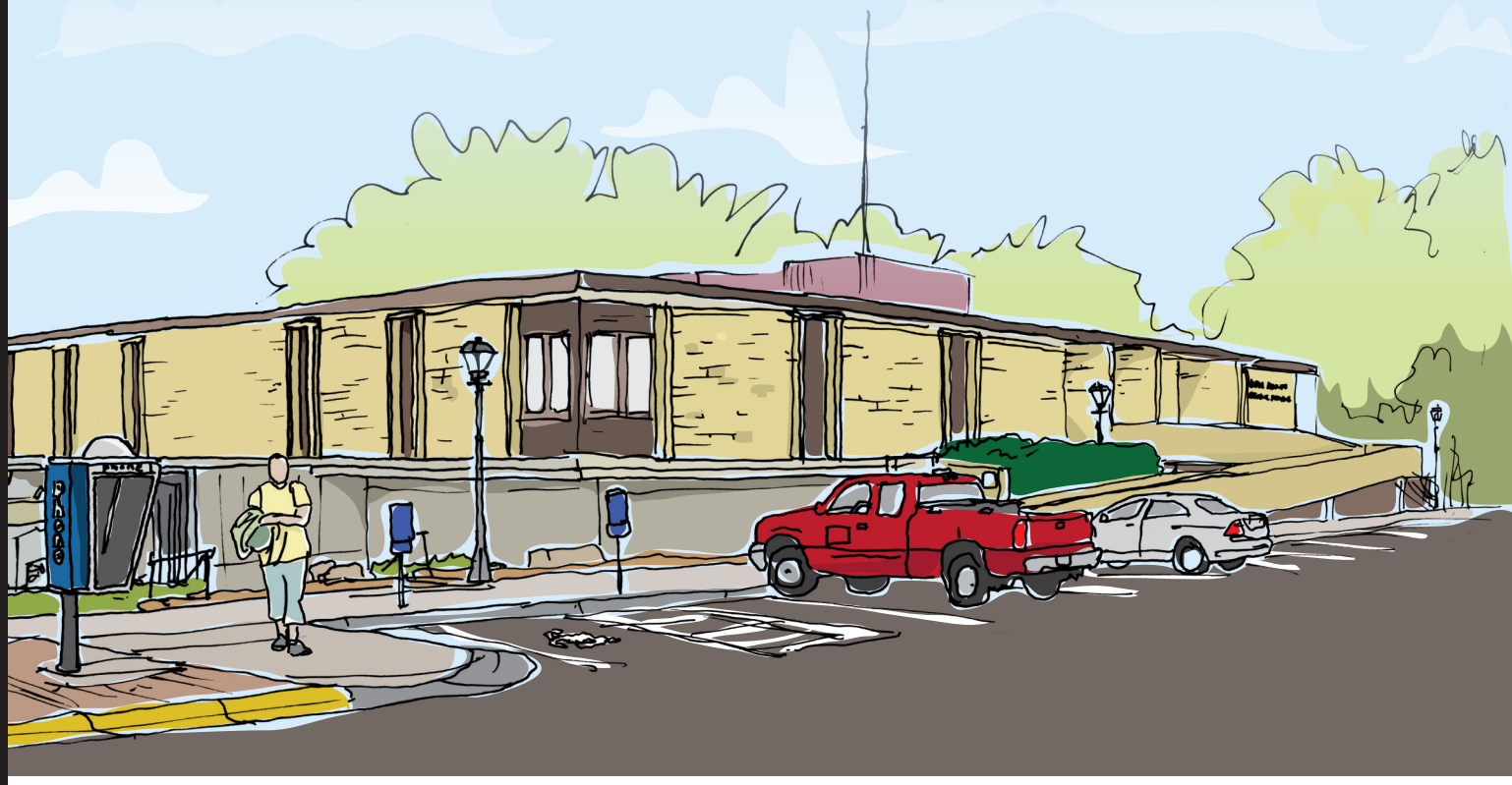
CITY OF
NORTH MANKATO



Comprehensive Plan

March, 2015

CITY OF
NORTH MANKATO

Comprehensive Plan

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CHAPTER 1: Introduction

Purpose of the Plan

The purpose of the Comprehensive Plan is to serve as a vision and roadmap for where the community is headed. The ideas and goals expressed in this plan are intended to be a reflection of the community's values and the desire for what North Mankato is to become. Each chapter of the Comprehensive Plan provides the "big picture" of several important topics that are intertwined and have an impact on quality of life in North Mankato. It is the intention that this plan will be used on a day-to-day basis by city staff, the City Council, and other commissions and stakeholders to help inform important policy decisions, such as decisions involving infrastructure and development, the acquisition and sale of public land, capital improvements, zoning and regulatory changes, and communicating a consistent vision. It is anticipated that residents may use the plan to determine property use, understand decisions made by the City, and make improvements to property in a manner consistent with the plan. Developers may use the plan as a way to make decisions based on the goals and identified improvements.

The plan is intended to cover approximately a 20 year time period and may be amended and updated from time to time as conditions change.

Planning Process

The Comprehensive Plan process began in the summer of 2013 and is the first Comprehensive Plan for the City of North Mankato. At the beginning of the process, relevant background information was collected and reviewed including demographic data, zoning and subdivision regulations, and historic housing and building permit data. The process included a review of existing pertinent planning documents such as The Downtown Planning Study, Envision 2020, Mankato Area Transportation and Planning Study, Nicollet County Comprehensive Plan, Greater Mankato Transit Redesign Study, Benson Park Master Plan, Mankato City Center Renaissance Plan, and MPO planning documents. Because this is the first Comprehensive Plan for North Mankato, an inventory of all land uses in the City was conducted.

Valuable input was also gathered from those in the community. Focus group meetings were held with specific stakeholders including local government representatives, the business community, institutional stakeholders, and other organizations including Nicollet County Environmental Services, Region 9 Development Commission, BENCO Electric, and CenterPoint Energy. A community wide open house was held early in the process, in which various interactive activities were conducted. A booth was held at the community's Oktoberfest event in fall of 2013. Activities were also done with Student Council students at Garfield Elementary and Dakota Meadows Middle School as a way to gather input from younger stakeholders.

As each chapter of the plan was developed, drafts were available on the project website and were individually presented and commented on at Planning Commission and City Council meetings. Comments were also received via the project website, emails, and through the project Facebook page. The plan was reviewed by both the Planning Commission and City Council at their respective regular meetings in January 2015. A public hearing was held before the Planning Commission on February 12, 2015, and adopted by the City Council on February 16, 2015.

Organization of the Plan

The Comprehensive Plan provides a "big picture" look at several important areas that have an impact on quality of life for North Mankato. The Comprehensive Plan covers the following chapters:

Chapter 1: Introduction – This chapter provides an overview of what the Comprehensive Plan is and its purpose. It discusses the process for developing the plan and how it is organized.

Chapter 2: Vision – This chapter outlines the vision for the community that is intended to be expressed through all other chapters.

Chapter 3: Land Use – This chapter establishes an existing and future land use for all property in the City. It also identifies future growth areas.

Chapter 4: Housing – This chapter provides an overview of existing housing conditions and a plan for maintaining and developing a quality future housing stock.

Chapter 5: Economic Development – This chapter provides an analysis of the existing economic climate and opportunities for economic growth and redevelopment areas.

Chapter 6: Transportation – This chapter analyzes the existing transportation system and future improvements, mostly as it relates to auto-oriented transportation. Non-motorized transportation is discussed further in Chapter 8: Parks, Trails, and Recreation.

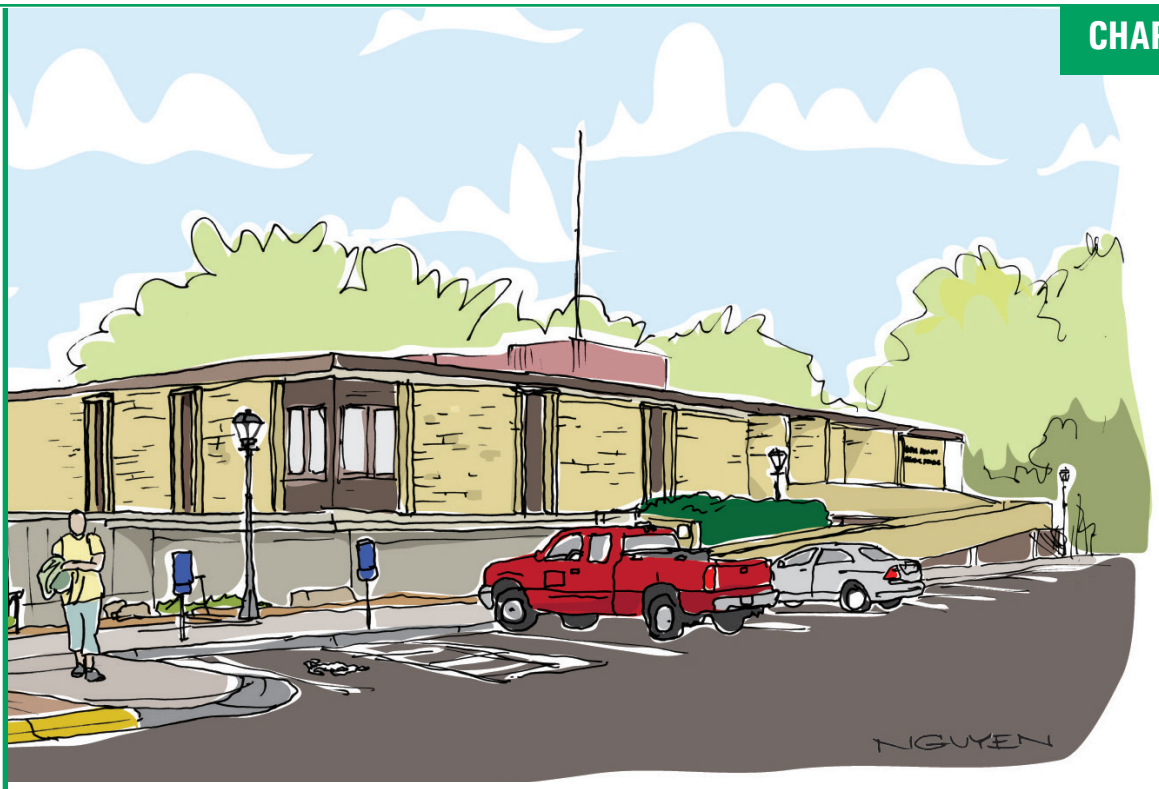
Chapter 7: Utilities – This chapter examines the existing system and future improvements to public utilities as it relates to the water, wastewater, and stormwater systems.

Chapter 8: Parks, Trails, and Recreation – This chapter examines the existing park and trail system, as well as recreational opportunities and establishes planning criteria, guidelines and standards for future development of these amenities.

Chapter 9: Downtown Redevelopment – This chapter examines opportunities to reimagine the impact the downtown can have on North Mankato and discusses redevelopment of underutilized parcels, an improved pedestrian realm, parking availability, and a healthy business mix.

Chapter 10: Community Design – This chapter addresses how people perceive and interact with the built environment. Community design addresses topics such as scale, architecture, and development patterns.

CHAPTER 2: Vision



Importance of a Vision

The comprehensive plan is a tool used to guide the future growth and development of the City of North Mankato. Without a plan, communities may get trapped in a "small window view" or "project window" and forget that individual decisions affect the future of the community. In daily administration of the city, it can become easy to focus on individual projects and not the entire picture of a community's future. Successful communities recognize each development or redevelopment decision contributes to advancing their vision. The keystone to this comprehensive plan is a Vision Statement which offers a broad and enduring view of what North Mankato seeks to become.

Vision gives the community a stated goal of what their future will be and is paramount in managing the growth and development within the community. Vision is a framework to be used by policy makers, appointees, and staff members to make decisions on the future growth and development of the community. Finally, vision protects and ensures decisions are not made in an isolated manner that detracts or endangers the community's ability to achieve its plans for the future.

How We Got Here

Early in the planning process to create the Comprehensive Plan, key community stakeholders and community members were asked to describe key issues in the City of North Mankato utilizing a "SWOT" analysis process – strengths, weaknesses, opportunities, and threats. The strengths represented the things the stakeholders like, are proud of, and want to see continued in the City. Weaknesses are the things that the stakeholders do not like or think detract from the community. Opportunities are the areas for the City to grow and improve. The threats are issues that if left unaddressed, may be detrimental to the community in the future.

This SWOT exercise was conducted in five separate forums:

1. Local Government Stakeholders Group
2. "Other" Government Stakeholders Group
3. Institutional Stakeholders Group
4. Business Owners Stakeholders Group
5. Community at Large

The City held a community open house to seek public input. A project website and Facebook page were put together and links to the website were provided on the City's website, which provided opportunities to engage residents, business owners, and the public at large in the planning process and provided for public review and comment as draft sections of the Plan were completed.

Additionally, students from Garfield Elementary and Dakota Meadows Middle School were engaged in a visioning session to discuss like's, dislike's and what they'd like to see in the City as they grow older. A booth at the City's "Oktoberfest" event was also set up to obtain input from the community.

Overarching Vision Statement

North Mankato's vision builds off the strengths of the community and input from the stakeholder sessions and community open house input gathered early in the planning process. The overarching vision statement captures the "big-picture" aspirations of the City. Specific visions for each of the elements of the Comprehensive Plan are provided in each of the other chapters of this Plan, along with specific goals and objectives on how to attain those visions.

All Chapters and aspects of this Comprehensive Plan work to achieve the Vision and the vision themes for North Mankato.

A Vision for North Mankato

North Mankato is a growing and safe community with outstanding recreational assets, well maintained infrastructure, vibrant business districts and neighborhoods, and provides residents with an excellent quality of life.

Values

Adaptability: The ability to adjust means and methods to resolve changing situations.

Excellence: Going above and beyond expectations.

