assistance of a donation from the Jordan Commercial Club.



Sites on the National Register of Historic Places. Five sites within the general Jordan area are listed on the National Register of Historic Places. All sites were listed as of April 17, 1980. These include:

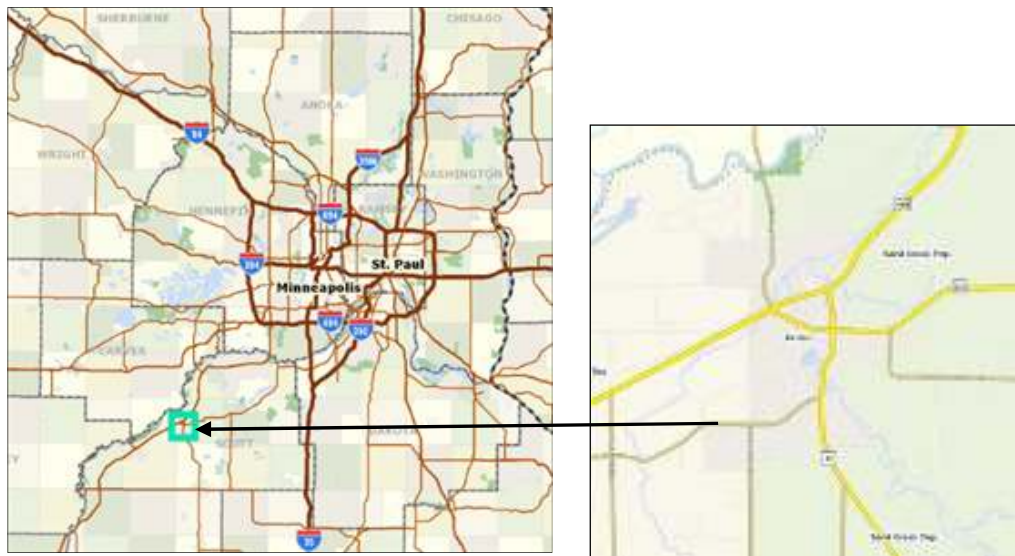
- The Abraham Bisson House on County Road 57 (outside city limits),
- Foss and Wells House at 613 South Broadway Street,
- Jordan Brewery Ruins along South Broadway Street,
- Jordan Historic District along Water Street and South Broadway, and

- Mudbaden Sulphur Springs Company along County Highway 63 (outside city limits).

This history and its importance in the community now, and in the future, are evident with the Downtown Design Standards and recent investments in the downtown, parks, and Mini-Met. More information about historic resources within Jordan and policies to protect these resources can be found in Chapter 2.

II. REGIONAL SETTING

Jordan is situated approximately 35 miles southwest of the Twin Cities metropolitan area. Located in the southwest corner of Scott County, the community is served by US Highway 169, Minnesota State Highway 21, Minnesota State Highway 282, and a number of County roadways including CR 9, CR 10, CR 61, and CR 66.



Located within the seven-county metropolitan area, both Scott County and the City of Jordan are within the jurisdiction of the Metropolitan Council.

The City is categorized as a Rural Center, and has its own water and sanitary sewer systems.

PLANNING FRAMEWORK

I. DATA AND PLANS

This Comprehensive Plan is the product of several entities and systematic, ongoing, forward-looking processes including:

Census Data

Information from the U.S. Census on population, demographics, housing, and employment has been incorporated into the various sections of the 2040 Comprehensive Plan.

Growth Projections

The Minnesota State Demographer's and Metropolitan Council population estimates and projections for Jordan and Scott County have been incorporated into the plan.

Building Permit Records, 2000-2016

Historic building construction, including new home construction and commercial/industrial construction as shown in City building permits, is incorporated into the Housing and Land Use Sections.

Scott County Housing Plan

Scott County engaged the services of Maxfield Research to identify the housing needs in Scott County. The Study incorporates 2010 U.S. Census data and includes recommendations for housing for each of the communities, including Jordan.

City of Jordan Master Parks, Trails and Natural Resource Plan, 2010

The City of Jordan prepared a Master Parks, Trail and Natural Resource Plan in 2010. Information from this plan has been incorporated into the Parks and Trails Section.

City of Jordan Utility Plans

The Water Supply Plan, Water Resource Plan, and Sanitary Sewer Plan have been updated as part of this overall comprehensive plan update.

Transportation Plan

The Transportation Plan has been updated as part of this overall comprehensive plan update.

Safe Routes to School Plan, 2015

The City of Jordan and Jordan School District worked with MnDOT on a Safe Routes to School Plan in 2015. Findings and recommendations of the Plan are included in the Transportation Chapter.

Downtown Master Vision, 2014

A Downtown Master Vision was completed in 2014. The concepts have been incorporated into the Economic Competitiveness Chapter.

II. PLANNING PROCESS

This Plan evolved through a participatory process that included:

- **Community survey:** An online and paper community survey was available February 2016 through March 2016. Two-hundred and ninety-five (295) responses were received. There were 2,153 estimated households in 2014 suggesting approximately 14% of households participated, if one person per household responded.
- **Public meetings**, including:
 - A **community visioning session** held October 11, 2016. Approximately 20 people attended and provided input.
 - An **open house** held on May 31, 2017. Approximately 20 people attended and provided input.
 - Two **public hearings** held on June 12, 2018 and February 12, 2019.
- **Focus group meetings with City committees** including the:
 - Jordan Economic Development Authority (EDA) and
 - Park and Recreation Commission
- **City staff, consultant/engineer** participation.
- **Workshop meetings** with a Comprehensive Planning Committee (Planning Commission) from January 2016 to May 2018.

III. PROJECT PARTICIPANTS

The development of the Comprehensive Plan is the result of the input of many participants including citizens, staff, elected officials, citizen commissions, and other stakeholders. The list of participants follows:

City Council:

Tanya Velishek, Mayor
Mike Franklin
Jeremy Goebel
Brenda Lieske
Terry Stier
Robert Whipps
Jeff Will
Tom Nikunen, City Administrator

Planning Commission:

Tom Sand, Chair
Toni Walsh, Vice Chair
Sally Shultz, Commissioner
Jane Bohlman, Commissioner
Jesse Masloski, Commissioner
Jeff Will, Council Representative
Robert Whipps, Council Representative
Lucinda Meyers, City Planner
Addison Lewis, City Planner

Economic Development Authority:

Ron Jabs, Chair
Ray Sandey, Vice-Chair
Mike Franklin, Council Representative
Tanya Velishek, Council Representative
Ryan Dahnert, Member
Dan Elke, Member
Dr. Chuck Cook, Member

Parks and Recreation Advisory Board:

Michael Salzwedel
Becky Meyer
Terry Stier
Jeff Vizenor
Donna Breeggemann
Lucinda Meyers, City Planner

Other:

Residents of Jordan
City Staff
Jordan Commercial Club
Local Developers
Bolton & Menk, Inc., Engineering and Planning Consultant

LAND USE

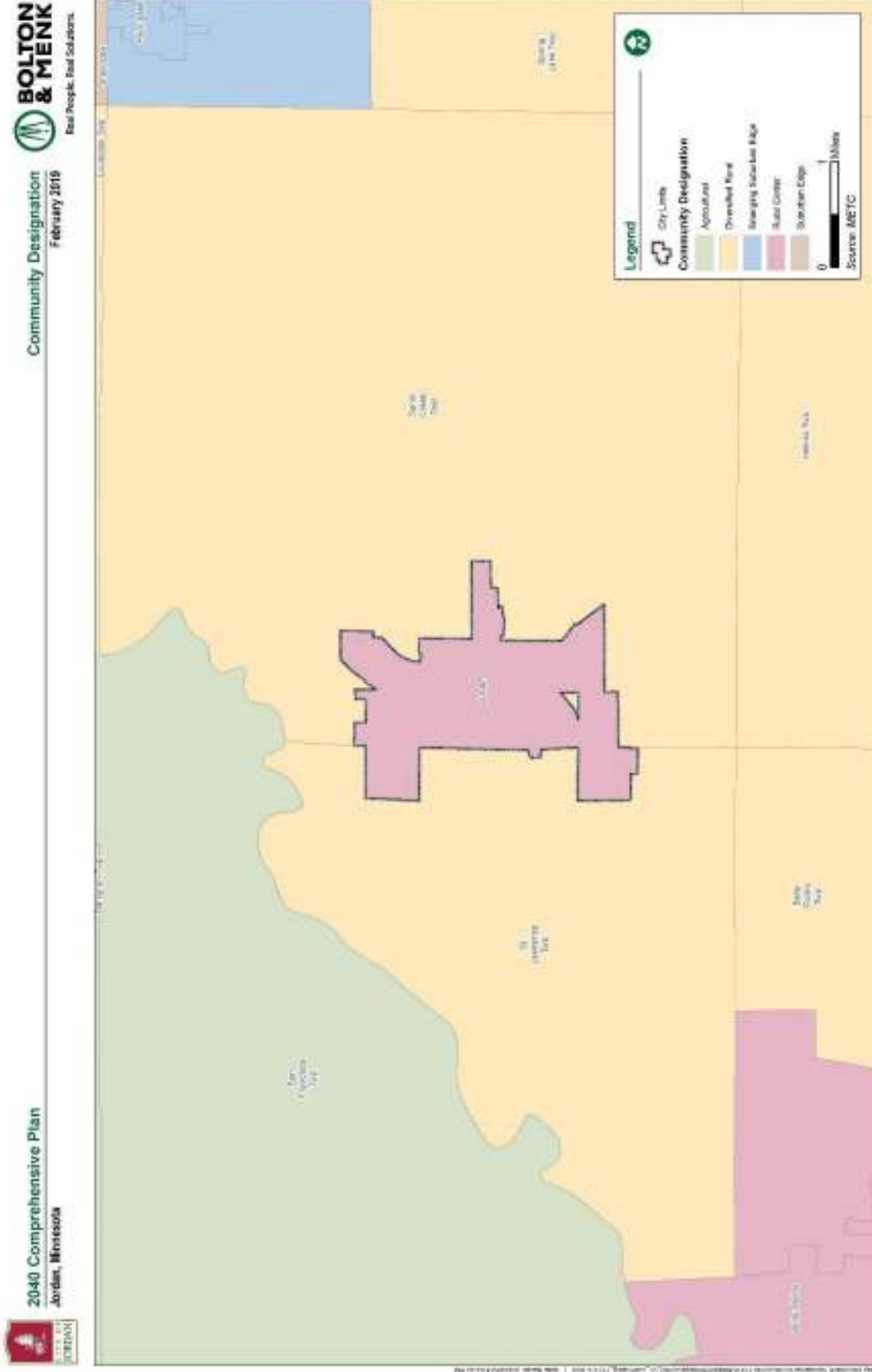
PURPOSE AND COMMUNITY DESIGNATION

The goals of this chapter are to promote cost effective, orderly development and redevelopment patterns throughout the city; maintain and enhance the quality of life within the city; and prevent and eliminate blight and resist deterioration of the developed areas of the city. Subsequent chapters of this plan include information on utilities and the city's ability to serve its forecasted growth with water, sanitary sewer, streets and other infrastructure. As required by the Metropolitan Council this includes:

- Population, household, and employment growth forecasts and community designation
- Existing land use inventory and map
- Future land use plan, including map and related calculations
- Calculations of density and staged development plan
- Identification and plan for natural and special resources

The City of Jordan is recognized by the Metropolitan Council as a **Rural Center**. Rural Centers are local commercial, employment, and residential activity centers serving rural areas in the region. These small towns are surrounded by agricultural lands and serve as centers of commerce to those surrounding farmlands and the accompanying population. Rural Center communities are expected to plan for forecasted population and household growth at average densities of at least 3-5 units per acre for new development and redevelopment. In addition, Rural Center communities should strive for higher-density commercial uses and compatible higher-density residential land uses in the commercial core of the community to ensure efficient uses of existing infrastructure investments. See **Map 2-1** for the community designation of Jordan and surrounding communities.

MAP 2-1: COMMUNITY DESIGNATION



COMMUNITY PROFILE AND FORECASTS

To plan for Jordan's future housing, park and recreation, government, utility, and transportation needs, it is important to review past trends and future projections for population and employment growth of the community. This section provides an overview of the population and household characteristics of the residents of Jordan in 2010/2016 as well as projections through 2040.

I. DEMOGRAPHIC PROFILE SUMMARY

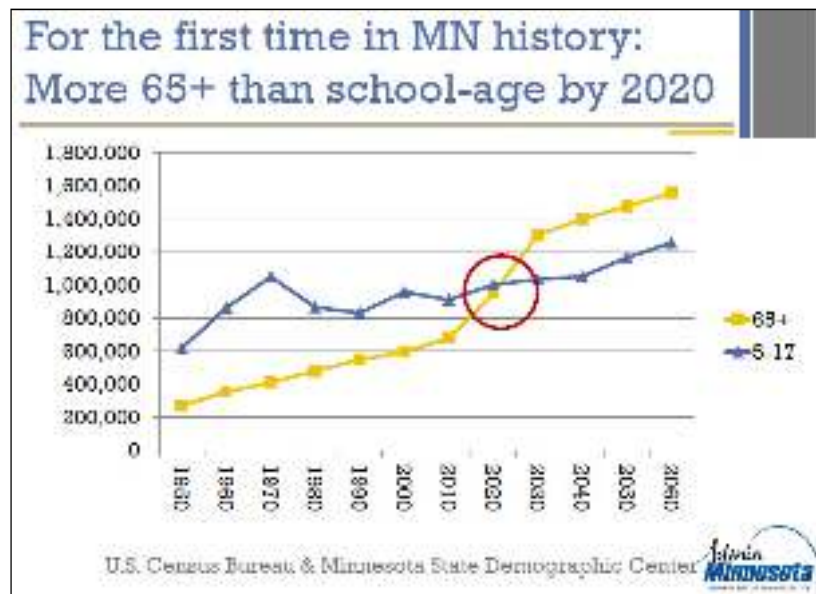
- **Population.** The Metropolitan Council estimates that the City of Jordan's population as of 2016 was 6,213, an increase of 14% or 743 residents from the 2010 Census population of 5,470.
- **Households.** The Metropolitan Council estimates 2,122 households with 2.93 people per household in Jordan in 2016. This is an increase of 773 households from the 2000 U.S. Census which reported 1,349 households and 251 from the 2010 Census which reported 1,871 households.
- **Population and Household Projected Growth.** The Metropolitan Council System Statement projects a 2040 population of 12,200 people and 4,700 households in Jordan.
- **Age.** The City of Jordan had a median age of 31.8 years according to the 2010 Census. This is younger than Scott County's median age of 34.8 years; Minnesota's median age of 37.4 years; and the U.S. median age of 37.2 years.
- **Gender.** 2010 Census information identifies a gender distribution of 50% female to 50% male residents within the City of Jordan, illustrating nearly the same female-to-male ratio as Scott County (50.2% to 49.8%). The ratio is similar to Minnesota (50.4% female to 49.6% male).
- **Income.** The 2010 Census reports a median family income in the City of Jordan of \$70,933 and median household income of \$61,689. According to the 2011-2015 American Community Survey, 4.1% of the population in Jordan was below the poverty level.
- **Employment.** The 2011-2015 American Community Survey estimates 3,252 people (74.4%) that are 16 years and older are in the workforce. The unemployment rate is 3.0%.
- **Travel Time to Work.** According to the 2011-2015 American Community Survey, workers in Jordan traveled an average of 26.8 minutes to their place of employment.

II. POPULATION TRENDS – REGIONAL AND STATE

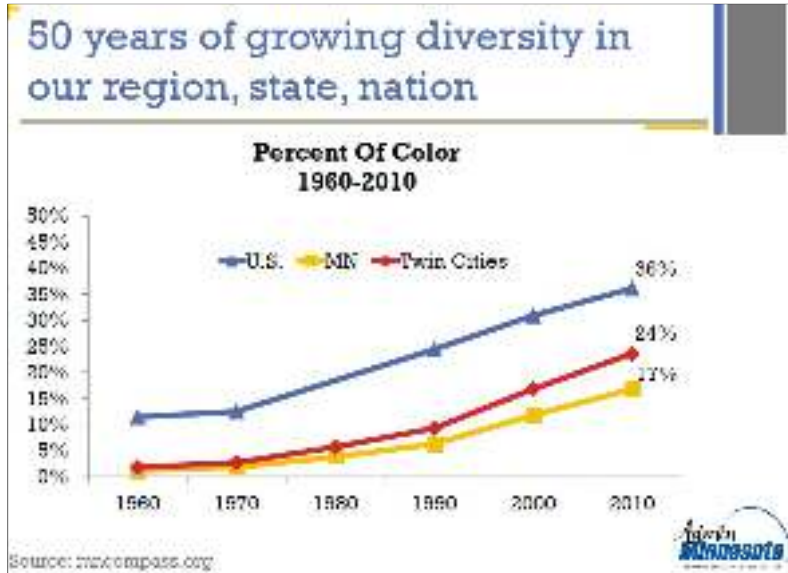
According to the Minnesota Department of Administration, three trends are occurring which will affect cities and counties within Minnesota as well as the United States. (The following information was obtained from Minnesota State Demographic Center, February 12, 2013 “How Social, Economic & Demographic Changes are Transforming Minnesota” PowerPoint.)

- A. The population is aging.** The median age in Minnesota was 35 years old in 2000. This increased to 38 years of age by 2015. The MN State Demographer projects “unprecedented increases in Minnesota’s 65+ age population.”

By 2020, there will be more senior citizens aged 65+ years than there will be school aged children. It is important that community planning considers the needs of this changing demographic. This includes addressing the types of housing offered, park and recreational opportunities, access to goods and services, types of businesses, and impacts on employment.



- B. More diversity.** Diversity is increasing due to two major factors: larger proportions of diverse populations among youth, and migration from other places with more diverse populations. The following graph shows how this trend has continued over the past several decades.



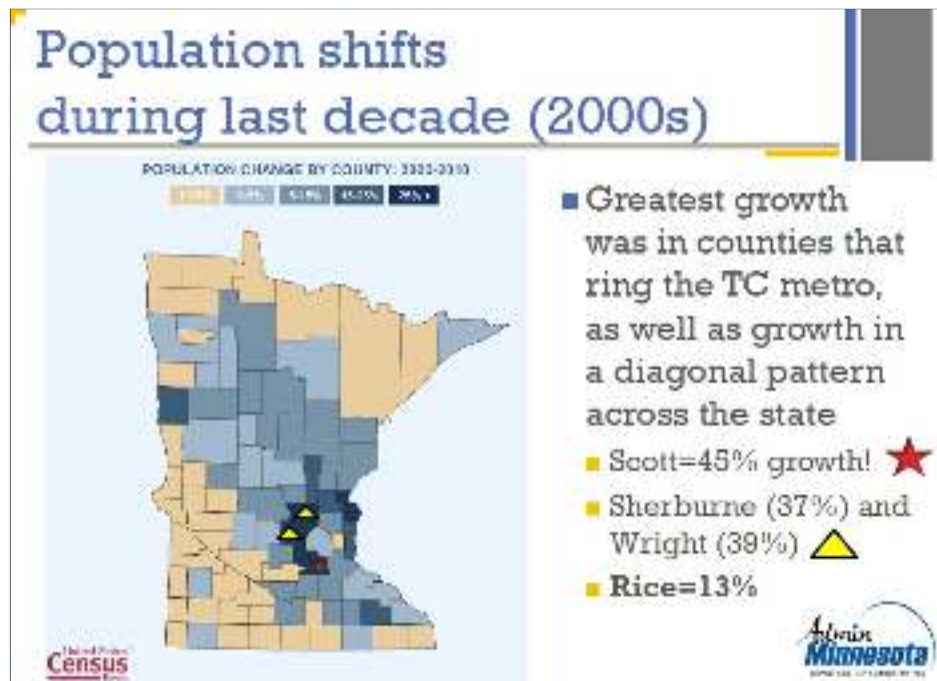
According to the 2011-2015 American Community Survey, 3% of adults 85+ years are people of color, while 26% of children under the age of 5 are people of color. This difference shows how the population will become more diverse over time.

Additionally, many new arrivals to Minnesota come from other countries. The chart below illustrates the countries from which MN foreign born population originate.



Besides English, the most common languages spoken in the homes of Minnesotans are Spanish (about 198,000 speakers), Hmong (54,000 speakers), and Somali (37,000 speakers) (data from 2010-2012).

Population shifts. The US Census Bureau reports the greatest population growth in Minnesota is within the metropolitan areas, with people moving away from rural outstate communities. Jordan is within the Twin Cities Metropolitan Area, within fast-growing Scott County.



III. CITY OF JORDAN POPULATION AND HOUSEHOLD FORECASTS

A. Metropolitan Council Forecasts

Since Jordan is located within the Metropolitan Council's jurisdiction, the city is included in its growth forecasts. **Table 2-1** shows the Metropolitan Council's population, household, and employment projections for the City of Jordan from 2010 to 2040. The following graph includes historical population trends, as well as projections, to show this growth in the larger context.

TABLE 2-1
CITY OF JORDAN POPULATION, HOUSEHOLD, AND EMPLOYMENT PROJECTIONS

	2010	2016	2020	2030	2040
Population	5,470	6,213	6,900	9,600	12,200
Households	1,871	2,122	2,500	3,600	4,700
Employment	1,587	1,923	2,200	2,500	2,800

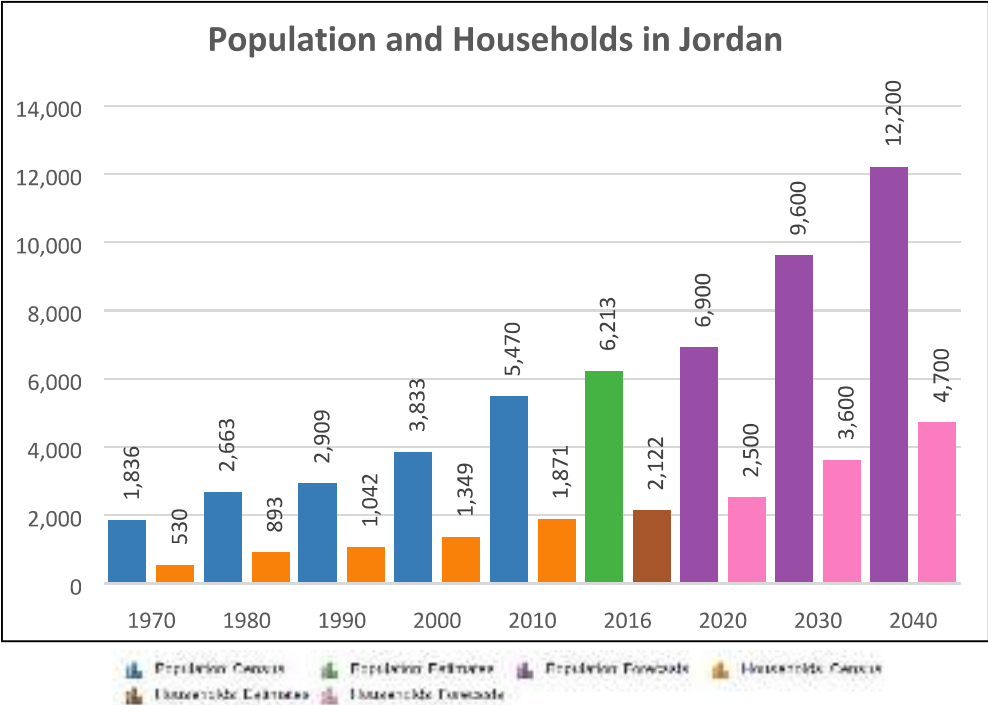
Source: Metropolitan Council

The population and household forecasts for Jordan in 2030 and 2040 were modified by mutual agreement with the Metropolitan Council after the system statement was released. This reflects in part the completion of an orderly annexation agreement between the City of Jordan and St. Lawrence Township regarding an area to the west of existing city limits. This represents a significant increase in potential developable land with the planned 2040 growth boundary, one of the main considerations in planning for future city growth.

B. Historic Population and Trends

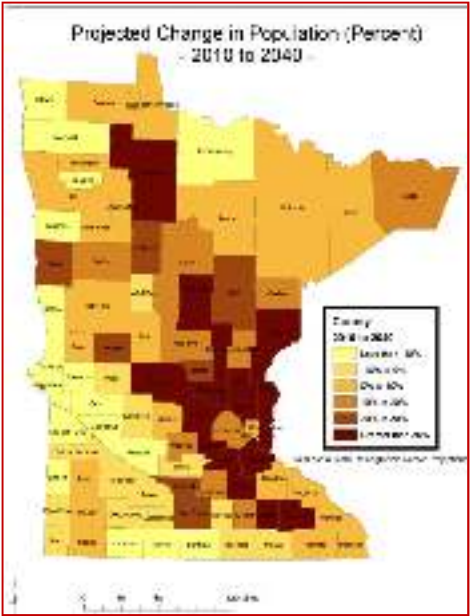
The Metropolitan Council is forecasting a decrease in household size (both locally and regionally) between 2010 and 2040 due to the aging population and shifts in household composition. In 2010,

Jordan had an average of 2.92 people per household. This is projected to decrease to 2.60 people per household by 2040. The implication is that more housing units will be needed per capita than in the past, since each unit on average will house few people. The following graph includes historical population trends, as well as projections, to show this growth in the larger context.



Source: US Census, Metropolitan Council

Jordan is in Scott County, one of the suburban communities around the Twin Cities metropolitan area that is forecasted to have the highest county-level growth rates in the state through 2040. While Jordan remains a relatively small percentage of overall countywide growth, this suggests that Jordan should continue to plan for future growth – including growth that may be beyond current projections.



IV. JORDAN POPULATION CHARACTERISTICS

A. Household Type

The 2010 Census reported a total of 1,961 housing units in Jordan, with 95.4% or 1,871 occupied. Of the total number of occupied units, there is a significantly higher percent of family households (76.3%) than non-family households (23.7%) within the City of Jordan. The Census defines non-family households as those with persons who are not related by birth, marriage, or adoption. As shown in **Table 2-2**, Jordan has a similar proportion of family households as the county as a whole.

**TABLE 2-2
OWNER-OCCUPIED HOUSEHOLD TYPES 2010**

Area	Family Households	Non-Family Households	Total
City of Jordan	1,428 (76.3%)	443 (23.7%)	1,871
Sand Creek Township	424 (76.5%)	130 (23.5%)	554
St. Lawrence Township	140 (87%)	21 (13%)	161
Scott County	34,421 (76.3%)	10,687 (23.7%)	45,108

Source: 2010 Census, Minnesota State Demographer's Office

Additional information on housing is included within Chapter 6, Housing Plan.

B. Age

The median age of Jordan residents per the 2010 Census was 31.8 years. This was an increase from 29.2 years in the 2000 Census. Over one third (35.6%) of Jordan's population in 2010 was 19 years or under, while 6.1% of the population was 65 years old or older. These ratios are projected to change with a continued aging of the population in the city, county, and state.

The City of Jordan's median age remains lower than Scott County's (34.8 years), Minnesota's (37.4 years), and the United States' (37.2 years) median age, according to the 2010 Census. **Table 2-3** identifies the age distribution within Jordan. As of 2010, the largest categories were under the age of 10 years.

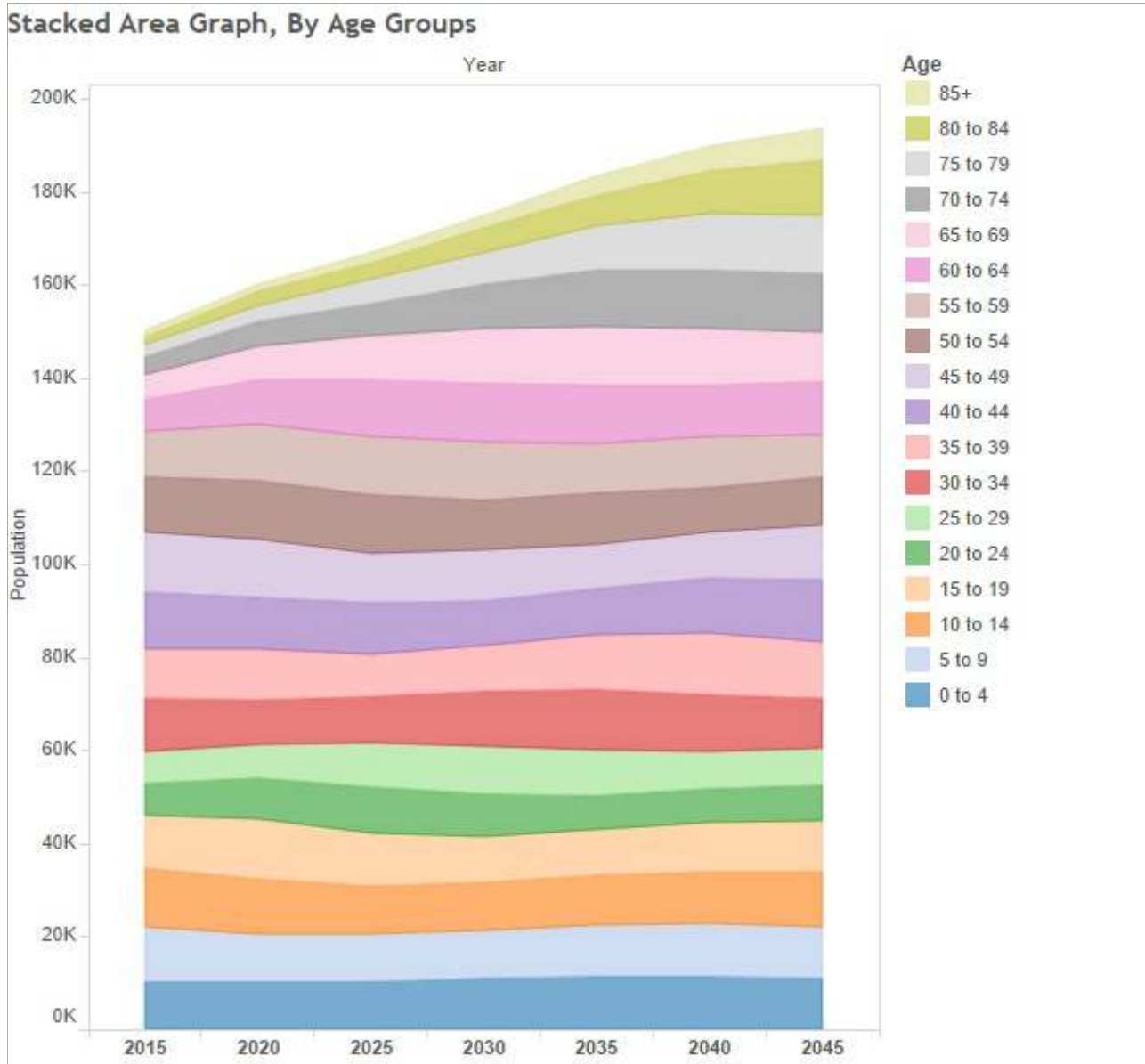
**TABLE 2-3
JORDAN 2010 AGE GROUP DISTRIBUTION**

Age Group (Years)	Jordan 2010 Census	Percent Of Total Population
Under 5	569	10.4%
5 to 9	561	10.3%
10 to 14	489	8.9%
15 to 19	329	6.0%
20 to 24	248	4.5%
25 to 29	381	7.0%
30 to 34	509	9.3%
35 to 39	483	8.8%
40 to 44	429	7.8%
45 to 49	385	7.0%
50 to 54	347	6.3%
55 to 59	238	4.4%
60 to 64	171	3.1%
65 to 69	108	2.0%
70 to 74	74	1.4%
75 to 79	40	0.7%
80 to 84	58	1.1%
85 to 89	33	0.6%
90 years and over	18	0.3%
TOTAL	5,470	100%

Source: U.S. Census 2010

As depicted in the following graph, the Minnesota State Demographer projects the fastest growing age groups in Scott County, as well as Minnesota, will be those 75+ years of age.

SCOTT COUNTY: POPULATION PROJECTIONS BY AGE GROUP



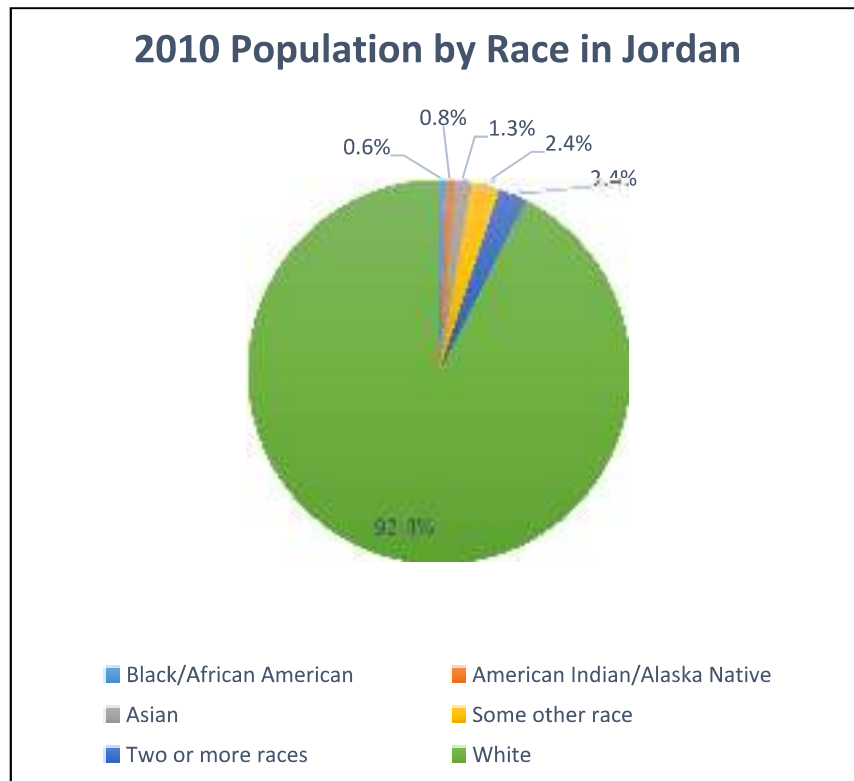
Source: MN State Demographer

The MN State Demographer states, "The number of Minnesotans turning 65 in this decade (about 285,000) will be greater than the past four decades combined." As noted, "Around 2020, Minnesota's 65+ population is expected to eclipse the 5-17 "K-12" population, for the first time in history." The total number of older adults (65+) is anticipated to more than double between 2015 and 2040. By then, more than 1 in 5 Minnesotans will be an older adult, including all the Baby Boomers.

C. Race

According to the 2010 Census, 5,056 of Jordan's 5,470 residents (92.4%) classify themselves as White or Caucasian, 35 (0.6%) as Black or African American, 45 (0.8%) as American Indian or Alaska Native, 70 (1.3%) as Asian, 134 (2.4%) as some other race, and 130 (2.4%) as two or more races. A total of 354 (6.5%) identify themselves as Hispanic or Latino.

When compared to the 2000 Census, the community has become slightly more diverse. In 2000, 3,606 of Jordan's 3,833 residents (94.1%) classified themselves as White or Caucasian, 19 (0.5%) as Black or African American, 23 (0.6%) as American Indian or Alaskan Native, 7 (0.2%) as Asian, 119 (3.1%) as "some other race" and 59 (1.5%) as two or more races. A total of 253 (6.6%) identified themselves as Hispanic or Latino.



Source: US Census 2010

According to the MN State Demographer, "In 1920, about 1 in 5 Minnesotans was foreign-born; today about 1 in 14 are." The largest groups of foreign-born Minnesotans were born in Mexico (71,000); India (26,000); Laos, including Hmong (24,000); Somalia (21,000); Vietnam (19,000); Thailand including Hmong (15,000); and China (14,000) (data from 2010-2012). These estimates do not include U.S.-born children of these immigrants. They also likely underestimate the size of our immigrant populations because trust and language issues depress response rates to Census surveys. After English, the most common languages spoken in the homes of Minnesotans 5 and older are Spanish (about 198,000 speakers), Hmong (54,000 speakers), and Somali (37,000 speakers) (data from 2010-2012)."

EXISTING LAND USE

I. LAND USE INVENTORY

Map 2-2 shows the existing land uses within the city. Following is a description of each of the land uses within Jordan.

In 2016, The City of Jordan covered around 2,098 acres (3.3 square miles). The largest land use category was undeveloped land, which accounted for 32% of the acreage. Single-family detached housing, which comprised 30% of the acreage, was the second largest land use.

Table 2-4 below illustrates existing land use in the city in 2016.

**TABLE 2-4
EXISTING LAND USE IN JORDAN – EXISTING CITY LIMITS, 2016**

Land Use	Acres	Percent
Agricultural	117	5.5%
Farmstead	5	0.3%
Industrial and Utility	187	8.9%
Institutional	107	5.1%
Major Highway	40	1.9%
Manufactured Housing Park	57	2.7%
Mixed Use Residential	12	0.6%
Multifamily	13	0.6%
Office	4	0.2%
Park, Recreational or Preserve	134	6.4%
Retail & Other Commercial	64	3.1%
Single Family Attached	25	1.2%
Single Family Detached	638	30.4%
Undeveloped	678	32.3%
Water	17	0.8%
TOTAL	2098	100.0%

Source: Metropolitan Council

Table 2-5 shows the housing acres by density level currently in Jordan. Low density housing – in the form of single family detached units – dominates the housing mix, in terms of units and acreage.

**TABLE 2-5
RESIDENTIAL ACRES BY TYPE**

Type	Acres	% of Total
Low Density (Farmstead and Single Family Detached)	643	85.9%
Medium Density (Single Family Attached)	25	3.3%
High Density (Multifamily)	13	1.7%
Mixed Use (Mixed Use Residential)	12	1.5%
Manufactured Housing (Manufactured Housing Park)	57	7.6%
TOTAL	750	100.0%

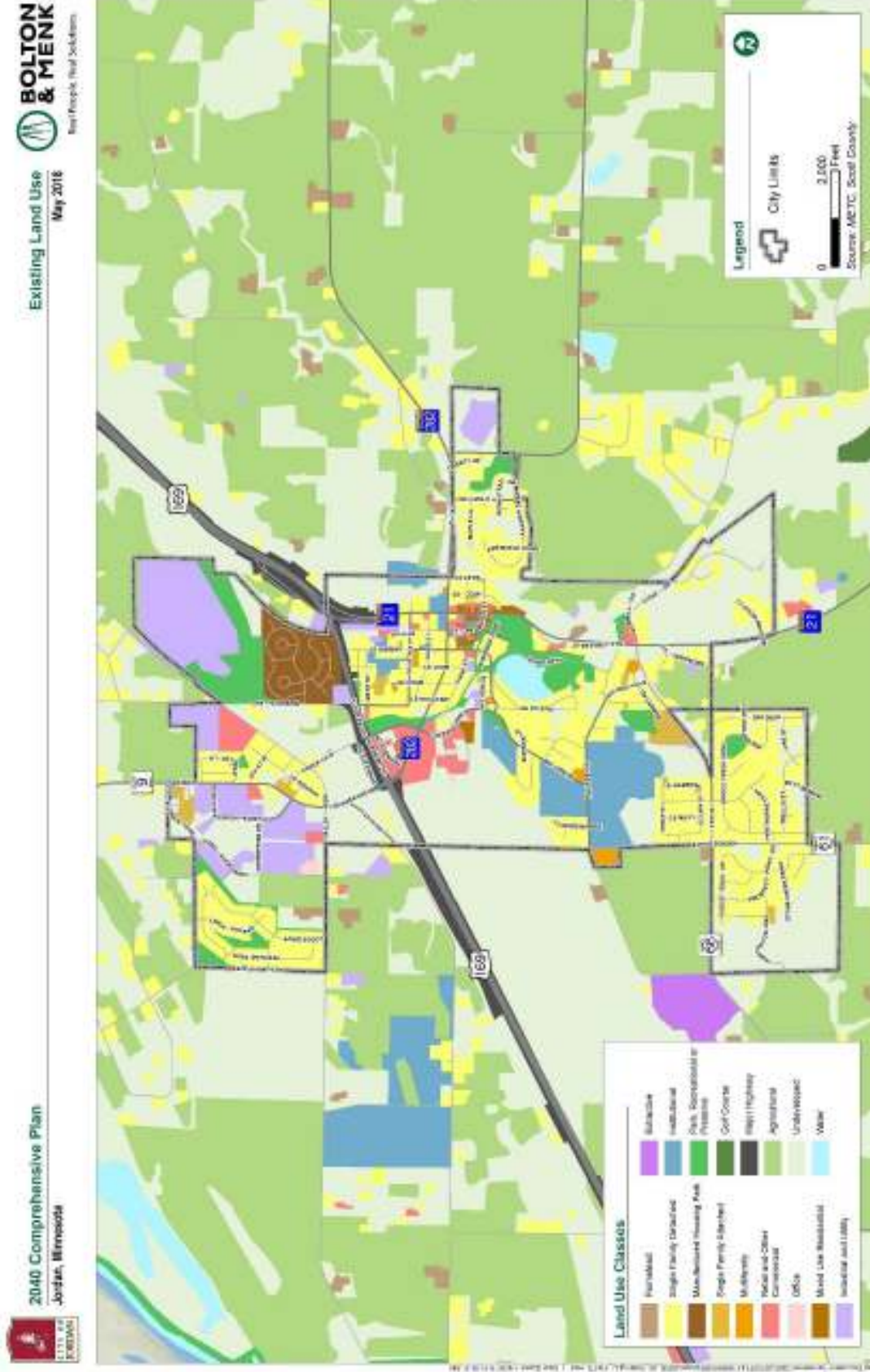
Table 2-6 shows the net residential density of existing residential areas within Jordan, taking into account the small amount of undevelopable land (primarily wetlands) located within these areas. The overall net density is around 3.4 units per acre on average. The number of units is higher than the total households due to the existing housing vacancy rate. Assumptions about this vacancy rate are being carried forward in the analysis.

**TABLE 2-6
EXISTING NET RESIDENTIAL DENSITY**

Land Use	Number of Units	Acres Gross Residential	Acres Undevelopable Land*	Net Residential Acres	Net Density Units/Acre
Low Density (Farmstead and Single Family Detached)	1,643	643	92.0	551	3.0
Medium Density (Single Family Attached)	147	25	3.5	21	7.0
High Density (Multifamily)	43	13	0.6	12	3.6
Mixed Use (Mixed Use Residential)	55	12	3.1	9	6.5
Manufactured Housing (Manufactured Housing Park)	299	57	2.4	55	5.5
TOTAL	2,187	750	101.6	648	25.6

**Undevelopable due to steep slopes, wetlands, right-of-way or other prohibiting features or uses*

MAP 2-2: EXISTING LAND USE, 2016



At the time of this comprehensive plan update, the City had a number of remaining lots platted and available for development, as well as preliminary plats not yet in the final plat phase. At the time these preliminary plats were considered, the City had limited sanitary sewer system capacity remaining. In the early 2000s, prior to the downturn in the housing market when several preliminary plats were considered, commitments were made to varying degrees to serve some preliminary plat areas with sanitary sewer service. The lots that make up these plats, including vacant and “committed” sanitary sewer service parcels, are included in the totals in **Table 2-4**, and are identified more specifically by type and neighborhood/plat in **Table 2-7**.

**TABLE 2-7
VACANT PARCEL INVENTORY FOR JORDAN – MARCH 2018**

By Zoning District	Vacant Parcels
R-1 Single Family	49
PUD R-1 Single Family Residential	18
R-2 Single Family and Two Family Residential	-
R-3 Townhouse and Multiple Family Residential	-
PUD R-3 Townhouse and Multiple Family Residential	12
R-4 Multiple Family Residential	-
Residential Total	79
C-2 Central Business	1
C-3 Highway Commercial	13
I-1 Light Industrial	1
I-2 General Industrial	5
Nonresidential Total	20
By Plat/Neighborhood	
Sawmill Woods 1&2 (R-1)	21
Stonebridge 2 nd (R-1)	2
Bridle Creek (PUD R-1)	15
Bridle Creek 8 th (PUD R-1)	18
Wexford Square (PUD R-3)	12
Cedar Ridge/Heritage Hills (R-1)	11
Residential Total	79
Minger Business Park (I-1)	1
Timberline Business Park (I-2)	5
Whispering Meadows (C-3)	13
Downtown (C-2)	1
Nonresidential Total	20

Source: City of Jordan Community Development Department, May 2018

II. REDEVELOPMENT AND INFILL POTENTIAL

The City has approximately 490 acres of potentially developable land within existing city limits, including both vacant land and redevelopment sites. The City should emphasize the use of currently available sites within the serviced area prior to the development of alternative sites. The development of sites within the serviced area will ensure prudent land management, assist in the prevention of leapfrog type development, and ensure maximum cost effectiveness for community residents. Additionally, efforts shall be made to ensure proper placement and phasing of urban expansion and the maintenance of existing and future land use compatibility.

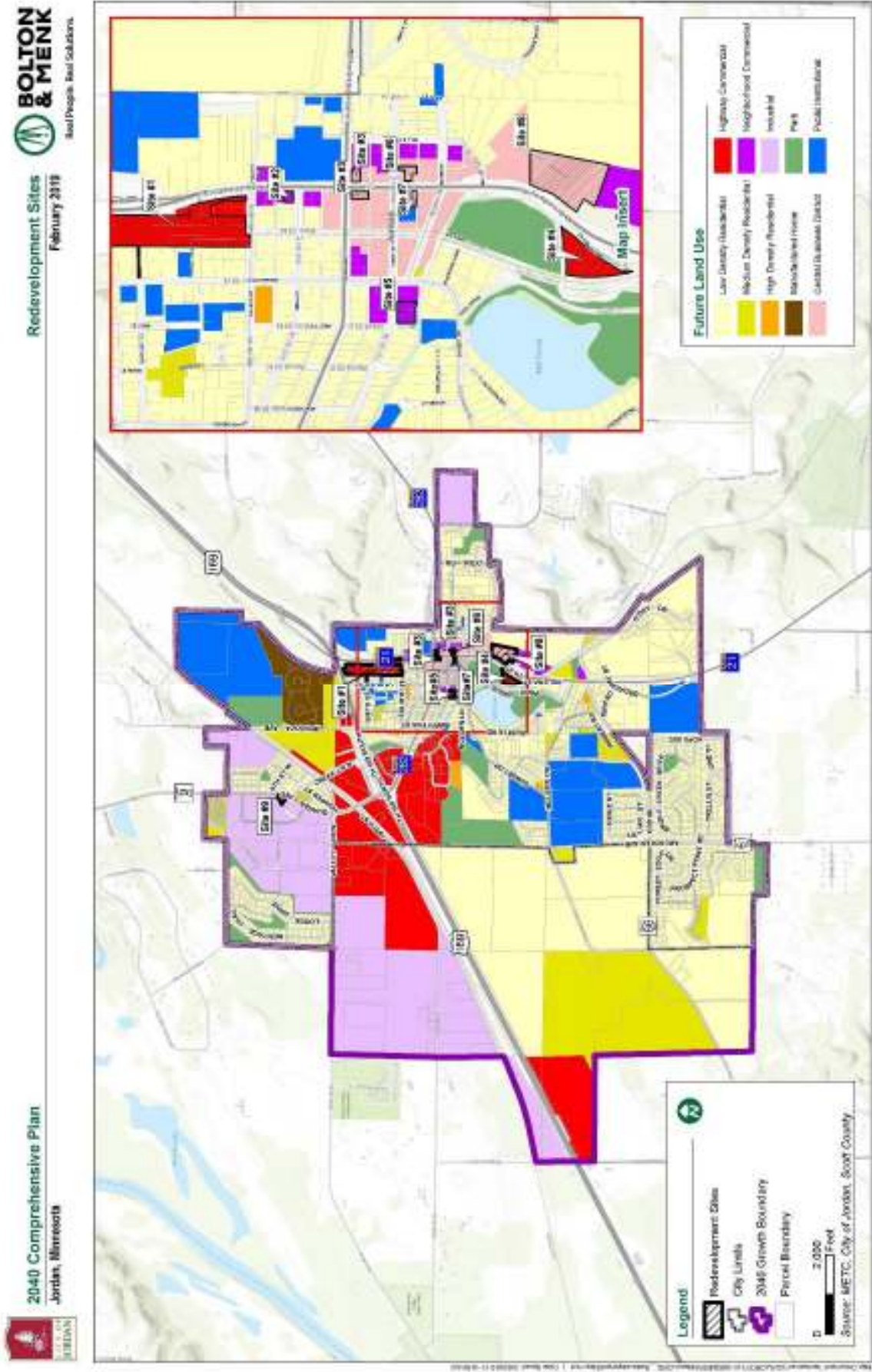
Potential redevelopment areas are primarily centered in or near the city's core. The City should focus redevelopment efforts on commercial and residential areas/parcels in the more established areas of the city. To achieve this, the City should:

1. Encourage the removal of existing buildings that have exceeded their useful life; or
2. Encourage or participate in the removal of those which are deemed to have a blighting effect upon adjacent properties and/or present nuisance conditions that pose a threat to health and safety of citizens; or
3. Promote appropriate reuses for underutilized properties.

Redevelopment sites identified by the Planning Commission and business community include the following, as shown on **Map 2-3**:

1. Industrial north of Downtown - 424 Broadway Street North and other adjacent industrial properties; guided for Highway Commercial
2. MAH Enterprises site – 300 Broadway Street North; guided for Neighborhood Commercial
3. Parcels on the southwest corner and southeast corner of the intersection of Highway 282 and Highway 21: guided for Central Business District
4. The four residential properties south of Mini-Met Stadium, along Highway 21: guided for Highway Commercial
5. Commercial/industrial building - 108-112 1st Street West; guided for Neighborhood Commercial
6. Vacant commercial building – 209 Broadway Street South; guided for Central Business District
7. Mixed use building – 216 Broadway Street South: guided for Central Business District
8. Single family home, currently vacant or seeking lease – 419 Broadway Street South: Guided for Central Business District.
9. An existing home located at near the intersection of Ervin Industrial and CR 9, currently surrounded by industrial development.

MAP 2.3: REDEVELOPMENT SITES



FUTURE LAND USE

I. 2040 FUTURE LAND USE MAP

The City of Jordan is designated by the Metropolitan Council as a Rural Center. Rural Center communities are expected to plan for forecasted population and household growth at average densities of at least 3 to 5 units per acre for new development and redevelopment. In addition, Rural Center communities should strive for higher-density commercial uses and compatible higher-density residential land uses in the commercial core of the community to ensure efficient uses of existing infrastructure investments.

The future land use map for the city shows where and how this forecasted growth and intensity will be accommodated. Consistent with its role as a Rural Center, the City of Jordan is planned to grow outward from its currently developed core into adjacent lands in the surrounding rural area. Planned growth patterns are designed to create a compact, contiguous growth pattern that makes efficient use of both land and infrastructure and creates a livable and sustainable community.

Map 2-4 shows the 2040 future land use for the City of Jordan within the planned 2040 growth boundary. **Table 2-8** summarizes the planned land uses by category shown on the map. This area includes the land within the current city limits as well as the area within an approved orderly annexation area in St. Lawrence Township. For the purposes of this comprehensive plan, this is the area used to calculate development capacity and to assign staged growth forecasts. Future land use guidance also reflects:

1. Sanitary sewer districts or areas that may be developed with each major capital expenditure.
2. Meetings with developers that have indicated plans to develop areas surrounding Jordan
3. Land acreage needed to support household and population projections and employment projections based on building permit trends and actual and anticipated employment. Note, these land acreages are beyond those proposed within the Metropolitan Council projections for the period 2010 to 2040.
4. Projected land uses for each category with more land for development of commercial and industrial land than historic building permits or projections by Maxfield Research in their Scott County 2016 study.
5. Tiered land uses with more intense land uses adjacent to arterials and collector streets and more compatible land uses adjacent to each other, with commercial nodes adjacent to major intersections.
6. Impact on land topography and natural resources.
7. Community input in the process through a survey, a business meeting, community input meeting, an open house, and monthly Planning Commission meetings.

**TABLE 2-8
PLANNED LAND USE CHARACTERISTICS IN 2040 GROWTH BOUNDARY**

Land Use	Acres	Percent of Total	Non-Constrained Acres**	Percent of Non-Constrained Acres
Low Density Residential	1,403	42.1%	431	42.6%
Medium Density Residential	306	9.2%	86	8.5%
High Density Residential	7	0.2%	3	0.3%
Manufactured Home	51	1.5%	7	0.7%
Central Business District*	18	0.5%	9	0.9%
Highway Commercial	299	9.0%	195	19.3%
Neighborhood Commercial*	16	0.5%	10	1.0%
Industrial	359	10.8%	211	20.8%
Park	136	4.1%	0	0.0%
Public Institutional	284	8.5%	61	6.1%
Open Water	17	0.5%	0	0.0%
Agriculture (Agricultural Preserves)	127	3.8%	0	0.0%
Right of Way	310	9.3%	0	0.0%
TOTAL	3,333	100.0%	1,013	100.0%

*Includes sites guided for redevelopment.

**Non-Constrained acres are lands without existing development (with the exception of areas guided for redevelopment), steep slopes, wetlands, right-of-way, or other factors limiting development.

Table 2-9 summarizes the developable land available by decade in the future land use categories. Non-developable land includes areas that cannot be developed, such as wetlands, steep slopes, and road right-of-way, as well as existing development. Development is forecasted for each decade at existing land use density ranges, adding to the total amount of undevelopable land in each land use category. Forecasted development is based on projected housing and employment needs, as shown in **Table 2-1**, the average of density ranges provided in **Table 2-10**, and an anticipated allocation of the projected housing development between each of the residential land use categories.

As noted above, there are several sites in Mixed Use areas identified for redevelopment; these areas include the Central Business District and Neighborhood Commercial areas. It is anticipated that redevelopment sites will accommodate projected growth in Mixed Use areas in addition to the few currently vacant, commercial parcels. This will support both housing and employment opportunities. The timing of redevelopment was estimated based on forecasted growth, housing needs, and market factors, which may be subject to change.

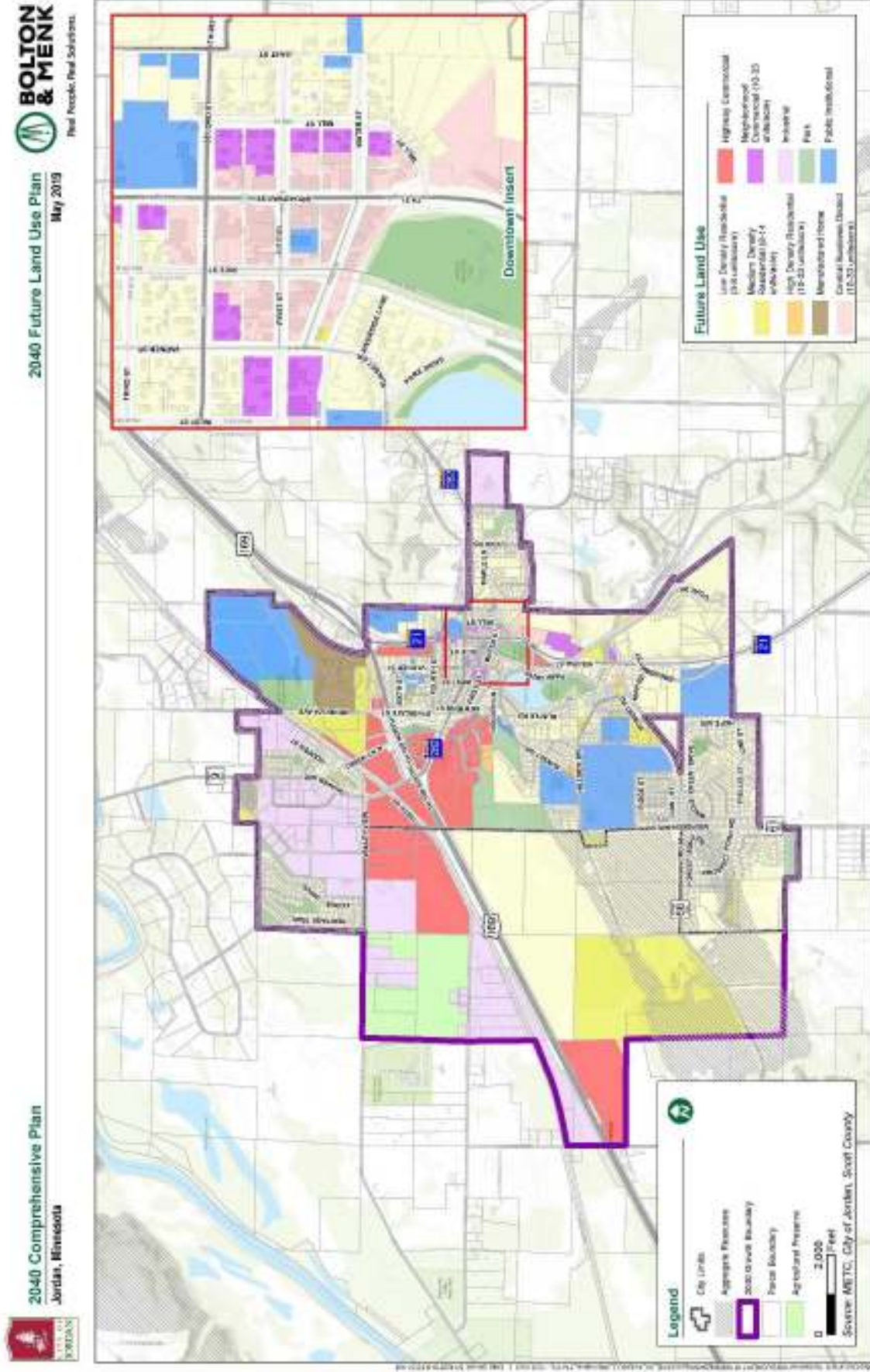
**TABLE 2-9
GUIDED LAND USE ACRES IN 2040 GROWTH BOUNDARY**

Future Land Use Category	2016		2016 - 2020		2021 - 2030		2031 - 2040	
	Developable Acres (percent of total acres)	Non-Developable Acres (percent of total acres)	Developable Acres (percent of total acres)	Non-Developable Acres (percent of total acres)	Developable Acres (percent of total acres)	Non-Developable Acres (percent of total acres)	Developable Acres (percent of total acres)	Non-Developable Acres (percent of total acres)
Low Density Residential	431 (12.9%)	971 (29.1%)	397 (11.9%)	1,006 (30.2%)	274 (8.2%)	1,129 (33.9%)	124 (3.7%)	1,278 (38.4%)
Medium Density Residential	86 (2.6%)	220 (6.6%)	77 (2.3%)	229 (6.9%)	43 (1.3%)	263 (7.9%)	22 (0.7%)	284 (8.5%)
High Density Residential	2.8 (0.1%)	4.1 (0.1%)	2.4 (0.07%)	4.4 (0.1%)	1.1 (0.03%)	5.8 (0.2%)	0.5 (0.01%)	6.4 (0.2%)
Neighborhood Commercial*	9.9 (0.3%)	6.2 (0.2%)	8.6 (0.3%)	7.5 (0.2%)	6.1 (0.2%)	9.9 (0.3%)	3.7 (0.1%)	12.4 (0.4%)
Central Business District*	9.2 (0.3%)	8.9 (0.3%)	5.5 (0.2%)	12.6 (0.4%)	4.1 (0.1%)	14.0 (0.4%)	2.5 (0.1%)	15.6 (0.5%)
Manufactured Housing	6.6 (0.2%)	44.8 (1.3%)	6.6 (0.2%)	44.8 (1.3%)	6.6 (0.2%)	44.8 (1.3%)	6.6 (0.2%)	44.8 (1.3%)
Highway Commercial	195 (5.9%)	103 (3.1%)	188 (5.6%)	111 (3.3%)	180 (5.4%)	119 (3.6%)	172 (5.2%)	127 (3.8%)
Industrial	211 (6.3%)	148 (4.4%)	185 (5.6%)	174 (5.2%)	158 (4.7%)	201 (6.0%)	130 (3.9%)	228 (6.9%)
Park*	0 (0%)	136(4.1%)	0 (0%)	136(4.1%)	0 (0%)	136(4.1%)	0 (0%)	136(4.1%)
Public Institutional	61 (1.8%)	223 (6.7%)	56 (1.7%)	228 (6.8%)	51 (1.5%)	234 (7.0%)	46 (1.4%)	239 (7.2%)
Agricultural Preserves	0 (0%)	127 (3.8%)	0	127 (3.8%)	0	127 (3.8%)	0	127 (3.8%)
Open Water	0 (0%)	17 (0.5%)	0 (0%)	17 (0.5%)	0 (0%)	17 (0.5%)	0 (0%)	17 (0.5%)
Total	1,013 (30.4%)	2,320 (69.6%)	927 (27.8%)	2,407 (72.2%)	717 (21.5%)	2,616 (78.5%)	507 (15.2%)	2,826 (84.8%)

*Denotes a Mixed Use District. Most areas noted in the future land use plan as Mixed Use are currently developed but guided for redevelopment; the “developable” acres listed for Mixed Use is the total Mixed Use acreage identified in the Future Land Use plan, minus non-developable areas (wetlands). Staged development for most Mixed Use areas is anticipated to be redevelopment. Timing of redevelopment estimated based on forecasted growth, housing needs, and current market factors.

**Future parkland needs will be accommodated in accordance with parkland dedication requirements in city code, to determine at the time of development. Right of way is covered within other categories.

MAP 2-4: 2040 FUTURE LAND USE



II. POST-2040 GROWTH POTENTIAL AND FUTURE ANNEXATION

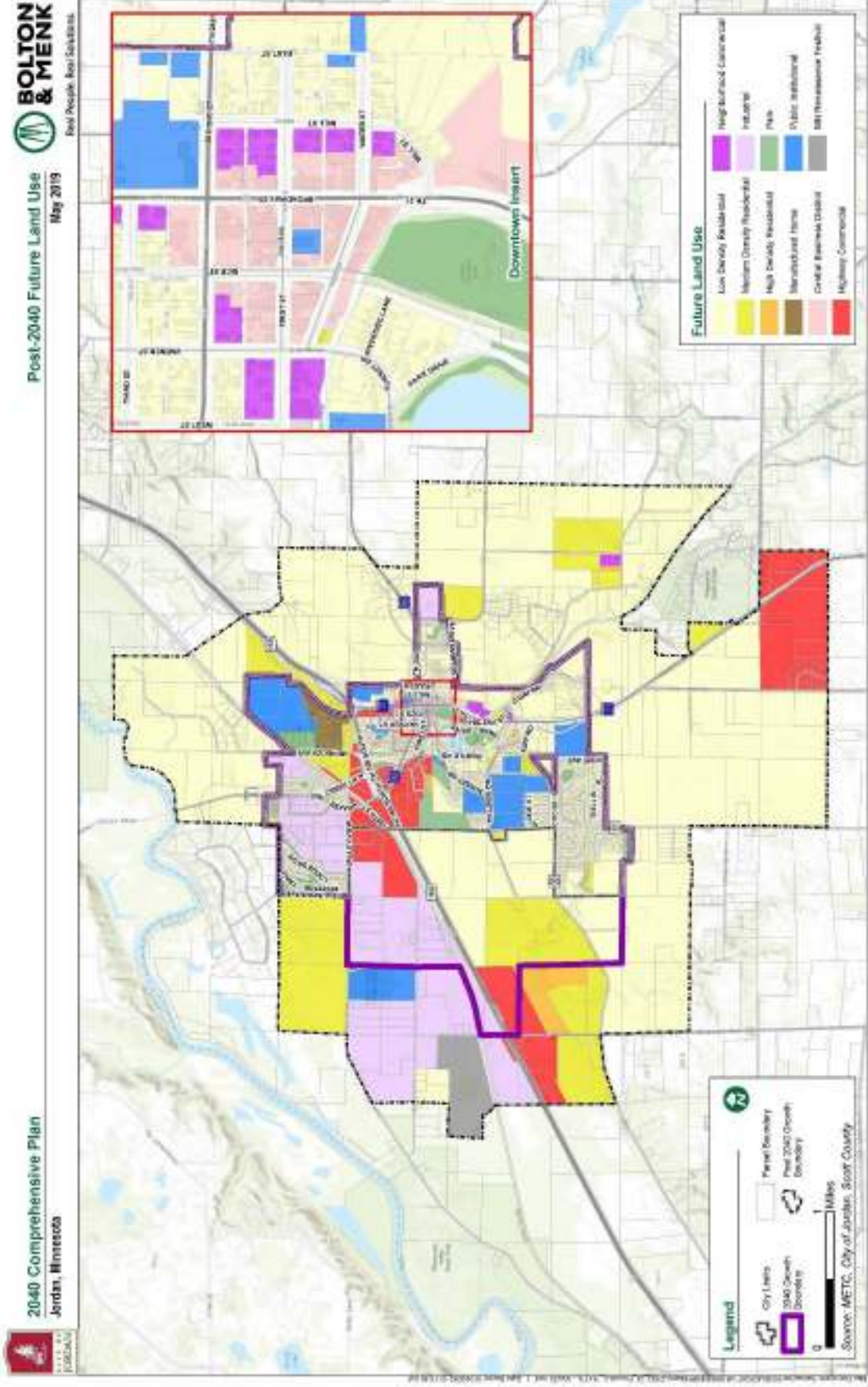
Like many cities in the region, Jordan saw its forecasts from the 2030 plan initially scaled back significantly for 2040. This reflected the housing market at the time the initial 2040 forecasts were done, including the impact of the recession. Recent development trends in and around Jordan, however, have suggested that these reductions may have been larger than necessary. During the comprehensive planning process, Jordan requested and received an increase in population and household forecasts for 2030 and 2040. However, The City of Jordan has reason to believe it is possible that the city's growth could be even higher than this. As a result, Jordan also believes that the city's growth area could eventually be substantially larger than what is shown on the 2040 future land use map. Additionally, the City would like to provide planning guidance for the area immediately to the east of city limits, which is potentially developable but not covered by any annexation agreement. The City does not have land use planning authority over areas outside of their jurisdiction, and the information presented in this section identifies the City's vision (not guidance) for post-2040 growth should growth continue as currently projected.

Map 2-5 shows a larger growth area (identified for planning purposes as "post 2040"), which would reflect increased growth beyond currently forecasted levels. While this map is not the Metropolitan Council's required future land use map for this plan (that is **Map 2-4**), it is intended to provide guidance for development in areas adjacent to the city which are not currently covered by an orderly annexation agreement – but may be in the future. It is understood any annexation within the expanded area shown on this map would need to be incorporated into **Map 2-4** through a comprehensive plan amendment, prior to final development approval. This map also does not show agricultural preserve properties – with the intent that (in the very long term) these sites will transition away from agriculture.

When considering future annexation requests, the following criteria apply:

1. Land immediately adjacent to the city limits shall be annexed into the corporate limits prior to development.
2. Land should be annexed as the area is about to become urban or suburban in nature or if surrounded by city limits, rather than annexing without urban plans in place.
3. If limited rural residential development is to occur while the land is located within the townships, the preferred density is one home per 40 acres. Cluster platting is encouraged to preserve open space for future development, and if cluster platting is utilized it shall be consistent with the Scott County Comprehensive Plan and be designed to allow for future connection to municipal infrastructure systems.
4. The City should work with Scott County and St. Lawrence and Sand Creek Township residents/landowners to identify valuable agricultural land and research methods to encourage the preservation of this land, taking into account the potential development of adjacent properties.

MAP 2-5: POST 2040 FUTURE LAND USE



III. FUTURE LAND USE CATEGORIES

The land uses in Jordan primarily are organized around its major transportation corridors. The downtown central business district is located in the heart of the city along Highway 21 and Highway 282. Highway commercial uses are located along U.S. Highway 169, and industrial uses both along Highway 282 and near U.S. Highway 169 and CR 9. Residential and public uses surround and support the higher intensity land uses. The future land use plan expands outward from this core area, primarily to the west within the planned annexation area.

A. Residential Land Uses

Currently comprising 36% percent of the city's land area, residential development is the largest active land use in the city. There are an estimated 2,187 housing units in Jordan. Existing residential land uses in the city cover over 700 net acres, making the average residential density around 3 units per acre. **Table 2-10** show planned density ranges for each land use category. Subcategories are described below.

Low Density. Low density residential areas are predominately single family detached housing. This consists of lower density suburban style development around the city's outskirts, as well as slightly denser traditional small town style single family near the city's core. The corresponding zoning districts are R-1 and R-2, and residential densities range from 3 to 8 units per acre.

Medium Density. Medium density residential areas include townhome style multifamily development. The corresponding zoning district is R-3, and residential densities range from 8 to 14 units per acre.

High Density. High density residential areas include apartment style multifamily housing. The corresponding zoning district is R-4, and residential densities range from 10 to 33 units per acre.

Mixed Use (Central Business District and Neighborhood Commercial). Mixed use residential development is currently allowed in the city's neighborhood commercial district and in the central business district. The corresponding zoning districts are C-1 and C-2. Residential densities range from 10 to 33 units per acre. It is anticipated that future development and redevelopment in these districts will be truly mixed-use, accommodating both housing and businesses/retail in the same site. It is expected that future mixed-use development will be 70% residential with a combination of office, retail, or professional services using 30% of the land area.

Manufactured Housing. There is one existing manufactured housing community in Jordan. It is not expected that any more will be constructed in the future, although the current units are expected to remain. The corresponding zoning district is R-5, and residential densities range from 7 to 8 units per acre.

**TABLE 2-10
PLANNED RESIDENTIAL DENSITY RANGES**

Type	Corresponding Zoning Districts	Units/Acre (min)	Units/Acre (max)
Low Density	R-1 and R-2	3	8
Medium Density	R-3	8	14
High Density	R-4	10	33
Neighborhood Commercial	C-2	10	33
Central Business District	C-1	10	33
Manufactured Housing	R-5	7	8

B. Commercial Land Uses

Approximately three percent of the City's existing land inventory is commercial in nature. This is comparable to the amount identified in 2005 as part of the last comprehensive plan update. At present, there are currently approximately 64 acres with commercial uses in the city. The plan has three commercial designations:

Neighborhood Commercial. The neighborhood business district at this time includes a parcel just north of the city's central business district. A nonconforming business is located on the site. Future neighborhood commercial areas are proposed to correspond more with the purpose and intent of the district, providing convenient access to goods for residential areas in the area and reduce required trips to other commercial areas. The maximum intensity (floor area ratio) in this category is 1.2. This area is guided for mixed use redevelopment, with 30% commercial and 70% residential.

Central Business District. The central business district historically served as the city's primary area of commerce. With growth and expansion, new commercial construction has occurred along US Highway 169, largely in the form of highway commercial. In an attempt to retain the historic downtown as a destination, the City has worked to encourage investment in the central business district. Governmental agencies such as the library, post office, and city hall remain within the downtown. The central business district has remained vibrant over the years with a limited number of vacant buildings and turnover in ownership. This area is guided for mixed use redevelopment, with 30% commercial and 70% residential.

Although primarily brick buildings, the architecture and age of the downtown buildings varies. Jordan's Central Business District is accessed primarily by Highways 21 and 282, Water Street, and First Street. The downtown currently includes a mix of retail and service businesses including real estate services, insurance services, hair care, health care, home improvement, restaurants/coffee shops, churches, and government services.

Pekarna Park is located in the central business district. This green space adds to the aesthetics of the business area but is too small to be utilized for community events such as arts in the park, retail promotions, holiday tree lighting, etc.

The city's downtown theme is focused around the historic look Jordan's business district originally had with ornamental streetlights and a variety of awnings. Patrons of the downtown business

district are provided with on-street parking as well as two municipal parking lots, adjacent to city hall and the City Council chambers. A couple of business areas provide off-street parking lots. Additional off-street parking may be needed as traffic counts increase along Highways 21 and 282. As commercial development continues, the community will be faced with the challenge of retaining a strong, vibrant downtown.

The current zoning ordinance does not list a specific floor area ratio for the central business district. However, the district allows zero setbacks and 3-story buildings. The planned maximum intensity (floor area ratio) in this category is 1.2.

Highway Commercial. Jordan’s highway commercial areas currently include a variety of retail and service businesses, including but not limited to, grocery store, hardware store, gas station/convenience stores, fast food restaurants, banks, car wash, etc. In recent years, new highway commercial development has occurred on the west side of the city along U.S. Highway 169. The types of businesses locating in this area typically have been those requiring more off-street parking and direct vehicular access. In the 2040 growth area, additional highway commercial development is planned along Highway 169.

The highway commercial area is linked to the downtown via Highway 282. A number of older homes exist along the corridor connecting the districts. The maximum intensity (floor area ratio) in this category is 0.7.

C. Industrial

Industrial land uses comprise around 9 percent of total land uses within the city today. The city currently has two areas with industrial development. Industrial land uses are located primarily in the northwest portion of the city northwest of U.S. Highway 169 along County Road 9 (Quaker Avenue) and Valley View Drive. A second industrial park exists on the east side of the city along Highway 282, though that one is dominated by one user, the Minnesota Valley Electric Cooperative. At present, there are only a few acres of industrial land available within the city, but there are significant opportunities for growth on the northwestern side of town on land that can be annexed. Industrial locations were originally established due to access to the railroad and highways. Future industrial sites are planned north of Highway 169. The maximum intensity (floor area ratio) in this category is 0.5.