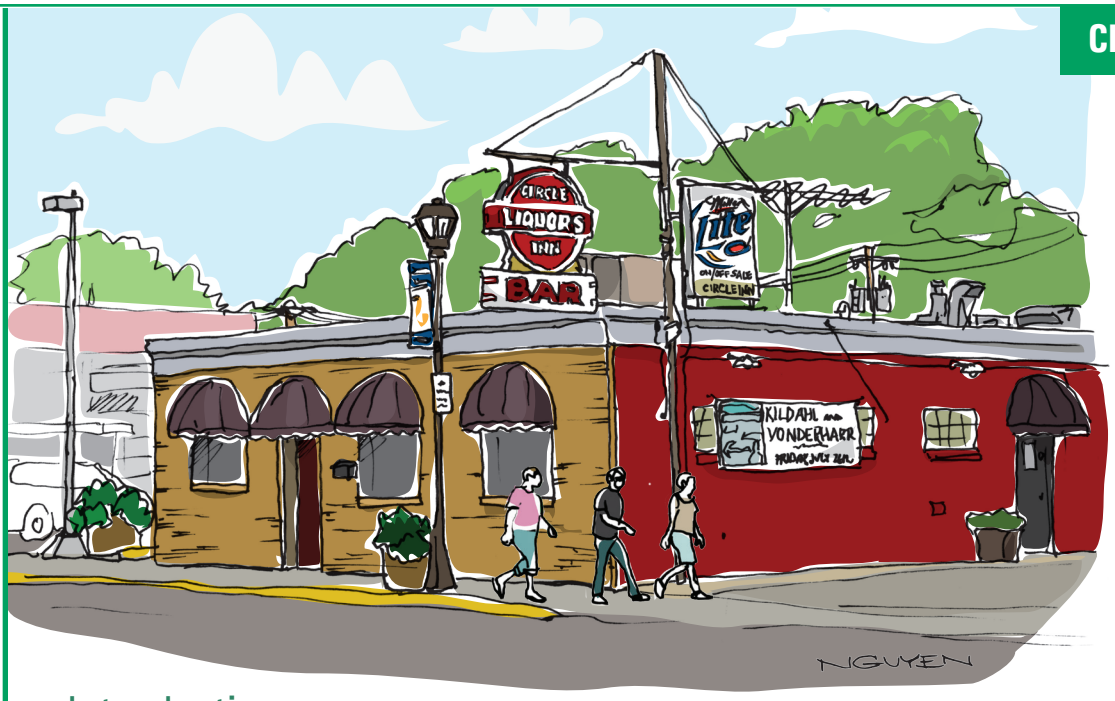
Responsibility: Taking ownership and being accountable for performance.

Integrity: Being honest, impartial and aligning actions with principles.

Leadership: Achieving a common goal by motivating others.

CHAPTER 3:

Land Use & Growth Management



Introduction

The Land Use & Growth Management Chapter is a roadmap that helps guide City officials and staff on how to make policy decisions related to land use and future growth. These policies may influence the type, location and density of future development within the community. This chapter is intended to result in orderly and efficient development that utilizes land efficiently and makes the most of the community's resources. It offers guidance on key initiatives for the community which is consistent with the City's vision and goals.

In this chapter is a description of existing land use patterns, as well as an overview of how the City anticipates land will be used and developed in the future. It accommodates growth and applies the desired qualities of the community.

Another important aspect of this chapter is that it also serves as the foundation for reviewing the City's Zoning Ordinances, Zoning Map, Subdivision Regulations and other implementation tools. Implementation of the Land Use Plan produces several important implications:

- **Uses.** Every parcel is placed into a specific land use category. Each category includes a description of the type of land use or uses intended for that category. This description should match with the types and forms of development currently found in North Mankato and desired for the future.
- **Relationships.** Much like a jigsaw puzzle, the true picture comes from how each piece fits together into a whole. The Land Use Plan guides how elements of the built and natural environment come together in North Mankato. These relationships will determine how North Mankato will look, function and feel.
- **Actions.** The Land Use Plan sets the framework for public actions and investments. Utilities, streets, parks, and facilities are all influenced by the form and pace of development.

Inventory and Analysis

Existing Land Use Characteristics

Figure 3-1: Existing Land Use shows the location, amount, and types of existing land uses in the City of North Mankato in 2014. The inventory as conducted as part of this planning process reflects general development patterns and is intended for general planning purposes only. Table 3-A: Summary of Existing Land Use - 2014 summarizes the amount and type of existing land uses in North Mankato.

Table 3-A: Summary of Existing Land Use - 2014

Existing Land Use	Gross Acres*	Net Percent of City
Low Density Residential	1,244.8	43.8%
Medium Density Residential	170.9	6.0%
High Density Residential	69.1	2.4%
Neighborhood Commercial	15.5	0.5%
General Commercial	71.9	2.5%
Light Industrial	87.5	3.1%
Heavy Industrial	302.8	10.6%
Public/Institutional	229.7	8.1%
Park and Open Space	436.5	15.3%
Vacant/Undeveloped	215.2	7.6%
TOTAL	**2843.9**	**100%**

** Gross acres of use determined by WSB & Associates, Inc. based on parcel data provided by the City of North Mankato*

The following provides a general description of each of the existing land uses in North Mankato.

Low Density Residential

Low Density Residential is the largest land use within the City of North Mankato in terms of total acres, making up almost half of the City's area with 1,244.8 acres or 43.8%. This land use is largely characterized by single-family homes with densities of 1 to 5 dwelling units per acre. One of the greatest strengths of the City of North Mankato is the quality and variety of its single-family homes, which helps make it such an attractive community for families. The City has an abundance of older single-family homes, mostly in Lower North, that have been well preserved and provide a classic "small town" feel to these neighborhoods. Alternatively there has been an abundance of new single-family and two-family home construction, mostly in Upper North, which provides a more modern style of home. Ensuring older housing stock continues to be well maintained is a priority, as is the ongoing efforts to add new housing units. This balance between old and new ensures a quality and variety of housing stock is available throughout the City.

Medium Density Residential

Medium Density Residential makes up 170.9 acres or 6.0% of the total acreage in the City of North Mankato. Medium Density Residential is mostly characterized by townhome style development, duplexes, and small scale apartment and condo buildings with densities of 5 to 10 dwelling units per acre.

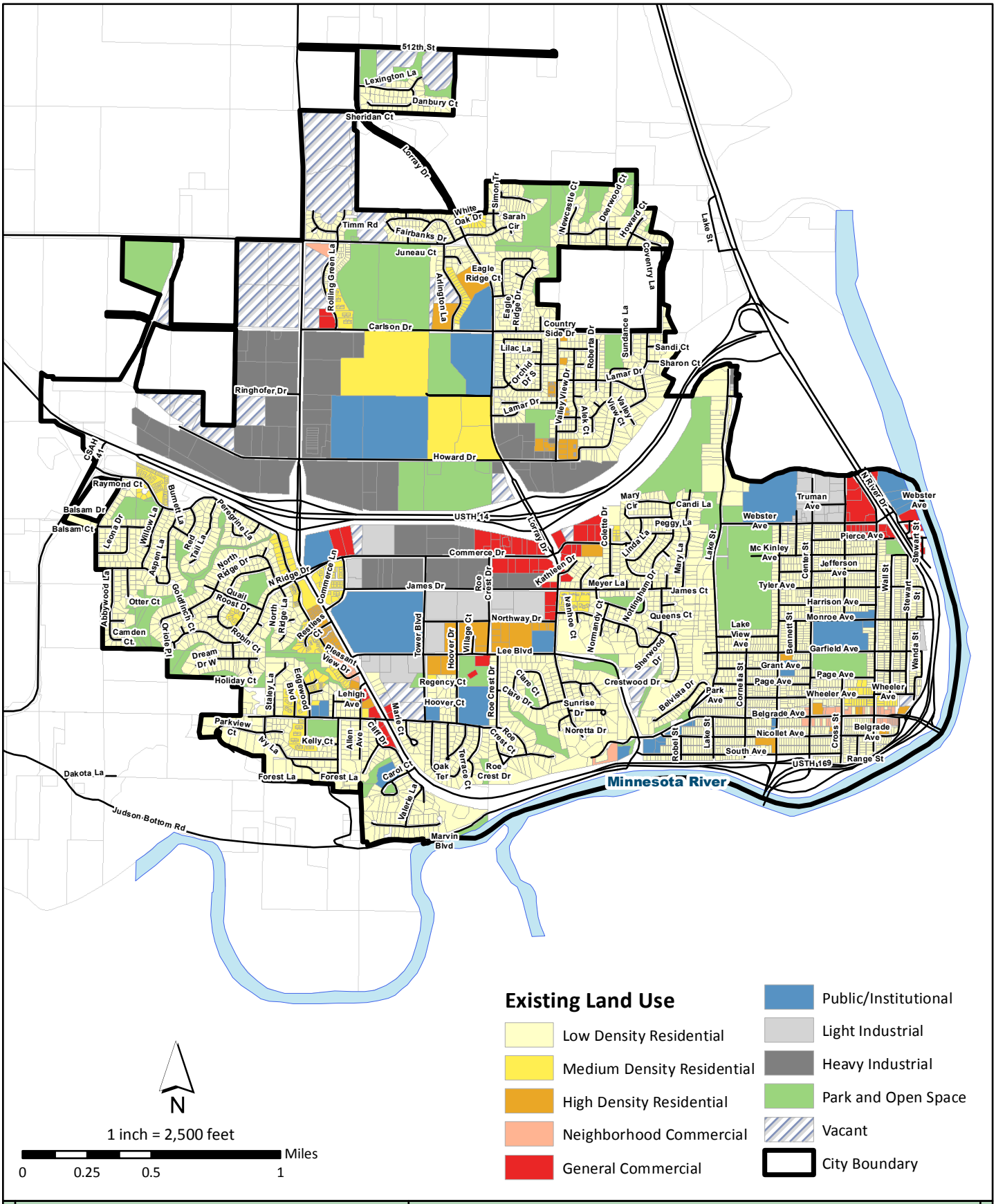


Figure 3-1: Existing Land Use
North Mankato Comprehensive Plan

High Density Residential

High Density Residential land use consists of all forms of multi-family attached housing units such as apartment buildings and condominiums. High density residential has densities of over 10 dwelling units per acre. In 2014, roughly 69.1 acres or 2.4% of North Mankato was classified as high density residential use. High Density Residential units may be rental units or may be owner-occupied and can provide housing options for all income levels. In some cases, high-density residential units in North Mankato are exclusively for seniors, while in other cases there are no limitations for who can live in the development.

Neighborhood Commercial

Neighborhood Commercial uses generally serve the nearby surrounding areas and are intended to allow residents to meet some of their basic needs within a close proximity to where they live. These uses are generally smaller in nature and may be mixed in with residential uses. Examples of some Neighborhood Commercial uses might include bakeries, drug stores, banks, coffee shops, post offices and similar types of uses. Roughly 15.5 acres or 0.5% of North Mankato is classified as Neighborhood Commercial land use.

General Commercial

The General Commercial designation is intended for more intense commercial uses that may draw from a wider geographic area. It includes a broad range of commercial uses that are generally larger in size, require more parking spaces, and may not be compatible adjacent to residential uses in some cases. Examples of General Commercial uses might include department stores, restaurants, offices, health care services and similar types of uses. Many residents currently travel to Mankato to meet most of the needs generally served by this land use category. In 2014, roughly 71.9 acres or 2.5% of North Mankato was classified as General Commercial use.

Light Industrial

The Light Industrial land use includes all forms of businesses with manufacturing, distribution, warehousing or other industrial uses that are less intense and may have fewer negative impacts to surrounding properties generally associated with industrial uses such as noise, odor, dust or low quality aesthetics. Light Industrial land use makes up approximately 87.5 acres or 3.1% of the City.

Heavy Industrial

Similar to the Light Industrial land use category, Heavy Industrial land uses are all forms of businesses with manufacturing, distribution, warehousing or other industrial uses. Heavy Industrial uses may be more intense than the types of uses in the Light Industrial land use category and may be less compatible with residential and commercial uses. Heavy Industrial Land uses may exhibit more of the impacts generally associated with industrial uses such as noise, odor, or dust or storage of equipment. Heavy Industrial land use makes up approximately 302.8 acres or 10.6% of the City.

Public/Institutional

Public/Institutional uses make up approximately 229.7 acres or 8.1% of area in North Mankato. These uses include all government buildings, schools, libraries, and religious institutions. These types of uses are generally mixed in with residential or commercial uses.

Park and Open Space

The Park and Open Space category contains public parks and open spaces and all property owned by the City that is preserved as natural land. Approximately 436.5 acres or 15.3% of land in 2014 is allocated to the Park Open Space land use. Park and Open Space uses are intended to provide a variety of recreational opportunities for all residents of the community. The City of North Mankato is generally well served by the amount and placement of existing park facilities.

Vacant/Undeveloped

Vacant/undeveloped land refers to land that is in an undeveloped state, but that is guided and zoned for future development. In 2014, roughly 215.2 acres or 7.6% of North Mankato consisted of vacant/undeveloped land.

Analysis of Existing Land Use

With over 2,800 acres of land, an analysis of the existing land use illustrates several important issues about current and future development:

- **The largest land use category in the City is low density residential.** It is anticipated that the share of this land use category will continue to grow throughout the life of this plan. The three residential categories account for 52.2% of the total land use in the City. Residential uses make up 56.5% of all non-vacant land use.
- **The Central Business District is characterized by a development style common among other older downtowns.** It is pedestrian oriented in nature with greater commercial and residential densities and buildings built to the sidewalk. Parking for these uses is typically on street, in the rear of buildings, or shared among several users. The Central Business District also serves as a common gathering place for community events such as Blues on Belgrade and Oktoberfest.
- **Of the existing commercial uses, most would generally be characterized as neighborhood commercial uses that serve the surrounding area.** North Mankato is lacking in community commercial type uses and residents typically travel to the City of Mankato for these types of goods and services. Although it is not anticipated that this will change significantly, some community commercial type uses may be necessary in the City as areas develop.
- **The City has an ample amount of existing industrial uses.** These land uses supply a significant number of jobs for residents. This plan anticipates the continued growth of industrial uses in the north and west half of the City. For heavy industrial uses, consideration should be given for compatibility with adjacent land uses. Controls should be in place that protect against negative impacts to neighboring property.
- **The City is well served by existing park facilities.** There are approximately 436.5 acres of Park and Open Space uses. General guidelines for parks and open spaces suggest there are at least 7 acres of municipal park land per 1,000 residents and that 90% or more of residents are within one-half mile of a park or protected green space. Further analysis on Parks and Open Space is described in Chapter 8: Parks, Trails and Recreation.
- **There are significant commercial and industrial development opportunities in the northwest portion of the city.**
- **The "vacant/undeveloped" category includes all of the non-developed land uses.** Majority of the vacant/undeveloped land is located in the northwest portion of the City and is guided for future industrial/commercial type development. Further analysis and study is warranted as the City looks to grow and potentially annex lands over time, especially in areas to the northwest.
- **Commercial and industrial uses represent 16.7% of total land use (18.2% of non-vacant uses).**

Key Land Use Issues and Opportunities

The following provides an overview of the key issues and opportunities relating to land use in North Mankato.