D. Park

Park and recreational land uses include city-owned parks, greenways and recreation areas. As of 2018, park and recreation areas account for 134 acres or about six percent of the city. Sizes of city parks range from the smallest, Pekarna Park in the downtown, to Lagoon Park. In addition, a number of school recreational facilities such as ballfields, playground areas, and tennis courts are available to residents. Parks and recreation are discussed in further detail in the Park and Recreation Chapter of this Plan. Specific park sites are not identified in the Future Land Use Plan, as the specific location will be chosen as part of new development. Park search areas are shown on **Map 8-2**.

E. Public Institutional

Public and institutional land uses include the school district property, the library, church properties, properties owned by the City including city hall, water tower sites, lift station sites, utility plant,

maintenance garage, and miscellaneous parcels. City property does not include parks or stormwater retention ponds.

F. Agricultural

Five parcels in the 2040 growth area of the city (currently in St. Lawrence Township) are classified as agricultural preserve. Per requirement, they are designated as agricultural on the future land use map. Maximum density for agricultural areas is 1 unit per 40 acres.

IV. FORECASTING LAND USE DEMAND

Projections of population, households, and employment in Jordan identified earlier in this chapter were developed based on an analysis of local and regional growth trends and policies and through the application of economic and demographic principles. Specific data applied to the projections include the existing land use inventory, residential building permits issued, historical population/household patterns and trends, trends in average household size, and sub-regional migration patterns.

Table 2-11 shows the planned zoning code specifications for minimum and maximum residential densities and the anticipated distribution of housing types. These can be used to forecast the amount of land that is expected to be needed to accommodate growth. It also shows the range of acres that would be needed to accommodate forecasted growth, based on an allocation of units by density, reflecting expected patterns.

**TABLE 2-11
LAND NEEDED TO ACCOMMODATE FUTURE RESIDENTIAL GROWTH**

Type	Density Range (units/acre)			Anticipated Distribution	Units Needed	Maximum Acres Needed	Average Acres Needed*	Minimum Acres Needed
	Min	Avg	Max					
Low Density	3	5.5	8	65%	1,688	563	307	211
Medium Density	8	11	14	27%	707	88	64	50
High Density	10	21.5	33	2%	50	5.0	2.3	1.5
Neighborhood Commercial	10	21.5	33	3%	86	8.6	4.0	2.6
Central Business District	10	21.5	33	3%	86	8.6	4.0	2.6
TOTALS				100%	2,617	673	382	268
Overall Density						3.9 units/ acre	6.9 units/ acre	9.8 units/ acre

*Average acres needed is equal to the units needed divided by the average density

Market conditions will have a major impact on housing types as the city progresses toward the year 2040. Interest rates, land/material prices and inflation, gas prices, among other factors will significantly impact buyer preferences. Since housing types are difficult to forecast, the land use plan focuses on housing unit density rather than specific housing types.

The current proportion of residential to commercial/industrial acreage in the City of Jordan is approximately 75% to 25% percent, not including other uses. The Economic Development Authority, business community, and Planning Committee have identified a desire to expand commercial and industrial opportunities and plan for an additional 240 acres of commercial and industrial land (10 acre per year consumption). It is anticipated that this ratio may shift to 65% commercial/35% industrial, given the large amount land planned for industrial use in the 2040 Land Use Plan. However, this allocation may shift slightly in favor of commercial, more similar to current ratios, in the anticipation of a planned major retail development.

Table 2.12 portrays the anticipated total acreage needed for employment growth uses. To meet forecasted employment projections, the city will need to add about 877 jobs between 2016 and 2040. The calculations below show the approximate acreage needed to accommodate forecasted growth. Job densities are from Metropolitan Council resources. Actual acreage needed will greatly depend on the types of businesses starting or expanding in Jordan, their site/business specific needs, and available lots. As such, more land may be needed to

accommodate growth projections, particularly if new and expanding businesses require larger sites. These calculations also do not include telecommuting, home occupations, or permitted employment in other land use categories.

**TABLE 2-12
LAND NEEDED TO ACCOMMODATE FUTURE JOB GROWTH**

Future Land Use	Density Range (Jobs/Acre)		Anticipated Number of Jobs	Net Developable Acres*	Min. Developable Acres Needed	Max. Developable Acres Needed
	Min	Max				
Neighborhood Commercial**	8.0	32.7	18	3.0	0.5	2.2
Central Business District**	8.0	32.7	22	2.8	0.7	2.7
Public Institutional	5.5	13.4	88	61	6.6	15.9
Highway Commercial	13.1	29.9	307	195	10.3	23.4
Industrial	5.5	13.4	443	211	33.24	80.3
TOTAL			878	472.8	51.34	124.5

*Includes sites identified for redevelopment

**Mixed use districts only include commercial portion of developable acres (30%)

The 2016 *Commercial/Industrial Demand Analysis for Scott County* completed by Maxfield Research projected a need for approximately 42 acres of industrial land and 18 acres of commercial land in Jordan between 2015 and 2040, or approximately 2.5 acres per year. This is comparable to the calculations presented above. For comparison, the Maxfield Research study identified that Savage, Shakopee, and Prior Lake are projected to consume between 3.7 and 16.6 acres per year. The Jordan EDA has recommended that with the growing population, additional commercial/industrial space should be planned for, beyond the Maxfield Research study projections, leading to slightly higher acreage estimates above than presented in the study. Additional Highway Commercial and Industrial lands have been identified in the Post-2040 growth area.

It is important to note that area available for development may be larger than portrayed, as portions of land in the growth boundaries are already developed with low intensity uses that may be replaced by new development. In addition, more land may be required for public and institutional uses.

V. FUTURE LAND USE GOALS AND POLICIES

Map 2-4 offers a visual representation of planned future land use, as currently determined. The location of future land uses may be adjusted if the location of collector streets that are planned are slightly adjusted or as plats are submitted with greater detail. This plan and subsequent documentation take into consideration the land uses that have previously been approved by the City. The land use plan encourages compact, contiguous development. It efficiently uses the existing and proposed infrastructure and capital investments.

The future land use growth boundary also coincides with sanitary sewer service areas and projected capital infrastructure such as lift stations and force mains, topography, and the transportation system.

A. Overall Land Use Concept

Jordan offers a strong historic downtown, highway commerce, an industrial employment base, a variety of housing options, and park and recreational opportunities. Participants in the comprehensive planning process have expressed a desire to retain the “small town” atmosphere and self-supporting community.

The community survey provided an opportunity for residents to provide input on their vision for the community. As a result, the following guiding principles have also been developed:

- *Retain the spirit of a small town with a family-oriented focus.* The goal of retaining the small town atmosphere is included through a logical pattern of future land use in an organized fashion, along with a transportation system to support the various land uses, retaining the downtown as a gathering place and further promoting parks and recreation to offer quality of life amenities.
- *Historic and charming downtown.* Downtown Jordan has historically served as the center of the community. Public participants in the process have expressed a desire to retain and build on this historic and charming gathering place. Addressing transportation in the downtown and adoption of policies relating to the downtown will assist in accomplishing this goal.
- *Business growth.* In order to assist with the fiscal health of the city and provide employment offerings for residents, a range of land uses including commercial and industrial have been planned for at a consumption rate which is higher than historic figures.
- *Proactive position on future growth.* The future land use plan includes projections and growth boundaries intended to serve the city to the year 2040. As market demands change, the plan may need periodic review and updates. The future land use plan has been coordinated with a sanitary sewer plan, stormwater management plan, and transportation plan to encourage proactive planning of land uses with infrastructure and the funding of the infrastructure.

B. Residential Land Uses

The City currently has five residential zoning districts including two low density residential districts (R-1 and R-2) with varying lot size requirements for single-family homes (10,500 square feet to 6,000 square feet), R-3 and R-4, which allow multiple family housing units, and a manufactured home district (R-5). Policies and objectives for existing as well as future residential areas have been developed to protect the integrity of residential neighborhoods and the character of Jordan.

Existing Residential Neighborhood Goal: Encourage the continued maintenance and quality of existing neighborhoods.

Policies:

1. Minimize the development of incompatible land uses adjacent to and traffic through residential neighborhoods.

2. Prohibit nonresidential land use intrusions into residential neighborhoods and require appropriate buffering and/or screening between incompatible land uses, except in approved mixed use or planned unit developments.
3. Require infill residential units to be compatible in use and scale with the surrounding neighborhood.
4. Encourage infill of existing vacant or underutilized residential lots within the city's municipal utility service area prior to extension of services for new developments.
5. Continue to upgrade infrastructure such as streets, water, and sewer in existing neighborhoods as needed.

New Residential Development Goal: Plan residential areas that support neighborhood unity and cohesiveness while protecting the integrity of the natural environment and providing access to other community amenities.

Policies:

1. Provide a variety of lifecycle housing for the diverse needs of the community.
2. Plan new residential areas while protecting the existing steep slopes, wooded areas, and environmentally sensitive areas currently outside of the corporate boundaries.
3. Incorporate natural features into new residential neighborhoods while protecting the features through ordinances.
4. Plan for greenbelts or natural corridors which connect with the city's trail plan.
5. Continue to limit access points directly onto arterial and collector streets by requiring driveway accesses and lots to front streets within the subdivision.
6. Require the development of parks, trails, and/or sidewalks along collector streets to service neighborhoods and provide access to other community amenities such as places of commerce, educational facilities, and larger community parks.
7. Plan residential subdivisions while following the comprehensive transportation plan which includes a recommended collector street system to encourage appropriately spaced connection of neighborhoods to commercial areas and arterial streets.
8. Consider the changing housing needs of the growing community and review residential housing land areas to accommodate the changing needs and demands.
9. Consider high density residential land uses in areas adjacent to arterials or major arterials, near community services, and/or as part of tiered land uses (higher intensity to lower intensity).
10. Avoid locating all multiple-family housing in one concentrated area and avoid selecting sites for multiple-family housing based solely on economic considerations.

C. Commercial Land Uses

Commercial uses in Jordan range from a traditional downtown to highway commercial. Jordan's downtown has served as the heart of the community. Public input during the planning process related a desire to protect and maintain this central focus area. The future land use map includes an expansion of the downtown core area, to allow for additional commercial and mixed use development on parcels immediately surrounding the existing downtown.

Due to limited sites available in the downtown for larger uses and those requiring off-street parking, other highway commercial areas along Highway 169 have been established over the years. The expansion of commercial areas outside of the downtown is expected to continue as the city grows. The following objectives and policies have been prepared for each unique commercial area.

Neighborhood Commercial (C-1) Goal: Plan for neighborhood commercial centers which are complementary and in close proximity to residential uses.

Policies:

- 1. Minimize the impact on residential properties by requiring appropriate buffering and screening between commercial and residential uses.
- 2. Locate Neighborhood Commercial areas along collector streets to ensure they are easily accessible by adjacent neighborhoods.

Central Business District (Downtown Commercial) (C-2) Goal: Continue to support and strengthen downtown Jordan as an important retail center.

Policies:

- 1. Promote downtown as the center of the community as a focal point for government, community social activities and commerce, promoting the central business district as a place for community events, which are family-oriented and benefit retail and service businesses.
- 2. Promote the expansion of the downtown on sites identified for potential redevelopment.
- 3. Maintain the historic character of the downtown and continue to encourage private sector rehabilitation and renovation of existing buildings in the downtown.
- 4. Encourage the use of upper levels of commercial buildings for office and residential uses.
- 5. Monitor traffic and provide safe and convenient access to businesses for vehicular and pedestrian traffic.
- 6. Promote the development and maintenance of sidewalks and trails which lead to and through the central business district to create a walkable community and downtown area.
- 7. Work with the business community to develop design standards for new and remodeled buildings to ensure the building mass, scale, and facades are compatible with existing buildings.
- 8. Explore opportunities to offer additional off-street parking for business patrons as well as employee parking.

Highway Commercial (C-3) Goal: Provide locations for and access to commercial areas for businesses which are more vehicle oriented, versus pedestrian traffic oriented, and which require larger sites.

Policies:

1. Link existing and expanded areas of downtown and highway commercial districts with distinctive design features, including ornamental streetlights and walkways to connect the two main commercial areas.
2. Plan for larger commercial sites for destination retailers, while supporting smaller retail and service businesses.
3. Plan for attractive commercial areas with review of parking lot standards, façade and landscaping requirements, as these areas are highly visible from the Highway 169 corridor.
4. Collector streets and local roadways should be planned to service new commercial areas, minimizing the access points to Highway 169.

D. Industrial Land Uses

It is projected that approximately 80 net additional acres will be required for industrial expansion, to meet future demands to the year 2040, based on the City's desire to attract more industry and jobs to the community. The actual amount of industrial land required will depend upon the size of the industrial user, whether or not land is available at a competitive cost when compared to other potential locations, and other economic factors. At the time of this comprehensive plan update, the City's focus has been on providing technical assistance to new and expanding industries as well as providing financial incentives.

Industrial Development (I-1 and I-2) Goal: Promote quality industrial development that is compatible with the environment, and which does not negatively impact the city's infrastructure system such as wastewater treatment facilities.

Policies:

1. Continue to take a proactive approach to business retention and expansion.
2. Promote industrial development that pays employees a livable wage.
3. Consider economic incentives for industries that will contribute substantially to the City's tax and employment bases without substantial negative impacts on the city's infrastructure system.
4. Design new industrial park areas to minimize impact on environmental features such as wetlands and creeks.
5. Design new industrial park areas to discourage industrial traffic from traversing through residential neighborhoods.
6. Minimize the impact of industrial properties on adjacent land uses by requiring additional setbacks, screening, and/or fencing and landscaping.

E. Public Land Uses

Public uses include School District #717 property, churches, and land owned by the city including city hall, water tower sites, lift station sites, and miscellaneous parcels. Future land needed for public purposes will include land for future city and library facilities. At the time of this comprehensive plan update, the school district was in the midst of an update to its facility plan for future needs. School District #717's administration has indicated land is available south of their existing campus area for future facilities.

Public Land Use Goal: Provide needed public facilities to support current and future growth.

Policies:

1. Support city office facilities in and near the downtown.
2. Work in cooperation with other public agencies, such as the school district, to coordinate rather than duplicate public space such as auditoriums, meeting rooms, etc.
3. Provide sufficient land for future public facilities including utility sites and buildings.
4. Retain governmental administrative offices in the central business district to support the downtown as a focal point for services.

F. Park and Recreation Uses.

Park and recreational land uses include eleven city-owned parks and additional public recreational areas (school recreational fields and playgrounds). Park and recreation uses account for approximately 134 acres or six percent (6%) of the city's total acreage.

Park and Recreation Goal: Enhance the city's park and recreation system through natural resource protection and management.

Policies:

1. Continue to cooperate with the other governments, agencies, and communities to encourage a regional park and trail system, with Jordan serving as a hub to connect Cedar Lake Farm Regional Park, Spring Lake Regional Park, and the proposed Blakely Bluffs Park Reserve.
2. Carefully and efficiently expand the city's park and open space system to meet the needs of the growing population base.
3. Maintain the city's parks, trails, and open space areas well into the future.
4. Provide the city's residents and visitors with a range of passive and active recreational and sports facilities.
5. Recognize the importance of private property rights and synergy between green infrastructure and property values.
6. Promote open/green space areas within new commercial/industrial developments or connectivity to adjacent recreation areas.

STAGED DEVELOPMENT AND REDEVELOPMENT

To assess the impacts of growth on Jordan, the location of projected development has been mapped out by stage, assigning it based on when areas are expected to develop. The three phases are: by 2020, between 2021 and 2030, and between 2031 and 2040.

The location of these stages is shown on **Map 2-6**. These were determined based on several factors, including proximity to existing city development, availability of utilities, presence of development constraints, and understanding of the local real estate market. The intent is to support a development pattern that accommodates projected growth at appropriate densities, efficiently uses land, preserves natural resources, is cost effective in terms of providing public services and utilities, and meets the demand for development types in the area.

This section details existing and recommended development for each individual planning district. Goals outlined for each planning district will vary. However, the goals and policies for each land use have been identified earlier in this chapter.

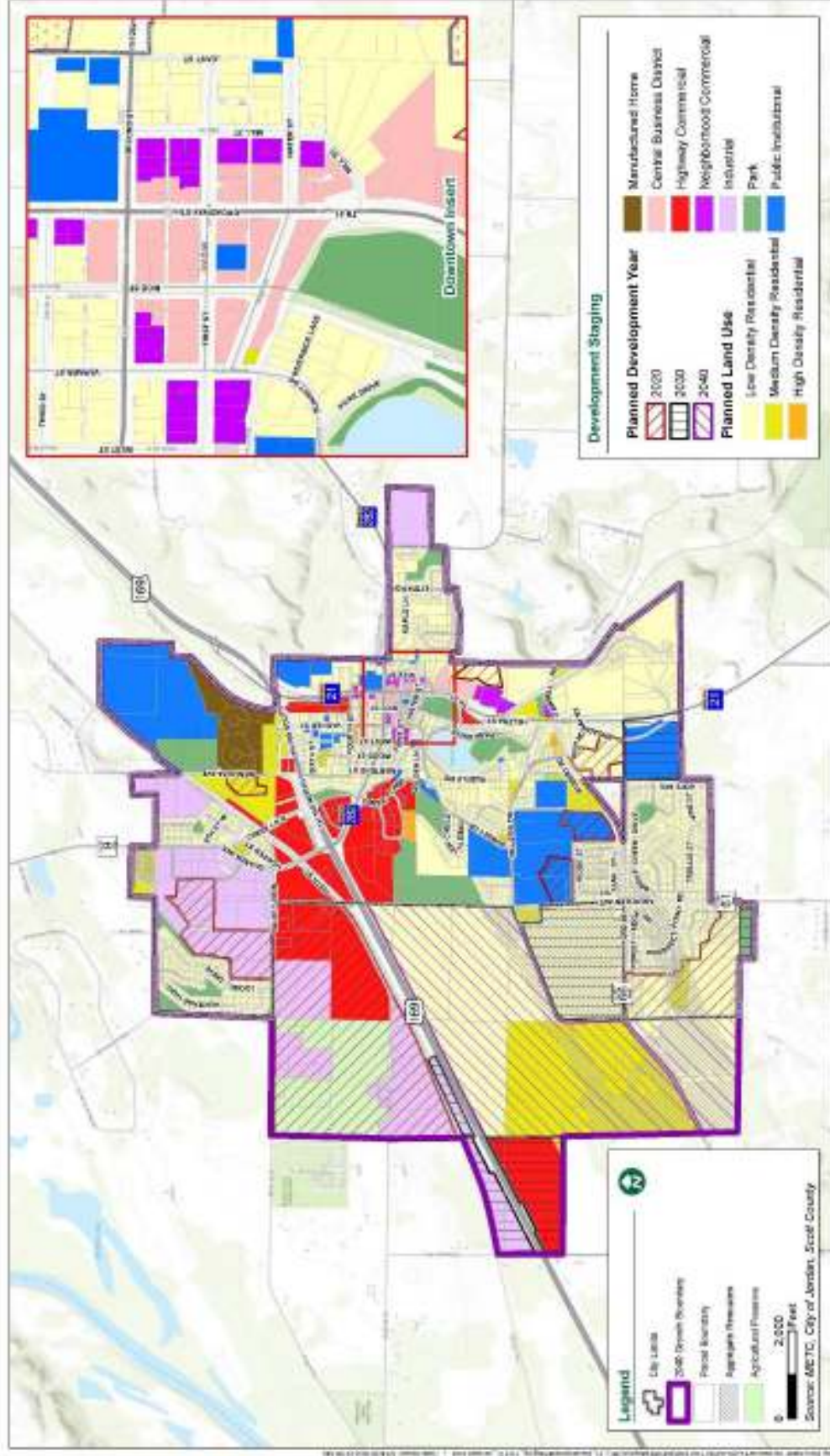
**TABLE 2-13
FUTURE LAND USE UNITS/JOBS/ NET ACRES WITHIN MUNICIPAL SERVICE AREA IN 2040 GROWTH
BOUNDARY**

Residential Land Uses	Density Range Units/Acre*		Existing/ Developed (2015)		2016 - 2020		2021 - 2030		2031 - 2040	
	Min	Max	Units	Acres	Units	Acres	Units	Acres	Units	Acres
Low Density	3	8	1,643	643.3	189	34.3	675	122.8	824	149.9
Medium Density	8	14	147	24.7	100	9.0	374	34.0	234	21.2
High Density	10	33	43	12.6	7	0.3	28	1.3	14	0.7
Neighborhood Commercial**	10	33	0	0.0	12	0.6	372	1.7	37	1.7
Central Business District **	10	33	55	11.6	61	2.9	10	0.5	15	0.7
Manufactured Home	7	8	299	57.1	0	0.0	0	0.0	0	0.0
Residential Subtotal	-	-	2,187	749.2	369	47.1	1,124	160.2	1,124	174.2
Average Density (units/acre)	-	-	2.9		2,617 new units/382 acres = 6.9units/acre					
Commercial/ Industrial Land Uses	Min	Max	Jobs	Acres	Jobs	Acres	Jobs	Acres	Jobs	Acres
Highway Commercial	13.1	29.9	673	47	97	7.4	105	8.0	105	8.0
Industrial	5.5	13.4	971	109	140	25.4	152	27.5	152	27.5
Neighborhood Commercial**	8.0	32.7	38	2	6	0.7	6	0.7	6	0.7
Central Business District**	8.0	32.7	48	14	7	0.9	8	0.9	8	0.9
Public Institutional	5.5	13.4	102	102	28	5.0	30	5.4	30	5.4
Commercial/ Industrial Subtotal	-	-	1,922	273.4	277	39.3	300	42.6	300	42.6
Average Density	-	-	7.0		7.0		87.0		7.0	
Total Acres per Decade	-			1,022 .6		86.4		202.8		216.8

*For residential, calculations are based on average densities, as shown in Table 2-11, rather than minimum densities.

**Mixed use category: 70% of land allocated for residential and 30% for commercial

MAP 2-6: DEVELOPMENT STAGING



I. BEFORE 2020

A. Area Description

Since most of the development that will happen by 2020 is already completed or underway at the time of the comprehensive plan's writing, this is the best known of the phases. At this point, it consists of a few areas within or very close to city limits.

The expected residential growth will be largely continued buildout of existing neighborhoods, particularly in and near Bridle Creek, Sawmill Woods, and Syndicate. These are located to the immediate south, east, and north of the city, respectively. This land is currently vacant, and is mostly already zoned and guided for residential, and some is already platted as well.

The expected commercial and industrial growth areas would be northwest of downtown, along the north side of Highway 169. This expands upon adjacent commercial and industrial areas in the vicinity.

B. Proposed Growth, Public Services, and Utilities

Residential growth is largely going to be consistent with already zoned and developed neighborhoods. This will be a mix of low and medium density residential with some high density in specific locations. Industrial will be predominantly light industrial uses, situated along Highway 169. There may be some flexibility in uses depending on development opportunities.

Commercial will be predominantly highway commercial at key locations on and near Highway 169, including buildout of existing commercially zoned areas and some expansion as appropriate. There may also be some opportunities for infill neighborhood commercial around the downtown core when parcels turn over and are redeveloped.

II. 2020 TO 2030

A. Area Description

After 2020, the next round of development will be completed on available properties close to city limits. This area extends existing development patterns and uses and is organized around planned expansions of utilities and other public services.

The residential growth is expected to extend west of the city, including vacant and agricultural lands immediately south of Highway 169, extending outwards from Aberdeen Avenue to Delaware Avenue. The western portion will be constrained due to a large wetland area that is likely largely undevelopable.

Industrial growth is expected to continue the growth pattern from before 2010, expanding westward along the northern edge of Highway 169. Commercial growth is expected on the corresponding sites south of Highway 169, adjacent to planned residential.

B. Proposed Growth, Public Services, and Utilities

Residential growth south of the city is guided predominantly for single family development. Industrial will be predominantly light industrial uses situated along Highway 169. There may be some flexibility in uses depending on development opportunities. Commercial will be predominantly highway commercial at key locations on and near Highway 169, including buildout of existing commercially zoned areas and some expansion as appropriate. There may also be some opportunities for infill neighborhood commercial around the downtown core when parcels turn over and are redeveloped.

In terms of public facilities, a new elementary school is tentatively planned in the area south of the city. It is likely there will be parkland or recreational facilities there as well (see Map 8-2), though the specific location and type has not been determined.

III. 2030 TO 2040

A. Area Description

Development in the area planned for 2030 to 2040 is more tentative in location and type than sooner phases due to uncertainties with timing, availability of public services, and other factors. However, combined with the other phases, it represents a comprehensive approach to accommodating all planned growth through the plan's horizon year of 2040.

The western/southwestern portion would fill in the space south of Highway 169 down to the previously established southern limit near 215th Street West. It is notable that the areas guided for residential in this phase contain significant development constraints, particularly in the form of steep slopes and wetlands. These natural features will need to be taken into account and managed appropriately as development moves into this area. The phasing of these areas in later stages is in large part to allow for time to provide public services and utilities in a way that is cost effective and fully mitigates any environmental impacts.

There is no new land guided for commercial and industrial during this period. Based on calculations of need, it appears that infill within established areas should be more than enough to accommodate all expected development.

B. Proposed Growth, Public Services, and Utilities

Residential growth in newer areas added is expected to be predominantly single family. Medium and high density residential development will continue as infill within areas established in previous years. Locating lower intensity development in the new areas is appropriate given the numerous development constraints mentioned above, which will require new development be lower impact in order to maintain environmental quality.

Commercial and industrial growth will continue existing patterns: highway commercial and light industrial along Highway 169, and infill neighborhood commercial around the downtown core. It is likely there will be parkland or recreational facilities serving the new development (see Map 8-2), though the specific location and type has not been determined.

NATURAL RESOURCES

I. INTRODUCTION

Located within the Minnesota River Valley Basin, the City of Jordan is surrounded by beautiful bluff lines. The rolling topography, water resources, and other natural and physical features provide a base for recreation and highquality natural resources from which to draw. With the increasing affluence and people's growing desire to reside and work in metropolitan areas with high scenic amenities, it is imperative that Jordan plan for the protection of its natural resources. The City, recognizing the importance of its natural resources, became a GreenStep City in 2015. Additional information on this program is included in the Resilience Chapter of the Comprehensive Plan.

Within the Demographic Trends and Projections Chapter of this Plan, it is noted that Jordan is projected to increase 123% in population, from a 2010 Census population of 5,470 to 12,200 by 2040. Planning efforts should address the projected growth while considering water resources, soils and geology, topography and drainage, wildlife and rare species, natural scenery, forests, prairies, and native plant communities.

This chapter recognizes the importance of sustainable development, which can be defined as *"development that maintains or enhances economic opportunity and community well-being while protecting and restoring the natural environment upon which people and economies depend. Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs."* (Minnesota Legislature, 1996.) The perspective of sustainability calls upon us to invest our time and energy in efforts which simultaneously strengthen the environmental, economic, and social dimensions of any issue.

The Natural Resources Section of the Land Use Chapter includes:

1. The City's Physical Profile, Surface Waters, Air Quality, Aggregate Resources, Development Constraints; and
2. Natural Resource Objectives and Policies.

II. PHYSICAL PROFILE

A. Size

According to the 2010 Census, the City of Jordan is comprised of 3.29 square miles of land area (2,106 acres) with 1,665 people per square mile. This is an increase from the city's physical size of 2.64 miles (1,690 acres) and density (1,451 people per square mile) in 2000. These numbers vary slightly from city totals based on GIS analysis, but are generally consistent in terms of magnitude of growth and expansion.

B. Ecological Province and Subsection

Jordan is included within the Eastern Broadleaf Forest province. This province bridges the transition zone between prairie to the west and true forest to the east. Major landforms include lake plains, outwash plains, end moraines, ground moraines, and drumlin fields.

Minnesota includes four of North America's ecological regions or biomes which represent major climate zones which converge: prairie parkland, deciduous forest, and coniferous forest.

The Ecological Classification System (ECS) is a nationwide system developed to manage natural resources on a sustainable basis. This system integrates climatic, geologic, hydrologic, topographic, soil, and vegetation data.

According to the Department of Natural Resources, sections within this province are further defined by the origin of glacial deposits, regional elevation, distribution of plants, and regional climate.

Minnesota has 10 sub-ecological sections. Jordan lies within the Minnesota and NE Iowa Morainal division.

Topography is characteristically gently to moderately rolling across this subsection. Soils were formed in thick deposits of gray limy glacial till left by the retreat of the Des Moines lobe. Red oak, sugar maple, basswood, and American elm were most common in this dominantly forested region. Presently, much of the region is farmed.

As defined by the Minnesota Department of Natural Resources, Scott County is within the "Big Woods" Ecological Classification. On dry sites common trees included oak, aspen, and birch; moist sites were dominated by sugar maple, basswood, elm, and ash. Pine trees were commonly interspersed with the deciduous trees. Where the forest canopy was broken/interrupted, a dense layer of tall shrubs such as prickly ash, dogwood, and the like were common. Beneath dense canopies the shrub layer was sparse or absent. Preservation of existing woodlands enhances the quality of life and preserves remaining biological diversity. Recognizing the importance of woodlands, the City of Jordan amended its Subdivision Ordinance in 2005 to include requirements for Tree and Woodland Preservation and Reforestation Mitigation.

C. Topography and Drainage

Map 2-7 illustrates topography within the City of Jordan. The area features steep slopes throughout the community, many of which have a slope of 18% or greater. The steepest



Figure 3-1
Minnesota Ecological Regions



Big Woods Subsection
Source: MNDNR

areas run in a north-south line parallel to Sand Creek's eastern bank. While these are a barrier to development, they also fill a vital role in protecting the community from floodwaters.

Several other areas of moderate to steep slopes are scattered throughout the southern portion of Jordan, with another major slope line running southwest from the old town area past the north side of Mill Pond. These areas generally are of unique value to the community and function best if allowed to exist in a natural state or exist with limitations on development such that they will not be urbanized or irrevocably altered.

Bluffs. According to the City's Shoreland Ordinance, a "Bluff" is a topographic feature such as a hill, cliff or embankment having the following characteristics (an area with an average slope of less than 18 percent over a distance for 50 feet or more shall not be considered part of "the bluff").

1. Part or all of the feature is located in a shoreland area;
2. The slope rises at least 25 feet above the ordinary high water level of the waterbody;
3. The grade of the slope from the toe of the bluff to a point 25 feet or more above the ordinary high water averages 30 percent or greater; and
4. The slope must drain toward the waterbody.

The City's Shoreland Ordinance projects the Bluff Impact Zone, or the area which contains the bluff and the land located within twenty feet (20') from the top of a bluff.

MAP 2-7: TOPOGRAPHY



D. Soils

The characteristics of the soils in the Jordan area are examined in order to make proper decisions on the use of the land and to protect the natural environment. Existing soils in the City have influenced the area's overall development pattern and may impose limitations or increased sensitivity to future urban development/redevelopment.

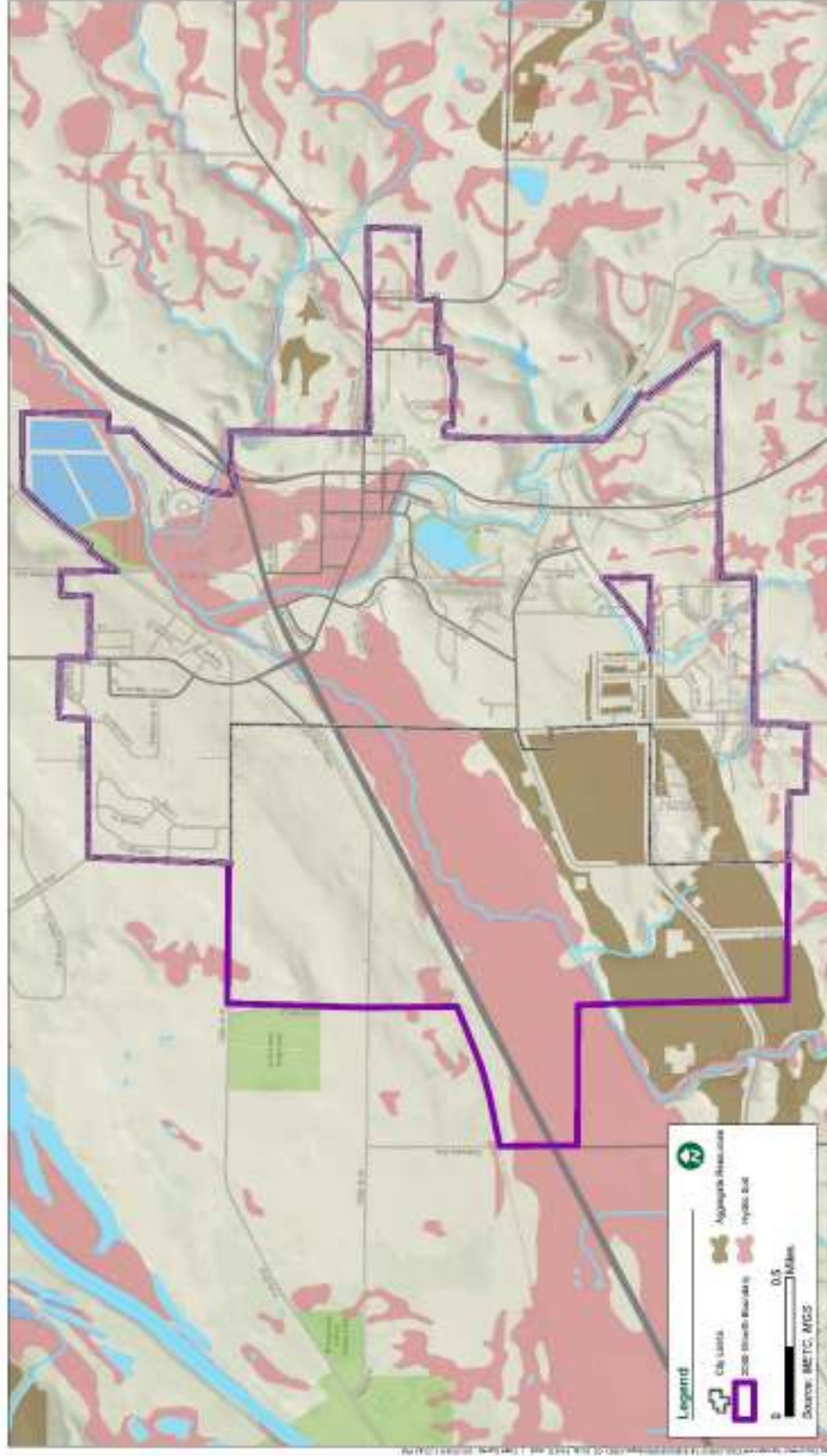
Map 2-8 identifies the basic condition of soils within the City of Jordan. While there are many ways to classify soils, one of the most critical for the purposes of land use planning is hydric versus non-hydric soils. According to the USDA's Natural Resources Conservation Service, hydric soil is "soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part." Hydric soils typically are not as well-suited for development as non-hydric soils. As the map shows, there is a significant amount of hydric soils in portions of Jordan, particularly in a large wetland area to the west of town and in some portions of the northern half of the city.

MAP 2-8: SOILS AND AGGREGATE RESOURCES

2040 Comprehensive Plan
Jordan, Minnesota

BOLTON & MENK
Real People. Real Solutions.