Land Supply and Demand

The City of North Mankato is fortunate that there remain opportunities for growth and development within the existing city limits. This serves as an excellent opportunity for North Mankato to grow as a great place to live,work, play, and visit. A majority of the remaining vacant land supply is located in the north, northwest, west and southwest portions of the City. There are also opportunities for future annexation to expand the boundaries of the City. Because these areas are furthest from the City of Mankato, guiding some additional areas for commercial is necessary. As the population increases in this direction, North Mankato may be able to attract the types of businesses that residents currently travel to Mankato for, such as larger retailers.

Development and Neighborhood Character

The City of North Mankato has portions of the City which have developed over a number of different decades. As a result, some parts of the City tend to feel very different from others.

The oldest areas are in Lower North, in the southeast portion of the City. These areas developed on a typical grid pattern, consistent with most development prior to the 1960s. Residential lots in Lower North tend to be smaller in area and are generally more consistent with one another in terms of their lot dimensions. Many of these houses have been well maintained and enhance the small town character of the neighborhoods. The Central Business District is also part of this area for which Belgrade Avenue serves as a main street and provides a number of small businesses to residents of the surrounding area. The classic small town feel of Lower North attracts some residents to North Mankato. Preserving this character will be both a challenge and a priority in the future.

Areas to the west of Lake Street developed later and generally follow more of a suburban style layout with a series of arterials and residential streets. Residential subdivisions in the more recently developed areas tend to have winding streets, which result in a variety of different lot shapes and sizes. Cul-de-sacs are also common in many of these neighborhoods. Generally, these newer subdivisions have larger lots overall. Since 1995, the City of North Mankato has approved building permits for 766 single family housing units, which has contributed to there being an abundance and variety of quality housing in the City.

Downtown North Mankato (Central Business District)

Although not the geographic center of the City, Downtown North Mankato represents a focal point for the community. It is a central gathering place for community events throughout the year and has a unique sense of place with its small business environment. Just west of Highway 169 along Belgrade Avenue, the location of Downtown North Mankato is a strength and will be a critical factor to its future success. Because many people enter North Mankato at this point along Belgrade Avenue, an opportunity exists to create a more attractive gateway into the community by prioritizing the appearance of the downtown. This

could be accomplished through a variety of streetscape improvements such as lighting, façade improvements, revised signage regulations, trees and other vegetation, outdoor seating, and additional public art. Design requirements for buildings in the Central Business District should be considered to maintain a consistent character.

Land use in the downtown should be aimed at optimizing the pedestrian environment. This means encouraging a mix of uses including small shops, restaurants, office and service uses, and higher housing densities. Buildings should be built no more than ten feet from front lot lines and parking should be located in the rear of buildings. Long and narrow lots should be preserved in order to encourage smaller store fronts. Policies should also be explored that preserve many of the existing buildings that give the downtown its cherished character.

Downtowns are beginning to make a comeback as cities are realizing the value they have in creating identity and sense of community. North Mankato is fortunate to have a well preserved downtown. Through the community engagement process, the downtown was clearly identified as a value of the community. Some other values of residents revealed through the community engagement process regarding the Central Business District were a preference for more walkability, more mixed use development, street trees, emphasis on Belgrade Avenue, and rehabilitation of existing buildings.

Northport Industrial Park

The Northport Industrial Park serves as an economic hub for the City of North Mankato. This plan anticipates that the City will look to expand its industrial base in the Northport Industrial park located in the northwest part of the City. Industrial businesses supply a significant portion of the jobs in North Mankato. Continuing to attract industrial business to this area is viewed as an opportunity that will help ensure the long term economic health of the community, as they tend to provide higher wage jobs than most retail businesses. The Northport Industrial Park is conveniently located near Highway 14 and Lookout Drive. The new interchange at Highway 14 and County State Aid Highway 41 improves access to a number of sites that are fully serviced and ready to build.

The Future Land Use Map shown in Figure 3-2 guides several parcels in the Northport Industrial Park for Commercial/Industrial Mixed Use. In recognizing that there are currently a limited number of commercial properties in the city, this plan aims to provide additional commercial opportunities where appropriate. With prime access to Highway 14, and anticipated nearby residential growth, these parcels may be attractive for commercial development. The City acknowledges that these sites would also be appropriate for industrial use and believes this land use designation provides some flexibility.

Recreation Opportunities and Facilities

One of the greatest strengths of the City of North Mankato is the quality and quantity of existing park space. The City of North Mankato currently has an extremely healthy ratio of 20.7 acres of park space per 1,000 residents. In addition, a wide variety of quality recreational programs are offered for both adults and youth. An opportunity exists to strengthen North Mankato as a recreational center within the region. Caswell Park is already one of the premiere softball complexes in the nation, having hosted numerous state, regional and national tournaments since opening in 1987. Benson Park, although not yet fully developed, will soon be a natural resources themed destination with habitat restoration, natural resource education, nature based play and water quality improvements, a natural amphitheater, outdoor classrooms and demonstration areas and more. Spring Lake Park is another significant park in the community with a variety of amenities and has something for everyone. Continuing to maintain and strengthen these existing facilities is a priority of the City.

In addition, this plan calls for better trail connections between these areas and surrounding neighborhoods, schools, and neighborhood parks. This will ensure that people of all ages and abilities can reach these areas safely and comfortably. In 2014, a market analysis was completed for a proposed sports complex which would provide year round activities and would further enhance North Mankato as a recreational destination. See Chapter 8 – Parks,Trails and Recreation for more detailed information on future park and recreation development.

Vision for Land Use

The City of North Mankato is a complete community that provides a well-balanced and wide range of places to live, work, shop and play. Land uses make efficient use of existing infrastructure, contribute to a strong local economy, preserve natural resources and contribute to a high quality of life.

Residential Uses

A diverse housing stock allows people at any stage in their life to be able to find a home in North Mankato. Older housing is well maintained while new development respects the character of existing neighborhoods.

Commercial and Industrial Uses

A significant amount of commercial and industrial uses can be found within the City that allow residents to work in North Mankato, while also being able to meet all of their day-to-day needs. Commercial and industrial uses are compatible with their surrounding land uses.

Public/Institutional

Public and institutional uses are viewed as valued resources to the community and contribute to making North Mankato a better place to live and do business.

Parks and Open Space

Quality parks and open space are within close proximity to all residents, providing recreational opportunities to encourage an active lifestyle. A wide variety of community facilities are provided to serve a range of interests.

Goals, Objectives, and Policies

The following is the primary goal for land use followed by a series of objectives and policies intended to influence future land use decisions in a direction that is aligned with the Vision Statement.

GOAL 1: Maximize the use of land within the City of North Mankato in a way that strengthens the local economy, preserves natural resources, and ensures a high-quality of life for all residents.

Objective 1.1: Preserve and enhance the small business environment of the downtown.

- Policy 1.1.1: Encourage and promote the renovation and rehabilitation of existing buildings within the downtown.
- Policy 1.1.2: Connect businesses with façade improvement grants and loans.
- Policy 1.1.3: Make infrastructure improvements that enhance the pedestrian realm such as lighting and seating.
- Policy 1.1.4: Explore opportunities for purchasing property within the downtown for the purpose of constructing a public plaza as a central gathering place for community activities.
- Policy 1.1.5: Consider property acquisition for parking in the downtown area.

Objective 1.2: Use land in a manner that strengthens the economy of North Mankato.

- Policy 1.2.1: Expand the amount of property guided for industrial and commercial use in the northwest portions of the City within the industrial park.
- Policy 1.2.2: Continue to identify all areas prime for redevelopment and analyze the best use for each property. Work to re-zone these properties and amend this plan as appropriate.
- Policy 1.2.3: Increase the number of residential housing units in the City to improve the local market for commercial opportunities.
- Policy 1.2.4: Actively work to infill vacant land.
- Policy 1.2.5: Adopt a new mixed use zoning district to accommodate commercial and industrial uses.

Objective 1.3: Protect and preserve natural resources for long term environmental sustainability and the enjoyment of residents.

- Policy 1.3.1: Work with landowners to either obtain property or ensure protection of natural areas with high ecological value.
- Policy 1.3.2: Work with the watershed district to ensure that all ground and surface water ordinances are consistent with the recommended standards.
- Policy 1.3.3: Discourage “leapfrog” patterns of development.

Objective 1.4: Use land in a manner that ensures a high quality of life for residents.

- Policy 1.4.1: Maintain a ratio of 15-20 acres of park land per 1,000 residents as the City’s population continues to grow.
- Policy 1.4.2: Review and encourage methods of development which promote linkages to recreational facilities using trails and sidewalks.
- Policy 1.4.3: Develop an orderly annexation agreement with Belgrade Township.

Land Use Plan

The land use plan provides the framework for the growth and development of the City. The land use plan serves as a guide for the character and intensity of development and will be supported by other land use controls and public actions taken pursuant to the Comprehensive Plan.

The land use map appears in **Figure 3-2: Future Land Use**. The plan illustrated by this map evolved from inputs and evaluations received through the planning process completed in 2014. The Plan builds on the existing community pattern to achieve the desired vision for the future of North Mankato. Where the Future Land Use map guides property for something different than the existing zoning, zoning approvals such as variances and conditional use permits should not be considered inconsistent with the comprehensive plan if otherwise deemed appropriate.

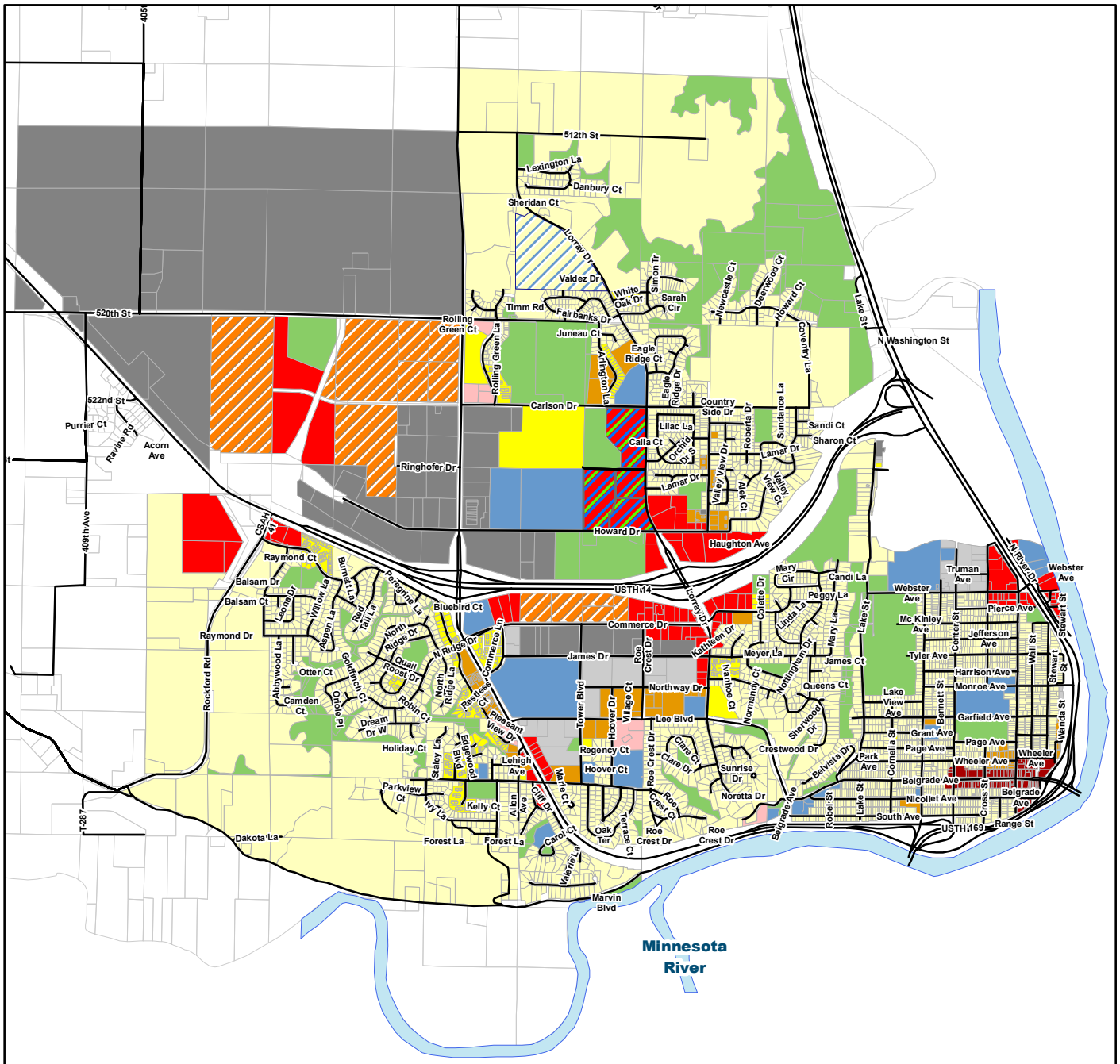


Figure 3-2: Future Land Use
North Mankato Comprehensive Plan

Table 3-B: Summary of Future Land Use		
Future Land Use	**Gross Acres***	**Net Percent of City**
Low Density Residential	2,428.9	41.1%
Medium Density Residential	138.1	2.3%
High Density Residential	85.3	1.4%
Neighborhood Commercial	22.8	0.4%
General Commercial	222.3	3.8%
Central Business District	20.0	0.3%
Commercial/Industrial Mixed Use	270.2	4.6%
Central Redevelopment District	63.0	1.1%
Light Industrial	326.7	5.5%
Heavy Industrial	1,378.0	23.3%
Public/Institutional	208.8	3.5%
Low Density Residential / Institutional	50.1	0.8%
Park and Open Space	695.2	11.8%
TOTAL	**5,909.4**	**100%**

** Gross acres of use determined by WSB & Associates, Inc. based on parcel data provided by the City of North Mankato*

Residential

Low Density Residential

The land use in this category is single-family detached homes. This plan anticipates that this is where the majority of new housing units will be added over the next 20 years. One of the biggest strengths of the City of North Mankato is its attractiveness to young families. Part of this attraction is due to the amount of quality affordable single-family homes. Continuing to add new housing units will provide more opportunities for all families to locate in North Mankato, while making older housing more affordable. Several areas in Upper North are expected to see new low density residential development. Densities targeted in this category are 1 to 5 dwelling units per acre with an overall average of 3.5 dwelling units per acre. However, an important policy of this Plan is that the allowable density of each neighborhood will be based on the desired character of the neighborhood. The primary zoning district that would generally correspond to this land use designation would be the R-1 One Family Dwelling District. As shown on the Future Land Use Map, Figure 3-2, all areas guided for residential development outside the current City limits are shown as low density residential. Should it be determined in the future that any area guided for low density residential is better suited for medium or high density residential development, the Planning Commission and City Council will openly consider amendments to the Future Land Use Map.