Hydric Soil & Aggregate Resources
January 2018



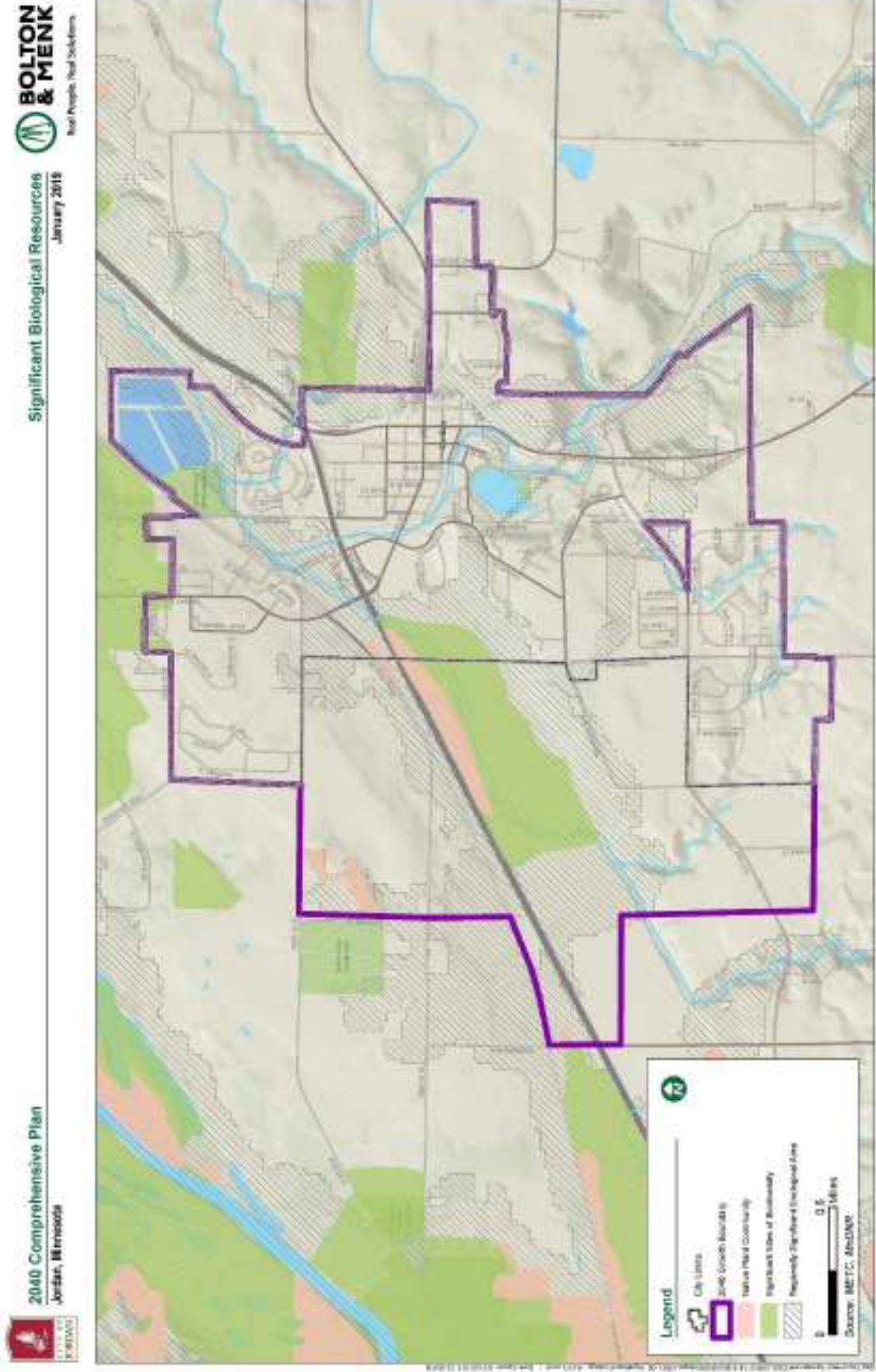
E. Ecological Resources

Map 2-9 includes several significant ecological resources. This includes ecologically significant terrestrial and wetland areas within and near to the corporate limits/annexation areas. These areas, identified by MnDNR as part of a regional assessment, primarily correspond with the Minnesota River corridor and adjacent to tributary streams/creeks. These areas have been identified to help prioritize areas for conservation and protection. According to MnDNR, these areas provide important ecological functions such as:

- Habitat for game and non-game, including threatened, endangered, and special concern animals
- Biological diversity
- Connectivity in the landscape
- Groundwater recharge and improved water quality
- High to outstanding examples of native plant and/or animal Communities or animal aggregations (as mapped by the Minnesota County Biological Survey)

Within these ecologically significant areas are some locations identified with native plant communities, also shown on the map. As defined by the MnDNR, these are defined as “a group of native plants that interact with each other and with their environment in ways not greatly altered by modern human activity or by introduced organisms.” These areas are prioritized for conservation and protection when feasible.

MAP 2.9: SIGNIFICANT BIOLOGICAL RESOURCES



III. SURFACE WATER RESOURCES

A. Watershed

The term "watershed" refers to the entire physical area or basin drained by a distinct stream or riverine system. Gravity and topography are the two major factors that define a watershed. Watersheds help review authorities to evaluate the quality and quantity of local water resources. Jordan is contained within the Sand Creek Watershed. The Sand Creek Watershed is in west-central Scott County in the south-central part of Minnesota on the south bank of the Minnesota River. The Scott County Soil Survey identifies the majority of the watershed as alluvial land subject to frequent overflow. The watershed drains an area of 263 square miles, the majority of which is upstream of Jordan.

Within the Twin Cities Metropolitan Area, local governments (cities, townships, and counties) are required to prepare plans to address water quality issues within their borders. These plans are prepared in support of the watershed management plans for the Watershed Management Organizations (WMOs) within which the city or township lies. The Scott WMO covers the majority of Scott County and is comprised of portions of five watersheds: Sand Creek, Southwest, Shakopee Basin, Credit River, and Prior Lake Spring Lake Watersheds. The remainder of the County is within four other watershed jurisdictions: The Lower Minnesota River Watershed District, the Prior Lake Spring Lake Watershed District, the Black Dog WMO, or the Scott County portion of the Vermillion River Joint Powers Organization.

B. Lakes, Rivers, and Streams

Approximately one percent of the City's total area (17 acres) is open water. Major surface water features within the city include:

- Mill Pond, which is a Protected Public Water, is classified as a "Recreational Development Lake." Access to Mill Pond is provided through the City Park on the east central shore of the Lake.
- Sand Creek, which is located on the eastern edge of community is classified as a Tributary.
- In addition to Mill Pond and Sand Creek, there are several protected wetlands existing within and in close proximity to the corporate limits. Surface waters classified by the Minnesota Department of Natural Resources (MNDNR) are subject to shoreland regulations.

Additional information on Water Resources is included in the Water Resources Chapter of this Comprehensive Plan.

The Clean Water Act requires states to publish, every two years, an updated list of streams and lakes that are not meeting their designated uses because of excess pollutants. The list, known as the 303(d) list, is based on violations of water quality standards and is organized by river basin. A Total Maximum Daily Load (TMDL) study identifies both point and non-point sources of each pollutant that fails to meet water quality standards. Water quality sampling and

computer modeling determine how much each pollutant source must reduce its contribution to assure the water quality standard is met. Rivers and streams may have several TMDLs, each one determining the limit for a different pollutant. The Minnesota Pollution Control Agency (MPCA) is the state agency responsible for protecting Minnesota's water quality. As of 2016, Sand Creek is listed by the MPCA as a state impaired water, with impairments on various segments of chloride, fish bioassessments, nutrient/eutrophication indicators, and turbidity. Consequently, Sand Creek has TMDL studies for several of these pollutants. At present, Mill Pond is not on the impaired waters list.

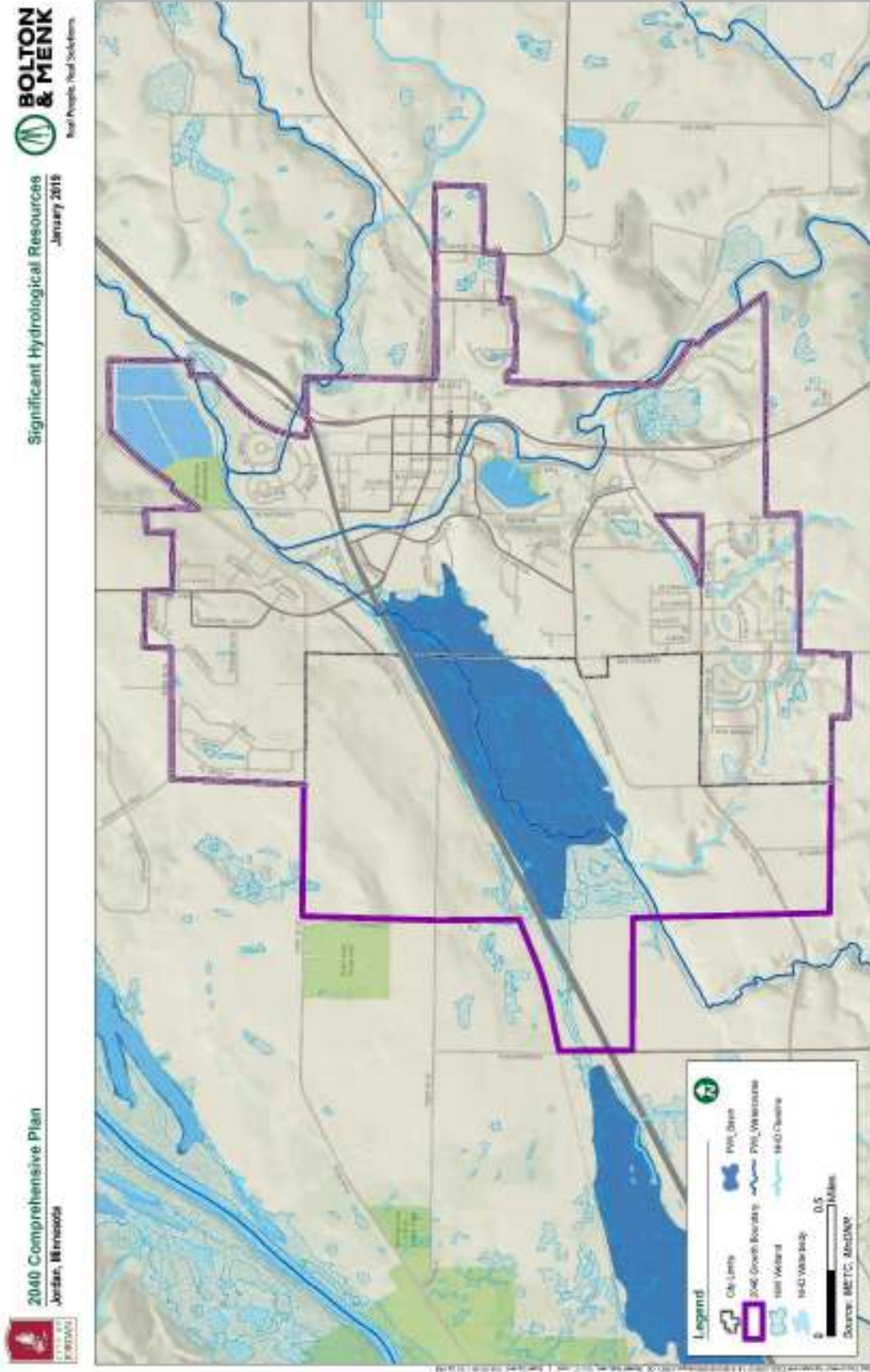
C. Wetlands

Wetlands are valuable for storing essential surface waters, stabilizing surface waters to minimize the danger of droughts or floods and supporting wildlife habitat. Wetlands are also the primary method of recharging aquifers ensuring a continued water supply. Wetlands cleanse and purify surface water by removing nutrients and other contaminants from stormwater runoff.

Wetlands, as identified by the National Wetland Inventory (NWI) and Scott County Soils and Water District are illustrated on **Map 2-10**.

The Army Corps of Engineers and the Department of Natural Resources are ultimately responsible for the overall protection of wetlands; however, the City is the local governmental unit responsible for implementing wetland protection measures and administering the Wetland Conservation Act (WCA). The City has completed a Comprehensive Wetland Management Plan. Proper implementation of creek, bluff, and wetland buffers in new developments is critical to maintain wetland functions within the city.

MAP 2-10: SIGNIFICANT HYDROLOGICAL RESOURCES



D. Floodplains

In 1969, the Minnesota Legislature enacted the State Floodplain Management Act (Minnesota Statutes, Chapter 103F). This Act stresses the need for a comprehensive approach to solving flood problems by emphasizing nonstructural measures, such as floodplain zoning regulations, flood insurance, flood proofing and flood warning, and response planning. By law, Minnesota flood-prone communities are required to: 1) adopt floodplain management regulations when adequate technical information is available to identify floodplain areas, and 2) to enroll and maintain eligibility in the National Floodplain Insurance Program (NFIP) so that people may insure themselves from future losses through the purchase of flood insurance. The Department of Natural Resources (DNR) is the state agency with the oversight of the State Floodplain Management Act, including approving ordinances before communities adopt them. Communities are responsible for ordinance implementation at the local level. The DNR is the coordinating agency and has oversight responsibilities but the Floodplain Management Law and Minn. Stat. 103F is administered at the local level.

The City of Jordan experienced significant floods in the early 1960s. Structures as well as bridges along the creek were destroyed during the flood and many homes were damaged or destroyed. The city has continued to experience severe flooding both in the spring, as a result of snowmelt combined with rainfall, and in the summer due to heavy rainfall. The flood problems in the Sand Creek Watershed, particularly in Jordan, were studied briefly in 1984, when the St. Paul Army Corps of Engineers District prepared an initial appraisal report that evaluated the potential for Federal interest in constructing improvements for flood control in Jordan. The St. Paul District identified an alternative that had a favorable benefit-cost ratio and recommended proceeding with a detailed study. However, the City chose not to proceed with a study at that time.

In 1997, 1998, and 2001, Jordan experienced street and minor structure flooding. The City again asked the St. Paul District to review the flooding problems to see if a solution would be possible and feasible. The St. Paul District's May 2002 initial appraisal report reviewed the flooding situation to determine if there was a Federal interest in proceeding to a more detailed feasibility study. The initial appraisal report indicated that diversion of floodwaters through an open channel into a wetland west of Jordan might be feasible. The City provided a letter of support in 2004. The report was submitted to the Corps' Mississippi Valley Division in May 2004 and was approved in September 2004.

The Corps completed a flood water diversion study between 2009 and 2012. The study focused on a potential diversion channel from Sand Creek (at approximately First Street), across Creek Lane, and discharging to a large wetland complex generally located in the southwest quadrant of TH 169 and TH 282. The study concluded that the impacts and costs of installing an open diversion channel of sufficient size to provide flood relief were relatively high. This resulted in a relatively low benefit/cost ratio for potential receipt of federal funds and the diversion channel idea was abandoned.

Between 2015 and 2017, the City worked with the MnDNR and Scott County to revise floodplain mapping and models used to develop new Flood Insurance Rate Maps (FIRMs). The Scott County FIRMs are anticipated to be adopted in 2019 by Federal Emergency

Management Agency (FEMA) in replacement of the 1982 FIRMs. An estimated 139 residential structures in the lower town area remain in the floodway as defined by the proposed FIRMs.

In 2018 into 2019 the City, and its partners at the MnDNR and Scott County, completed a flood control feasibility study to evaluate various improvements for flood protection. The study analyzed the feasibility of the following, either independently or in conjunction:

1. Raising or widening bridges along Sand Creek within the city limits to allow higher flows to pass before causing adjacent properties to flood.
2. Bypassing floodwater from Sand Creek, through the Whispering Meadows commercial development, to a large wetland complex south and west of Highways 169 and 282.
3. Enhancing the existing or reconstructing the existing uncertified levees to create a new levy system from Varner Street, across Highway 169, to Syndicate Street.

The study concluded that bridge modifications and a flood bypass were not feasible or cost-effective solutions. Implementation of certified levees along the right descending bank of Sand Creek is the recommended solution. It is a goal of the City to implement this improvement with the support of the MnDNR and/or other appropriate agencies. Implementation of these improvements would reduce or eliminate the flooding risk to approximately 300 structures, several of which have a history of flood damage during the events referenced above.

E. Water Control Structures

Water control structures include the Mill Pond Spillway, which is maintained by the City. The MN DNR provides dam safety oversight. In addition to this water control structure and others within the Sand Creek Watershed, there are hundreds, perhaps thousands of culverts and box channels that control the flow of surface water throughout the District. These facilities are maintained by the cities, townships, and county governments as well as by the Minnesota Department of Transportation (MnDOT).

The presence of culverts, bridges and other water control structures has a significant influence on flood control. The City has undertaken a comprehensive inventory of their respective flow control structures and facilities.

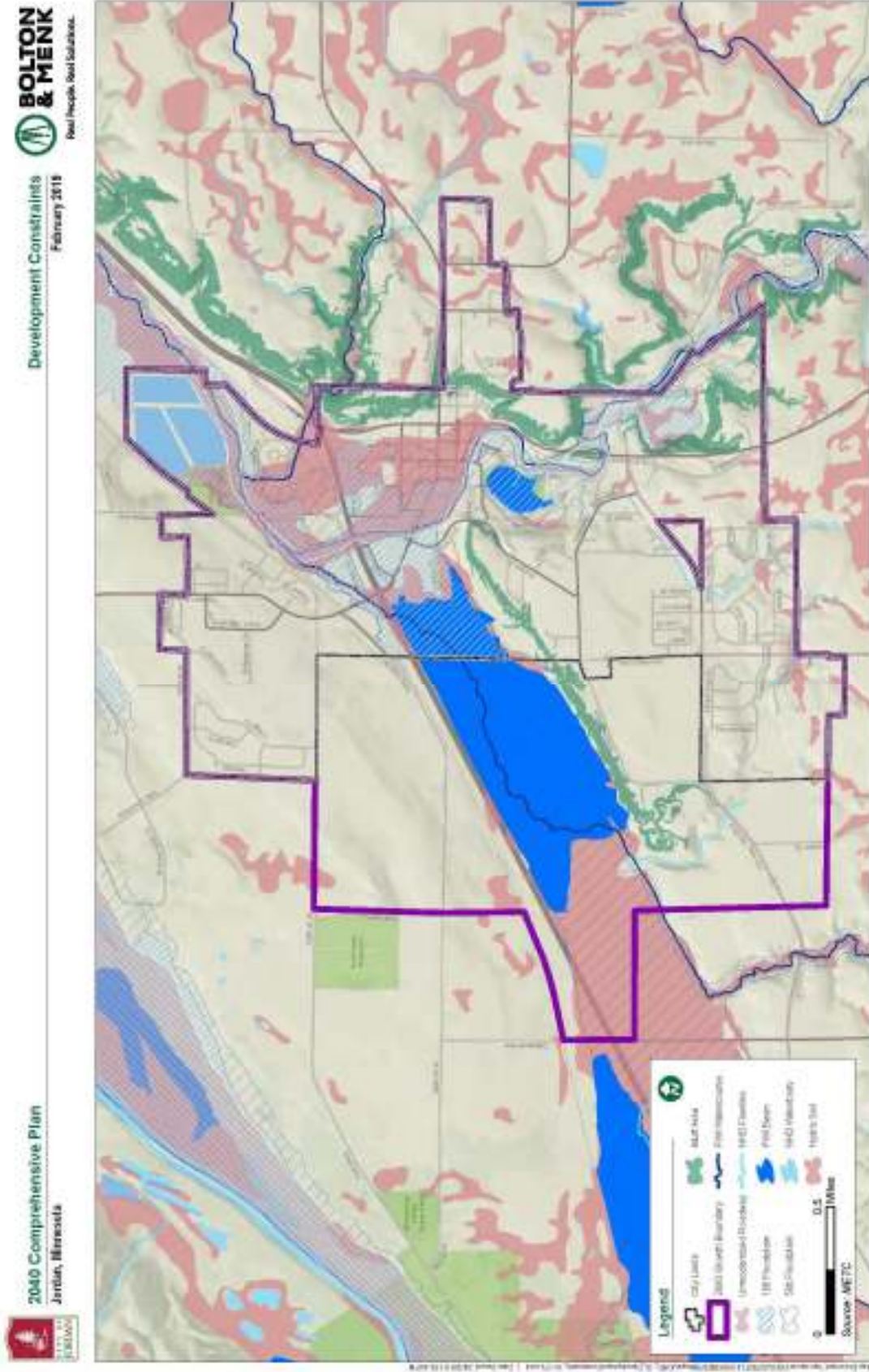
IV. AIR QUALITY

Air quality is an important and sometimes forgotten issue for communities; air pollution is increasingly a regional and global problem. The MPCA maintains a list of the top 100 locations statewide with VOC emissions. According to the MPCA, "VOCs come from industrial and commercial processes all around us. You may recognize them as the solvent-like fumes coming from materials like coatings, inks, solvents, adhesives, gasoline, and other chemicals used in everyday commerce. VOCs can be reduced by making changes to manufacturing processes and heating equipment, and through facility-wide opportunities such as purchasing safer products." Two locations within Scott County were listed within the top 100 in Minnesota, neither of which were in Jordan.

V. DEVELOPMENT CONSTRAINTS

A number of the natural features identified in this chapter – including but not limited to water bodies, topography, soils, wetlands, flood-prone areas, and regionally significant ecological areas – will present constraints to future development. Several of these significant natural features/areas exist in the proposed growth area of the city. **Map 2-11** illustrates these potential constraints to development. The boundaries on the map are a compilation of floodplain areas, National Wetland Inventory data areas, areas of steep slope, soils survey data, and DNR Public Waters Inventory data. Field verification was not done to determine wetland existence. It should be noted that further review of these and sites identified is required prior to development. This map is intended to provide a general overview. The City should require that areas proposed within these areas be shown in detail as necessary to determine development suitability and protection when submitted with development proposals.

MAP 2-11: DEVELOPMENT CONSTRAINTS



VI. NATURAL RESOURCES GOALS AND POLICIES

Natural Resources Goal #1: To the extent possible, establish a balance between promoting, protecting, enhancing, and preserving natural and physical features (including, but not limited to, woodlands, wetlands, soils, steep slopes, surface waters, and groundwater) while managing requests for development and redevelopment.

Policies:

1. Utilize natural resource data/studies for planning and review of development and redevelopment such as soils, topography, and groundwater.
2. Carefully regulate development in areas adjacent to shorelands, wetlands, and flood-prone areas to preserve these as attractive amenities.
3. Encourage development to conform to the natural limitations presented by topography, soils, or other natural conditions.
4. Identify and protect significant scenic areas, open spaces, historic, or archaeological sites. Emphasize proper management of open space areas in order to preserve trees, wildlife, pre-settlement (native) landscape communities, floodplain, water quality, and similar environmentally sensitive features.

Natural Resources Goal #2: Protect the quality and use of surface water through support and coordination with Scott Watershed Management Organization and state and federal agencies.

Policies:

1. Encourage and promote land use practices to protect and improve surface water resources.
2. Evaluate the impact of stormwater runoff on surface water in the city and respective growth areas as outlined in the Comprehensive Surface Water Management Plan and proactive implementation of watershed management tools developed by the Scott Watershed Management Organization, as amended or updated.
3. Enforce existing regulations and develop programs and new regulations where necessary to protect surface water.
4. Support the coordination of planning and implementation efforts between Scott Watershed Management Organization as well as state and federal agencies.

Natural Resources Goal #3: Protect and preserve groundwater supply and quality through support and coordination with Scott Watershed Management Organization and state and federal agencies.

Policies:

1. Protect groundwater resources from contamination through the continued implementation of a Wellhead Protection Plan and other programs.
2. Identify geologically sensitive areas in the city and define the limits and recharge areas of aquifers.

Natural Resources Goal #4: Protect air quality in the city to comply with Minnesota Pollution Control Agency (MPCA) standards.

Policies:

1. Review performance standards within the Zoning Ordinance to ensure that they adequately control dust and wind erosion related to land use and development activities.
2. Evaluate the impact of potential industry on the city's air quality.

Natural Resources Goal #5: Preserve the environment as a sustainable resource to ensure both present and future generations a good quality of life.

Policies:

1. Continue to coordinate plans and work with all agencies responsible for the protection and restoration of our environment.
2. Continue to administer and support the state environmental review program, including the Environmental Assessment Worksheet (EAW) and Environmental Impact Statement (EIS) requirements.
3. Enforce City's regulations, including stormwater violations.
4. Continue participation in the National Flood Insurance Program and enforcement and directives of floodplain regulations.
5. Incorporate the GreenStep Cities program into the City's zoning and subdivision ordinances.

Natural Resources Goal #6: Educate the community about its natural resource assets and encourage them to think about their use of and impact on the natural resources of the community and surrounding areas.

Policies:

1. Distribute new information relating to environmental regulations to all policymakers and elected officials as it becomes available.
2. Promote environmental stewardship including reducing, recovering, and recycling waste materials at City buildings and parks.
3. Attend meetings of Scott Watershed Management Organization to share information on surface water issues and to gain better insights on surface water issues.
4. Provide developers and owners with technical assistance in applying Best Management Practices (BMPs) for stormwater management on road and land development projects.
5. Provide information to property owners on conservation easements and agencies that will assist in the management of the easements.

6. Create or make available informational literature regarding floodplain risks and resources, conduct a public informational meeting regarding floodplain changes and impacts, and participate in FEMA's Community Rating System (CRS) program for flood protection and community involvement.
7. Achieve level 8 status in the CRS program within the next 2 years and thereafter consider initiatives to reach level 7 status.
8. Seek funding for and subsequently implement cost effective flood control improvements in cooperation with the Scott WMO, MnDNR, Army Corps, and FEMA. As part of the improvements, acquire at-risk properties within the footprint of the flood control improvements as necessary/feasible for implementation.

SPECIAL RESOURCE PROTECTION

I. HISTORIC RESOURCES

The historic character of Jordan, particularly around its downtown area, adds charm and distinctiveness to the community. Protecting and preserving these resources supports the quality of life, community vibrancy, and economic investment.

Historic resources located within the City of Jordan include:

- **Jordan Historic District**, Water Street & South Broadway Street: The Jordan Historic District is located at the center of downtown Jordan. It is a primarily commercial district comprised of sixteen buildings, most of which were constructed between 1865 and 1880. That time is regarded as the peak of Jordan's



development, when it rivaled nearby Shakopee in terms of commercial importance. Many of the buildings have excellent integrity, and the district largely reflects its original appearance, with necessary modifications over the years to meet the needs of various tenants. The district is on the National Register of Historic Places.

- **Samuel B. Strait House**, 19825 Park Boulevard: The Strait House is the only remaining evidence of the failed town of St. Lawrence. It is located in the Minnesota Valley State Recreation Area and is maintained by the Minnesota Department of Natural Resources. The



house was built by Samuel Strait in 1857 and restored in 2000.

- **Ambrose Freedman Log Cabin**, Varner Street between Water and 1st Streets: This tiny log cabin was moved to its current location as a memorial to the pioneer settlers of Scott County. The cabin was originally constructed circa 1855 by the Nachbar family, restored in 1931, and dedicated in 1937. It is listed on the National Register of Historic Places.

- **Jordan Brewery Ruins**, 415 Broadway Street South: The Jordan Brewery is a three-story complex of interconnected limestone buildings. It was built between 1861 and 1900 by brewer Frank Nicolin. Though it was originally slated for reopening as a microbrewery, it was unfortunately damaged by a mudslide in 2014, and remains closed. It is listed on the National Register of Historic Places.



- **Foss and Wells House**, 613 Broadway Street South: The Foss and Wells House is a private residence constructed with local sandstone in the Italianate style. It was built in 1858 by Edwin and James Foss and Rufus Wells, and occupied by both the Foss and Wells families. The families also jointly owned and operated a nearby flour and grist mill, associated with the development of the milling industry in Jordan at that time. It is listed on the National Register of Historic Places.



II. AGGREGATE RESOURCES

As required by the Metropolitan Council, the locations of aggregate resources in Jordan have been identified, based on *Aggregate Resources Inventory of the Seven-County Metropolitan Area*. **Map 2-8** illustrates the location of aggregate resources in Jordan. The majority of resources remaining in Jordan consist of small scattered sites, including those which are underlying developed properties.

There are no former or active mining areas within the current city limits of Jordan. Within the proposed growth boundary, there are two sites, as well as underground resources (including those extending under developed neighborhoods). The Schmitt pits are located on the southwest side of the community, along County Road 66. This is an active mining area, and so development around it will need to be controlled and impacts mitigated until mining is complete.

To address aggregate resources in undeveloped areas, the Jordan's zoning ordinance contains guidelines for the issuance of an Interim Use Permit to allow land reclamation and mining. The owners of parcels which contain aggregate resources may apply for an interim use permit as a part of the development to mine or capture the aggregate resource prior to grading the site for future development. Wetland areas take priority over aggregate resources that may lie below the surface and will not be mined.

III. AGRICULTURAL PRESERVES

The Metropolitan Agricultural Preserves Program was established to preserve areas of prime farmland. While there are no agricultural preserves within the City of Jordan, there are some in the post 2040 growth area. The City of Jordan supports the preservation of prime farmland by:

- Designating properties within the 2040 growth area on the future land use map (**Map 2-4**)
- Pursuing a growth staging plan that emphasizes compact and contiguous growth patterns
- Encouraging maximum densities of 1 unit per 40 acre densities in rural areas

IV. SPECIAL RESOURCE PROTECTION GOALS AND POLICIES

Special Resources Goal #1: Protect and preserve existing historic resources where possible.

Policies:

1. Protect existing designated historic resources and districts, to preserve the area's history and character.
2. Where appropriate, support the identification and designation of additional historic resources.

Special Resources Goal #2: Provide for the availability, removal, and processing of aggregate materials, while protecting against adverse impacts.

1. Identify the areas in the community where mineral extraction is most appropriate, and which minimize conflicts with other land uses.

2. Limit mineral extraction to designated areas in order to prevent or minimize impacts on adjacent properties.
3. Encourage the extraction of economically viable mineral resources prior to grading a site for future development.
4. Encourage the protection of the environment during mineral extraction, and the restoration of the area once the extraction is complete.

Special Resources Goal #3: Protect existing prime farmland where possible.

Policies:

1. Encourage compact and contiguous growth patterns around the city's core area, avoiding leapfrog development when possible.
2. Follow proper procedure regarding the management of land in the agricultural preserves program, where applicable.

TRANSPORTATION

PURPOSE AND TRANSPORTATION ANALYSIS ZONES

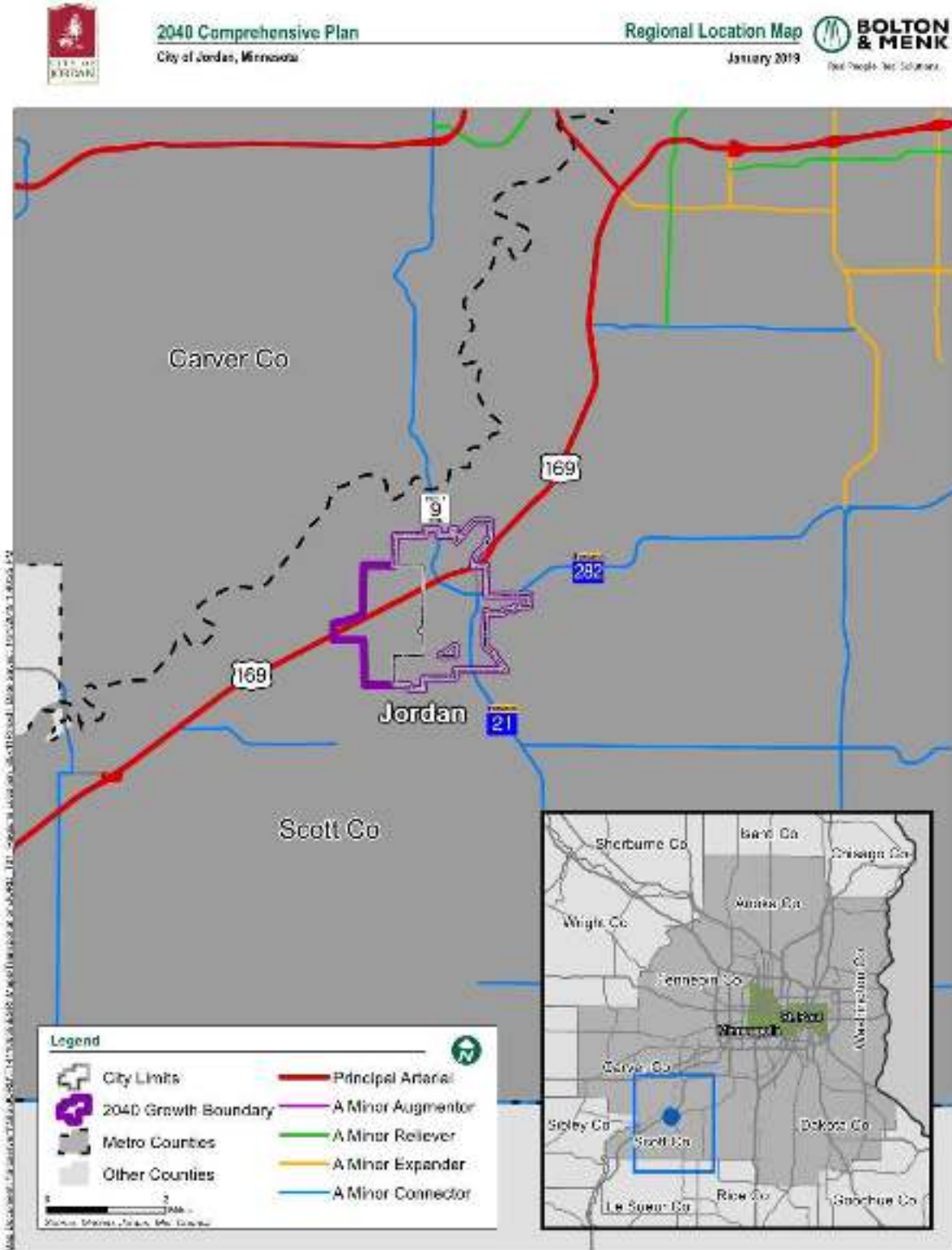
The purpose of this Transportation Plan is to provide guidance to the City of Jordan to prepare for transportation needs associated with future growth and development. This plan provides a framework for future decisions regarding infrastructure improvements necessary to achieve safety, access, mobility, and performance standards for the existing and future transportation system. The framework is presented through proposed local policies, standards, and guidelines to implement the future multimodal transportation network vision, which will be established upon acceptance of the Comprehensive Plan. Prior to acceptance, the Comprehensive Plan will be coordinated with respect to county, regional, and state plans in such a way that the transportation system enhances quality economic and residential development within the City of Jordan.

To accomplish these objectives, this Transportation Chapter of the Comprehensive Plan provides information about:

- The functional hierarchy of streets and roads related to access and capacity requirements
- Existing and potential deficiencies of the arterial-collector street system
- Potential alternatives to enhance the arterial-collector street system capable of accommodating traffic volumes to 2040 and beyond, categorized in funded and planned scenarios
- Access management policies and intersection controls
- Existing trail and sidewalk facilities, and associated potential improvements
- Freight, aviation, and transit network information and plans

Jordan's location with respect to regional transportation routes is illustrated in **Map 3-1**.

MAP 3-1: REGIONAL LOCATION MAP



ROADWAYS

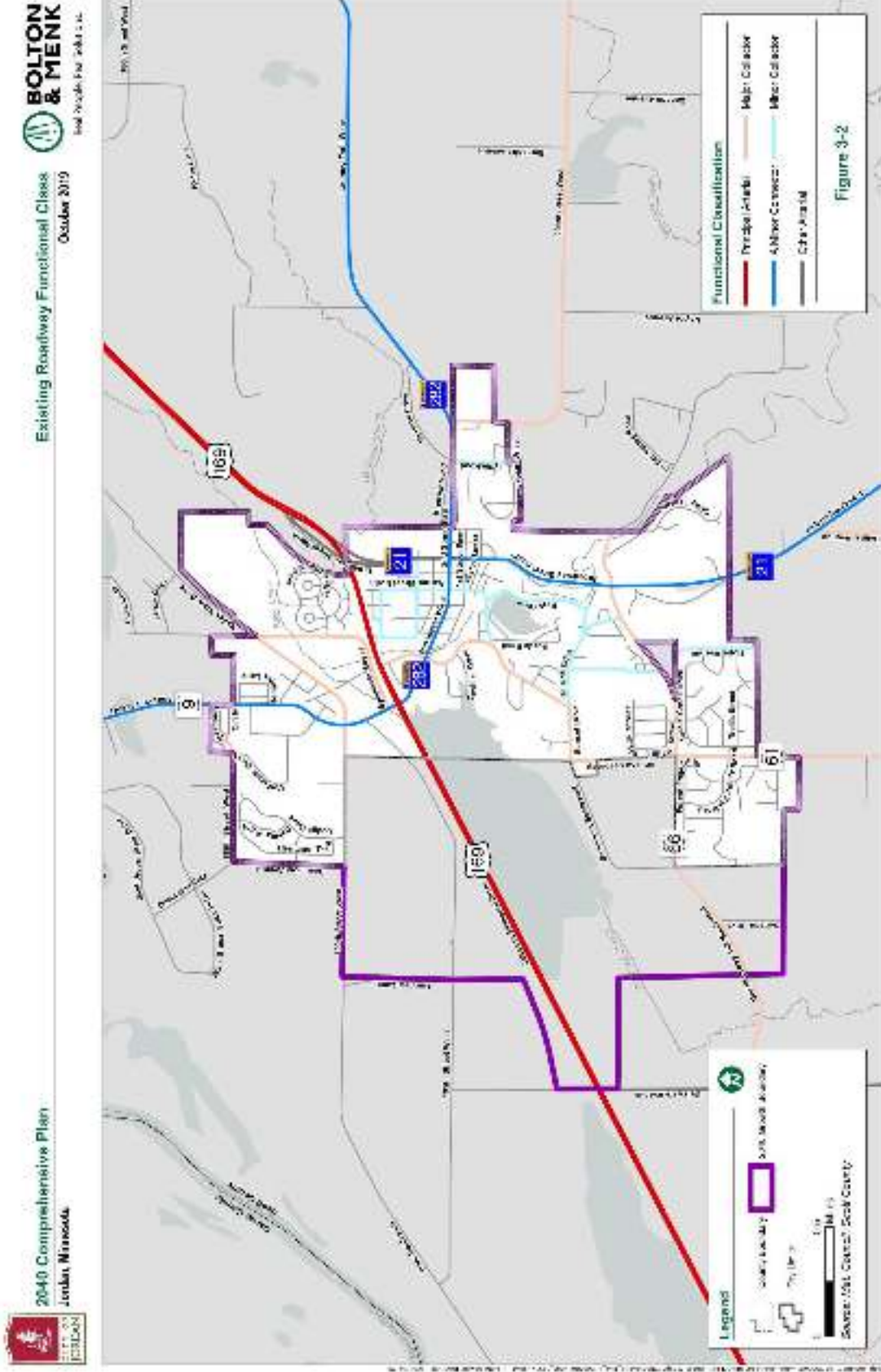
The standards included in this plan create the foundation for developing the transportation system, evaluating its effectiveness, determining future system needs, and implementing strategies to fulfill the goals and objectives identified.