Medium Density Residential

Medium density residential uses are typically in the form of townhomes, duplexes, and small scale apartment and condo buildings. Advantages of these types of housing are that less property maintenance may be required since yards are smaller and some medium density developments may have associations that handle lawn care and snow removal. As a result, these types of housing tend to be very attractive to seniors. As part of the community engagement process, some residents felt there was a shortage of quality medium density housing. Providing enough medium density housing options helps residents stay within the City of North Mankato as they age to different stages in their lives. Densities targeted in this category are over 5 dwelling units and up to 10 dwelling units per acre. The

primary zoning districts that would generally correspond to this land use designation would be the R-2 One and Two Family Dwelling District and the R-3A Medium Density Residential District.

High Density Residential

The High Density Residential land use category consists of multiple family attached housing oriented in a vertical fashion, more commonly referred to as apartments and condominiums. Housing units may be owner or renter occupied. High density housing is an efficient land use because it contains more dwelling units per acre than other residential uses.

High density residential uses are located in places with compatible adjacent land uses and where the local street system will accommodate the traffic. Ideally, they are located near commercial uses or employment centers to maximize the number of people who can walk or use alternative modes of transportation. Residential areas near the downtown suitable for redevelopment may be prime locations for new high density housing.

Because high density housing is generally associated with renting, it may be a very attractive option for recent graduates looking to live in North Mankato. Providing enough quality high density residential housing is essential for providing a diverse housing stock. The densities targeted in this category are over 10 dwelling units per acre. The primary zoning districts that would generally correspond to this land use designation would be the R-3 Limited Multiple Dwelling District and the R-4 Multiple Dwelling District.

Commercial

Neighborhood Commercial

Areas guided for Neighborhood Commercial are those intended to serve the nearby surrounding area. Neighborhood commercial uses are small scale businesses that are generally compatible with residential uses. These uses may include bakeries, drug stores, coffee shops, banks, small offices and similar uses. Residential properties suitable for redevelopment should be analyzed as potential neighborhood commercial uses. Single family homes located near the downtown may be especially well suited for this. The City also views the area on the west side of Lookout Drive between Carol Court and Commerce Drive as a redevelopment area that could incorporate new Neighborhood Commercial uses in the future.

General Commercial

General Commercial land uses are those that may have a wider draw beyond the nearby surrounding area. They are larger in size than Neighborhood Commercial uses and are intended to serve the entire community and potentially adjacent communities as well. They are generally clustered together and situated along arterial roadways. North Mankato has traditionally been underserved with these types of commercial uses but may

create demand for some additional general commercial uses as the population continues to grow. Because residents in the northern parts of the city are generally farthest from the City of Mankato, it is anticipated that there will be demand for additional commercial uses as this area continues to grow and develop. Properties at all corners, except for the northwest corner of the intersection of Lor Ray Drive and Howard Drive have been guided for General Commercial use despite having a different existing land use. The City values these existing uses and will wait to rezone these properties until the current property owners are prepared to sell or redevelop the sites so as to not make these uses non-conforming. In the case of the existing industrial businesses at this intersection, the City may consider negotiating a land swap for property in the Northport Industrial Park. The City views General Commercial as the best use for these sites long term.

As mentioned above, the City views the area on the west side of Lookout Drive between Carol Court and Commerce Drive as a redevelopment area. Redevelopment of this area could incorporate new General Commercial uses in the future. See the Chapter 5: Economic Development for more details.

The property at the northeast corner of Pleasant View Drive and CSAH 41, adjacent to the Highway 14 interchange, will be guided for future commercial development based on its proximity to Highway 14 and the Pleasant View Drive roundabout. In addition to existing city regulations, commercial signage and lighting proposals for commercial uses on the site should minimize the effect of their presence on the surrounding residential neighborhood. In addition, the use of landscaping berms and trees should be incorporated along the east side of the property and the south side from Raymond Drive to the east property line. In an attempt to direct commercial traffic to the Pleasant View Drive roundabout, appropriate signage will be installed by the City.

Central Business District

The Central Business District is generally the property adjacent to Belgrade Avenue between Highway 169 and property just west of Center Street. This land use category is a mixed use district for a combination of residential and commercial uses. It has historically served as the City's Ideally, the Central Business District will contain a wide mix of commercial uses which bring people to the area for a variety of different reasons. Although a number of single family homes currently exist in the Central Business District, new residential development should be consistent with medium or high density districts. Increasing the residential population in the downtown will help support a healthy business environment and allow more people to be able to walk to their destinations.

Buildings should be located close to the street and parking should be located in the rear or side of properties. Streetscape improvements that enhance the pedestrian realm, such as street trees, outdoor seating, public art, street lighting, should be prioritized here. The City should continue to work with business owners and encourage façade improvements by connecting them to grant and funding opportunities.

downtown and is intended to be pedestrian oriented.

A number of the community's small businesses are located here. It is also the location for several community events throughout the year. Rather than guiding individual parcels for a specific use, this district provides flexibility in that it envisions commercial, residential, or a combination of both.

Industrial

Light Industrial

Light Industrial uses include all forms of businesses with manufacturing, distribution, warehousing or other industrial uses that are less intense and may have fewer of the negative impacts to surrounding properties generally associated with industrial uses such as noise, odor, dust or low quality aesthetics. As a result, these uses can be in closer proximity to residential, commercial, park and open space uses, without causing as many negative impacts as might occur with Heavy Industrial uses.

Heavy Industrial

Heavy Industrial uses also include manufacturing, distribution, warehousing or other industrial uses; however these uses are generally more intensive than light industrial uses. This means that the nature of activity typically requires more land, generates more noise and truck traffic, and may involve outdoor storage. Areas guided as new Heavy Industrial are located in the Northport Industrial Park, located north of US Highway 14 and near Lookout Drive. The new interchange at CSAH 41 and US Highway 14 improves access to other sites and minimizes the number of semi-trucks on arterial roadways. In addition, there is a significant amount of undeveloped land to the northwest that is currently outside the City limits, which could be added in the future.

Commercial/Industrial Mixed Use

This land use designation is intended to provide flexibility in that it allows for commercial or industrial uses. There are many uses already in the City of North Mankato that may be appropriate in either an industrial or commercial zoning district. This plan calls for the creation of a new zoning district that accommodates this existing mix and provides flexibility depending on market demand by allowing for a wider variety of uses. There are two key areas guided for this land use designation: north of the interchange at Highway 14 and CSAH 41 in Northport Industrial Park and along the north side of Commerce Drive between Lor Ray Drive and Lookout Drive.

Despite much of the surrounding area being guided for Heavy Industrial, the Commercial/Industrial Mixed Use area north of the interchange at Highway 14 and CSAH 41 is intended to accommodate commercial uses that may also wish to locate in this area due to the proximity of the interchange. There are few other parcels north of Highway 14 that are guided for

commercial use on the Future Land Use Map. Therefore, this area provides an opportunity to provide additional commercial uses where they may be underserved. For the Commercial/Industrial Mixed Use area along Commerce Drive, this designation is intended to accommodate the existing mix of uses that may be appropriate in either a commercial or industrial zoning district and supports a continuation of these types of uses.

In developing a new commercial/industrial mixed use zoning district, the City must determine the types of commercial and industrial uses that can easily coexist. Therefore, any permitted industrial uses should be those more closely associated with light industrial uses; those being uses that are cleaner from an aesthetic standpoint and have fewer impacts to adjacent properties. Due to the location of these mixed use areas along key roadways with high visibility, commercial uses envisioned would be those more closely aligned with General Commercial uses. These types of uses have a wider draw than Neighborhood Commercial uses, may be larger in scale, and generate higher traffic volumes.

Central Redevelopment District

This specialized land use designation applies specifically to the property located on the west side of Lor Ray Drive between Howard Drive and Carlson Drive. This site currently contains Camelot Park, a manufactured home community. The manufactured home community is an asset to the broader community in that it is well maintained and provides an affordable housing option for residents. The City supports the continuation of this use until the property owner chooses to redevelop. Should this occur, the City views the redevelopment of this property as a significant opportunity due to the key location of the property. In the event of redevelopment, a mix of uses is envisioned, including a combination of park, regional multi-sport facilities, institutional, residential, and commercial land uses. The exact layout and quantity of each type of use is not known at this time and a future planning study should be performed prior to site redevelopment. Redevelopment of this area could be a great opportunity for a public/private partnership between the City, school district, and private developers.

Park and Open Space

This land use category includes all City parks, as well as natural preserve areas such as woods and wetlands. As new residential subdivisions develop, sufficient park and open space should be added to serve new residents.

The property located at 1955 Howard Drive West, West Central International is currently used and guided for industrial purposes. The northernmost portion of the property is currently undeveloped. In the future, if the property owner were interested in subdividing the property, the City may be interested in acquiring this property for additional park land space to contribute to the Caswell Park regional park area; however, the City also supports a continuation of industrial uses at the site should the property owner desire to do so.

Required Zoning Changes

The City has adopted zoning regulations for the purpose of carrying out the policies and goals of the land use plan element of the Comprehensive Plan. The application of zoning districts and the specific regulations should support the objectives of the Plan. As a result, an outcome of adopting the plan will be the review and modification of the Zoning Ordinance and Zoning Map as necessary.

The land use plan provides the basis for guiding zoning decisions that will be made by the City and private property owners. Minnesota Statutes Section 462.357 states that ".....the planning agency shall study and propose to the governing body reasonable and practical means for putting the plan into effect. Subject to the limitations of the following sections, such means include, but not limited to, zoning regulations, for the subdivision of land, an official map....."

This statute anticipates that the zoning regulations will be reviewed and updated to ensure implementation of the land use plan. In a broad sense, this review of the zoning ordinance should examine the following:

- The regulations for each zoning district should be reviewed to determine if they fit with the intent of the Comprehensive Plan.
- Zoning districts should be examined in relationship to the land use designation. Changes in zoning districts may be needed to match zoning with land use.
- The City will need to thoroughly review and update its Ordinances to address inconsistencies and conflicts to integrate the concepts described in this Comprehensive Plan. Updating the Zoning Ordinance will be a large undertaking that will require significant input, time and energy.

One of the policy decisions the City will need to make is how to implement the land use plan through the zoning map. Unlike the Metropolitan Land Planning Act (Minnesota Statutes Section 473), which requires consistency between the land use plan and zoning in cities within the Twin Cities metropolitan area, North Mankato may choose to take a number of implementation strategies. Each has varying implications for existing property uses and current zoning. The strategies include, but are not limited to, the following:

- Keep current zoning in place until such time as the use terminates or redevelopment is initiated.
- Rezone property to a zoning district compatible with a land use plan category.
- Develop an interim strategy to address current use situations as they relate to long term objectives.

CHAPTER 4: Housing

Introduction

Housing is an important component of all communities. Not only do the quality, availability, affordability, and diversity of housing enhance the quality of life in the City, it also supports economic development and contributes to a community's sense of place.

Housing is not a single, one size fits all, commodity. Personal housing needs change as life passes from young, single adults to family, to elderly. This chapter provides an inventory and analysis of North Mankato's existing housing and paints a broad picture of future residential development.

Inventory and Analysis

Housing Supply

Quantity and Types of Housing Units

In 2012, the U.S. Census Bureau estimated 5,795 housing units in North Mankato, which is 1,043 more units than identified in 2000. Data describing the household type, as shown in Table 4-A, is based on data available as an estimate. The most recent data is from the 2008-2012 American Community Survey. Roughly 62.7% of the housing units in 2012 were single-family detached houses – this is slightly lower than Nicollet County (68.2%) and the State of Minnesota (67.4%). Roughly 9.0% of the housing units in North Mankato were single-family attached units (townhouses) – this is slightly higher than Nicollet County (7.4%) and the State of Minnesota (7.4%). The City had a slightly higher percentage of multi-family housing than Nicollet County and a slightly lower percentage than the State of Minnesota. Refer to Table 4-A: Housing Supply by Type, for more information.

Table 4-A: Housing Supply by Type – 2000 and 2012						
Housing Type	**2000 Units**	**2000 Percent**	**2012 Units**	**2012 Percent**	**2012 Nicollet County Percent**	**2012 State Percent**
Single-Family Detached	3,066	64.5%	3,632	62.7%	68.2%	67.4%
Single-Family Attached	252	5.3%	522	9.0%	7.4%	7.4%
2-4 Unit Multi-Family	459	9.7%	476	8.2%	6.7%	4.5%
5+ Unit Multi-Family	728	15.3%	865	14.9%	11.7%	17.1%
Mobile Home	247	5.2%	300	5.2%	5.9%	3.6%
Total Units	**4,752**	**100%**	**5,795**	**100%**	**100%**	**100%**

Source: US Census Bureau, 2008-2012 American Community Survey 5-Year Estimates, 2000 US Census.

Characteristics of Household Type

Table 4-B: Household Type Distribution compares the distribution of family and non-family households in North Mankato, Nicollet County, and the State of Minnesota in 2000 and 2012. North Mankato's percentage of "family households" increased more substantially between 2000 and 2012 than the County and the State.

Table 4-B: Household Type Distribution – 2000 and 2012												
	2000			**2012**			**Change (Number) 2000-2012**			**Change (Percent) 2000-2012**		
Household Type	North Mankato	County	MN	North Mankato	County	MN	North Mankato	County	MN	North Mankato	County	MN
Family Households:												
Married-couple:	2,611	6,123	1,018,245	2,901	6,643	1,082,127	290	520	63,882	11.1%	8.5%	6.3%
Male household, no wife present:	N/A	N/A	68,114	170	436	86,507	N/A	N/A	18,393	N/A	N/A	27.0%
Female household, no husband present:	428	842	168,782	557	1,078	197,211	129	236	28429	30.1%	28.0%	16.8%
Total, Family Households	3,178	7,309	1,255,141	3,628	8,157	1,365,845	450	848	110,704	14.2%	11.6%	8.8%
Total, Non-Family Households	1,566	3,333	639,986	1,863	4,006	736,030	297	673	96,044	19.0%	20.2%	15.0%
Total	4,744	10,642	1,895,127	5,491	12,163	2,101,875	747	1,521	206,748	15.75%	14.29%	10.91%

Source: US Census Bureau, 2008-2012 American Community Survey 5-Year Estimates, 2000 US Census.

Comparison of Owner-Occupied and Renter-Occupied Units

It is important for communities to have a mixture of both owner-occupied and renter-occupied units. In general, many communities strive to have roughly 65-70% of their housing units owner-occupied. In 2012, approximately 73.1% of the housing units in North Mankato were owner-occupied, which is fairly consistent with Nicollet County (74.3%) and slightly higher than the State of Minnesota (71.4%). Refer to Table 4-C: Housing Tenure by Type – 2012, for additional information.

Annually, the City of North Mankato sees many owner occupied houses sold and converted to rentals. While conversion of some owner occupied homes to rental housing is necessary to accommodate market forces and provide housing choices, too much turnover within established neighborhoods can have a detrimental impact. In order to preserve the strength of these neighborhoods, a policy may be explored that permits a limited number of rental units within a specified area.

Table 4-C: Housing Tenure by Type - 2012

Units per Structure	Owner Occupied Units	Percent Owner Occupied	Percent Owner Occupied County	Percent Owner Occupied State	Renter Occupied Units	Percent Renter Occupied	Percent Renter Occupied County	Percent Renter Occupied State
Single-Family Detached	3,350	83.5%	85.5%	85.0%	143%	9.7%	19.0%	20.0%
Single-Family Attached	298	7.4%	5.3%	7.7%	148%	10.0%	12.1%	7.9%
2-4 Unit Multi-Family	87	2.2%	1.4%	1.2%	332%	22.4%	20.5%	12.8%
5+ Unit Multi-Family	37	0.9%	0.6%	2.6%	796%	53.8%	45.4%	57.5%
Mobile Home	240	6.0%	7.2%	3.5%	60%	4.1%	3.0%	1.8%
Total Units	**4,012**	**100%**	**100%**	**100%**	**1,479**	**100%**	**100%**	**100%**

Source: U.S. Census Bureau, 2008-2012 American Community Survey 5-Year Estimates

Vacancies

Today, the City of North Mankato faces an overall housing vacancy rate of 5.2%, which is 0.6% lower than the vacancy rate for the County and 5.3% lower than that of the State. In the year 2000, North Mankato's vacancy rate was greater than that of the County but lower than that of the State. From 2000 to 2012, the County vacancy rate increased by 0.5% compared to a 2.2% increase statewide. North Mankato experienced a 0.8% decrease during this same time period.

Table 4-D: Vacant Housing by Type - 2012

Year	City Vacant Units	City Percent Vacant	County Percent Vacant	State Percent Vacant
2000	302	6.0%	5.3%	8.3%
2012	304	5.2%	5.8%	10.5%

Source: US Census Bureau, 2008-2012 American Community Survey 5-Year Estimates, 2000 US Census.

Value of Housing

The median value of owner-occupied housing units in North Mankato in 2012 was $166,500 – up 38.1% (or $45,900) from the median value in 2000 of $120,600. Most housing in North Mankato is valued in the range of $150,000 to $199,999. In comparison to low and moderate valued housing, there is a relatively small choice of higher valued housing units in North Mankato, as 92.8% of housing is valued below $300,000. The median value of owner-occupied housing in Nicollet County was $169,200 and $194,300 in the State of Minnesota. Refer to Table 4-E: Owner-Occupied Housing by Value -2012, for additional information.

Table 4-E: Owner-Occupied Housing by Value - 2012

	North Mankato		Nicollet County	State of Minnesota
Owner-occupied units	**4,012**	**100%**	**9,090**	**1,534,719**
Less than $50,000	345	8.60%	9.40%	5.90%
$50,000 to $99,999	167	4.20%	6.20%	9.80%
$100,000 to $149,999	933	23.30%	20.90%	15.50%
$150,000 to $199,999	1,335	33.30%	29.40%	20.90%
$200,000 to $299,999	940	23.40%	23.90%	26.30%
$300,000 to $499,999	212	5.30%	7.70%	15.50%
$500,000 to $999,999	80	2.00%	2.10%	5.10%
$1,000,000 or more	0	0.00%	0.50%	1.00%
Median (dollars)	**166,500**		**169,200**	**194,300**

Source: U.S. Census Bureau, 2008-2012 American Community Survey 5-Year Estimates

**Owner occupied units*

Owner Monthly Costs as Percentage of Household Income

Housing decisions should not be based solely on the value of housing, but also the cost of housing expenses in relation to household income. In general, housing costs (taxes, insurance, principal, interest, etc.) should not exceed 30% of total household income. In 2012, 28.2% of homeowners in North Mankato had monthly costs that were 30% or more of their household income, compared to 28.0% in Nicollet County and 32.1% in the State of Minnesota. Refer to Table: 4-F: Owner Monthly Costs as Percent of Household Income -2012. These figures suggest that housing was equally affordable compared to the rest of Nicollet County but more affordable than the State of Minnesota in 2012. They also suggest that about one out of four homeowners in North Mankato may find it difficult to make their mortgage payments. Consequently, some may default on their loans and others may find it difficult to keep up with household maintenance and repairs.

Table 4-F: Owner Monthly Costs as Percent of Household Income - 2012

	Units	Percent	Nicollet County	State
Total	**2,813**	**100%**	**6,085**	**1,075,695**
Less than 20.0 percent	1,030	36.6%	2,251	394,593
20.0 to 24.9 percent	497	17.6%	1,252	191,811
25.0 to 29.9 percent	496	17.6%	878	143,829
30.0 to 34.9 percent	317	11.4%	614	94,485
35.0 percent or more	473	16.8%	1,090	250,977

Source: U.S. Census Bureau, 2008-2012 American Community Survey 5-Year Estimates

**Housing Units with a Mortgage*

Contract Rent

In 2012, rental housing units accounted for roughly 26.9% of the occupied housing units in North Mankato. Roughly, 50.6% of the renter-occupied units had a monthly rent of $500 or more in 2000. In 2012, roughly 82.6% of units had a monthly rent of $500 or more, which is higher than Nicollet County (77.7%), and the State of Minnesota (82.1%). Refer to Table 4-G: Renter-Occupied Housing Units by Gross Rent – 2012, for additional information.

Table 4-G: Renter-Occupied Housing Units by Gross Rent – 2012

Monthly Rent	Units	Percent	Nicollet County	State
Total units paying rent	**1,479**	**100%**	**2,966**	**540,440**
Less than $200	107	7.2%	150	15,875
$200 to $299	32	2.2%	123	27,043
$300 to $499	118	8.0%	388	53,769
$500 to $749	549	37.1%	940	138,331
$750 to $999	370	25.0%	726	144,882
$1,000 to $1,499	120	8.1%	300	116,111
$1,500 or more	183	12.4%	339	44,429
Median (dollars)	718		704	802
No rent paid	0		107	26,716

Source: U.S. Census Bureau, 2008-2012 American Community Survey 5-Year Estimates

Renter Monthly Costs as Percentage of Household Income

In 2012, 40.2% of renters paid over 30% of their household income in rent. Refer to Table 4-H: Gross Rent as Percent of Household Income - 2012. This number is lower than Nicollet County (42.0%) and the State of Minnesota (49.5%).

Table 4-H: Gross Rent as Percent of Household Income - 2012

	Units	Percent	Nicollet County	State
Total Specified Units	**1,461**	**100%**	**2,932**	**533,480**
Less than 15.0 percent	289	19.8%	549	63,964
15.0 to 19.9 percent	182	12.5%	451	67,212
20.0 to 24.9 percent	233	15.9%	405	71,555
25.0 to 29.9 percent	170	11.6%	296	66,765
30.0 to 34.9 percent	49	3.4%	167	50,548
35.0 percent or more	538	36.8%	300	116,111

Source: U.S. Census Bureau, 2008-2012 American Community Survey 5-Year Estimates

Age and Maintenance of Housing Stock

In 2012, roughly 57.8% (3,280 units) of the City's units were constructed before 1980. Just 14.9% of the housing units in North Mankato were built before 1940. The number of new housing units built since 1990 is generally consistent with the County and State, with 30.2% for North Mankato compared with 30.5% for the County and 27.9% for the State.

Source: U.S. Census Bureau; 2008-2012 American Community Survey 5-Year Estimates and City of North Mankato (City of North Mankato building permit data was used for calculating the total units from 1990 to 2012. The total number of units and percentages have been modified from the 2008-2012 ACS dataset to reflect this change.)

Table 4-I: Year Structure Built

	North Mankato		Nicollet County	State of Minnesota
	Units	Percent	Units	Units
Built 2010 to 2012	99	1.7%	N/A	N/A
Built 2000 to 2009	793	14.0%	2,260	331,071
Built 1990 to 1999	823	14.5%	1,658	319,027
Built 1980 to 1989	681	12.0%	1,273	301,696
Built 1970 to 1979	1,024	18.0%	2,196	374,293
Built 1960 to 1969	447	7.9%	1,107	233,064
Built 1950 to 1959	703	12.4%	1,416	248,718
Built 1940 to 1949	258	4.6%	505	116,335
Built 1939 or earlier	848	14.9%	2,463	418,781
Total	**5,676**	**100%**	**12,908**	**2,347,928**

Residential Construction

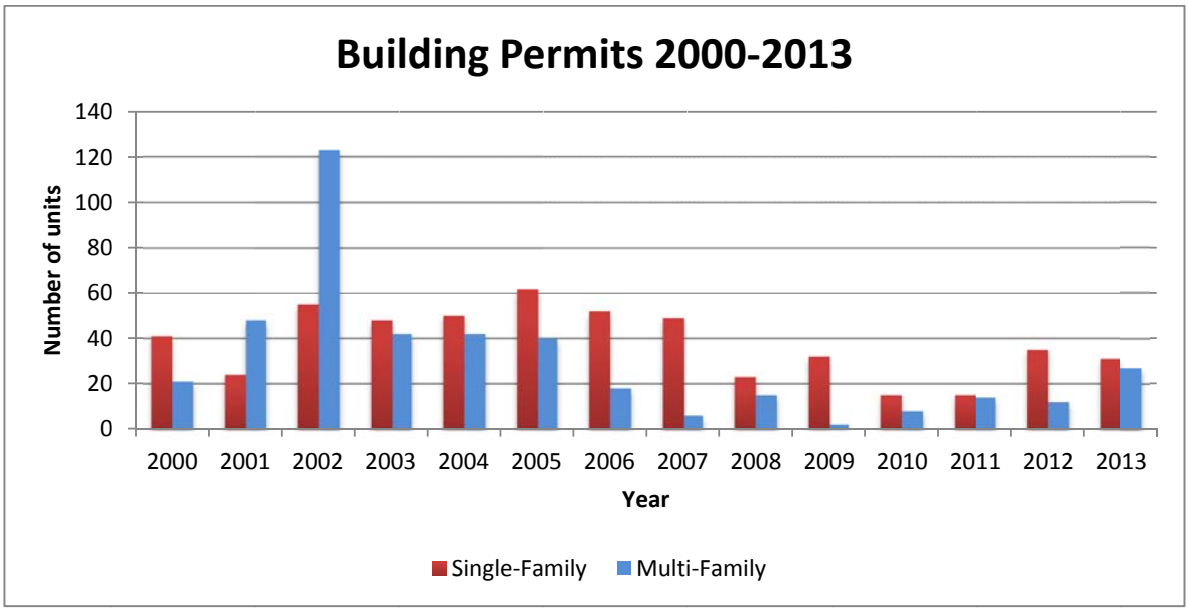
950 new housing units were added in North Mankato between 2000 and 2013. This includes 418 multifamily units and 532 single family homes.

Single family home construction averaged about 38 homes per year from 2000-2013. The first four years of this decade (2010-2013) have averaged lower numbers at about 24 homes per year. Single-family home construction peaked during the last decade in the years between 2002 and 2007, with an average of 53 homes per year.

Table 4-J: Building Permit Trends 2000 to 2013

Year	Single-Family (Units)	Multi-Family (Units)	Total (Units)
2000	41	21	62
2001	24	48	72
2002	55	123	178
2003	48	42	90
2004	50	42	92
2005	62	40	102
2006	52	18	70
2007	49	6	55
2008	23	15	38
2009	32	2	34
2010	15	8	23
2011	15	14	29
2012	35	12	47
2013	31	27	58
Totals	532	418	950

Source: City of North Mankato, WSB & Associates, Inc.



Source: City of North Mankato, WSB & Associates, Inc.

Plumbing, Kitchen, and Telephone

The U.S. Census identified that of the 5,491 occupied housing units in North Mankato in 2012, none lacked complete plumbing facilities and 14 lacked complete kitchen facilities. It was estimated that 86 units (1.6%) had no telephone service.

Tenure by Age of Householder

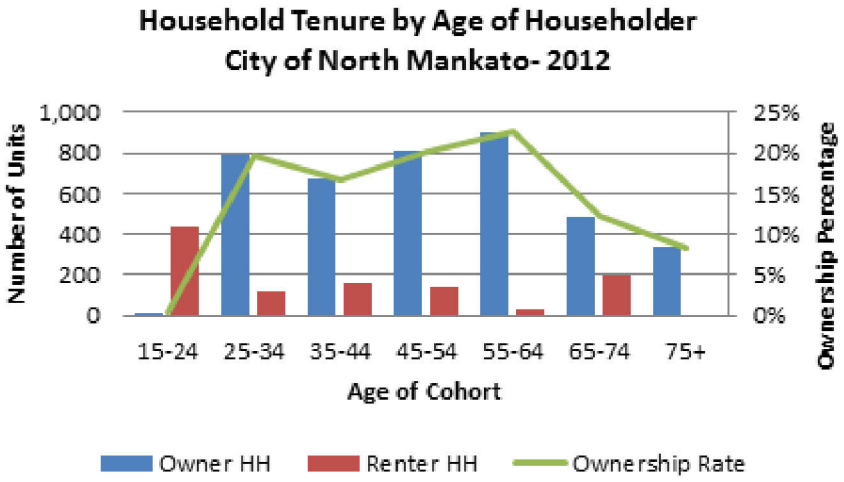
Table 4-K shows the distribution of the owner-occupied and renter-occupied housing units in North Mankato in the year 2012. The table below breaks down the number of units by the age cohort, as housing needs tend to differ at key stages of person's life. The table also shows the gradual change in the rate of homeownership within the City.

Rental housing is generally most popular with young adults (35 and under) as well as older seniors (75+) in the State of Minnesota. The same is true in North Mankato as there is a lower ownership percentage for younger and older age groups in comparison to those that are more middle aged. With the low cost generally associated with the cost of renting as well as the flexibility in housing situations, young households typically find renting as the preferred housing option. Increased burdens of home maintenance can make rental housing a desirable alternative for seniors.