I. FUNCTIONAL CLASS

The functional classification system is a roadway network that distributes traffic from neighborhood streets to collector roadways, then to minor arterials, and ultimately the Metropolitan Highway System. Roads are placed into categories based on the degree to which they provide access to adjacent land uses and lower level roadways versus providing higher-speed mobility for “through” traffic. Functional classification is a cornerstone of transportation planning. Within this approach, roads are located and designed to perform their designated function. Functional classification involves determining what functions each roadway should perform prior to determining its technical design features, such as street widths, speed, and intersection control. Access spacing standards and guidelines can be found in the MnDOT Access Management Manual (January 2008) and Scott County Comprehensive Plan.

The functional classification system typically consists of five major classes of roadways: Principal Arterials, Minor Arterials, Major Collectors, Minor Collectors, and Local Streets. The current roadway functional classification as identified by the Metropolitan Council for Jordan are described in the following section and illustrated in **Map 3-2**.

MAP 3-2: EXISTING FUNCTIONAL CLASS



Principal Arterials

Principal arterials are the highest roadway classification and make up the Metropolitan Highway System. The primary function of these roadways is to provide mobility for regional trips, and they do not provide a land access function. They are intended to interconnect regional business concentrations in the metropolitan area, including the central business districts of Minneapolis and St. Paul. These roads also connect the Twin Cities with important locations outside the metropolitan area. Principal arterials are generally constructed as limited access freeways but may also be multiple-lane divided highways. They typically connect only with other Principal Arterials (including interstate freeways) and select Minor Arterials and Collector streets. Principal Arterials are responsible for accommodating through trips, as well as trips beginning or ending outside of the Jordan area.

US Highway 169 is the only existing Principal Arterial in the Jordan area. County Highway (CH) 8 has been identified as a future Principal Arterial once improved and connected from Highway 169 to I-35.

Minor Arterials

These roads connect important locations within the City of Jordan with access points of the metropolitan highway system and with important locations outside the city. These arterials are also intended to carry short to medium trips that would otherwise use principal arterials. While "A" Minor arterial roadways provide more access than principal arterials, their primary function is still to provide mobility rather than access to lower level roadways or adjacent land uses.

Metropolitan Council has defined four sub-categories of "A" Minor arterials: reliever, expander, connector, and augmentor. These sub-categories are primarily used by the Metropolitan Council to allocate federal funding for roadway improvements. The different types do not have separate, specific design characteristics or requirements. However, they have somewhat different functions in the roadway network, and are typically found in certain areas within the region.

- **Relievers** provide supplementary capacity for congested parallel principal arterials. They are typically found in urban and suburban communities.
- **Augmentors** supplement the principal arterial system in more densely developed or redeveloping areas. They are typically found in urban communities.
- **Expanders** supplement the principal arterial system in less densely developed or redeveloping areas. They are typically found in urban and suburban communities.
- **Connectors** provide safe, direct connections between rural centers and to principal arterials in rural area without adding continuous general-purpose lane capacity. They are typically found in rural communities.

Roadways of this classification typically link urban areas and rural Principal Arterials to larger cities and other major traffic generators capable of attracting trips over similarly long distances. Minor Arterials service medium length trips, and their emphasis is on mobility as opposed to access in urban areas. Minor Arterials connect with Principal Arterials, other Minor Arterials, and Collector streets. To promote mobility consistent with their function, Minor Arterial connections to Local streets should be avoided if possible and private access should not be allowed. Minor Arterial roadways are typically spaced approximately 1-2 miles apart in developing communities similar to Jordan.

The A-Minor Arterials in the Jordan area are described briefly below.

North/South Routes

1. CSAH 9, an A Minor Connector, extends to the northwest out of Jordan, beginning at TH 169 and extending to the Minnesota River where it crosses into Carver County and becomes Carver County CSAH 45. This roadway connects with US Highway 212 west of the City of Chaska and north of the City of Carver by means of Carver County's CSAH 40 to County Road (CR) 147.
2. TH 21 provides connectivity in Scott County between Jordan and New Prague. South of Scott County, TH 21 extends to the City of Faribault where it terminates at TH 60. Vehicles traveling this route can access Interstate 35 in Faribault.

East/West Routes

1. TH 282, an A Minor Connector, begins at TH 169 and terminates at Highway 13 south of Prior Lake.
2. CSAH 8, an A Minor Connector, is located south of the City of Jordan and east of TH 21. This route, together with CR 76, future completion of a 3.5 mile missing roadway segment between TH 21 and CSAH 59, and future completion of a ¾ mile segment between CR 76 and CSAH 5 in Belle Plaine, would provide connectivity across central Scott County between TH 169 and I-35. At present, there are no specific plans to construct any part of the extension. If these improvements constructed, the functional classification of CSAH 8 will be elevated. CSAH 8 is therefore planned as a future Principal Arterial.

Major & Minor Collectors

Collector roadways provide a balance of the mobility and land-use access functions discussed above. They generally serve trips that are entirely within the city and connect neighborhoods and smaller commercial areas to the arterial network. Minor collectors generally are shorter in length, with lower volumes and lower speeds than Major Collectors. Collector streets are predominantly responsible for providing circulation within a city and are typically spaced approximately ½ to 1 mile apart in urbanizing areas.

CSAH 10, 11, and 66 are county roads classified as Major Collector roadways in the Jordan area. Other city streets, such as Sunset Drive/Creek Lane from the Schools Campus to TH 282 currently function as Major Collector roadways. Sunset Drive east of Creek Lane to TH 282 is a good example of an existing street serving as a Minor Collector roadway in Jordan. County Roads 61 and 64 are also designated as Minor Collectors.

Local Streets

Roadways of this classification typically include city streets and rural township roadways, which facilitate the collection of local traffic and convey it to collectors and Minor Arterials. Their function is to provide direct property access.

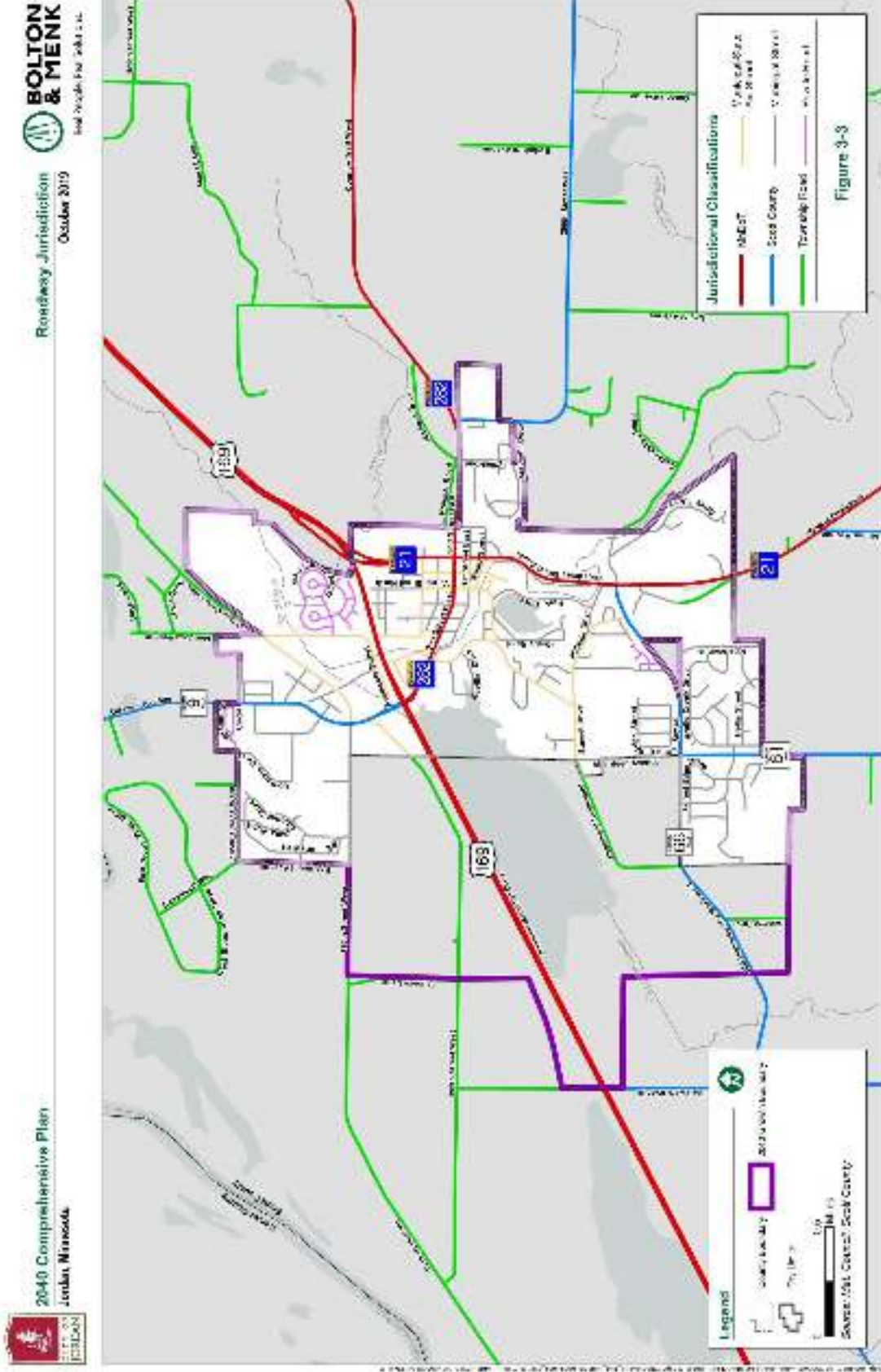
II. JURISDICTIONAL CLASS

Roadway jurisdiction directly relates to functional classification of roadways. Generally, roadways with higher mobility functions (such as arterials) should fall under the jurisdiction of a higher level of government. In recognizing these roadways serve greater areas resulting in longer trips and higher volumes, jurisdiction of Principal Arterial and Minor Arterial roadways should fall under the jurisdiction of the state and county, respectively. Similarly, roadways with more emphasis on local circulation and access (such as collectors) should fall under the jurisdiction of the local government unit. These roadways serve more localized areas and result in shorter trip lengths and lower volumes. Some Major Collector and all Minor Collector roadways should fall under the jurisdiction of the City of Jordan. As roadway segments are considered for turn-back to the City, efforts will be taken to evaluate the roadway features for conformance to current standards, structural integrity, and safety. This effort will help the City develop short and long-range programs to assume the responsibilities of jurisdictional authority.

In and around the City of Jordan, several jurisdictions have responsibility for the overall road network. MnDOT is responsible for US Highway 169, TH 21, and TH 282. Scott County is responsible for County State Aid Highways (CSAH) 9, 57, 59, 61, and 66. The City of Jordan or the surrounding townships are responsible for all remaining roadways, depending on their location.

Map 3-3 depicts the existing roadway jurisdictional classification system in Jordan.

MAP 3-3: EXISTING ROADWAY JURISDICTION



III. ROADWAY CAPACITY

Roads are designed to handle a defined level of traffic volume, with the intended traffic volume selected based on the roadway functional classification. Once the roadway corridor begins to approach or exceed capacity, traffic movements become more difficult and there may be congestion, leading to safety concerns and statistical safety issues. Capacity increases - the addition of new travel lanes, new roads, intersection or interchange redesign, or other capacity increasing improvements - become demanded in the transportation system when congestion and safety issues are present.

A planning-level traffic capacity analysis was performed by Scott County to identify roadway segments where capacity problems are anticipated to occur by 2040. Based on the projected 2040 traffic volumes and the assumed 2040 roadway network, an analysis of anticipated future congestion conditions was performed. This analysis used the volume-to-capacity method. The volumes were taken from the 2040 projections discussed under the previous heading. The capacity is based on typical capacity levels for different non-freeway types and configurations of roadways as summarized in **Table 3-1**.

**TABLE 3-1
TYPICAL TRAFFIC CAPACITY BY ROADWAY TYPE/CONFIGURATION**

Roadway Design	Planning Level Daily Capacity
Gravel Roadway	Up to 500
Minor Collector Street	Up to 1,000
Urban 2-Lane	7,500 – 12,000
Urban 3-Lane or 2-Lane Divided	12,000 – 18,000
Urban 4-Lane Undivided	Up to 20,000
Urban 4-Lane Divided	28,000 to 40,000
4-Lane Freeway	Up to 70,000
Gravel Roadway	Up to 500
Minor Collector Street	Up to 1,000

Capacities of roadway systems vary based on the roadway's functional classification. From the Metropolitan Council Local Planning Handbook, roadway capacity per lane for divided arterials is 700 to 1,000 vehicles per hour and 600 to 900 vehicles per hour for undivided arterials. These values tend to be 10% of the daily physical roadway capacity.

Principal and Minor Arterials

Based on the capacities noted above, a two-lane arterial roadway has a daily capacity of 12,000 to 18,000 vehicles per day, a four-lane divided arterial street has a daily capacity of 28,000 to 40,000 vehicles per day, and a four-lane freeway has a daily capacity of approximately 70,000 vehicles per day. The variability in capacities are directly related to many roadway characteristics including access spacing, traffic control, adjacent land uses, as well as traffic flow characteristics, such as percentage of trucks and number of turning vehicles. Therefore, it is important that the peak hour conditions are reviewed to determine the actual level of volume-to-capacity on roadway segments with average daily traffic volumes approaching these capacity values.

Major Collectors and Minor Collector Streets

Major Collector and Minor Collector streets have physical capacities similar to those of a two-lane arterial street; however, the acceptable level of traffic on a residential street is typically significantly less than the street's physical capacity. The acceptable level of traffic volumes on Major Collector and Minor Collector streets vary based on housing densities and setbacks, locations of parks and schools, and overall resident perceptions. Typically, traffic levels on Major Collector streets in residential/educational areas are acceptable when they are at or below 50% of the roadway's physical capacity, resulting in an acceptable capacity of 6,000 to 9,000 vehicles per day. Acceptable traffic levels on Minor Collector streets are considerably less. Typically, a daily traffic volume of 1,000 to 1,500 vehicles per day is acceptable on Minor Collector streets in residential areas.

The capacity of a gravel road is physically greater than 500 vehicles per day, but based on studies conducted by Minnesota counties, it has been determined that an average daily traffic volume (ADT) over 500 justifies paving the roadway. This is justified due to the maintenance costs of keeping a gravel road in working condition when ADT is over 500, and balancing this against the pavement costs, pavement life, and maintenance costs of a paved roadway with the same volumes.

The capacity of a transportation facility reflects its ability to accommodate a moving stream of people or vehicles. It is a measure of the supply side of transportation facilities. Level of Service (LOS) is a measure of the quality of flow. The concept of LOS uses qualitative measures that characterize operation conditions with a traffic stream and their perception by motorists. Six LOS are defined for roadways. They are LOS A, B, C, D, E, and F. LOS A represents the best operating conditions and LOS F represents the worst. The LOS of a multilane roadway can be dictated by its volume-to-capacity (v/c) ratio. The LOS of a two-lane roadway is defined in terms of both percent time-spent-following and average travel speed. LOS F is determined when the v/c ratio is over 1.00. The criteria for LOS and general v/c ratio for multilane highways and speed for two-lane highways are provided in **Table 3-2**.

**TABLE 3-2
HIGHWAY LEVEL OF SERVICE**

Level of Service	Multilane v/c Ratio	Two-Lane Average Travel Speed (mph)
A	<0.28	>55
B	>0.28 – 0.45	>50-55
C	>0.45 – 0.65	>45-50
D	>0.65 – 0.86	>40-45
E	>0.86 – 1.00	≤40
F	> 1.00	v/c >1.00

For roadways in urban sections, the urban street class and average travel speed determine the LOS. This is generally similar to the LOS for two-lane highways but takes into account the free flow speed of the facility (average speed achieved with no other vehicles present on roadway) and the addition of traffic control. This criterion is established in **Table 3-3**.

**TABLE 3-3
URBAN STREET LEVEL OF SERVICE**

Range of Free-Flow Speed (LOS)	Average Travel Speed (mph)			
	55 to 45	45 to 35	35 to 30	35 to 25
A	>42	>35	>30	>25
B	>34-42	>28-35	>24-30	>19-25
C	>27-34	>22-28	>18-24	>13-19
D	>21-27	>17-22	>14-18	>9-13
E	>16-21	>13-17	>10-14	>7-9
F	≤16	≤13	≤10	≤7

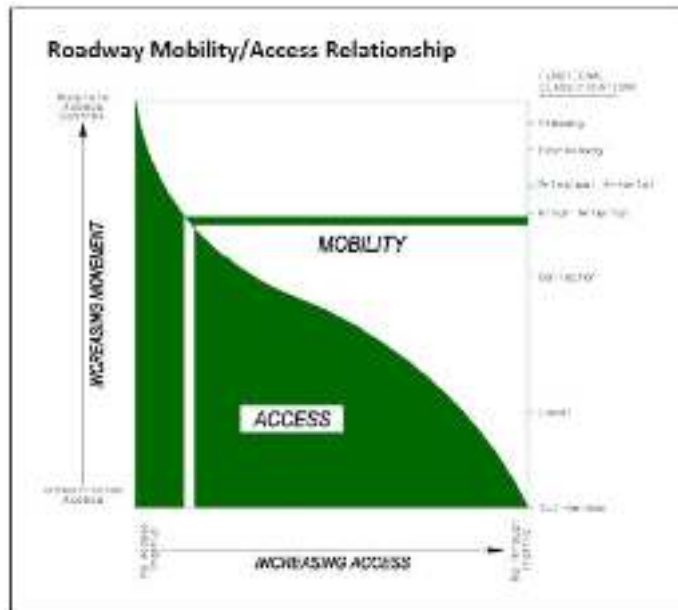
Generally, the City of Jordan should consider capacity improvements on roadways with a LOS D or worse and volume-to-capacity ratios over 0.75 during the peak hours.

IV. ACCESS MANAGEMENT GUIDELINES

Access management guidelines are developed to maintain traffic flow on the network so each roadway can provide its functional duties, while providing adequate access for private properties to the transportation network. This harmonization of access and mobility is the keystone to effective access management.

Mobility, as defined for this Transportation Plan, is the ability to move people, goods, and services via a transportation system component from one place to another. The degree of mobility depends on a number of factors, including the ability of the roadway system to perform its functional duty, the capacity of the roadway, and the operational level of service on the roadway system.

Access, as applied to the roadway system in Jordan, is the relationship between local land use and the transportation system. There is an inverse relationship between the amount of access provided and the ability to move through-traffic on a roadway. As higher levels of access are provided, the ability to move traffic is reduced. The graphic below illustrates the relationship between access and mobility.



Each access location (i.e. driveway and/or intersection) creates a potential point of conflict between vehicles moving through an area and vehicles entering and exiting the roadway. These conflicts can result from the slowing effects of merging and weaving that takes place as vehicles accelerate from a stop turning onto the roadway, or deceleration to make a turn to leave the roadway. At signalized intersections, the potential for conflicts between vehicles is increased, because through-vehicles are required to stop at the signals. If the amount of traffic moving through an area on the roadway is high and/or the speed of traffic on the roadway is high, the number and nature of vehicle conflicts are also increased.

Accordingly, the safe speed of a road, the ability to move traffic on that road, and safe access to cross streets and properties adjacent to the roadway all diminish as the number of access points increase along a specific segment of roadway. Because of these effects, there must be a balance between the level of access provided and the desired function of the roadway.

In Jordan, access standards and spacing guidelines are recommended as a strategy to effectively manage existing ingress/egress onto City streets and to provide access controls for new development and redevelopment. The proposed access standards (driveway dimensions) are based on Minnesota Department of Transportation (MnDOT) State-Aid design standards. It should be noted that the City of Jordan has access authority for those roadways under their jurisdiction. Likewise, Scott County and MnDOT have access authority for roadways under their jurisdiction. The access spacing guidelines for Jordan are consistent with current practices of other cities, as well as with Scott County and MnDOT. The hierarchy of the functional classification system should be maintained when applying the access spacing guidelines to the roadway network (i.e. a collector street should have priority access to a Minor Arterial roadway over a Local street or adjacent property). **Tables 3-4 and 3-5** present the access standards and access spacing for the Jordan roadway network. Please refer to Scott County's minimum access spacing guidelines identified in their current Transportation Plan.

**TABLE 3-4
ROADWAY ACCESS STANDARDS**

Driveway Dimensions	Residential	Commercial or Industrial
Driveway Access Width	11'-22' (16' desired)	16'-32' (32' desired)
Minimum Distance Between Driveways	20'	20'
Minimum Corner Clearance from a Collector Street	60'	80' ⁽¹⁾

¹At the discretion of the City Engineer, 80' minimum

**TABLE 3-5
ACCESS SPACING GUIDELINES FOR COLLECTOR ROADWAYS¹**

Type of Access by Land Use Type	Major Collector	Minor Collector
Low and Medium Density Residential		
Private Access	Not Permitted ⁽²⁾	As Needed ⁽³⁾
Minimum Corner Clearance from a Collector Street	660'	300'
Commercial, Industrial or High Density Residential		
Private Access		
Minimum Corner Clearance from a Collector Street	660'	660'

¹ These guidelines apply to City streets only. Scott County and MnDOT have access authority for roadways under their jurisdiction. Please refer to Scott County's minimum access spacing guidelines identified in their current Transportation Plan.

² Access to Major Collectors is limited to public street access. Steps should be taken to redirect private accesses on Major Collectors to other local streets. New private access to Major Collectors is not permitted unless deemed necessary.

³ Private access to Minor Collectors is to be evaluated by other factors. Whenever possible, residential access should be directed to non-continuous streets rather than Minor Collector roadways. Commercial/Industrial properties are encouraged to provide common accesses with adjacent properties when access is located on the Minor Collector system. Cross-traffic between adjacent compatible properties is to be accommodated when feasible. A minimum spacing between accesses of 660' in commercial, industrial, or high density residential areas is encouraged for the development of turn lanes and driver decision reaction areas.

V. GEOMETRIC DESIGN STANDARDS

Geometric design standards are directly related to a roadway's functional classification and the amount of traffic that the roadway is designed to carry. For the City of Jordan, geometric design standards are based on MnDOT State-Aid standards, except as modified herein.

**TABLE 3-6
CITY OF JORDAN ROADWAY GRADE DESIGN STANDARDS**

Type of Road	Right of Way Width	Maximum Grade
Local Street	50-60 feet	7%
Collector Street	660-80 feet	4%
Arterial Road	150 feet	0.5%
Freeway	300 feet	0.5%

The Geometric Design Standards illustrated in Figures T-13 through T-15 in Appendix C were developed to achieve adequate capacity within the roadway network, as well as a level of acceptance by adjacent land uses. Each component identified in the typical sections is essential to a particular roadway's ability to perform its function in the roadway network.

County and State Roadways

In addition to these standards for City Collector roadways, the State and County arterial and collector roadways shall include components of the City's transportation system. For each of the County highways and Trunk Highways 21 and 282 within Jordan, a 10' bituminous trail is

recommended on at least one side of the roadway to accommodate pedestrian, bicycle, and other non-motorized travel. Where achievable, it is recommended non-motorized pedestrian facilities be provided along both sides of collector and arterial roadways to minimize crossings of such roadways at unsafe locations.

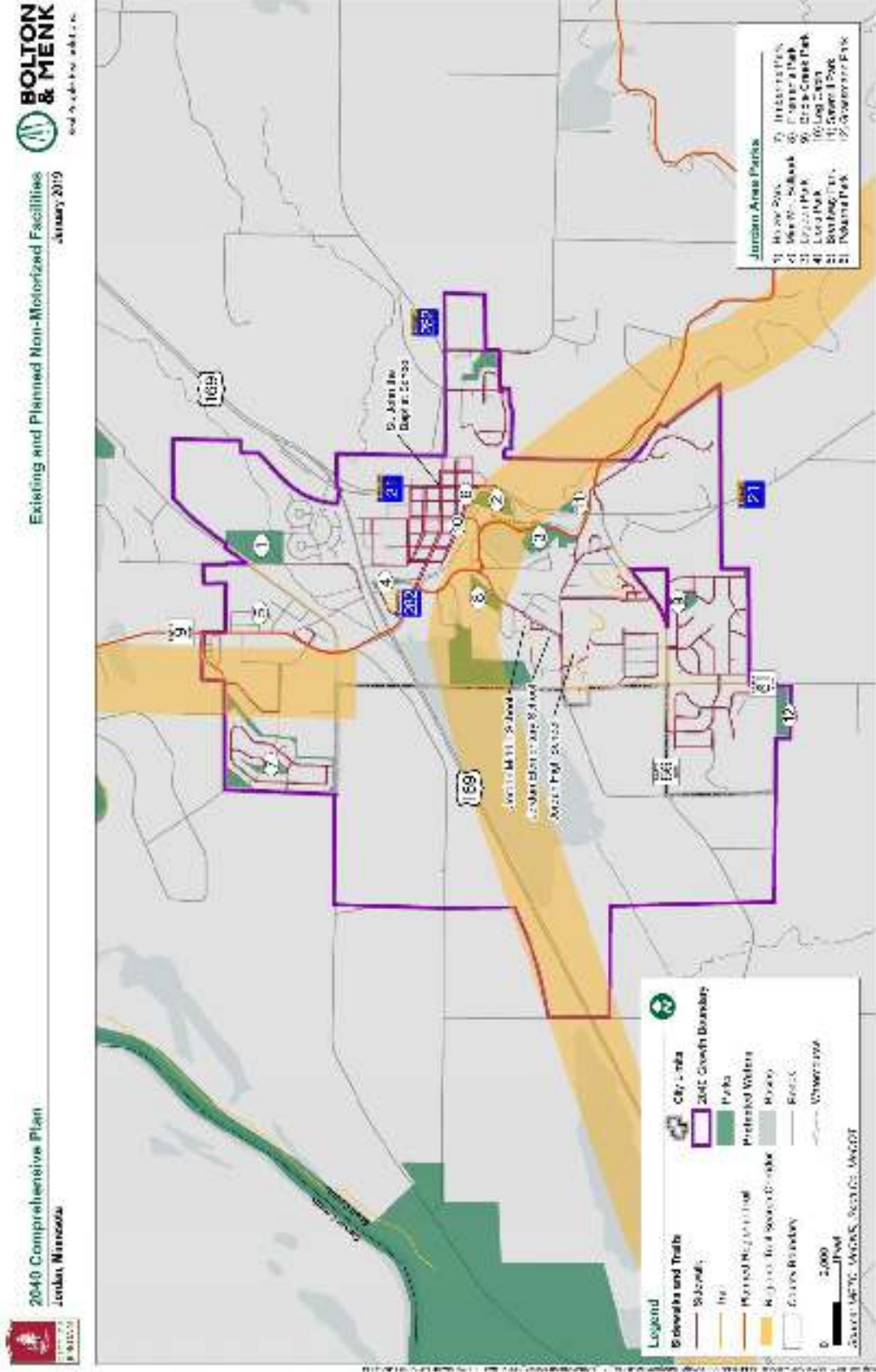
Roadway Width

Roadway and travel lane widths are directly associated with a roadway's ability to carry vehicular traffic. On Major and Minor Collector streets, a 12' lane is required for each direction of travel unless developed restrictions on the borders of the roadway prohibit such widths. In addition to the travel width, minimum shoulder/parking lane widths are also required to accommodate parked or stalled vehicles. Roadway widths not meeting the Geometric Design Standards will result in decreased performance of the particular roadway and additional travel demand on the adjacent roadway network components. For example, a substandard Major Collector roadway may result in additional travel demand on an adjacent Minor Collector street resulting in an overburden for adjacent landowners. Similarly, additional local circulation may result on an adjacent Minor Arterial resulting in reduced mobility for regional trips.

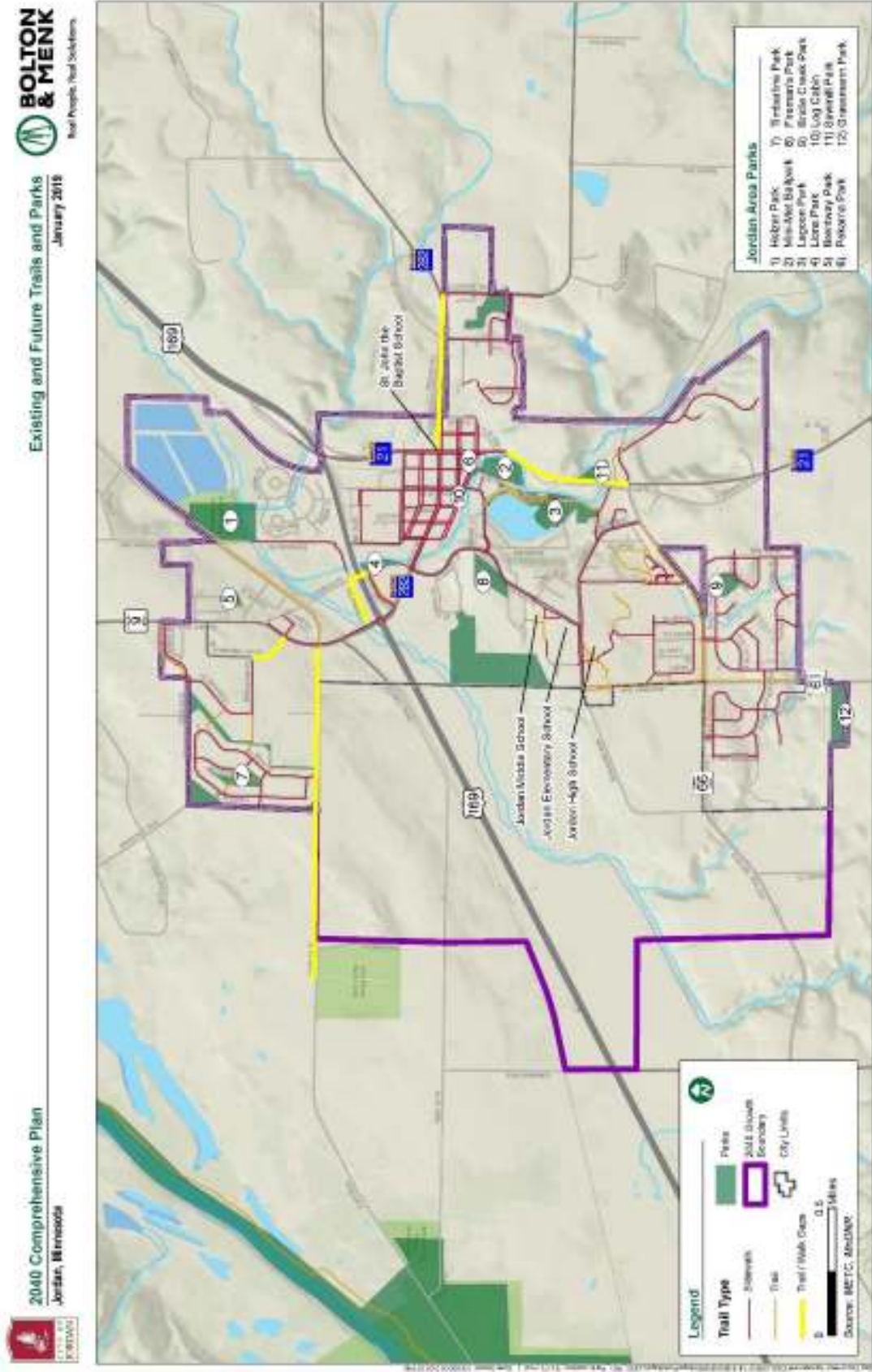
Non-Motorized Facilities

Sidewalks and/or trails are recommended to be adjacent to all Minor Collector, Major Collector, and Minor Arterial roadways within Jordan to accommodate pedestrian, bicycle, and other non-motorized travel in a safe and comfortable manner. These roadways are expected to carry a significant amount of vehicular traffic and separation of travel modes is recommended for user safety. At the discretion of the City, in commercial and industrial areas, the requirements for trails and sidewalks may vary to accommodate additional pedestrian and bicycle traffic and provide connectivity according to the **Existing and Planned Non-Motorized Facilities Map (Map 3-4)**. Future improvements should be considered in conjunction with City Standards identified in the City Code and this Comprehensive Plan, and the City's identified trail gaps shown on its **Existing Park and Recreational Areas Map (Map 3-5)**.

MAP 3-4: EXISTING AND PLANNED NON-MOTORIZED FACILITIES



MAP 3-5: EXISTING PARK AND RECREATION AREAS



Along Minor Arterials, a minimum 8' bituminous trail is recommended on at least one side of the roadway. Similar to the type of travel on the adjacent roadway, the trail will accommodate higher volume and longer pedestrian and bicycle trips. A 10' bituminous trail would be more desirable as the 10' width would better accommodate two-way travel safely. Trails and/or walk should be provided along both sides of Minor Arterials to facilitate travel to safe crossing locations.

Along Major Collector roadways, an 8' bituminous trail and 6' concrete walk are recommended on either side of the roadway to accommodate local pedestrian and bicycle travel. The pedestrian facilities on both sides of these roadways allow for pedestrian travel within the corridor without introducing excessive crossing demand on Major Collectors. A 6' concrete walk and 8' bituminous trail will accommodate pedestrian travel along the corridor, as well as provide a safe, comfortable link between lower volume residential streets and the other pedestrian facilities within the community.

Along Minor Collector roadways, a 6' concrete sidewalk is recommended on each side of the roadway. With the anticipated vehicular volumes on Minor Collector streets, pedestrians can safely cross the roadway; however, pedestrian travel along the roadway may become uncomfortable.

Medians

Medians are recommended on several Major Collector roadways under the jurisdiction of the City. Medians on Major Collector roadways assist in accommodating significant vehicular volumes at acceptable travel speeds for adjacent land uses. While maintaining the travel lane widths required for traffic, the total pavement width is reduced, creating a more appealing and acceptable travel corridor. Trees and other landscaping can be included within medians on city Major Collector roadways, provided they do not compromise minimum clear zone requirements and do not interfere with traffic control devices. Medians also allow for more comfortable pedestrian crossings of Major Collector roadways by providing a safe haven for pedestrians to assess crossing opportunities one direction of vehicular travel at a time.

Design Speed

The design speed of a roadway is generally related to the roadway's function in the system. The focus of Minor Arterial roadways is mobility; therefore, these roadways should be designed to accommodate higher travel speeds. Likewise, Minor Collector roadways are more focused on accessibility and should be designed to accommodate lower travel speeds. The function of Major Collectors is balanced between mobility and accessibility; therefore, these roadways should be designed accordingly. **Table 3-6** below presents the recommended design speed for the buildout of Jordan's future roadway network.

**TABLE 3-7
ROADWAY DESIGN SPEED GUIDELINES**

Functional Classification	Design Speed ⁽¹⁾
Minor Collector Street	30 mph
Major Collector Roadway	35 – 40 mph
Minor Arterial Roadway	45 – 55 mph

⁽¹⁾ At the discretion of the City Engineer for City roadways, with approval by the City Council

Right-of-Way Width

Right-of-way width is directly related to the roadway’s width and its ability to carry vehicular and pedestrian traffic in a safe and efficient manner. The roadway right-of-way widths identified in **Figures T-13, T-14, and T-15 of Appendix C** are the minimum required for major collector, minor collector, and local streets, respectively.

- For Minor Collector streets in residential areas, a minimum right-of-way width of 80' is necessary for the added roadway width, as well as to provide added setback distance between the roadway and homes along the roadway.
- Right-of-way widths greater than 100' will be required on Major Collector roadways within commercial areas to accommodate the potential for higher traffic volumes and the need for additional lanes.
- All right-of-way requirements may be increased at the discretion of the City Engineer, with the approval of the City Council.
- Refer to Scott County's right-of-way requirements for county roads in their current Transportation Plan. The City should obtain identified local, county, and state right-of-way through the platting process to accommodate long-term roadway and sidewalk/trail needs.