Table 4-K: Household Tenure by Age of Householder - 2012

	North Mankato		Nicollet County		Minnesota	
Household Age	Number	Percent*	Number	Percent*	Number	Percent*
Owner HHs						
15-24	16	0.40%	237	2.6%	18,004	1.2%
25-34	788	19.6%	1,328	14.6%	198,388	12.9%
35-44	675	16.8%	1,585	17.5%	283,354	18.5%
45-54	807	20.1%	1,973	21.7%	373,700	24.4%
55-64	903	22.5%	1,918	21.1%	317,184	20.7%
65-74	488	12.2%	1,140	12.5%	188,611	12.3%
75+	335	8.4%	909	10.0%	155,478	10.0%
Total Owner HHs	4,012	100%	9,090	100%	1,534,719	100%
Renter HHs						
15-24	402	27.2%	713	23.2%	84,548	14.9%
25-34	435	29.4%	827	26.9%	156,522	27.6%
35-44	122	8.3%	319	10.4%	92,795	16.4%
45-54	156	10.6%	425	13.8%	81,373	14.4%
55-64	136	9.2%	266	8.7%	56,272	9.9%
65-74	28	1.8%	144	4.7%	31,353	5.5%
75+	200	13.5%	379	12.3%	64,293	11.3%
Total Renter HHs	1,479	100%	3,073	100%	567,156	100%
Total HHs						
15-24	418	7.6%	950	7.8%	102,552	4.9%
25-34	1,223	22.3%	2,155	17.7%	354,910	16.9%
35-44	797	14.5%	1,904	15.7%	376,149	17.9%
45-54	963	17.5%	2,398	19.7%	455,073	21.7%
55-64	1039	18.9%	2184	17.9%	373456	17.7%
65-74	516	9.4%	1284	10.6%	219964	10.5%
75+	535	9.8%	1288	10.6%	219771	10.4%
Total Households	5,491	100%	12,163	100%	2,101,875	100%

Source: U.S. Census Bureau, 2008-2012 American Community Survey 5-Year Estimates



Source: U.S. Census Bureau, 2008-2012 American Community Survey 5-Year Estimates

Life-Cycle Housing and Profile of Households

The housing needs of a community relate to the demographic profile of the household. Typically, households move through several life-cycle stages; including entry-level households, first time homeowners, move-up buyers, empty nesters/young seniors, and older seniors.

The following describes each of these household types and the effect that they have on housing demands in North Mankato.

Entry-Level Households

People in the 19 to 24 year old age group typically leave their childhood home and establish their own household. They often rent a house or an apartment because they generally do not have the income and savings needed to buy a home. In addition, many people in this age group move frequently, so they are hesitant to buy a house. They are also more apt to share housing with other unrelated people of similar age.

The entry-level household population in North Mankato will fluctuate annually. Many North Mankato residents that graduate from high school move to other communities to attend a university or to pursue other job opportunities. In the long term, unless current conditions and trends change, North Mankato will not see significant increase in the 19 to 24 year old age group.

First Time Homeowners

First time homeowners are typically in their 20s and 30s. They are usually "move-up" renters, meaning they "move up" from an apartment to a home. They are often married with young children and prone to moving within a few years of buying their first home for several reasons; including, increased salaries allowing them to move to more expensive housing, an increased number of children may require larger housing, and job opportunities may require that they move to another community.

Move-Up Buyers

Move-up buyers are typically in their 30s and 40s. They move up from the smaller, less expensive house that they had purchased earlier. From an economic growth perspective, this is an important age group of people. Typically, move-up buyers have children in school and an established job. They are less apt to move to another community and start over. Also, professionals who are moving to a community to advance their career are generally looking to move to a more expensive house than what they had in their previous community. North Mankato should continue to ensure that it has adequate choices for those who are looking for move-up housing that will satisfy their needs until they are in their late 50s and beyond.

Empty Nesters and Young Seniors

Empty nesters and young seniors are generally in their 50s and 60s. Often, their children have moved out of their house and left them with a larger house than needed. Empty nesters and young seniors often want to live in a smaller house, like a townhouse, that has less maintenance.

As the baby boom generation moves into this age group, this population will likely increase in North Mankato and there may also be a shift in this population group from their homes into apartments. There has already been a notable increase in apartment rentals in North Mankato by members of the baby boom generation.

Old Seniors

Those in their 80s and older are often looking for low maintenance or assisted living housing. Senior living community options in North Mankato include the Oak Terrace Senior Retirement Community, Koppen Gardens, and Monarch Meadows. As the population ages, North Mankato should continually ensure that it has adequate housing to meet the needs of seniors.

Special Needs

Housing for those with special needs includes housing for those with mental and/or physical disabilities or health issues and those who are in need of temporary or transitional housing. The number of people with special housing needs is expected to increase as the population of North Mankato continues to age. Currently, Monarch Meadows and Oak Terrace Senior Retirement Community offer assisted living units and existing housing for those with Alzheimer's or dementia to help meet some of the special housing needs in North Mankato.

Affordable Housing

The United States Department of Housing and Urban Development (HUD) generally defines housing as affordable if it costs less than thirty (30) percent of a household's income. However, HUD's Section 8 Income Guidelines are the basis for most affordable housing programs. Section 8 guidelines define low and moderate incomes on a sliding scale, depending on the number of persons in the family. For example, a four person household is considered "moderate income" if their family income is eighty (80) percent of the area's median family income.

It is noted most housing affordability programs and data place emphasis on creating owner- occupied units at eighty (80) percent of the median family income (moderate income) and rental units at fifty (50) percent of the median family income (low income). Since low income persons are typically renters, the definition of "low income" is tied to the number of persons in each unit. This plan identifies "affordable owner occupied units" as those affordable for moderate income families (eighty (80) percent of median income). Affordable rental units are based on fifty (50) percent of the median income and reflected on a per capita and per family basis. According to HUD there were a total of 209 housing units designated as "affordable" or "subsidized" in 2009.

Income by Age of Householder

Looking at income data is also important when predicting future housing demands in the City of North Mankato. In 2000, the median household income was $58,114 and the largest employment industries were educational, health and social services, manufacturing, and retail trade. By 2012, the median household income increased to approximately $60,836 and the top employment industries were the same. The total population in 2012 age 16 and over was approximately 10,309, of which approximately 79.1% were considered to be in the labor force. The unemployment rate in the City of North Mankato in 2012 was approximately 4.6%. During this same time, Minnesota had an unemployment rate of about 7.0%.

Table 4-L: Household Income by Age of Householder 2012

	Under 25		25-44		45-64		65 +	
Income	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Less than $10,000	100	23.9%	10	0.5%	32	1.6%	48	4.6%
$10,000 to $14,999	49	11.7%	11	0.5%	24	1.2%	113	10.8%
$15,000 to $19,999	23	5.5%	89	4.4%	33	1.6%	143	13.6%
$20,000 to $24,999	23	5.5%	53	2.6%	43	2.1%	36	3.4%
$25,000 to $29,999	19	4.5%	36	1.8%	42	2.1%	86	8.2%
$30,000 to $34,999	38	9.1%	61	3.0%	140	7.0%	72	6.9%
$35,000 to $39,999	11	2.6%	110	5.4%	14	0.7%	45	4.3%
$40,000 to $44,999	39	9.3%	214	10.6%	84	4.2%	42	4.0%
$45,000 to $49,999	21	5.0%	140	6.9%	110	5.5%	41	3.9%
$50,000 to $59,999	26	6.2%	205	10.1%	181	9.0%	92	8.8%
$60,000 to $74,999	33	7.9%	338	16.7%	249	12.4%	65	6.2%
$75,000 to $99,999	27	6.5%	391	19.4%	528	26.4%	147	14.0%
$100,000 to $124,999	9	2.2%	233	11.5%	196	9.8%	79	7.5%
$125,000 to $149,999	0	0%	35	1.7%	234	11.7%	37	3.5%
$150,000 to $199,999	0	0%	32	1.6%	43	2.1%	5	0.5%
$200,000 or more	0	0%	62	3.1%	49	2.4%	0	0.0%
TOTAL HHs	418	100%	2,020	100%	2,002	100%	1,051	100%

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Income distributions as reported by the U.S. Census Bureau can be compared to affordability standards to determine how many households and families in the City of North Mankato may require affordable housing. Table 4-L depicts the number of households that may require affordable housing (based on family income) as shown in the shaded area. An estimated 2,195 households (41%) have annual household incomes of less than 80% of the median household income reported by the American Community Survey in 2012.

Table 4-M: North Mankato Household Income

Year	Number of Households in Category	% of Total
Less than $10,000	190	3.5%
$10,000 to $14,999	197	3.6%
$15,000 to $24,999	443	8.1%
$25,000 to $34,999	494	9.0%
$35,000 to $49,999	871	15.9%
$50,000 to $74,999	1,189	21.7%
$75,000 to $99,999	1,093	19.9%
$100,000 to $149,999	823	15.0%
$150,000 to $199,999	80	1.5%
$200,000 or More	111	2.0%
Total Households	**5,491**	**100%**

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Table 4-N: Median Household and Family Income

	City of North Mankato	Nicollet County	State of Minnesota
Median Household Income	$60,836	$59,490	$59,126
Median Family Income	$75,381	$71,476	$74,032

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Future Population and Household Projections

The future housing projections assume a continued rate of 73 housing units constructed per year, which has been the average number of units constructed over the past 25 years. The future population projections were developed by multiplying the number of future housing units by the existing ratio of residents per household (2.3). Therefore, these projections assume a continued rate of housing development of 73 units constructed per year and a constant ratio of residents per household of 2.3. The City recognizes that there are many factors and demographic trends that influence the number of housing units constructed and household size and that these numbers will likely change from year to year.

Table 4-O: Future Population and Housing Projections

	2015	2020	2025	2030	2035	2040	2045
North Mankato Population	13,591	14,430	15,270	16,109	16,949	17,788	18,628
North Mankato Housing Units	5,909	6,274	6,639	7,004	7,369	7,734	8,099

Source: City of North Mankato, WSB & Associates, Inc.

Housing Programs and Organizations

Many municipal powers related to housing come from the housing and redevelopment authority statues as outlined in Minnesota Statutes, Section §469.001 to §469.047. The Housing and Redevelopment Authority (HRA) Act lists the following activities as public purposes:

- To provide a sufficient supply to adequate, safe, and sanitary dwellings in order to protect the health, safety, morals, and welfare of the citizens of the state;
- To clear and redevelop blighted areas;
- To perform those duties according to comprehensive plans;
- To remedy the shortage of housing for low and moderate income residents, and to redevelop blighted areas, in situations in which private enterprises would not act without government participation or subsidies; and
- In cities of the first class, to provide housing for persons of all incomes.

The City of North Mankato can partner or coordinate with various housing programs and organizations that can help address the City's housing needs. The following provides a brief overview of key housing programs and organizations. However, many other government and non-government organizations can help the City address its housing needs as well.

North Mankato Housing Rehabilitation Program

The City of North Mankato has allocated funding for homeowners interested in making improvements to their homes from the Community Development Block Grant Program, which provides assistance in the form of a 0% interest, five year deferred loan. Loan amounts are available from $1500 to $7500 and require a matching amount from the homeowner. The repayment is prorated at 20% per year. Qualifying improvements include those that make homes more energy efficient, safe, habitable and accessible to physically challenged occupants. Example improvements include, but are not limited to, lead based paint interim control, defective plumbing, heating, or electrical systems, rotted siding, porches or steps, wall repair, floor coverings, paint, roofing, windows and doors, ramps and bathroom accessibility conversions. : The program is available to income qualified homeowners.

City of North Mankato
1001 Belgrade Avenue
North Mankato, MN 56002-2055
Phone: 507-625-4141

Minnesota Housing Finance Agency

Minnesota Housing has worked for over 40 years to provide access to safe, decent and affordable housing across the state. The agency finances affordable housing for low- and moderate- income individuals and has a national reputation as one of the finest housing agencies in the country. Minnesota housing partners with for-profit, non-profit and government sectors to achieve its mission. Products and services are provided to help Minnesotans buy and fix up their homes, for the purpose of stabilizing neighborhoods, communities and families. Minnesota Housing also works to support the development and preservation of affordable rental housing through both financing and long term asset management. On an annual basis, the City applies for MHFA funds to assist first time homebuyers.

Minnesota Housing Finance Agency
400 Sibley Street, Suite 300
Saint Paul, MN 55101-1998
Phone: 651-296-7608 or
1-800-657-3769

Department of Housing and Urban Development (HUD)

Operating as a department of the Federal Government, HUD awards grants and financing for a wide variety of housing initiatives including housing development, home buying, rental assistance, avoiding foreclosure and more. For a complete overview of programs visit the department's website at http://portal.hud.gov/hudportal/HUD . As a HUD Entitlement Community, the City of North Mankato receives an annual allocation of CDBG funds through HUD.

U.S. Department of Housing and Urban Development
451 7th Street S.W.
Washington, DC 20410
Phone: 202-708-1112

CommonBond Communities

CommonBond Communities is a Minnesota-based non-profit that provides affordable housing throughout the Midwest. The organization develops, owns and manages affordable rental apartments and townhomes for low income and disabled individuals and families. CommonBond operates within 50 cities in Minnesota, Wisconsin and Iowa and serves over 5,400 housing units for over 8,500 people.

CommonBond Communities
328 Kellogg Blvd. West
St. Paul, MN 55102
Phone: 651-291-1750

Vision for Housing

The City of North Mankato has a high quality housing stock and variety of options that allow residents to find housing at all stages of life. Quality housing is available for all income and age ranges. Existing homes have been well maintained and renovated, as the unique character of each neighborhood is preserved. The City is open to creatively seeking opportunities to meet our housing needs and responsibly providing our share of affordable housing. Housing in North Mankato continues to be a strength in attracting young families to the area.

Goals, Objectives, and Policies

The following is a series of goals, objectives, and policies intended to achieve the vision for housing stated above.

GOAL 1: Allow all people the opportunity to call North Mankato their home.

Objective 1.1: Accommodate a variety of housing options to ensure a diverse housing stock.

Policy 1.1.1: Attract a variety of residential developers to ensure a diversity of housing styles, layouts and costs.

Policy 1.1.2: Provide a variety of different residential zoning districts that have varying regulations with regard to setbacks, height, density, and lot coverage.

Policy 1.1.3: Ensure that land is available in applicable zoning districts to allow for senior and assisted living facilities.

Objective 1.2: Provide quality and sufficient affordable housing that meets the area's demand.

Policy 1.2.1: Work with developers on providing affordable market rate housing

GOAL 2: Provide attractive and desirable residential properties.

Objective 2.1: Maintain residential properties to a high standard while encouraging redevelopment opportunities.

Policy 2.1.1: Consider amendments to the zoning code that promote redevelopment activities and do not prohibit people from making additions to their homes.

Policy 2.1.2: Monitor "at risk" or "blighted" properties or areas and connect property owners to housing improvement programs, loans and assistance opportunities for rehabilitation.

Policy 2.1.3: Regularly analyze existing ordinances to ensure reasonable maintenance is required to all residential property and make amendments as necessary. Proactively address any properties where compliance is not being met.

Policy 2.1.4: Work with the North Mankato Port Authority to purchase blighted or vacant homes for demolition.

Policy 2.1.5: Consider a policy that permits a limited number of rental units in a specified area to minimize turnover of owner occupied single family homes to rental units within established neighborhoods.

Policy 2.1.6: Maintain a rental licensing program that allows the City to enforce compliance with existing codes and minimum standards.

Objective 2.2: Provide residential neighborhoods that are well designed.

Policy 2.2.1: For new development or redevelopment, consider streetscape improvements such as attractive street lighting, boulevards, sidewalks on at least one side of the street, landscaping and vegetation, and other amenities that enhance the visual appearance of neighborhoods. Consider similar opportunities in existing neighborhoods as street reconstruction projects occur.

Policy 2.2.2: Seek opportunities to provide additional green space and recreation amenities in residential areas that may be lacking them.

Policy 2.2.3: Promote moderate and higher density housing in areas where appropriate, such as within and near downtown, commercial areas, and along arterial roadways. Promote development practices that result in low traffic volumes near low density residential areas.

Policy 2.2.4: Promote residential development that occurs in an orderly manner consistent with the future land use plan and that makes efficient and responsible use of municipal utilities and infrastructure expansion.

CHAPTER 5:

Economic Development

Introduction

A strong business community is the cornerstone of a vibrant city. Economic development encompasses the policies and activities that improve the long term economic and social wellbeing of the community. Communities with strong economies have financial resources to support the levels of service that their residents need and desire. Successful communities realize that economic development is about bringing together social, natural, infrastructure, and economic assets in the community to sustain the "whole" community.

Previous and Ongoing Economic Development and Planning Efforts

Several past and ongoing efforts focused on economic development in North Mankato have been reviewed as part of developing this chapter. Some of these efforts remain more relevant than others and all have contributed to economic development efforts in the City.

Previous studies and materials that focus on economic development in the area and guide the recommendations in this chapter include:

A. **Envision 2020** – This document was a long-range regional community plan involving over 200 community stakeholders in 2006. The plan included an economic development vision which supported a "high quality of life for all its citizens" and advocated for progress in several areas. City staff participates in on-going subcommittees of this group in the areas of implementation, downtown revitalization and sustainability. An update of the plan began in 2014 and is expexted to be completed in 2015. At the time the document is updated, this plan may need to be amended to reflect any changes in the plan.

B. **The Downtown Plan-** In April of 2011, the North Mankato Port Authority worked with I & S Group to study the downtown area (200 block of Belgrade Avenue), develop a report outlining a comprehensive downtown plan, including options for the build out of the 200 block of Belgrade Avenue, and produce a physical model with interchangeable components depicting the various concepts in the report. The plan was revised in October 2012.

C. **North Mankato Port Authority** - The North Mankato Port Authority Commission was created by an act of the legislature in 1985 and began operations in 1986. Throughout its existence, the Port Authority has undertaken many initiatives such as the construction of new industrial buildings, building additions, building upgrades, façade improvements, removal of blighted properties and housing opportunities. In 1993, the Port Authority began the development of the North Port Industrial Park to accommodate new industrial development. To date there are 18 industrial buildings within the industrial park providing over 1,000 jobs.

D. **Mankato/North Mankato Area Planning Organization (MAPO)** – The Mankato/North Mankato Area Planning Organization (MAP) was established in 2012 in response to the 2010 U.S. Census which designated the Mankato/North Mankato area as an urbanized area requiring the formation of a metropolitan planning agency under 23 USC 134 and 49 USC 5303. The 2013 Planning Works Program for the Mankato/North Mankato Area Planning Organization includes support for economic development by promoting an efficient and effective regional transportation system. Economic development and transportation are intrinsically linked. Moreover, state funding for economic development is often tied to transportation projects. Policies and programs initiated and executed by the MAPO must work in conjunction with North Mankato's overall economic development initiatives.

Inventory and Analysis

Existing Characteristics of the Economy

Retaining and attracting jobs is an ongoing objective for the City of North Mankato. In 2013, commercial and industrial properties made up 23 percent of the tax base in North Mankato, at 4.6 percent and 18.5 percent respectively. There are approximately 719 businesses, and about 6,313 employees in North Mankato. The American Community Survey (2007-2011) estimates the unemployment rate in North Mankato at 4.1 percent, which is equal to the county (4.1 percent), and lower than the state (4.9 percent). Compared to the total population, there is a 0.47 employee/population ratio; which means there is about 1 job for every two residents.

Table 5-A shows the employment and business profile of North Mankato. The highest employment industry is manufacturing which provides 42 percent of all jobs in North Mankato. Educational services is the second highest source of employment (7 percent), and professional, health care, and other services provide about 6 percent each of the community's total jobs.

Table 5-A shows the number of businesses and employees by Industry as defined by the North American Industry Classification System (NAICS) codes.

Table 5-A Business and Employment Statistics

Data for all businesses in area			North Mankato city, MN	
Total Businesses:			719	
Total Employees:			6,313	
Total Residential Population:			13,299	
Employee/Residential Population Ratio:			0.47	
by NAICS Codes	Businesses		Employees	
	No.	Pct.	No.	Pct.
Agriculture, Forestry, Fishing & Hunting	**10**	**1.4%**	**14**	**0.2%**
Mining	**0**	**0.0%**	**0**	**0.0%**
Utilities	**0**	**0.0%**	**0**	**0.0%**
Construction	**50**	**7.0%**	**106**	**1.7%**
Manufacturing	**43**	**6.0%**	**2,651**	**42.0%**
Wholesale Trade	**25**	**3.5%**	**121**	**1.9%**
Retail Trade	**55**	**7.6%**	**248**	**3.9%**
Motor Vehicle & Parts Dealers	5	0.7%	22	0.3%
Furniture & Home Furnishings Stores	3	0.4%	23	0.4%
Electronics & Appliance Stores	5	0.7%	23	0.4%
Bldg Material & Garden Equipment & Supplies Dealers	6	0.8%	11	0.2%
Food & Beverage Stores	6	0.8%	41	0.6%
Health & Personal Care Stores	2	0.3%	31	0.5%
Gasoline Stations	2	0.3%	13	0.2%
Clothing & Clothing Accessories Stores	3	0.4%	5	0.1%
Sport Goods, Hobby, Book, & Music Stores	4	0.6%	31	0.5%
General Merchandise Stores	1	0.1%	3	0.0%
Miscellaneous Store Retailers	13	1.8%	39	0.6%
Nonstore Retailers	5	0.7%	6	0.1%
Transportation & Warehousing	**13**	**1.8%**	**149**	**2.4%**
Information	**24**	**3.2%**	**349**	**5.5%**
Finance & Insurance	**44**	**6.1%**	**204**	**3.2%**
Central Bank/Credit Intermediation & Related Activities	*8*	*1.1%*	*70*	*1.1%*
Securities, Commodity Contracts & Other Financial Investments & Other Related Activities	*10*	*1.4%*	*64*	*1.0%*
Insurance Carriers & Related Activities; Funds, Trusts & Other Financial Vehicles	*26*	*3.6%*	*70*	*1.1%*
Real Estate, Rental & Leasing	**58**	**8.1%**	**182**	**2.9%**
Professional, Scientific & Tech Services	**73**	**10.2%**	**400**	**6.3%**
Legal Services	*6*	*0.8%*	*14*	*0.2%*
Management of Companies & Enterprises	**1**	**0.1%**	**2**	**0.0%**

Table 5-A Business and Employment Statistics (con't)

by NAICS Codes	Businesses		Employees	
	No.	Pct.	No.	Pct.
Administrative & Support & Waste Management & Remediation Services	**116**	**16.1%**	**242**	**3.8%**
Educational Services	**17**	**2.4%**	**444**	**7.0%**
Health Care & Social Assistance	**77**	**10.7%**	**378**	**6.0%**
Arts, Entertainment & Recreation	**12**	**1.7%**	**47**	**0.7%**
Accommodation & Food Services	**18**	**2.5%**	**273**	**4.3%**
Accommodation	*1*	*0.1%*	*120*	*1.9%*
Food Services & Drinking Places	*17*	*2.4%*	*153*	*2.4%*
Other Services (except Public Administration)	**79**	**11.0%**	**418**	**6.6%**
Automotive Repair & Maintenance	*17*	*2.4%*	*97*	*1.5%*
Public Administration	**4**	**0.6%**	**85**	**1.3%**
Total	719	100%	6,313	100%

Source: ESRI 2012

Northport Industrial Park

Northport Industrial Park is owned by the North Mankato Port Authority Commission in partnership with BENCO Electric. Lots in the Industrial Park are eligible for development incentives to qualifying businesses. The Port Authority also provides Tax Increment Financing and operates a revolving loan fund available to qualifying businesses.

Completion of an additional interchange in 2013 at Highway 14 and CSAH 41 provides additional access to the Industrial Park. The City anticipates that the majority of future economic development will occur in the Northport Industrial Park. It is envisioned that the park will include a mix of industrial as well as commercial uses and bring a variety of different jobs to North Mankato. As of 2014, there are 55 acres of land owned by the Port Authority for sale and over 300 acres of developable property guided for expansion of the Northport Industrial Park.

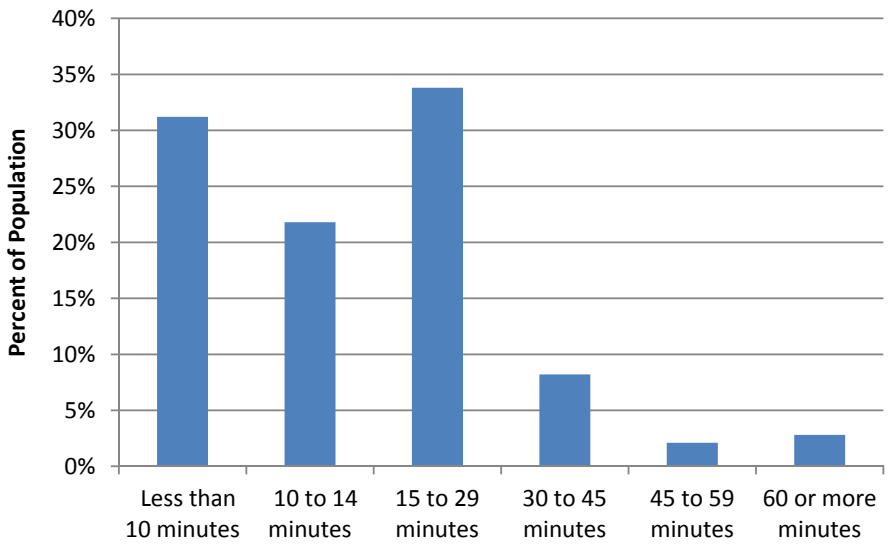
Commuting

Eighty one percent of residents drove alone in their commutes to work. Ten percent carpooled, two percent walked, and four percent worked from home. The Census reported that two percent of residents commuted by public transportation and one percent by other means. Table 5-B shows statistics from the Census regarding modes of transportation used by residents for commuting to work. Many of the residents commute less than 15 minutes each day, as depicted by Figure 5-1.

Table 5-B: Commute Modes of Transportation	
Car, truck, or van -- drove alone	81%
Car, truck, or van -- carpooled	10%
Public transportation (excluding taxicab)	2%
Walked	2%
Other means	1%
Worked at home	4%
Mean travel time to work (minutes)	12.8

Source: American Community Survey (2008-2012)

Figure 5-1: Commute Times



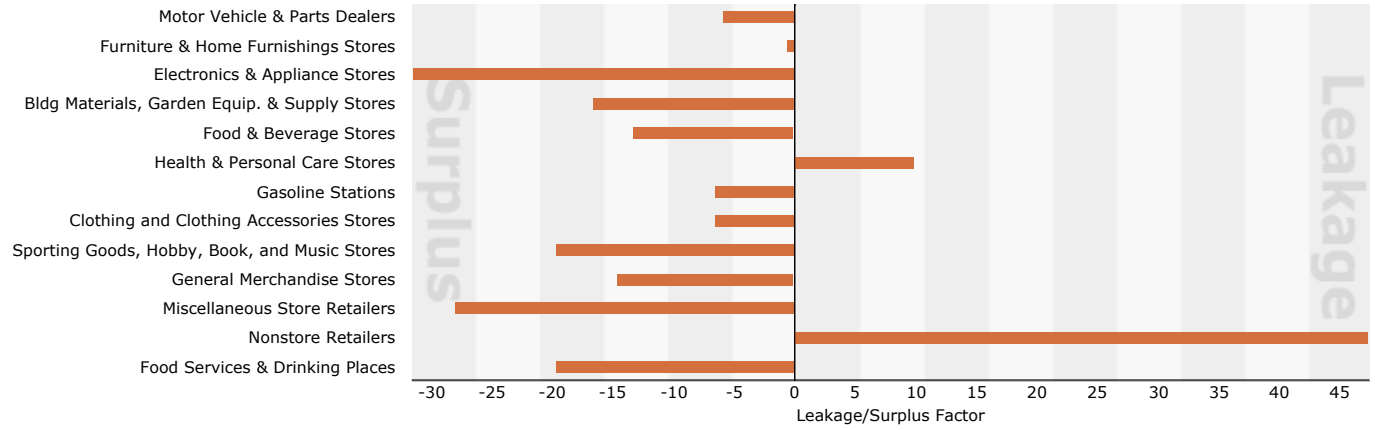
Source: American Community Survey (2008-2012)

Analysis of Local Supply and Demand

Tables 5-C and 5-D summarize the results of a commercial supply and demand analysis conducted for the Mankato-North Mankato MSA utilizing Esri Business Analyst software. In a market leakage analysis a numeric value (-100 to 100) is calculated and assigned to subsectors of the commercial industry. The leakage/surplus factor represents a potential retail opportunity; a negative value represents a surplus or excess supply of a business type and a positive number represents "leakage" or excess demand of a business type. A value of +100 represents a total leakage where 100 percent of that type of commerce happens outside of Mankato-North Mankato MSA. The negative values in the figures depict sectors which the region has an excess supply. The positive values found on the right half of the charts depict a market leakage, or excess demand for commercial services where residents are required to leave the area to meet their commercial needs and desires.