VI. EXISTING SYSTEM EVALUATION

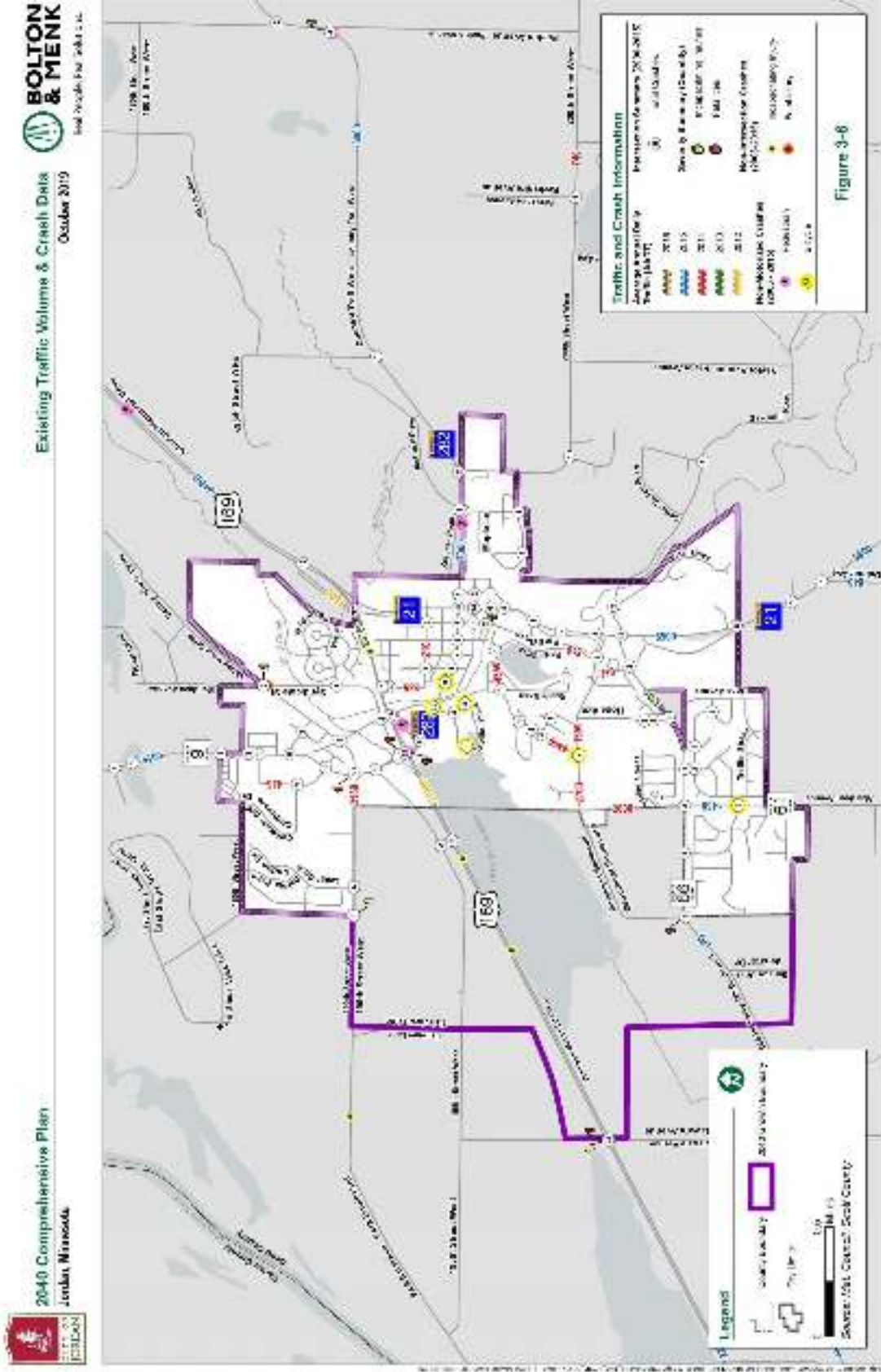
Sand Creek, two railroad lines, TH 169, the bluffs/ravines, and numerous wetlands have bisected the city and impacted the development of the existing transportation system in Jordan. These factors, access locations to TH 169, and the lack of Major Collector roadways within the City of Jordan has resulted in an overreliance on the Minor Arterial roadways of TH 21 and TH 282 for local circulation and connectivity. The use of Minor Arterial roadways for local traffic creates challenges to maintaining the highways' ability to provide regional mobility. Currently, most traffic desiring to access TH 169 has to funnel its way through the downtown area of Jordan or utilize the Creek Lane extension between TH 282 and Sunset Drive. As population and business attractions grow, increases in traffic volumes have the potential to negatively impact the downtown area by reducing pedestrian and local roadway mobility, increasing traffic congestion, and increasing parking problems. The City's ability to develop adequate Major Collector roadways is critical to maintain a satisfactory roadway system in the Jordan area and preserve the downtown area of Jordan as a desirable commercial area.

The existing transportation system within the City of Jordan currently provides sufficient transportation service to the city. Generally, the transportation system operates effectively, however some safety concerns and system continuity deficiencies exist.

A. Traffic Safety

Map 3-6 illustrates traffic and crash data on the existing system.

MAP 3-6: EXISTING TRAFFIC VOLUME & CRASH DATA



A planning-level analysis of the existing transportation system in Jordan was completed and included evaluating crash records to quantify number of crashes occurring at each intersection and to determine where trends may exist. TH 169 at TH 282 has a high crash rate. MnDOT and the City have separately analyzed this location for a future interchange. Removing this at-grade intersection would reduce the number the crashes and eliminate the conflict points associated with TH 169 traffic, as well as improve mobility. MnDOT completed a pavement rehabilitation project along TH 169 through the intersection with TH 282. The project included some safety improvements including pedestrian actuation, a new advanced notification signal for southbound motorists, lengthening of turn lanes, and removing a former hydroplaning problem on northbound TH 169 near Sand Creek.

Pedestrian safety across TH 169 is also a concern. The 2014 project included the addition of a raised median, which functions in part to prevent pedestrians from attempting to cross TH 169 away from the signalized intersection where traffic control measures offer some level of protection. In 2010, the City analyzed five alternatives for an underpass/overpass of TH 169 and considered implementing the preferred alternative with the 2014 project while MnDOT already had pavement removed and traffic diverted. It was determined the cost for implementation of a pedestrian underpass was too great, however. The cost of implementing such a project would be sufficiently greater without the benefit of joint project opportunity. Therefore, it is recommended pedestrian and bicycle facilities be implemented in conjunction with a future TH 282 / TH 169 grade separation project rather than as a standalone project.

Growing reliance on TH 282 for access to TH 169 and CR 9 is currently creating congestion and safety issues at several adjacent local roadway connections. Per the planning level traffic analysis completed by Scott County and its consultant, TH 282 between Triangle Lane and TH 169 is over capacity in its existing condition. These conditions are anticipated to worsen over the next 22 years, until TH 282 is reconstructed with additional lanes in conjunction with a TH 169 / 282 grade separation project. The statistically least safe intersections in the City of Jordan are generally along Highway 282, particularly at Highway 169, Triangle Lane, and at Creek Lane. The intersection of TH 21 / CR 66 / Sawmill Road also sees a relatively high crash frequency.

Creek Lane has been a source of public frustration in addition to the statistical traffic safety issues. In 2015 after much discussion, the City requested details on the required submittals as part of a permitting process for installation of a traffic signal at the intersection. In response, MnDOT completed an abbreviated intersection control evaluation which identified significant delay for motorists, particularly at the northbound Creek Lane intersection leg. MnDOT concluded it would not permit a signal or four-way stop condition at this intersection, but that it would permit and support funding of a roundabout at the intersection. The roundabout would address the capacity and safety deficiencies at this location, as well as promote efficient and safe movement of traffic cohesively with likely future interchange configurations. It is recommended the City continue to pursue State funding of a roundabout at this intersection based on MnDOT's recommendation, funding support, and permit support. Likely programs for such funding include MnDOT's biannual Cooperative Agreement Funding Program and the Local Road Improvement Program funded in varying levels by the biannual state bonding bill.

B. Traffic Volumes

The existing traffic volumes within the area were collected from MnDOT and Scott County and are represented in **Map 3-6**. Roadway analysis indicates that the system operates well for most roadways within Jordan. Roadway segments in Jordan currently operating at near congested levels include TH 169 north of TH 21, and TH 282 between Creek Lane and TH 21. Roadway

segments operating at a periodically congested level include TH 169 between TH 21 and TH 282 and TH 21 between the TH 169 northbound entrance ramp and CR 66.

C. Jurisdictional Issues

TH 282 has been identified as potential turn back candidates from the state to Scott County; however, no plans are in place to complete the transfers.

173rd Street West is a local township road. While this roadway is outside of the growth boundary, it has been identified in the TH 169 Corridor Management Plan as a future interchange location and in the Principal Arterial Intersection Conversion Study as a low priority potential future grade separation. A corridor in this location is also identified for an east/west study by Scott County for a future county roadway. Upon completion of the grade separation, this roadway may be appropriate under Scott County's jurisdiction.

Changes in roadway jurisdiction are rare, but these 'turnbacks' do occur on occasion. In January 2013 MnDOT published its Phase 1 Report for the Jurisdictional Realignment Project (<http://www.dot.state.mn.us/d4/projects/Jurisdiction/Report.pdf>). The overall objective for this project is to ensure that Minnesota roads are owned and operated at the right jurisdictional level. Placing roadways at the correct jurisdictional level enables decisions to be made at the appropriate political level for the roadways served and aligns appropriate funding sources for the functional classification of roadway.

MnDOT has identified Trunk Highway 282 as a potential jurisdictional transfer to Scott County in the future. Scott County has indicated they do not anticipate this occurring in the near term but has acknowledged MnDOT's desire to transfer the roadway. Jurisdictional transfers typically require the larger agency to fund the reconstruction of or reconstruct the roadway as part of a turnback agreement. It is noted MnDOT intends to reclaim and reconstruct Highway 282 in 2021, though the City is not aware of any related, specific turnback discussions.

In its 2040 comprehensive plan, Scott County has identified CR 61 (Aberdeen Avenue), between CR 66 (Old Hwy 169) and the southerly city limit, as a candidate for future jurisdictional transfer. No discussions have occurred between the City and County regarding the City's willingness to accept this transfer or the conditions under which the transfer would occur.

D. Relevant Area Transportation Studies

Several studies have been completed in recent years with varying direct and indirect impacts on the City of Jordan's Transportation Network. For historical context and to exhibit changing perspectives/priorities amongst agencies, the studies are listed chronologically from old to new.

TH 169 Corridor Management Plan (MnDOT, 2002)

In May of 2002, the State Highway 169 Corridor Management Plan (CMP) was issued by MnDOT. This report covered a 73-mile stretch of TH 169 from I-494 to Mankato. The purpose of the CMP was to create a better understanding of the issues and concerns along the corridor, as well as to develop consensus with corridor partners for a long-term vision and action plan that can be implemented over time.

The CMP recommended transitioning TH 169 to a freeway facility (limited access, no at-grade intersections) from Interstate 494 to Belle Plaine. Recommendations relative to the City of Jordan and the surrounding area from the CMP are outlined below.

- **173rd Street (listed as County Road 65 in CMP)** – Two concepts were developed for this intersection. Concept 1 shows an overpass and Concept 2 shows a folded diamond interchange. Accommodating an interchange in this area is particularly difficult due to the proximity to the spur line, bluff area, and floodplain. Sand Creek Township indicated that it would prefer to have an interchange rather than an overpass at this location, given the spacing between CSAH 14 and TH 21. Scott County also indicated that CR 65 has potential to serve as an arterial route to the east. If it does, the County would prefer an interchange at this location.
- **TH 282** – this area was identified for analysis in a separate sub-area study and is described below.
- **CSAH 59** - One concept was developed for the CSAH 59 intersection. The City of Jordan sees this interchange as serving the southern access to the city. The concept for this location shows a folded diamond interchange with limited frontage roads. Additional local roads would be incorporated as development occurs. St. Lawrence Township and MnDOT agreed that the concept was feasible and met the transportation needs of the area.
- **CR 66** - Three different concepts were developed for the CR 66 intersection. One of the concepts provides an overpass at CR 66; the other two concepts show a full diamond interchange and a folded diamond interchange. The CMP recommends that an overpass be developed for this area, unless Scott County decides to pursue an east-west arterial alignment in this location. If an east-west arterial alignment is pursued, the TH 169 CMP supports an interchange. As outlined below, the CSAH 8 Corridor Preservation Study identifies this location for a future interchange.

TH 169/TH 282 Interchange Alternatives Study (MnDOT, 2001-2004)

MnDOT led the development of numerous (15-20) interchange concept-level alternatives for the US 169/TH 282 area. 'Concept-level' implies the layouts were completed to identify potential connection points of adjacent roadways based on access spacing guidelines and bridge locations generally identified, but engineering design work was not substantially completed.

Consensus was not reached on any interchange alternative. To summarize in general, an impasse was reached between a desired lower project cost by MnDOT conflicting with the desire to maintain all existing business access and property by the City. Grade separation of TH 282 and US 169 were desired by all. The City also desires grade separation of Creek Lane from US 169, though this is not a priority for MnDOT beyond disconnecting it at grade from US 169. Scott County also desired grade separation and would prefer grade separation of CR 9 from the Union Pacific Railroad located 750 feet north of the primary subject intersection.

CSAH 8 Corridor Preservation Study (Scott County, 2005)

Scott County completed a corridor preservation study for the extension of CSAH 8 west of TH 21 to TH 169. This study identified a future alignment for CSAH 8 that generally follows the township border between St. Lawrence and Helena Townships. The study also determined a short-term connection to TH 169/TH 25-CSAH 5 interchange at by means of a frontage road to be located parallel to the highway. If, or when, development in the area requires an additional interchange to TH 169 the study recommends continuing the alignment of CSAH 8 along the township/section line west, past CR 66, to a future interchange location with TH 169. This alignment could eventually be connected to a frontage road system on the west side of TH 169, or the existing Park Boulevard corridor that continues north into Jordan. At present, there are no specific plans to proceed with

construction of the future alignment, and the study may be used by Scott County for future right-of-way preservation plans only.

County Highway 8 Corridor Study (Scott County, 2013)

Scott County completed a supplementary corridor study along County Highway (CH) 8 from TH 21 to I-35, with particular focus on the area between TH 13 and I-35. Scott County's 2030 Comprehensive Plan envisioned CH 8 ultimately connecting US Highway 169 and I-35. The CSAH 8 Corridor Preservation Study (2005) identified a 150-foot corridor to be preserved for a future road connection between TH 21 and US Highway 169. The major road connection via CH 8 as contemplated in 2005 emphasized the need for it to serve as an important east-west arterial for regional and local users. Additionally, eastern sections of CH 8 were in need of major improvements due to age and condition at the time the study was initiated, with pavement over 40 years old and a crumbling sub-surface. The roadway also has narrow shoulders, sharp horizontal and vertical curves with limited visibility, and no turn lanes at a number of intersections.

The purpose of the County Highway 8 Corridor Study was to define a vision for the roadway that incorporates long-term corridor preservation and identified potential safety and roadway improvements. The study also recommended a long-term plan for preserving rights-of-way and managing access along the corridor.

The study found that a two-lane roadway, with properly preserved condition and maintenance, should continue to be sufficient for the next 20 years (until at least 2033). The study had the following recommendations:

1. Roadway jurisdictional agencies, including Scott County, should continue enforcing the County's Access Spacing Guidelines to maintain 1/2 mile full access spacing on the CH 8 corridor.
2. Scott County should coordinate with the local road authorities so new roads in the supporting road network provide interconnectivity and support access spacing guidelines for CH 8 as a Future Principal Arterial.
3. Scott County should evaluate inconsistent private and public accesses during the design of road reconstruction projects or adjacent subdivision developments to determine if any access modifications or removals along CH 8 are appropriate.
4. Scott County should plan for an ultimate 200-foot wide corridor through the development process and when opportunities arise for right-of-way acquisition. Coordinate with developers to preserve future right-of-way needs beyond 150 feet when possible. Use tools such as PUDs and the Public Values Incentive Program to acquire right-of-way for long-term needs.
5. Scott County should evaluate whether front-yard building and septic system setbacks in the Zoning Ordinance should be increased along major arterials like CH 8 to reduce creating additional non-conforming structures and preserve future right-of-way needs.
6. Scott County should evaluate opportunities to improve safety and mobility for long-term realignment around Cynthia Lake, St. Catherine Lake, and McMahan Lake. Future improvements should be evaluated for opportunities to improve water quality and provide a recreational amenity.

7. The intersection of TH 13 and CH 8 should continue to be monitored and appropriate solutions implemented in response to a relatively high severity crash rate, which was four times the expected level as of 2013.
8. Dakota County and Scott County should collaborate on a trail connection along Scott CH 8 and Dakota CH 70.

TH 169 / TH 282 / County Road 9 Interchange Alternatives Review & Official Mapping (City of Jordan, 2012-2014)

The City of Jordan through its EDA contracted Kimley-Horn to re-evaluate, estimate costs of, collect public feedback on, pursue consensus via an evaluation matrix on seven interchange alternatives, titled A through G, first considered between 2001 and 2005. This review concluded with a meeting between MnDOT, Scott County, and the City at which consensus was not reached regarding an agreed, preferred interchange alternative.

The City proceeded with official mapping of an interchange footprint comprised of roughly estimated grading boundaries for alternatives "F" and "G", commonly referred to as the Kimley Horn alternatives first developed in 2004. These alternatives include significant bridges and flyovers at higher construction cost, but generally preserve existing access points, limit any acquisition of developed business property, and one maintains the existing alignment of US 169. As the Official Mapping effort was undertaken, a letter was sent to MnDOT and Scott County notifying them of the official mapping process for the City selected alternative. The letter is considered the final report document for this initiative and is available on the City of Jordan's website as of the drafting of this Plan: http://jordanmn.gov/wp-content/uploads/2016/03/Final-Draft_TH-169-Report_082614.pdf.

Downtown Parking Study (City of Jordan, 2013-2014)

In response to resident and business owner concerns in the downtown area, the City and its Economic Development Authority conducted a parking study in summer, 2014 to quantify any deficiencies in parking and potential solutions to addressing them. The study found there was a sufficient total number of stalls within the full study area of downtown, but some specific areas particularly near TH 21, were deficient.

Since completion of the study, the City strategically installed time limit signage on select stalls to increase turnover for customer use and the City constructed two parking lots; one in front of the new City Council Chambers at 116 First Street and another at the north end of the Mini Met.

US 169 Access Management Plan, TH 19 to Scott County Road 69 (MnDOT, 2016)

The objective of this study was to develop an access management plan to serve as guidance for the county, cities, townships, MnDOT, landowners, and developers on desired access changes and future access locations in the corridor. The Study included several technical advisory committee (TAC) meetings comprised of stakeholders from along the TH 169 corridor. MnDOT prefaced the TAC meetings by noting challenges in reviewing recent developments along the corridor and lack of backage/frontage roads, particularly in the area near Bluff Drive.

The plan takes into consideration the function of US 169 in the regional road network, the planned growth of the communities, and the need for an adequate supporting road network necessary to support development. Additionally, the plan attempted to provide an appropriate balance between mobility and access. In general, this means directing traffic to future frontage/backage roads in lieu of existing driveway accesses directly to US 169. The decreased access, for heavy

trucks in particular, decreases convenience for those users but benefits the mobility of the TH 169 users (11% of which is also freight) and safety of all users.

The Study concluded with:

- A proposed public street spacing is identified in the US 169 Access Management Plan map.
- Traffic signals, roundabouts, or other intersection traffic control devices should only be constructed if they are justified. They should be located only at primary, full-movement, public intersections, preferably with roadways that are classified as a "Collector" and above.
- Left and right turn lanes should be provided at all full-movement intersections. Turn lanes should be designed to provide safe movement for traffic on US 169 and on the cross street. Generally, the turn lanes should be 500-feet long with a 180-foot taper.
- Where a minor arterial intersects US 169, the first full-movement intersection on the minor arterial should be spaced ¼ mile from the intersection with US 169. On an intersecting collector street, the first intersection should be spaced 1/8th mile from US 169. For other public streets, the spacing should be at least 300 feet from US 169.
- As property develops or redevelops, local roads should be constructed and existing access to US 169 removed and relocated.
- All lots in a new subdivision should be designed to take access from the internal street network.
- All new subdivisions should be designed with an internal street system that coordinates and connects to adjacent subdivisions and the planned local street network, resulting in parallel north/south routes as well as continuous east/west routes.
- New private access to US 169 is discouraged. Access to private property should be provided by the existing local road network whenever possible. Only when reasonably convenient and suitable access cannot be provided by the local road network, should direct access onto US 169 be allowed. Adjoining properties should share a common access when necessary to provide adequate stopping distance between access points.
- Existing direct private access to US 169 may remain in use, but may be subject to modification or closure at the time of development, redevelopment, or intensification in the land use, or a highway improvement project.
- Any new private access should be as consistent as possible with the plan.

Specific to Jordan, the Study proposes the future closure of Syndicate Street's connection to US 169 and closure/grade separation of Creek Lane at US 169.

Principal Arterial Intersection Conversion Study (Met Council & MnDOT, 2017)

As of the drafting of this Plan, the Study can be found online at:

<https://metrocouncil.org/Transportation/Planning-2/Transit-Plans,-Studies-Reports/Highways-Roads/Principal-Arterial-Intersection-Conversion-Study.aspx?source=child>.

The Principal Arterial Intersection Conversion Study considered needs at intersections on non-freeway principal arterials throughout the Minneapolis-St. Paul metropolitan area, specifically to set priorities for grade separations. Principal arterials are the region's highest type of roadway and are intended to provide reliably safe and high-speed travel over significant distances. While most principal arterials are limited-access freeways, the system also includes about 300 miles of non-freeway segments with at-grade intersections. In many cases, these intersections limit the highway's ability to best provide for long-term safety and mobility.

In total, more than 370 intersections were initially considered. Of those, 91 intersections were selected for more detailed study and were prioritized as low, medium, or high priority for grade separation projects (new interchanges or similar designs). The Study also recognized the importance of considering lower-cost/high-benefit at-grade treatments that could improve intersection safety and performance without grade separations.

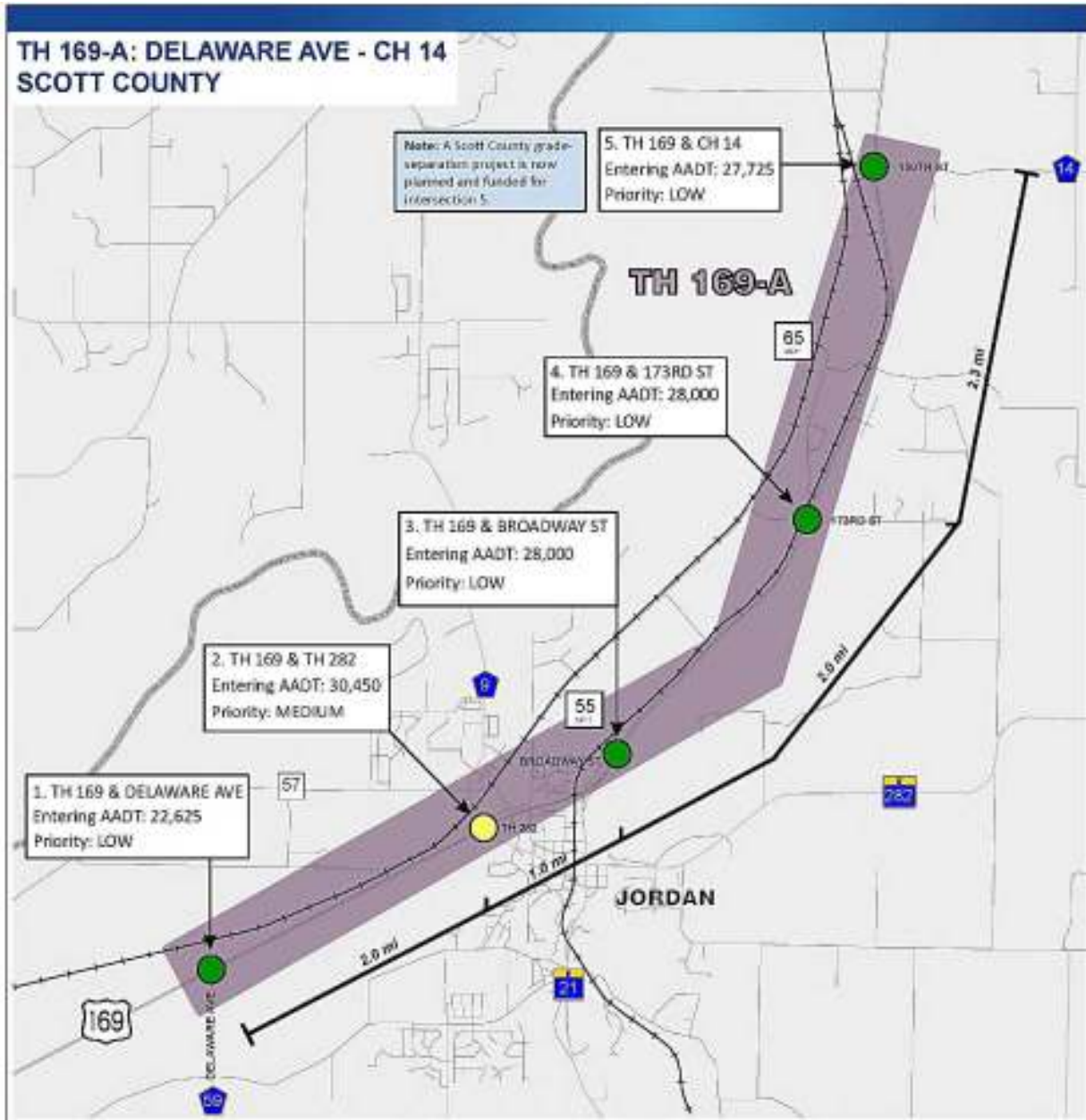
Since the study's completion, it appears to have influenced funding programs and opinions of MnDOT project priorities with focus on 'low-cost / high-benefit' interchanges and grade separation options. For example, full 'system interchanges' which users may solely interpret as an interchange, are costlier and thus less likely to be funded through upcoming programs. Conversely, 'quadrant interchanges' generally require only an overpass and rely on local roadway networks to make connections, albeit less convenient connections at lower cost. The study's conclusions promote the funding of quadrant interchanges as potential solutions for lower priority needs. All recommendations within the study are acknowledged as high level, planning recommendations for prioritization of funding as opposed to specific site solutions for individual projects.

Of the 91 intersections selected for more detailed study:

- 34 were categorized as high-priority for grade-separation. The high-priority intersections often exhibit needs that can justify high-capacity at-grade improvements or grade-separation. These intersection locations (and the corridors they are within) should be addressed in more detail to determine the right-sized investments.
- 27 intersections studied in the second phase were categorized as medium-priority for grade-separation. Per the study, the medium-priority intersections typically do not need grade-separation projects based on current demand. However, additional studies at these locations could show needs for high-capacity at-grade improvements or limited/emerging needs for grade-separated elements.
- The remaining 30 intersections studied were categorized as low-priority for grade-separation. These locations generally do not need major changes or projects based on current demand and any problems can most likely be addressed with at-grade projects. However, some low-priority intersections are located on corridors near medium- and high-priority intersections or may be in growth areas.

Five intersections along TH 169 near Jordan were evaluated. TH 169 / TH 282/ CR 9 was identified as a medium priority, near the high priority rank. The following image is from the Study.

MAP 3-7: PRINCIPAL ARTERIAL CONVERSION STUDY



190th Street & County State Aid Highway 9 Traffic Study (City of Jordan, 2017)

This study was completed in preparation of a newly opened commercial/industrial growth area created by the City of Jordan west of CSAH 9, south of 190th Street, north of US 169, and east of Delaware Avenue. The study conceptualized the buildout of this land area as well as the relocation of the Minnesota Renaissance Festival to the area, and quantified resulting traffic volumes based on three City determined scenarios. The results identified the need for future intersection improvements at CSAH 9 / 190th Street, the expansion of 190th Street to four lanes upon reconstruction or introduction of new development, and creation of a suitable roadway network within the study area.

Creek Lane / Hwy 282 Intersection Study (MnDOT, 2015-2017)

MnDOT completed analysis of traffic operations at the Creek Lane / 282 intersection. Their evaluation involved collection of traffic data by way of video surveillance over a 48 hour period, and evaluation of that data under both current (2016) traffic levels and future (2036) forecasted traffic levels for four alternatives:

1. Current configuration – Two Way Stop
2. Four Way Stop
3. Traffic Signal
4. Roundabout

The following is a summary of the conclusions of the analysis:

- Existing (2016) conditions have the lowest total delay. Consideration should also be given to the Creek Lane delay, specifically the northbound, left turns on to 282 from Creek Lane. That delay was quantified as an average of about 20 seconds and maximum of about 90 seconds. Longer Creek Lane delay typically translates to bad motorist decisions which in turn can translate to serious crashes.
- MnDOT would not support, and would not permit, installation of a traffic signal at Creek Lane / 282 based on the results of the analysis. It would increase motorist delay and increase crashes. MnDOT is acknowledging problems at the intersection, but their staff have noted that the signal does not solve problems it would solve, rather that it seemed to make delay increase and safety decrease. Additionally, and perhaps most critical from a MnDOT permitting perspective, the intersection did not meet warrants (minimum standards) for a signal.
- MnDOT would support a roundabout at Creek Lane / 282. They would support it while it would increase total intersection delay (help Creek Lane delay but add 282 delay), but perhaps more importantly, would be the safest alternative.
- MnDOT has noted potential needs for adjustment to the Radermacher's access, potentially on the Creek Lane side. A layout of the intersection design could confirm or deny the need for adjustment.
- The '5th leg' of the intersection, which is a driveway that travels around the back of Hometown bank, would need to be removed from the intersection and relocated elsewhere if intersection improvements are to be permitted.

Following the presentation of these results by MnDOT, the Jordan Council began pursuit of a roundabout for the intersection of Creek Lane & Highway 282. The City was awarded a \$1 million grant through the Local Road Improvements Program. The City plans to construct the roundabout in 2021 after receiving this funding. The City has also applied for a \$710,000 grant through the MnDOT Local Partnership Program (LPP) for additional project funding.

US 169 Mobility Study

The project was guided by three committees, the Project Management Team (PMT), the Technical Advisory Committee (TAC), and the Policy Advisory Committee (PAC). The PMT, comprised of staff

from MnDOT, Scott and Hennepin Counties, the Metropolitan Council, and the consultant team, guided development and ensured progress of the study. The PMT facilitated coordination among partner agencies, study committees, and the consultant team. The TAC, tasked with providing technical input on the study process, was staffed by the Shakopee Mdewakanton Sioux Community, county and city staff as well as MnDOT and Metro Transit. The PAC, staffed by elected and appointed officials from cities counties and partner agencies in the Highway 169 corridor, considered project information and provided input on the study process, issues, and recommendations.

The purpose of the project is to increase access to jobs and destinations, provide transportation choices, and improve safety and travel time for Highway 169 users. The needs of the project were:

- Improved connections between people, jobs, and other destinations throughout the corridor
- Move a growing number of people and goods with more travel options
- Solutions that fit within the existing transportation system, current policy plans, and financial constraints

Three alternatives were created to assess options along the corridor:

- Alternative 1: MnPASS along Highway 169 and BRT Service on Highway 169 and I-394 between Marschall Road and Downtown Minneapolis
- Alternative 2: MnPASS along Highway 169 and BRT Service on Highway 169 and Highway 55 Between Marschall Road and Downtown Minneapolis
- Alternative 3: MnPASS on Highway 169 between Marschall Road and I-494

The TAC came to consensus that Alternative 2 best met the project goals and recommended it for further development in the implementation plan because it provides service to a currently unserved area with a population that is most likely to use the service. The Recommended Improvements most effectively deliver the vision for mobility and access along the Highway 169 Corridor, including MnPASS, highway improvements, and bus rapid transit service. Details on the proposed improvements can be found on MnDOT's website at: <https://www.dot.state.mn.us/metro/projects/hwy169study/>

Minnesota Renaissance Festival (MRF) EIS Scoping & Traffic Study (Scott County & MRF, 2017+)

The MRF is planning relocation near the City of Jordan. They have purchased property accessible from Delaware Avenue, just north of US 169. The MRF is currently completing a traffic study as part of its required environmental review documentation. Depending on the outcomes of the study, potential improvements to US 169, 190th Street, County Road 9, Delaware Avenue, 195th Street, and/or intersections thereof may require improvement contingent on a variety of factors to be determined based on the event traffic volumes and developer intended routing.

VII. FUTURE ROADWAY PLAN

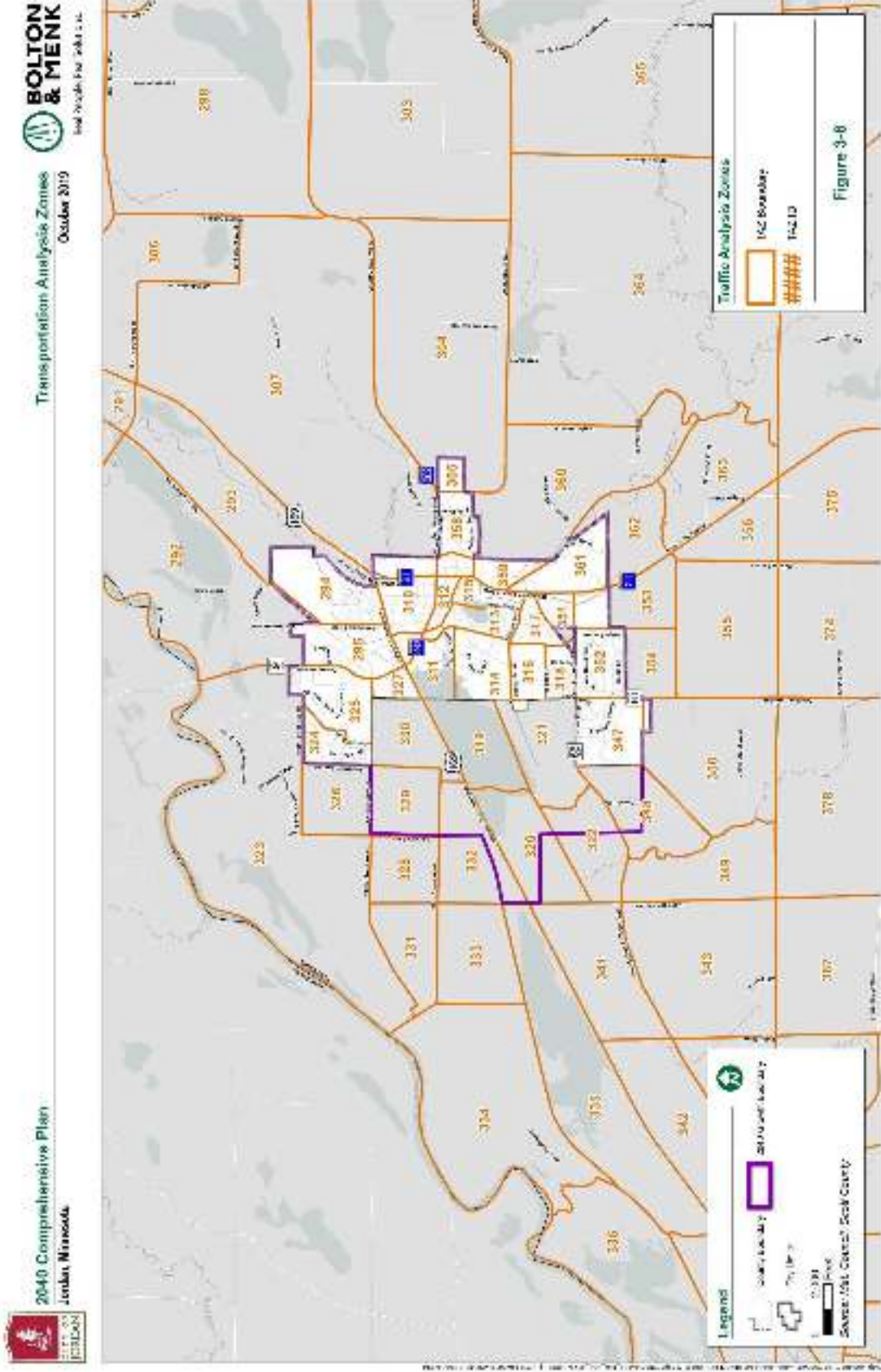
The transportation system in the Jordan area is in a rural to urban transition in response to the rapid growth experienced in the past 10 years and the anticipated growth for this area. As growth continues to occur, it will be important for the City to develop a roadway system that is efficient and consistent with the transportation system principles and standards outlined in Section II.

A. Traffic Forecast Modeling

Traffic forecast modeling was completed by Scott County and its consultant, as a Scott County Association for Leadership & Efficiency (SCALE) initiative. The memorandum contained in Appendix D details the modeling methodology and summarizes results in a county-wide context. Transportation Analysis Zones (TAZ) are illustrated in **Map 3-8** and tabulated in **Table 3-8**.

Forecasting, analysis, and mapping for the City of Jordan future transportation demands were completed by Scott County based on the revised population forecasts. Upon receipt of revised population and growth forecasts for the City of Jordan, discussion between Scott County Staff and the City Engineer for Jordan was conducted. Scott County Staff has concluded that updates to the model for compatibility with revised forecasts will not yield any significant change to the functional status, forecasted volumes, or transportation planning identified in this or Scott County's plan. As such, revisions to the TAZ figures or associated traffic volumes due to the population and employment changes were not incorporated in Scott County's or the City of Jordan's plans.

MAP 3-8: TRAFFIC ANALYSIS ZONES



**TABLE 3-8:
2040 TAZ DATA**

Met Council TAZ	Scott County TAZ	2014 Data					2020 Forecast					2030 Forecast					2040 Forecast				
		Households	Population	Retail Employment	Non-Retail Employment	Total Employment	Households	Population	Retail Employment	Non-Retail Employment	Total Employment	Households	Population	Retail Employment	Non-Retail Employment	Total Employment	Households	Population	Retail Employment	Non-Retail Employment	Total Employment
2164	205	4	8	0	0	0	21	53	0	61	61	57	153	1	142	143	97	273	1	210	211
2185	294	281	773	0	20	20	319	840	0	33	33	386	1012	0	33	33	440	1132	0	35	35
2190	305	0	0	5	73	78	0	0	7	156	163	0	0	6	211	217	0	0	6	258	264
2191	308	17	49	0	26	26	21	57	0	37	37	30	74	0	33	33	39	93	0	31	31
2192	309	0	0	98	0	98	0	0	140	0	140	0	0	121	0	121	0	0	110	0	110
2192	310	257	581	30	54	84	312	715	43	130	173	418	1034	37	188	225	517	1352	34	239	273
2193	311	0	0	77	0	77	0	0	112	0	112	0	0	98	1	99	0	0	90	1	91
2193	312	67	193	20	12	32	82	226	30	21	51	114	304	30	24	54	143	376	29	27	56
2193	313	80	231	6	9	15	97	264	9	16	25	128	344	9	19	28	158	414	8	20	28
2193	314	132	380	0	153	153	160	436	0	265	265	213	572	0	297	297	263	692	0	331	331
2193	315	25	72	5	0	5	31	85	7	0	7	45	119	7	0	7	58	152	7	0	7
2193	316	0	0	0	253	253	0	0	0	441	441	0	0	0	499	499	0	0	0	558	558
2193	317	142	409	0	17	17	168	459	0	30	30	217	584	0	33	33	262	687	0	37	37
2193	318	104	300	0	5	5	141	382	0	9	9	217	576	0	9	9	295	775	0	10	10
2195	324	173	551	0	0	0	194	573	0	7	7	227	639	0	16	16	250	652	0	24	24
2195	325	59	188	0	279	279	86	245	6	445	451	141	382	14	452	466	201	524	20	470	490
2198	347	133	468	0	2	2	237	709	0	4	4	455	1269	0	6	6	696	1894	0	8	8
2199	351	12	43	0	3	3	29	83	0	9	9	65	177	0	14	14	106	284	0	18	18
2199	352	252	900	0	4	4	295	959	0	6	6	377	1118	0	5	5	449	1206	0	4	4
2200	357	61	186	25	77	102	70	163	53	119	172	88	116	71	114	185	101	38	86	114	200
2200	358	108	330	0	0	0	133	378	0	0	0	181	494	0	0	0	226	598	0	0	0
2200	359	3	9	0	0	0	29	72	0	4	4	83	214	0	9	9	146	387	0	13	13
2200	361	35	107	0	0	0	75	201	0	0	0	158	419	1	0	1	253	671	1	0	1
TOTALS		1945	5778	266	987	1253	2500	6900	407	1793	2200	3600	9600	395	2105	2500	4700	12200	392	2408	2800

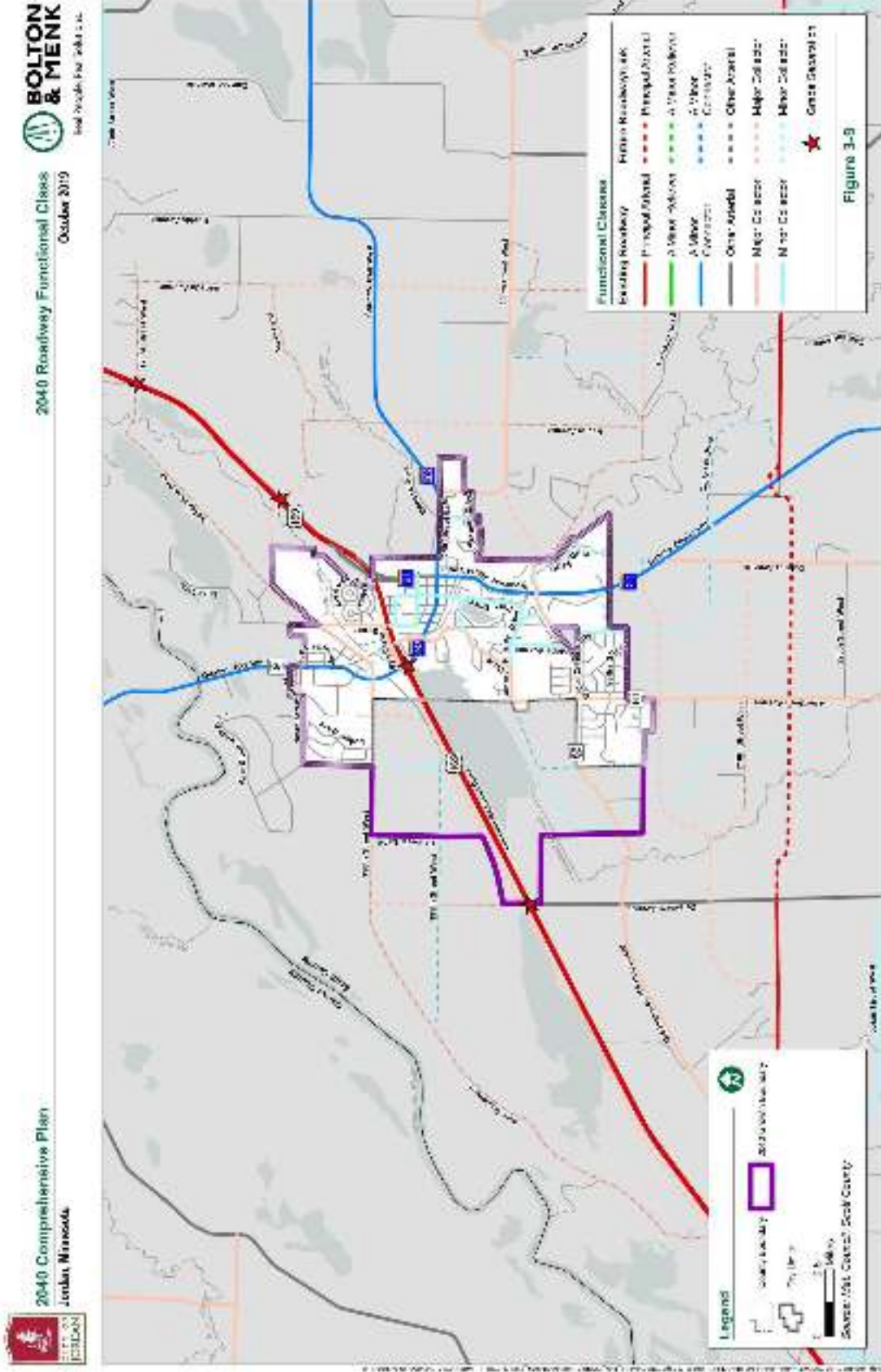
B. Future Roadway Corridors

A supporting future road network has been developed in consideration of long-term growth in the 2040 growth area and is illustrated in **Map 3-9**. This network was developed in consideration of the long-term land use vision for the area, the draft Scott County 2040 Comprehensive Plan Update, and the various past studies outlined in Section VI.

A suitable arterial-collector system to accommodate future development and traffic patterns is necessary in the growing community of Jordan. The existing county and state highways have historically provided much of the local circulation and connectivity; however, these roadways will be less capable of meeting both the future local and regional travel demands. A City collector system consisting of Major and Minor Collector roadways is recommended to provide acceptable local traffic circulation and access to developing areas, as well as to enable the Principal Arterial and Minor Arterial roadways to serve longer, regional travel. It is not anticipated that all the proposed collector streets will be constructed by 2040; rather, collector streets should be constructed as development occurs.

The roadway corridors identified are conceptual, based on network needs, and should be used as a guide for development of the City's roadway system. In most cases, the actual roadway alignments are flexible to meet the needs of future development, at the discretion of the City Engineer. If not already completed, additional studies will be necessary to determine specific roadway alignments and intersection spacing. It is recommended actual routes be further evaluated in conjunction with development demand, ideally before submittal of preliminary plats in the subject area.

MAP 3-9: 2040 ROADWAY FUNCTIONAL CLASS



C. Forecasted Traffic Volumes

Year 2040 Traffic volumes were developed for three scenarios:

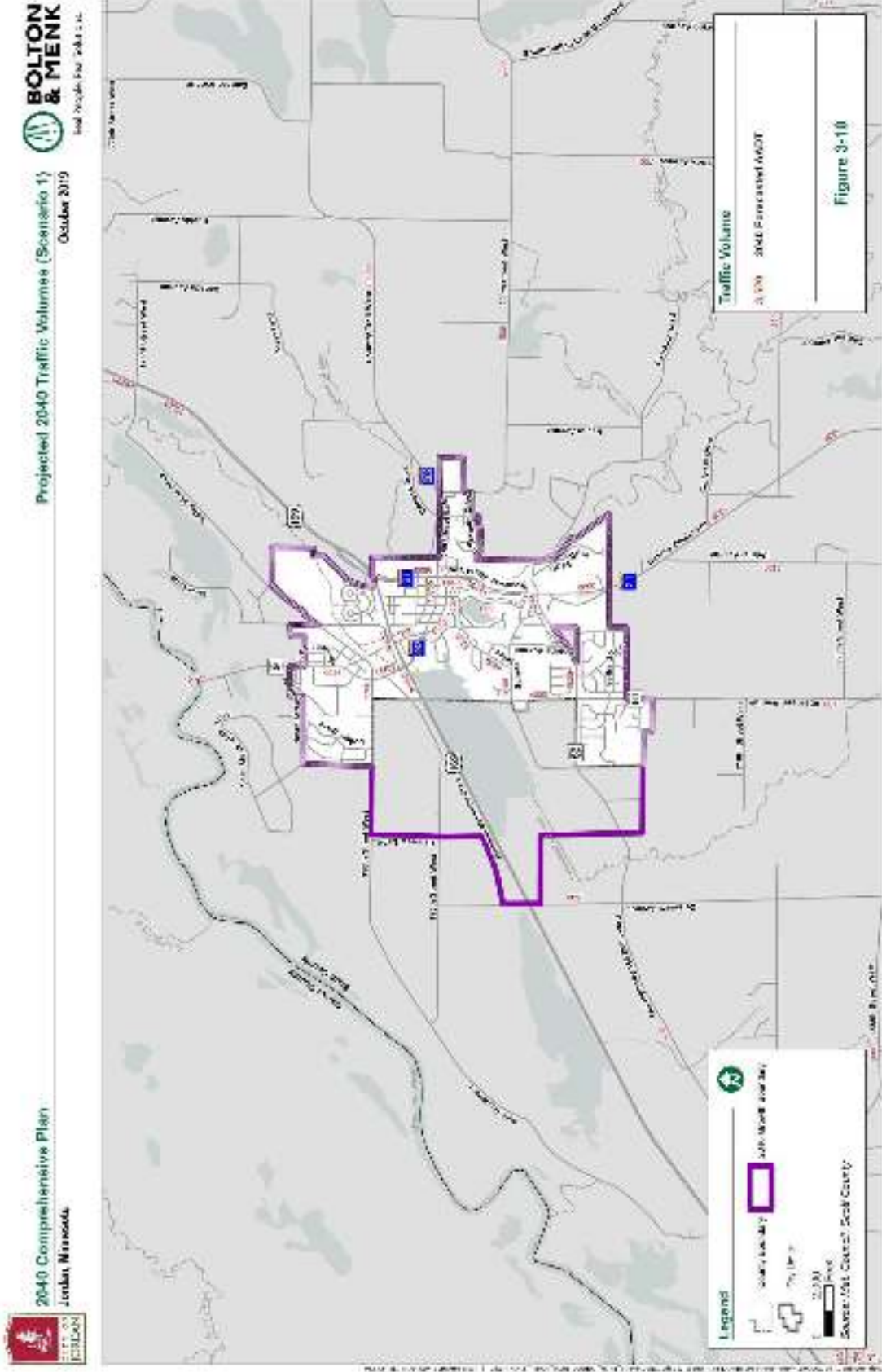
- 2040 Scenario 1: No Roadway Improvements (**Map 3-10**)
- 2040 Scenario 2: Funded Roadway Improvements in CIP 2017-2026 and STIP 2017-2020 (**Map 3-11**)
- 2040 Scenario 3: Potential Roadway Improvements for Study Including City/County 2040 desired capacity improvements (**Map 3-12**)

Roadway Safety and Capacity Needs

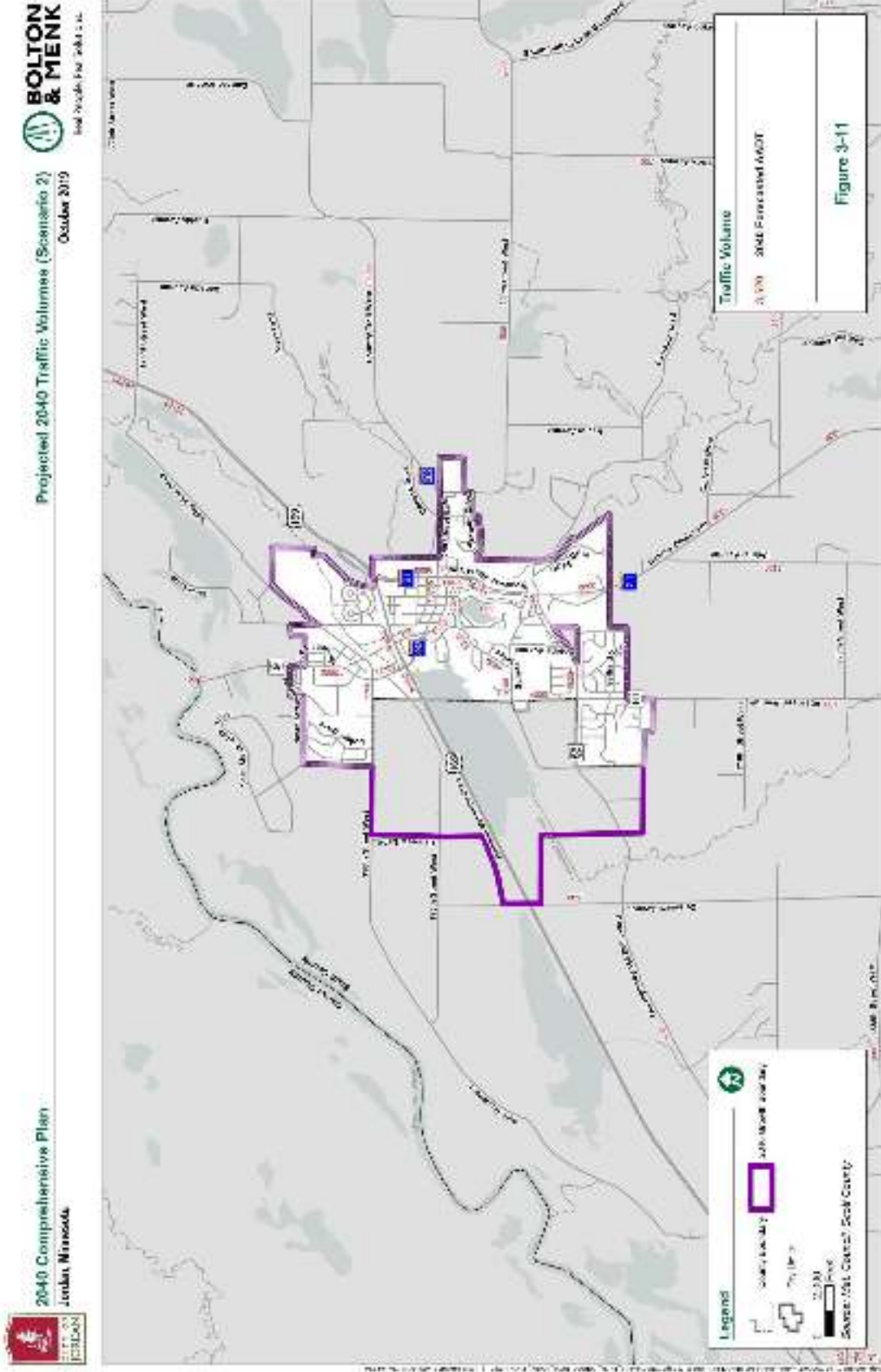
The forecasted average annual daily travel demands illustrated on **Maps 3-13, 3-14, and 3-15** having a volume to capacity ratio greater than 1 are recommended to be monitored and programmed for capacity improvements when necessary. Roadways that are periodically congested (having a volume to capacity ratio between 0 and 0.849) are generally identified as providing an acceptable level of service. The development of the future 2040 roadway network illustrated in **Map 3-9** is to provide alternative routes to prevent capacity related issues.

The forecasted 2040 traffic volumes do not have significant burden on the existing local roadway system based on the Met Council TAZ data. In all 2040 conditions TH 21 and TH 282 are over capacity. Issues on TH 282 are anticipated to be addressed with a future grade separation project at 282/169/9.

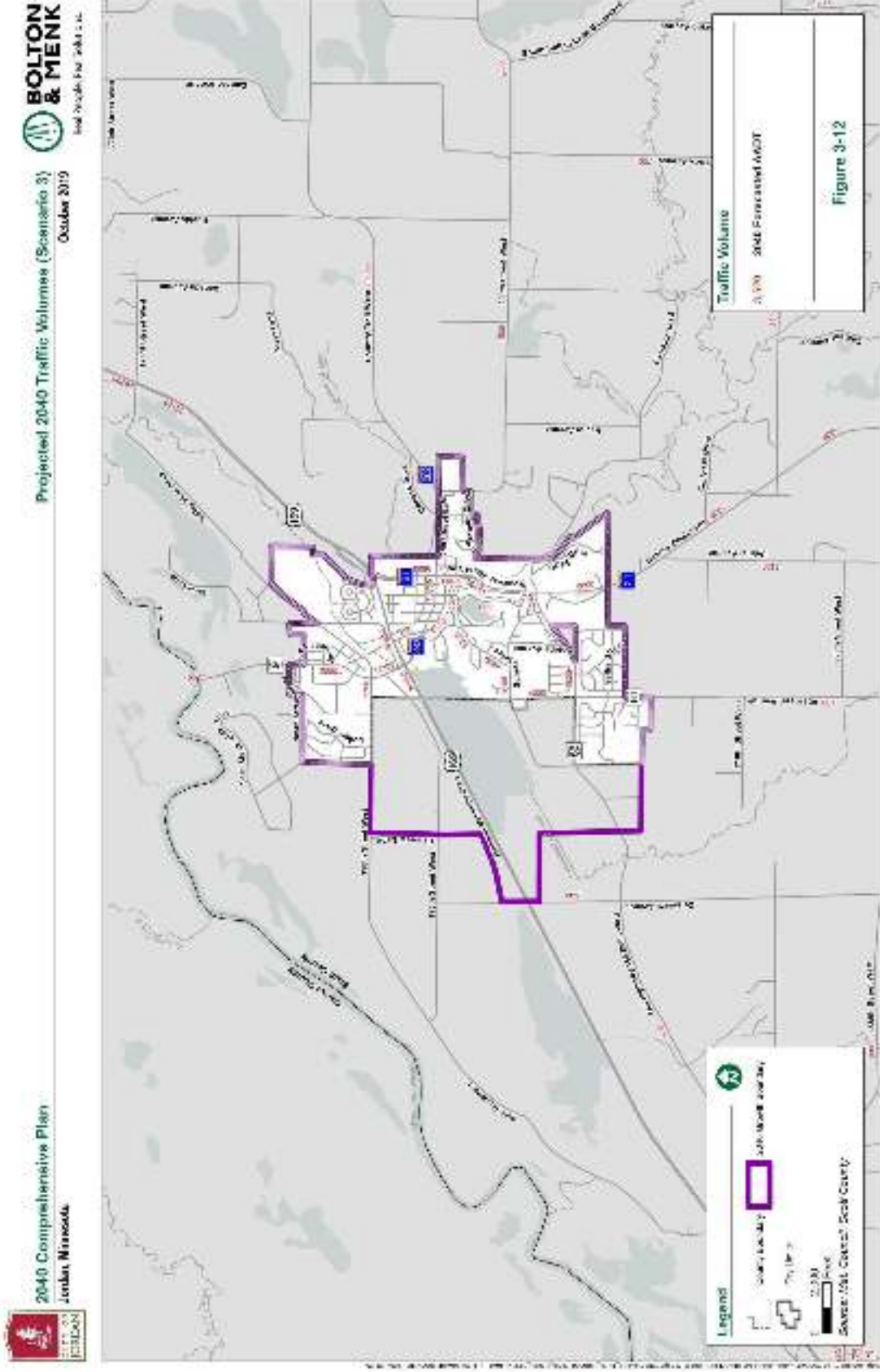
MAP 3-10: 2040 TRAFFIC VOLUMES (SCENARIO 1)



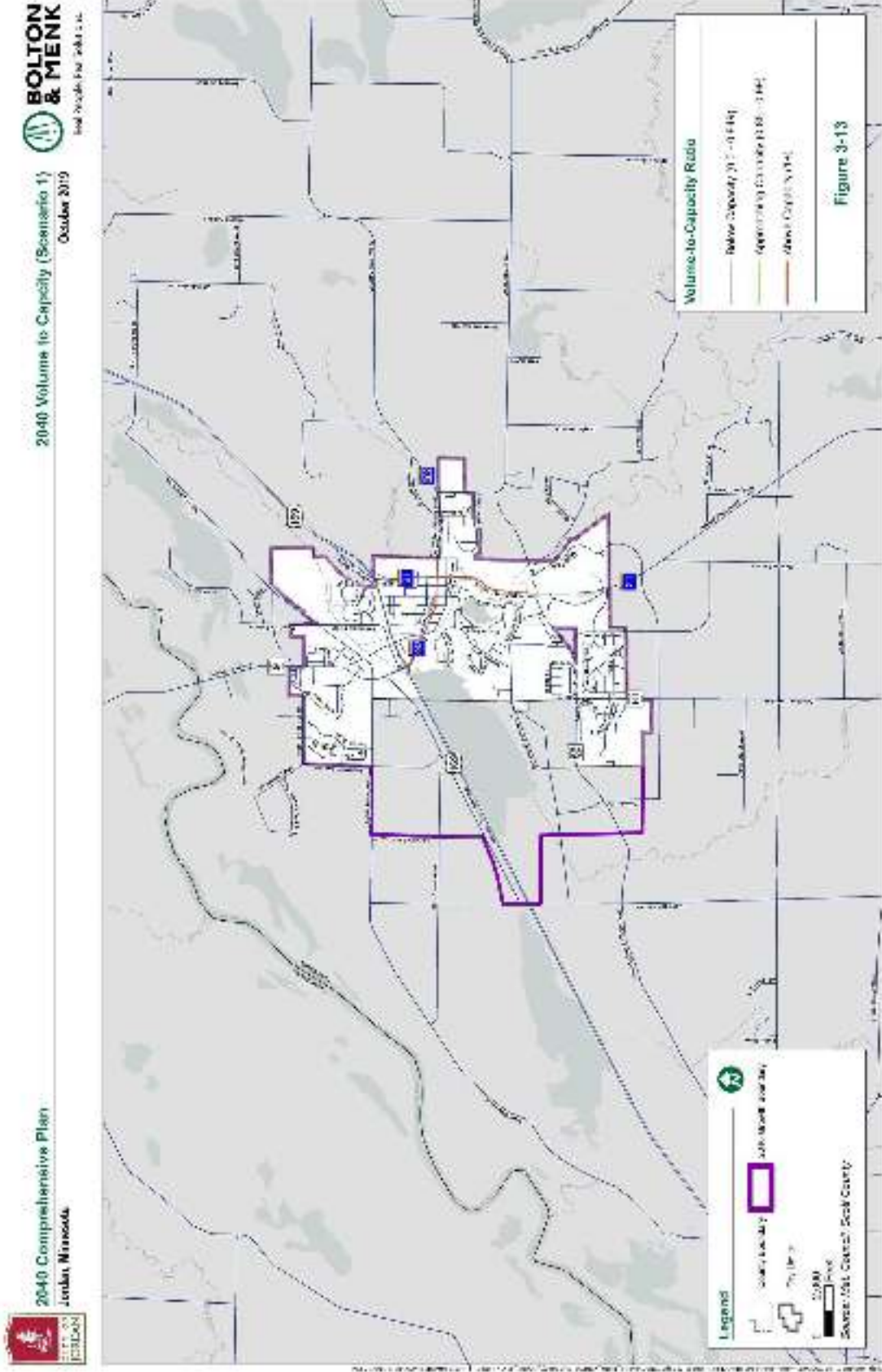
MAP 3-11: 2040 TRAFFIC VOLUMES (SCENARIO 2)



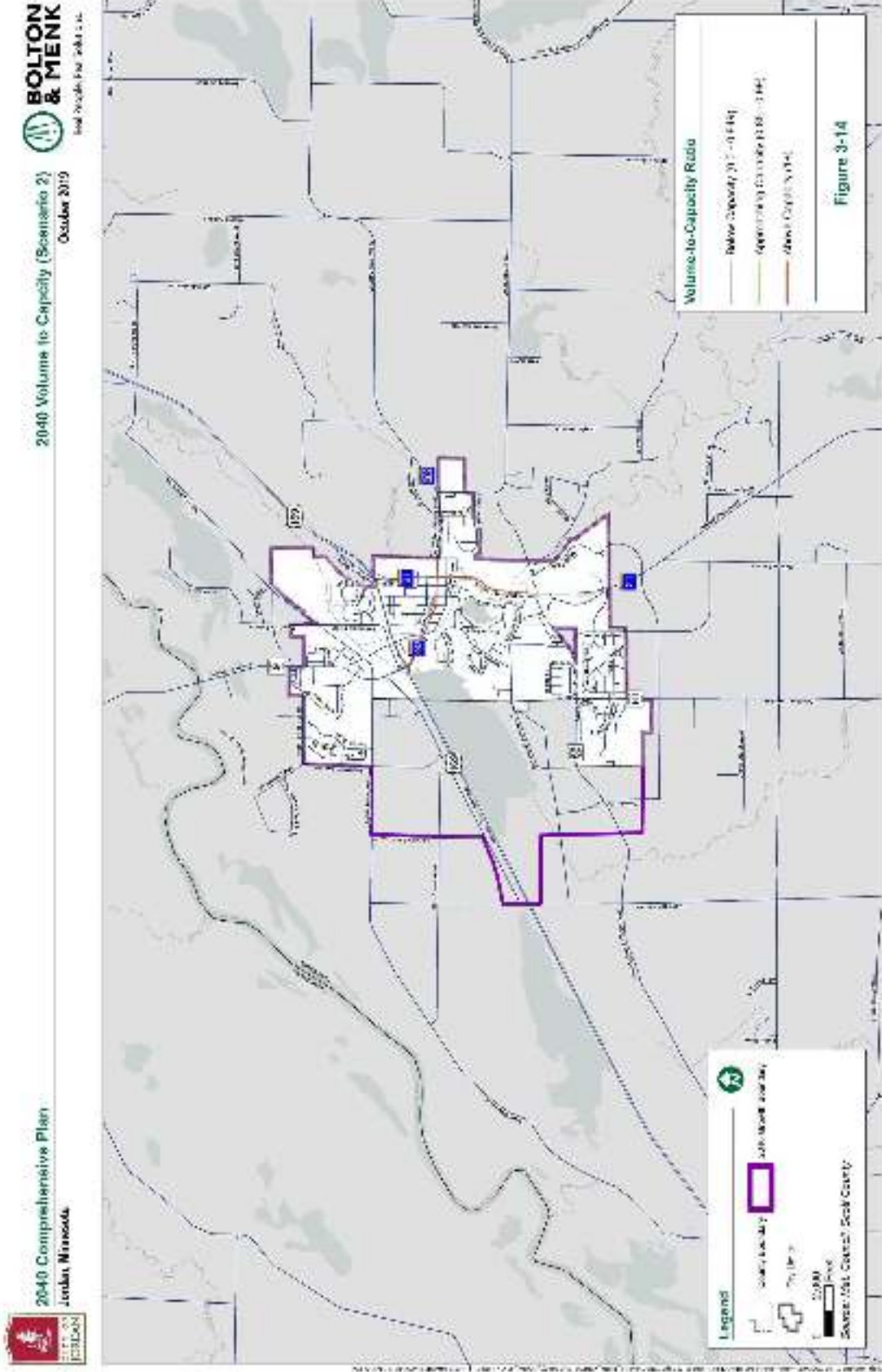
MAP 3-12: 2040 TRAFFIC VOLUMES (SCENARIO 3)



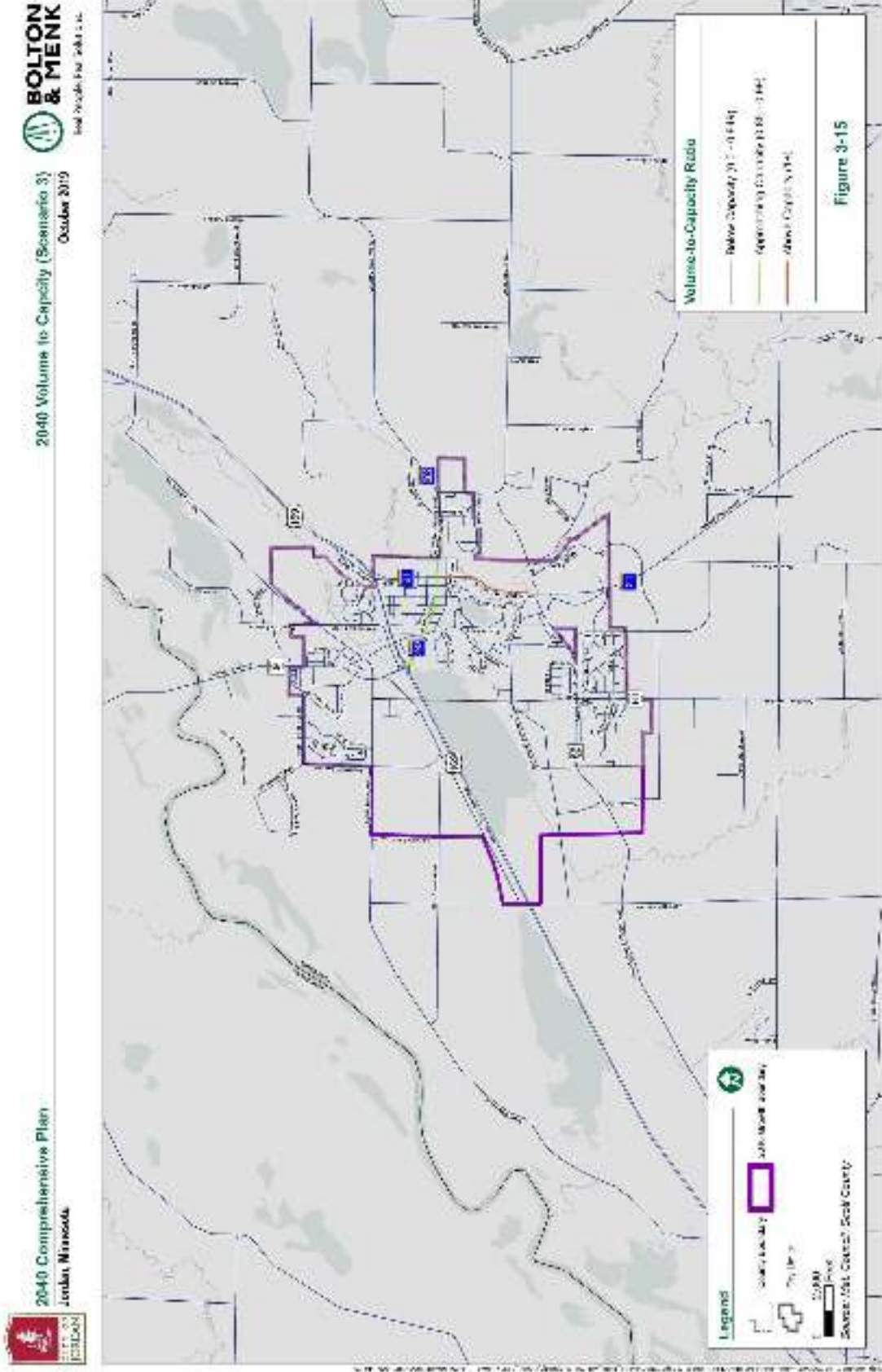
MAP 3-13: 2040 VOLUME TO CAPACITY (SCENARIO 1)



MAP 3-14: 2040 VOLUME TO CAPACITY (SCENARIO 2)



MAP 3-15: 2040 VOLUME TO CAPACITY (SCENARIO 3)



The 2002 TH 169 Corridor Management Plan recommends transitioning TH 169 to a freeway facility from I-494 to Belle Plaine, including through the City of Jordan. The City supports this corridor vision and will continue to work with MnDOT to achieve the vision. A 4-lane freeway facility will be accomplished following the construction of the CSAH 69 / TH 41 / US 169 interchange in 2019-2020 and completion of grade separation in Jordan.

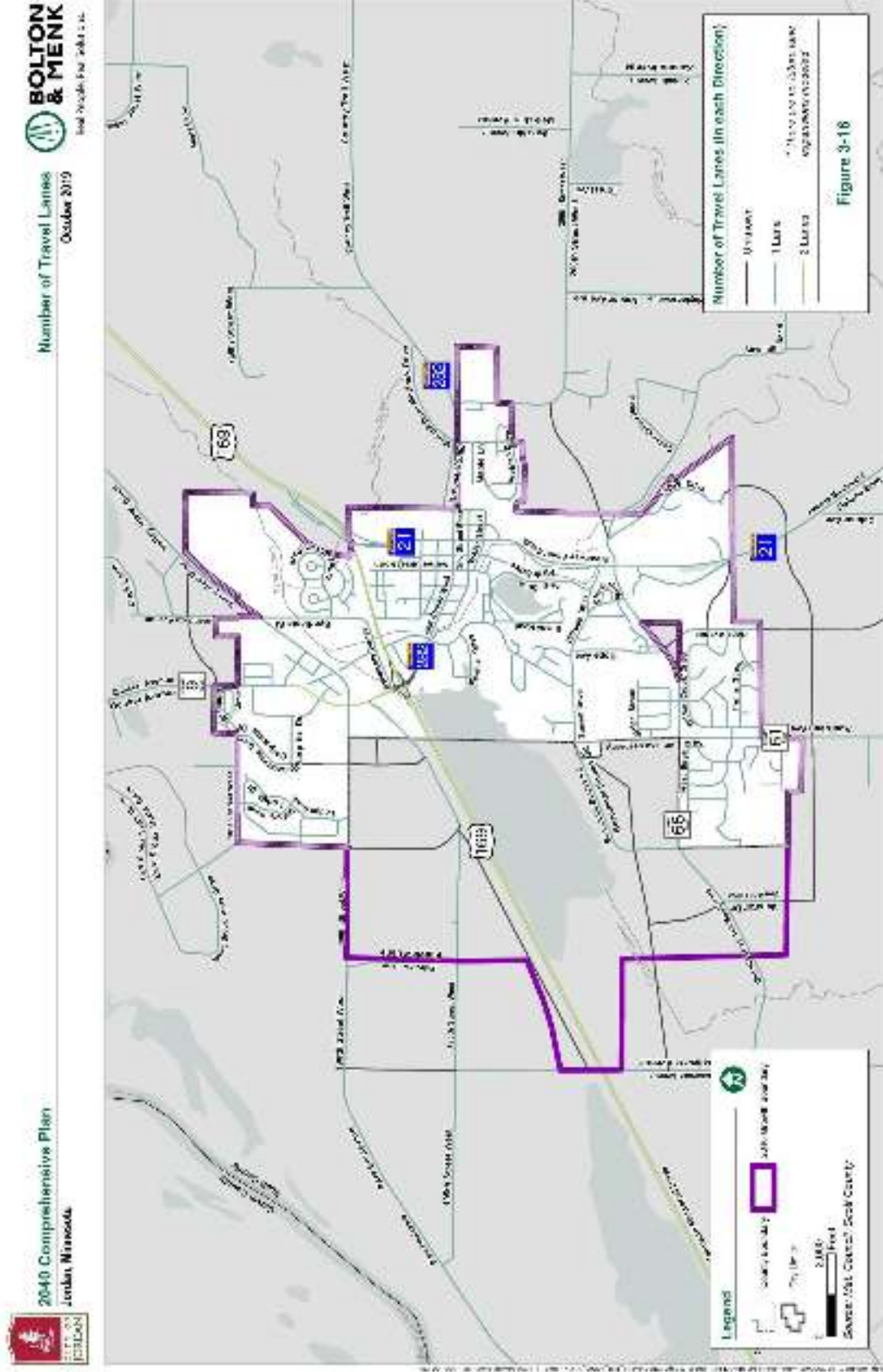
The City of Jordan and MnDOT will be required to address the increasing volumes on TH 21 and TH 282 as traffic passes through the heart of the downtown area. These roadways are over capacity in some segments in the existing condition and this will worsen over time. Growing traffic volumes on TH 21 will present difficulties for pedestrians and motorists crossing TH 21.

Forecasted volumes in the downtown area are in a range that may be able to be supported by an urban 3-lane or a 2-lane divided roadway. Expanding TH 21 and TH 282 to 4-lane facilities may not be acceptable to the City, due to the loss of on-street parking, and a 4-lane facility may not be as functional or safe as other alternatives. While it may be more challenging to develop an acceptable solution to capacity problems in the downtown area, TH 21 and TH 282 will also need capacity improvements out of the downtown area.

No congestion was identified on Jordan's local city streets or Scott County roadways near Jordan under 2040 conditions based on Scott County's analysis and Met Council TAZ information.

It is recommended that street expansion be considered at the time of pavement reconstruction (per the City's pavement management plan) on local roadways identified as collectors or higher classification. Expansion of local roadways solely triggered by capacity demands is not anticipated, with exception to intersection improvements of local roadways at trunk highways in Jordan.

MAP 3-16: NUMBER OF TRAVEL LANES



TRANSIT

It is recognized that various methods of travel impact the economic vitality of a city, county, or broader region. The term transit applies to all forms of sharing rides, regardless of whether the service is provided by a public or private operator, organization, or individual vehicle owner, or whether the ridesharing arrangements are formal or informal. Most transit rides in the metro area are provided by public transit systems which operate of a fixed schedule to transport groups of people to designated stops. Public transit relieves burden on the transportation network by reducing the number of vehicles that would otherwise be necessary to transport the individual users.

Transit studies can evaluate current transit service performance and analyze the market to identify any unmet needs and to look for opportunities to enhance transit service. Generally, communities with dial-a-ride as an initial service explore the feasibility of providing a fixed route schedule to connect residents with businesses, schools, places to shop, and employment centers.

I. CURRENT CONDITIONS

The City of Jordan is currently outside of the transit capital levy district. Scott County Transit currently provides dial-a-ride service throughout the county. SmartLink is the mobility manager for Scott County and consists of four transit services:

- Transit Link which is a contracted dial-a-ride service through the Metropolitan Council and is a shared-ride, reservation-only transit service. Fares are established by the region.
- A supplemental volunteer driver program for trips that are denied on the Transit Link system. Volunteers drive their own vehicles and donate their time to provide transportation for residents that could not be scheduled on the bus systems.
- A shared vehicle program which coordinates the use of a vehicle that allows multiple partners to use a small bus for a wide range of services and transportation options.
- SmartLink coordinates non-emergency medical transportation to provide a means of getting patients to non-emergency medical service appointments.

The City currently does not have a regular-scheduled public transit alternative. The closest regular route transit services are at the Marschall Road Transit Station in Shakopee located near TH 169 and CSAH 17. Routes 490, 493, 495, 497, and 499 service this station. These routes offer express service to downtown Minneapolis, Burnsville, and the Mall of America. The Blue Express is an express commuter bus service providing connectivity between Shakopee and Minneapolis from 8 AM to 8 PM provided by MVTA. This service is a collaborative operation between Shakopee Transit and Prior Lake Laker Lines.

A park and ride facility also exists at Lion's Park. There are approximately 15 parking spaces with a 25-33% occupancy rate.

The City is also served by 'Land to Air.' A subsidiary of Jefferson Lines, it operates an inter-city bus service from Mankato to downtown Minneapolis. The inter-city transit service is subsidized by a MnDOT 5311(f) grant, which is a funding source dedicated for inter-city transit options. Known as the "169 Connection" the inter-city bus service includes two round trips daily from Mankato to

downtown Minneapolis with stops at MNSU-Mankato, Gustavus Adolphus College, St. Peter, Le Sueur, Belle Plaine, Jordan, and Shakopee. This service connects to Minnesota Valley Transit Authority Route 495 at the Marschall Road Transit Station, which connects to transit options at the Burnsville Transit Station and Mall of America. The connection in downtown Minneapolis is the Hawthorne Transportation Center where there are statewide and national inter-city transit options.

II. FUTURE TRANSIT PLAN

The Metropolitan Council has defined Transit Market Areas based on the following primary factors:

- Density of population and jobs
- Interconnectedness of the local street system
- Number of autos owned by residents

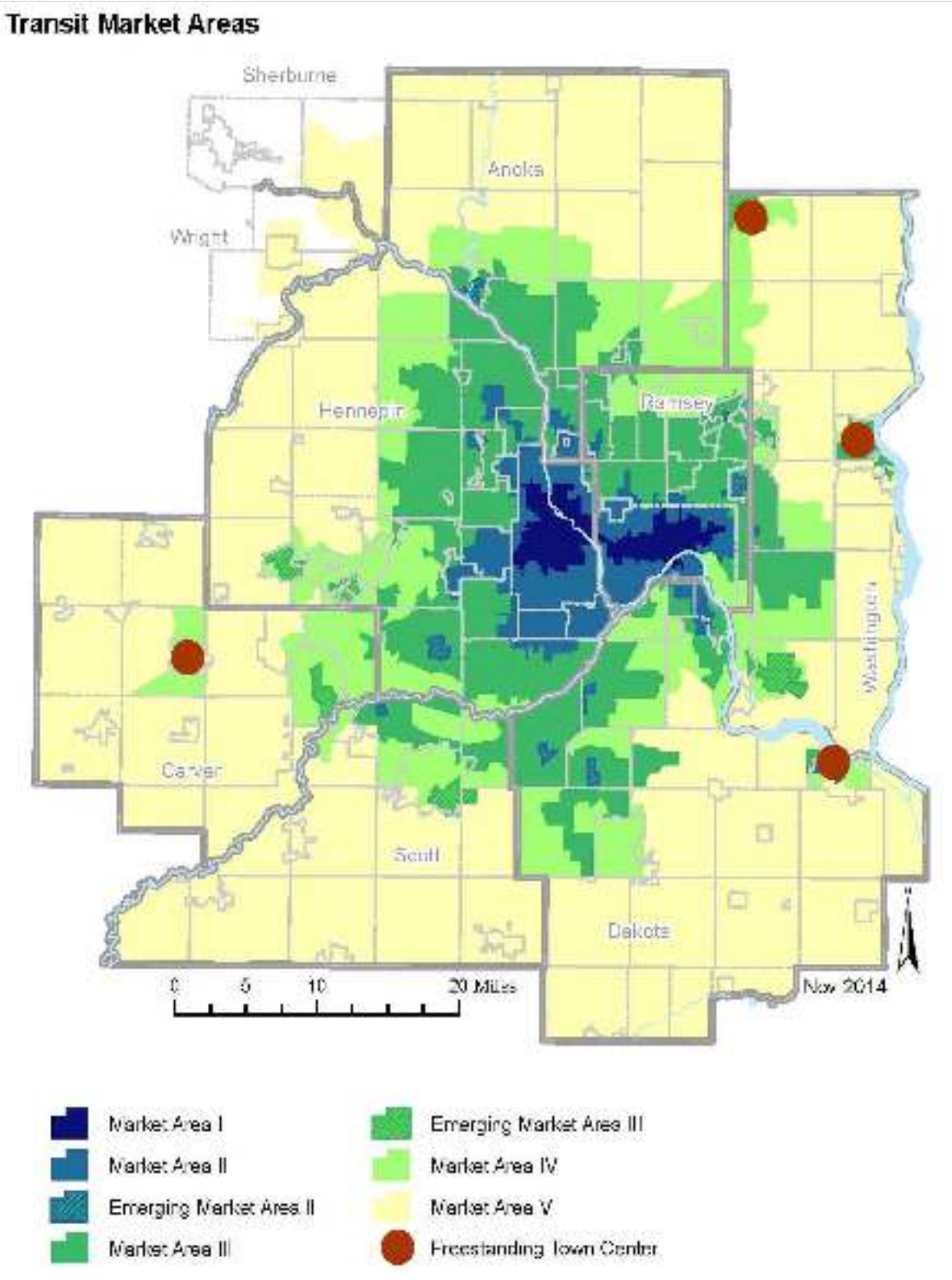
In general, areas with high density of population and jobs, highly interconnected local streets, and relatively low auto ownership rates will have the greatest demand for transit services and facilities. Transit Market Areas are a tool used to guide transit planning decisions. They help ensure that the types and levels of transit service provided, in particular fixed-route bus service, match the anticipated demand for a given community or area.

Based on this analysis, the Metropolitan Council categorizes the City of Jordan as Transit Market Area V. As identified in Appendix G of the Metropolitan Council's 2040 Transportation Policy Plan (TPP), the characteristics of this category area are as follows:

Per Met Council; Transit Market Area V has very low population and employment densities and tends to be primarily rural communities and agricultural uses. General public dial-a-ride service may be appropriate here, but due to the very low-intensity land uses these areas are not well-suited for fixed-route transit service.

Growing traffic volumes and levels of congestion will continue to decrease mobility through and near the city, especially on US 169. With identification of Jordan as a Market Area V, it is not anticipated transit service will be provided in the next 10 years beyond dial-a-ride service. To assist in managing travel demand on the corridor, the City should consider maintaining existing the park-and-ride location with more capacity close to US 169 and monitor needs for expanded opportunities with MVTA and/or Scott County Transit. The City should continue to work with Scott County Transit to determine long term needs for additional service and opportunities to integrate with services provided in other cities.

MAP 3-17: TRANSIT MARKET AREAS



BICYCLING AND WALKING

Bicycle and pedestrian circulation is an important component of the transportation system that needs to continue to be developed. The City of Jordan currently has 20.65 miles of concrete sidewalks and 3.95 miles of bituminous trails. **Maps 3-4 and 3-5** illustrate existing trail and walk locations. As the City and employment opportunities within the City grow, the system will develop alternatives for residents to travel about without utilizing an automobile. It is the desire of the City to develop alternative modes of transportation to reduce traffic demand.

Trail and sidewalk needs are discussed in detail in Chapter 5 Parks and Trails Plan. Please refer to Chapter 5 for further discussion.

AVIATION

There is no public airport within the Study Area. A rarely used private airstrip named Stocker Landing Field is located just north of the current City limits east of CSAH 9. The City is outside of the "Airport Influence Area," with Flying Cloud Airport in Eden Prairie being the closest Metropolitan Airport identified in the Metropolitan Council's Transportation Policy Plan.

As noted in the discussion of the existing transportation system, the City of Jordan is required to include standards for airspace protection in its Comprehensive Plan and local controls. Federal Regulation Title 14, Part 77 establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for evaluating the effect of the construction or alteration on operating procedures, determining the potential hazardous effect of the proposed construction on air navigation, identifying mitigation measures to enhance safe air navigation, and charting of new objects. Notification allows the Federal Aviation Administration (FAA) to identify potential aeronautical hazards in advance, thus preventing or minimizing the adverse impacts to the safe and efficient use of navigable airspace.

Title 14, Part 77.13 requires any person/organization who intends to sponsor any of the following construction or alterations to notify the Administrator of the FAA when:

- Any construction or alteration exceeding 200 feet above ground level;
- Any construction or alteration:
 - Within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 feet
 - Within 10,000 feet of a public use or military airport which exceeds 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet
 - Within 5,000 feet of a public use heliport which exceeds a 25:1 surface;
- Any highway, railroad or other traverse way whose prescribed adjusted height would exceed that above noted standards;
- When requested by FAA; and,
- Any construction or alteration located on a public use airport or heliport regardless of height or location.

Persons/organizations intending to sponsor construction/alterations which require notification to the FAA under Title 14, Part 77.13 shall notify the FAA using FAA form 7460-1 as may be amended.

The City's Zoning Ordinance should be amended to require persons/organizations intending to sponsor construction/alterations which require notification to the FAA under Title 14, Part 77.13 to notify the FAA using FAA form 7460-1 as may be amended.

The City of Jordan's Zoning Ordinance was updated in April of 2009 to include aviation requirements. The new language requires an applicant, who proposes the construction of any

structure with a height equal to or greater than 200 feet above ground level; or the alteration of any structure to a height which is equal to or greater than 200 feet above ground level, to notify the MnDOT Aeronautics and Federal Aviation Administration of the proposal at least 30 days prior to the City's Council's consideration of the request.

FREIGHT

Arterial Roadways

The City of Jordan functions as a hub for three trunk highways, a Union Pacific railway, and Union Pacific spur line. Therefore, a significant amount of freight traffic flows through Jordan on a regular basis.

US 169 is a corridor of statewide significance for freight traffic, serving as the primary corridor for movement of goods between south central Minnesota, southwest Minnesota, northern Iowa and the Minneapolis / St. Paul metropolitan area. 11% of traffic on US 169 is freight traffic, which equates to 2300 heavy commercial vehicles per day traversing Jordan. Therefore, mobility efficiencies gained on US 169 have statewide benefit to the transport of goods for end users. The signal at US 169 / TH 282 is currently causing 561 hours of delay to trucks each month, which is a significant burden on freight travel through the community.

TH 21 carries 740 trucks through Jordan each day while TH 282 transports 540 trucks daily. The signalized intersection of TH 282 / TH 21 as well as the congestion along both roadways introduce delay for freight. MnDOT is planning improvements to two bridges along TH 21 in 2020; one bridge over Sand Creek and another over the Union Pacific Rail spur.

Railroads

Union Pacific operates two railroad corridors in the Jordan area. The railroad adjacent to Sand Creek runs 2 trains per day. The railroad paralleling TH 169 on the northwest side operates approximately 7 trains per day.

Freight Generation

As of June 2019, the City is home to several businesses that generate oversized freight traffic, including:

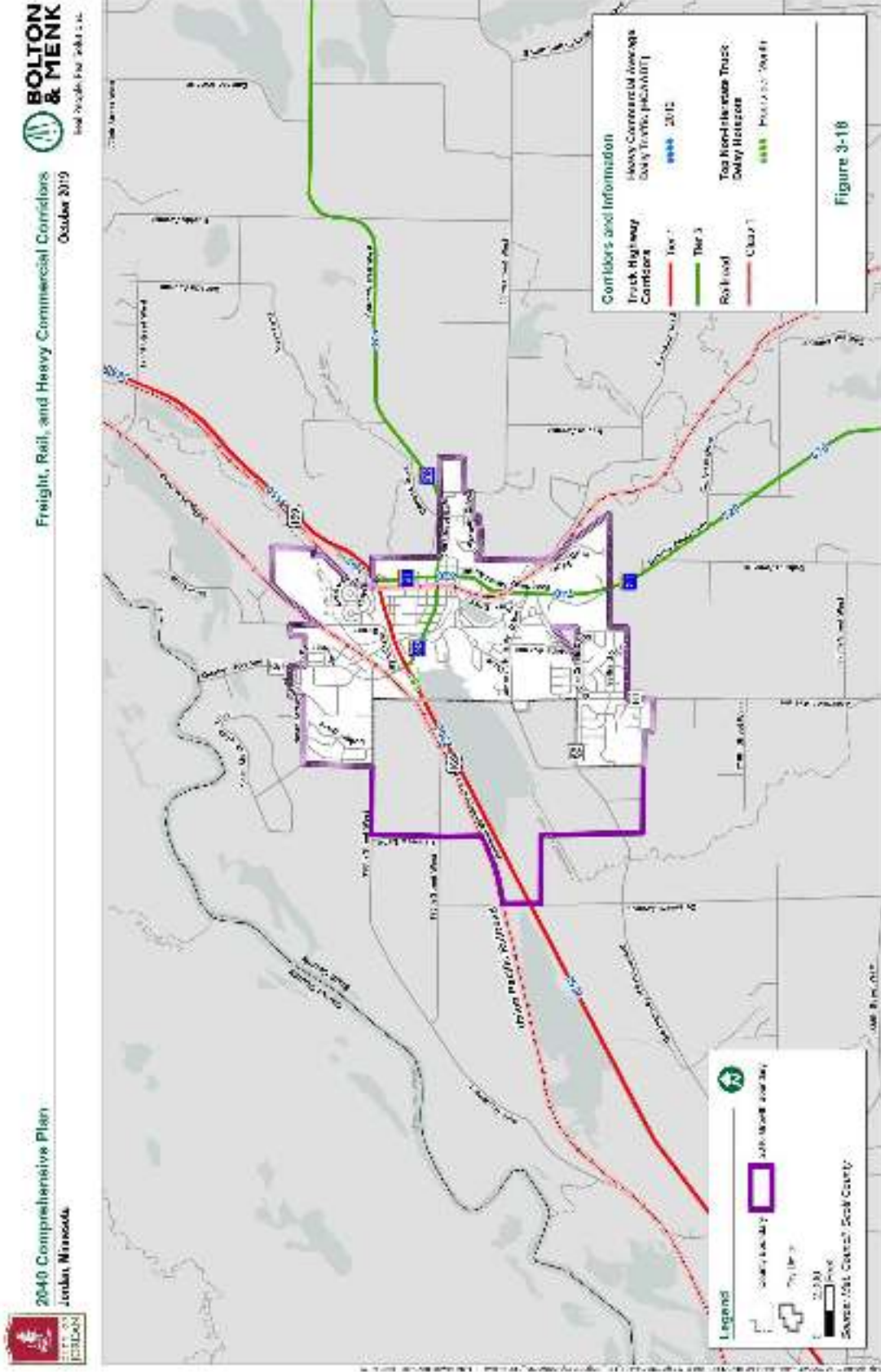
1. SM Hentges & Sons – Heavy highway construction contractor
2. Minger Construction – Heavy highway construction contractor
3. Jordan Transformer – Specialized large transformer repair
4. Siwek Lumber – Lumber yard and contractor supply

Local Roadway Barriers to Freight Travel

The Varner Street Bridge is a functionally obsolete structure which was evaluated for improvements in 2010 and again in 2017. Due to lack of funding however, improvements to the bridge were not made. The bridge had a posted load restriction between 2010 and 2017.

The signalized intersection of US 169 / Hwy 282 / CR 9 provide a barrier to safe and efficient freight travel. In late 2020 the signal will become the only remaining signal on the US 169 corridor between St. Peter and the northern metro area. Given the heavy volumes of freight, it is a goal of the City, MnDOT, and Scott County to grade separate the intersection as soon as suitable funding is available.

MAP 3-18: FREIGHT, RAIL AND HEAVY COMMERCIAL CORRIDORS



GOALS AND IMPLEMENTATION

The following goals and strategies outline the City of Jordan's plan for ensuring adequate infrastructure is available to support the growth anticipated within the urban growth boundary, as well as potential funding sources for completing necessary improvements.

I. GOALS

The transportation goals and implementation strategies identified have been developed to meet the needs of the land uses associated planned 2040 growth.

1. Comprehensive Transportation Planning – Approach transportation in a comprehensive manner by giving attention to all modes and related facilities through linking transit and land use and by combining or concentrating various land use activities to reduce the need for transportation facilities.
2. Transportation System – Create/provide a safe, cost effective, and efficient transportation system that is adequate for vehicular, pedestrian, bicycle, and truck transportation for the movement of people and goods and services in the community.
3. Transportation and Economic Development – Create or encourage a transportation system that contributes to the economic vitality of the community by connecting people to work, shopping, and other activity generators/attractions and supports growth of commercial and industrial uses.
4. Regional Transportation Planning – Cooperate on a regional level in planning and development of a transportation system, including coordination among multiple jurisdictions, public and private transit providers and agencies at all government levels, while serving the functional needs of all.
5. Regional Traffic Management – Work on a local, state, and regional level to reduce traffic congestion and safety concerns on transportation corridors.
6. TH 169 – Improve connections to TH 169 by working with MnDOT, Scott County, and other agencies to plan for and complete grade separation at TH 282/CSAH 9 and CSAH 59/Delaware Avenue in the future. Also work together to evaluate possible alternatives to improve transportation issues on TH 169 for the benefit of area residents and businesses, including participation in a future study to assess supportive transportation facilities (frontage/backage roads), future commercial/industrial uses, and uniform design guidelines.
7. Regional (South Metro) Transit – Recognizing the warrants may occur in the future, encourage the continued operation and future expansion of the regional bus systems as a method of transportation between regional rural communities and to connect with the metro core.

8. Collector Streets – The location of collector streets promotes orderly development. As development plans are presented to the City, future collector streets should be designed to provide continuity and prudent access to other collector streets and arterials and adhere to the recommended access management guidelines and locations identified in this plan
9. Local Streets – Local streets should be laid out to permit efficient plat layout while being compatible with the area's topography, adjacent roadways, municipal utility plans and environmental constraints.
10. Maintain Existing Infrastructure – Preserve and maintain the existing transportation infrastructure to protect the significant investment, to increase its efficiency, and delay the need for improvement or expansion by use of a Capital Improvement Plan.
11. Transportation Improvement and Expansion – Improve and expand the existing transportation system as necessary to meet current and future transportation needs.
12. Municipal Services – As the street system continues to expand, street maintenance such as snowplowing, grading rural roadways, crack sealing and seal coating, routine maintenance, etc. will become increasingly important issues. Additional street construction will either increase contracted labor expenses or necessitate an expansion of the City's services provided by the municipal public works department. Prior to approving proposed subdivisions, consideration should be given to the City's ability to provide municipal services, facilities and equipment for snowplowing, street grading, minor street repair, etc. on either a contracted or staff basis.
13. Transit/Alternative Modes of Transportation – To diminish/prevent congestion, the City should encourage alternate and/or integrated transportation methods that are less dependent on motor vehicles. The City could promote and encourage walking and biking as alternate transportation methods. The City should strive to provide park and ride facilities near TH 169 as a means of encouraging car-pooling and ride sharing. As the population ages and diversifies, bus service will become an important amenity in the community and should be further studied with transit authorities. Special attention should be given to improving pedestrian access, movement and crossings to provide both convenience and safety. The City should work with the Metropolitan Council, or an opt-out provider, to determine future transit services consistent with the City's transit market area and its associated service standards and strategies.
14. Regional Transportation Funding – Pursue a balanced approach to financing transportation and other community needs at the local level based on current availability of services and facilities and maintenance of existing infrastructure.
15. TH 21 & TH 282 Future Studies – Partner with MnDOT and Scott County to study alternatives to TH 21 and TH 282 to address anticipated capacity issues and pedestrian safety.

16. Arterial Roadway Crossings – The City should promote safe pedestrian crossings of arterial roadways.
17. Roadway Project Coordination – Continue to coordinate future road construction and reconstruction projects with all utility service providers within Scott County to ensure efficient repair/replacement and avoid duplicate costs.
18. Capital Improvement Planning – Develop a Capital Improvement Plan that contains elements for new construction and reconstruction of the roadway system, with scheduled maintenance included in annual budgets per the City's Pavement Management Plan. Street maintenance should also be included consistent with the City's Pavement Maintenance Plan which should include routine patching, crack filling, and/or seal coating.
19. Zoning and Subdivision Ordinance Update – Update the Zoning and Subdivision Ordinances consistent with the Transportation Plan.
20. Right-of-Way Dedication – Require right-of-way dedication along state, county, and local roads to meet future capacity needs.
21. Development Driven Improvements – Work with developers to construct needed improvements prior to development.
22. Non-Development Driven Improvements – Non-development driven improvements should be prioritized and programmed in the Capital Improvement Program.
23. Minor Collector Review – review concept plans for plat and development proposals to evaluate the distribution of Minor Collector roadways so as to not overburden local streets.
24. Assessment Policy – Develop an assessment policy for Major Collector and Minor Arterial roadways to establish expectations and ensure consistent application.
25. Developer Agreements – Utilize developer agreements as a tool to ensure improvements are constructed as agreed upon in the platting or development process.
26. Traffic Impact Study Policy – Establish a policy outlining when a traffic impact study should be conducted, including acceptable information to be contained within the study.
27. Gravel Roadway Improvements – When traffic from a proposed urban development may exceed 500 ADT, work with the developer and township to identify a strategy to upgrade and improve the gravel corridor through a joint agreement with the developer, township, and City.

28. Trail System along County Roadways – Support the County's trail system policies of developing a system to serve countywide healthy/active living needs (i.e., access to County parks, activity centers, and schools), and transportation needs that provide connections between municipalities and to adjacent counties by:
- Including trails as part of the Transportation Improvement Program
 - Coordinating development of trails with counties, cities, townships, and Three Rivers Park District when opportunities arise
 - Including paved shoulders or separated trails as a regular component of highway improvements on both sides of the highway where possible in the urban area
 - Including separated trail facility phasing considerations (additional right-of-way, grading) on County identified future separated trail corridors where current needs do not warrant a full facility with a project on the trail corridor
 - Supporting the provision of pedestrian and bicycle facilities that are consistent with the safe and convenient circulation/recreational needs of pedestrians and bicyclists
 - If rail corridors become available through abandonment, pursue options of alternate uses including trails and other forms of transit or recreation uses
 - Coordinate with Scott County on facility types and cost-sharing when the County makes roadway improvements on County Highways. It is the County's policy to construct a trail or sidewalk facility on both sides in the urban areas.

II. STRATEGIES

Various strategies can be utilized to ensure proper transportation improvements are made to provide and protect the infrastructure investment. Astute land use planning and subdivision plat review are key to ensuring the long-term roadway network vision is developed and future traffic issues are avoided. To accomplish this, each development proposal (e.g. redevelopment of a single parcel, plat review, change of use, expansion of a business or operation, etc.) should be evaluated for consistency with the following policies/standards.

1. Work with property owners and developers to remove and/or relocate existing driveways and field approaches off non-local roads.
2. Provide road and trail connectivity between adjacent parcels.
3. Review/require access spacing that is consistent with the Transportation Plan.

4. Connect residential and non-residential areas.
5. Review developments for the accommodation of transit opportunities as part of the development review process.
6. Require turn and bypass lanes on non-local roads impacted by new development, including those that are not immediately adjacent.
7. Require offsite improvements, including those in other jurisdictions, where the existing transportation network will be directly impacted by new development, including where the development is not immediately adjacent. This could include but is not limited to paving roads, repairing surfaces, fixing sub-standard drainage, improving sight distances, etc.
8. Require the dedication of rights-of-way for all required future transportation improvements identified in the transportation plan including trails, roads, bridges, transit facilities, drainage, utilities, and any other related improvement requiring use of a corridor/location.
9. Require the equitable participation in the construction of collector and arterial roads.
10. Review probable neighborhood traffic patterns, areas where excessive speed is possible, and the potential for pedestrian conflicts.
11. Require all local roads to be constructed to property lines, or the corresponding amounts of money be escrowed, where stub streets are proposed to adjacent properties, but are not immediately warranted.
12. Require fees, construction participation, and/or cost participation proportionately to future required infrastructure such as overpasses, interchanges, and other local/county responsibilities as afforded by law and justifiable.
13. Require traffic impact studies, including the analysis of intersections to determine the need for and contribution to intersection improvements.

III. IMPROVEMENTS

In addition to the review of specific development driven improvements, short-term and mid to long-term improvements have been identified for capital improvement planning purposes as follows.

Short-Term Improvements (2018 - 2023 years)

It is recommended that the City of Jordan, together with MnDOT and Scott County, work to build consensus around grade separation at the US 169/TH 282 intersection. Once consensus is achieved on a preferred concept (or two), it is recommended these agencies jointly complete environmental documentation for compliance with NEPA. A funding plan should be prepared to

identify potential funding sources for grade separation. Potential major funding sources include the Met Council Regional Solicitation, MnDOT Corridors of Commerce, MnDOT Highway Freight Program, TIGER Federal Funding, the State Local Road Improvement Program, and the State Bonding Bill.

As traffic volumes increase to levels forecasted, it is recommended that the City of Jordan initiate capacity and intersection control needs studies for the intersections of Hillside Drive/Sunset Drive and CR 66/TH 21/Sawmill Road. Several intersections along TH 282 have apparent needs as well, though these are assumed to be largely addressed previously or will be with interchange considerations. Traffic intersection control studies would determine safety, capacity, and traffic control needs. A planning level cost estimate in 2016 dollars for a phase one study is estimated at \$10,000 to \$25,000 per intersection, with higher costs generally being incurred at trunk highways and county roadways due to increased submittal requirements.

Improvements to the intersection of Creek Lane / TH 282 are recommended as soon as funding allows. The City has received \$1 million in funding through the Local Road Improvements Program, and is awaiting potential additional funding of the project via the State Local Partnership Program (LPP). If successful, the project would be implemented in 2021. Any necessary local funding should be sourced from the City's State Aid Construction Fund.

The Varner Street Bridge over Sand Creek has been identified for need of bridge deck resurfacing, however its deficient geometrics do not allow such work to be funded with State funds. The City considered replacement of the bridge deck for 2018 with State funds, but chose to wait on these improvements until a later date.

MnDOT is planning reclamation and resurfacing of TH 282 from Mill Street to TH 13 in 2021. In conjunction with the scoping of the project, MnDOT inquired in 2017 whether the City would like to participate in the addition of a trail along the south side of TH 282 from TH 21 to Lydia Road. MnDOT did not provide a cost estimate for the work but did note they were seeking State funding for a portion of the work. Coincidentally, this potential trail segment aligns with an identified trail gap in the City's system. MnDOT provided a preliminary layout of the trail improvements and requested comments from the City. The City considered the initial layout in 2017 but did not desire to pursue the trail improvements. If the City changes course on this decision to complete this trail gap, it is recommended it notify MnDOT, address any geometric layout concerns with MnDOT, and secure external funding to pay for the trail. It is also recommended.

The City has an active pavement management program first initiated in 2012. The City's policy is to evaluate roadway segment conditions (citywide) once every three years. From this evaluation, pavement condition ratings are quantified, and the proper timing of major maintenance projects and reconstructions are estimated. These results are then recommended for inclusion in the City's Capital Improvement Program. It is recommended the City continue to evaluate its roadway conditions once every three years (next year due is 2021). The City may wish to consider a variety of methods available for evaluation of roadway evaluation and quantification of condition.

With MnDOT's completion of the US 169 Access Management Study and construction of new grade separation at CR 14 / US 169 and TH 41 / US 169, the need is apparent for a well-developed

network of frontage and backage roads along US 169 for safety and mobility improvements. Such improvements will align nicely with current funding programs promoting both freight and safety improvements, and therefore it is recommended the affected agencies implement such improvements while such funding is politically supported. A frontage road has been conceptualized from CR 9 to Delaware Avenue. A combination of existing roadways coupled with new connections may suffice to connect CR 9 to Bluff Drive. Scott County has developed proposed frontage and backage road connections north of Bluff Drive. It is recommended Scott County, MnDOT, the City of Jordan, and affected townships cohesively plan these connections, further study the details and costs of such connections, and jointly pursue external funding in conjunction with US 169 access management measures over the next five years.

Mid to Long-Term Improvements (2023 – 2040)

It is recommended that the City of Jordan and Scott County work together to initiate a corridor preservation study to determine an alignment option for further planning, preservation, and environmental analysis for the extension of CSAH 10 to TH 21 at Sawmill Road. Historically (2008) it had been agreed that Scott County will fund half and the City will fund half. For budgetary purposes, \$75,000 in total cost can be estimated for this study though actual cost should be defined based on final scope of the study.

As traffic volumes approach 12,000 vehicles a day on TH 282 and TH 21, it is recommended that the City of Jordan and MnDOT study roadway capacity improvement options for the corridors. A planning level cost estimate is estimated at \$75,000 per corridor, depending on the limits and magnitude of the studies. Funding for the study is anticipated to be provided by the City and State.

As development approaches gravel roadways adjacent to the urban growth boundary, the City of Jordan should work with the adjacent townships to measure traffic volumes and develop a strategy for upgrading gravel roadways when necessary. A planning level cost estimate in 2018 dollars for collecting and reviewing the traffic counts on each corridor is estimated at \$750 annually.

Development of collector roadways should occur in conjunction with development of areas outside the existing city limits.

IV. POTENTIAL TRANSPORTATION FUNDING SOURCES

There are a number of various funding mechanisms available to support transportation projects. These include the following sources:

Federal Funding

Jordan may apply for federal funds for highways through the Met Council Regional Solicitation. Solicitation occurs approximately every two years, with federal funding usually covering about 80% of a project's cost. Types of projects funded include highway reconstruction, safety projects, trails which are part of projects, transit and park-and-ride projects.

MSAS System

The State of Minnesota, through the gas tax and license fees, collects funds to be used to construct and maintain the State's transportation system. Most of the funds collected are distributed for use on the State's Trunk Highway (TH) system, the County State Aid Highway (CSAH) system and the Municipal State Aid Street (MSAS) system. Of the funds available they are distributed 62% TH, 29% CSAH and 9% MSAS. Cities with a population above 5,000 are eligible to receive a portion of the MSAS funding. Jordan has received state aid funding since 2006.

In 2014 the MnDOT State Aid Office and Municipal Screening Board developed a revised method for calculating funding distributions to cities. Jordan's state aid construction funding decreased by approximately 10% over the subsequent three years but has now increased above 2014 levels.

MnDOT Cooperative Funds

The State of Minnesota has funds available to assist with cooperative projects that increase safety and mobility. Solicitations are due in October each year for construction the following year.

MN Department of Natural Resources Grants

Various federal and state grants are available for the development or reconstruction of trails. Typically grants require a 50% match and illustration that the trail is not only of local importance but also of regional significance. Grant programs through the DNR for trail projects include the Federal Recreational Trail Grant Program, Regional Trail Grant Program, Outdoor Recreation Grant Program, and Local Trail Connections Program.

Other State Funds

Funding programs are seemingly in constant flux. It is recommended the City remain in tune with funding programs and their associated priorities, and structure projects in a manner to become competitive for the respective programs. In 2018 programs for other state funding include the Corridors of Commerce Program, Highway Freight Program, the Local Road Improvement Program (LRIP) and Bridge Bonding Program, and the Transportation and Economic Development (TED) program.

In recent years each of these programs have been assigned funding through the State's Bonding Bill. The Bonding Bill has often included specific project listings that must be funded by the programs as the respective program receives its funding. As the City pursues large scale transportation projects, it is recommended it work closely with SCALE and its lobbyist, as well as the local legislators, to attempt to have Jordan's specific needs identified in bonding bills in advance of program solicitations being issued. It is recommended the City continue this activity until the major transportation needs in the city are fully addressed or until the political climate has changed and individual projects are no longer listed in the Bonding Bill.

Scott County Sales Tax

The Transportation Sales Tax (½ percent sales tax and \$20 excise tax on vehicles purchased for road use) was established help fund road, bridge, and transit projects. The tax applies to the same items that are subject to the state Sales and Use Tax of 6.875 percent, thereby making the sales tax rate in Scott County 7.375 percent. However, the sales tax on motor vehicles purchased for road use will remain at 6.5 percent. Instead, a \$20 excise tax must be paid when purchasing a vehicle from a Scott County auto dealer. The Minnesota Department of Revenue administers the local sales tax and distributes the funding to Scott County. By Board resolution, the local sales tax will be collected for seven years, from October 1, 2015 to December 31, 2022, after which time it may be renewed by the County Board.

The County is raising approximately \$6 million annually which is used for projects identified in an Implementation Plan to improve safety, reduce commute times, and support economic development throughout the County. Scott County has typically used (and plans to continue to use) this funding on large scale projects also involving State and Federal funds, to fund local match requirements. The sales tax revenue is planned accelerate these projects while allowing the County to use its traditional sources of funding to maintain its current transportation system.

These funds have been dedicated to TH 13 improvements in Savage and TH 41/US 169 improvements in Louisville Township. The City of Jordan desires to use these funds for grade separation of Scott CR 9/ TH 282 / US 169 within the next 10 years.

Collector and Local Streets

Developers may be required to fund the entire cost of Minor and Major Collector roadways, as well as local streets as a part of their development fees. The City may wish to develop a policy and fee structure for construction of collector roadways. However, it is recommended the City first observe results of active legal disputes related to the construction of collector facilities in advance of development. If collection of development fees is prohibited by state law at some point, it is recommended the City consider requiring development to occur via the Chapter 429 process for special assessments (i.e. assess developers for collector costs) or other similar methods permitted by law.