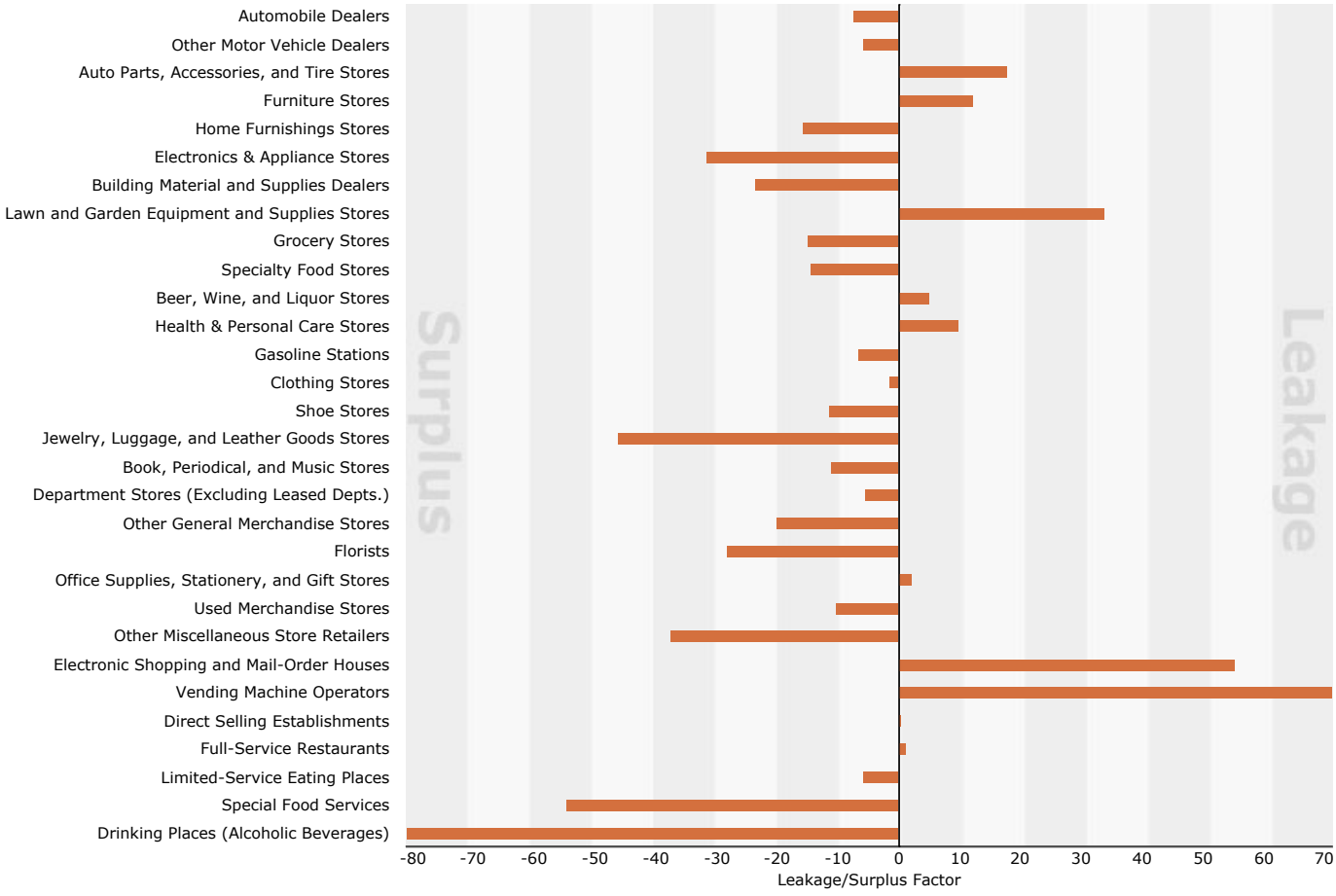
The subsectors of the commercial sector that have high positive values indicate a high demand and a possible economic opportunity. It is important to keep in mind that many market factors contribute to the success of a business, and although there is a high market leakage for some subsectors, it may not be a feasible option to locate within the community.

Table 5-C: Commercial Supply/ Demand by Industry Subsector



Source: ESRI Business Analyst

Table 5-D: Commercial Supply/Demand by Industry Group



Source: ESRI Business Analyst

Redevelopment

The roots of redevelopment are inherently tied to local economic factors. Limitations on income equates to a lack of disposable income needed to reinvest in property. Over time, the lack of investment leads to a deterioration of property. These conditions of blight often spread to adjacent properties.

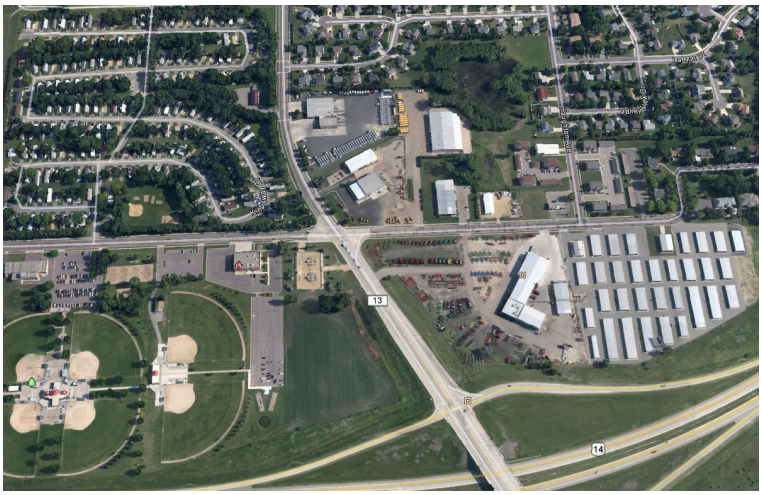
Redevelopment will become an increasingly important community development issue for North Mankato. Several factors define the need for city action:

- Redevelopment becomes a public issue because market forces are not likely to solve the problem. While North Mankato has the ability to expand, development demand can bypass redevelopment parcels and seek out vacant land. There is little or no incentive to correct the problems on blighted parcels. Vacant land avoids many of the barriers of redevelopment sites.
- Redevelopment property is often more expensive. Acquisition includes both land and buildings. Redevelopment often requires the assembly of smaller parcels into a larger site. Multiple property owners with differing interests compound the complexity of land acquisition.
- Redevelopment sites have more site preparation costs.
- Redevelopment may face the need and cost of environmental remediation. Old buildings may have asbestos or other hazardous materials that require special treatment. Certain commercial and industrial uses may have allowed pollutants to enter the soil.

All of these factors combine to create significant economic barriers to redevelopment. Removal of these barriers is a primary focus of city actions related to redevelopment.

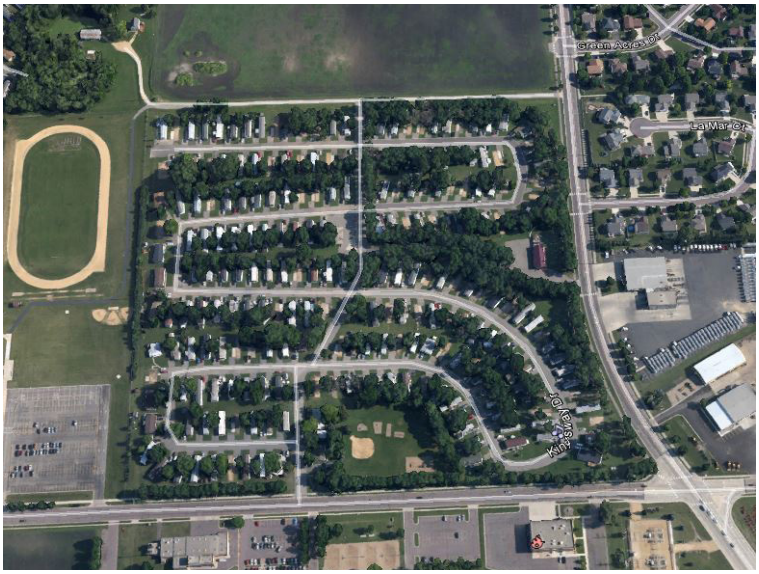
Key Areas for Redevelopment

The City of North Mankato has a number of areas which developed over a wide range of different time periods. As such, there are a number of older areas that developed at a time when there was a stronger need for particular uses than there may be today. These areas may have become somewhat blighted or under-utilized. In addition, there may be alternative uses that would improve the quality of life for residents in the surrounding area. Based on the City's goals identified in this plan, several areas have been identified for potential redevelopment. It is not the intention of the City to discontinue the existing uses within the areas identified; rather it is an opportunity to plan for these areas should an opportunity for them to redevelop arise.



Intersection of Lor Ray Drive and Howard Drive

Properties at the northeast, southeast, and southwest corners of the intersection of Lor Ray Drive and Howard Drive have been guided for General Commercial use despite having a different existing land use. The City values these existing uses and will wait to rezone these properties until the current property owners are prepared to sell or redevelop the sites so as to not make these uses non-conforming. In the case of the existing industrial businesses at this intersection, the City may consider negotiating a land swap for property in the Northport Industrial Park. The City views General Commercial as the best use for these sites long term.



Camelot Park

Currently Camelot Park, a manufactured home community, exists at the northwest corner of Lor Ray Drive and Howard Drive. The manufactured home community is an asset to the community in that it is well maintained and provides an affordable housing option for residents. The City supports a continuation of this use until the property owner chooses to redevelop. Should this occur, the City views redevelopment of this property as a significant opportunity due to its key location within the City. In the event of redevelopment, a mix of uses is envisioned, including a combination of park, regional multi-sport facilities, institutional, residential, and commercial land uses. Redevelopment of this site could be a great opportunity for a public/private partnership between the City, school district, and private developers. An opportunity presents itself for a connected greenway and regional recreation amenities with connections between Benson Park and Caswell Park on the west side of the property. A future planning study should be performed prior to site redevelopment.

Lookout Drive and Marie Lane

Currently this block contains a laundromat, auto repair, and a gas station/convenience store. Although all are desired uses within the community, this location may be better served by retail or other commercial uses. Located along Lookout Drive, this corridor serves numerous residents living in the western half of the City, as well as those traveling to and from Northport Industrial Park and South Central College. There are very few commercial land uses located in the western half of the City to serve these residents. Redevelopment of this block could include a denser, multi-unit commercial building that might include a restaurant, coffee shop, bakery, retail store, etc. Potential uses that take the most advantage of the number of drivers along Lookout Drive should be encouraged.

Downtown

The City of North Mankato is committed to strengthening the downtown. This will be accomplished through redevelopment of any blighted parcels into land uses that foster a pedestrian friendly environment and increased density for both commercial and residential uses. Residential uses in certain areas within a block of Belgrade Avenue should be medium or high density to increase the number of people in close proximity to the downtown. Increasing the number of commercial uses through redevelopment of existing single family homes is encouraged.

Highway 169 and Webster Avenue

These locations are some of the first areas people see as they come into North Mankato and provide visitors with their first impression of the community. Redevelopment of these areas will remain commercial uses but should have greater consideration for their appearance and design. In addition, uses which draw people into the community should be encouraged. An opportunity presents itself along Webster Avenue to create a gateway into the community and let visitors know they are in North Mankato, and will contribute to the creation of a “sense of place”.

Finance Tools

Community development actions require a framework for financial decision-making. The investment of public dollars to achieve community development objectives should be guided by several key principles:

- Financial resources are limited. The city has limited funding to apply to community development initiatives, so the use of resources must be targeted to achieve the greatest effect on community needs.
- Financial decisions require a long-term perspective. The current use of financial resources may reduce monies available in the future. In evaluating short-term opportunities, it is important to question the long-term impact on community development.
- Public funds should lead to private investment. While this section focuses on public finance actions, the Comprehensive Plan cannot become reality without private investment. The use of public funds should be targeted to actions that encourage private investment in North Mankato.

Tax Increment Financing

Tax increment financing (TIF) is the primary development finance tool available to Minnesota cities (Minnesota Statutes, Sections 469.174 through 469.179). TIF is simple in concept, but complex in its application. Through tax increment financing, the property taxes created by new development (or redevelopment) are captured and used to finance activities needed to encourage the development. The challenge in using TIF lies with the complex and ever- changing statutory limitations.

Tax Abatement

Tax abatement acts like a simpler and less powerful version of tax increment financing. With TIF, the city controls the entire property tax revenue from new development. Under the abatement statute (Minnesota Statutes, Sections 469.1812 through 469.1815), the city, county and school district have independent authority to grant tax abatement.

Special Assessments

Public improvements are often financed using the power to levy special assessments (Minnesota Statutes Chapter 429). A special assessment is a means for benefiting properties to pay for all or part of the costs associated with improvements, and to spread the impact over a period of years. This tool can be applied to both the construction of new improvements and the rehabilitation of existing improvements.

Utility Revenues

The city operates three municipal utilities: water, sanitary sewer and storm water. The revenues from the operation of these utilities are available to pay for capital improvements in support of community development initiatives. State Law (Minnesota Statutes, Section 444.075) gives the authority to pledge these revenues to general obligation bonds for utility system improvements.

Capital Improvement Bonds

Cities may issue capital improvement bonds (Minnesota Statute, Section 475.521) for specific purposes. It is essential that cities follow statutory procedures (such as providing notice and a public hearing) when issuing this, or any, type of bond. In this context, "capital improvement" means acquisition or betterment of public lands, buildings, or other improvements for the purpose of a city hall, town hall, library, public safety facility, and public works facility. An improvement must have an expected useful life of five years or more to qualify. Three-fifths of the members of a five-member governing body must vote to approve the bonds. In the case of a governing body having more or less than five members, at least two-thirds of the council must vote to approve them. Capital improvement does not include light rail transit or any activity related to it, or a park, road, or bridge. City halls or town halls qualify as capital improvements as well as the land for any of these public facilities. These bonds are not subject to a vote unless voters petition for a reverse referendum.

Grant Programs

Cities can leverage funding from various grant programs to help take on economic development initiatives. There are numerous grant programs available to cities provided by various state and federal agencies related to economic development and downtown redevelopment. The Community Development Block Grant program (CDBG) administered by the U.S. Department of Housing and Urban Development (HUD) provides grants on an annual basis to states and eligible local governments for community development activities. In some cases, communities may choose to use these dollars for business retention and job growth activities. The City should also explore the use of these dollars for downtown redevelopment. The Minnesota Department of Employment and Economic Development is another agency with financial assistance available to local governments for business development, infrastructure, community development and site cleanup and redevelopment. Many other funding sources exist and city staff should monitor and pursue these opportunities when appropriate. The City of North Mankato Port Authority previously had its own redevelopment grant and loan program for the Central Business District. Funds were allocated mainly towards building rehab and infrastructure costs. The City should revisit the idea of bringing this program back for downtown redevelopment purposes.

Vision for Economic Development

The City of North Mankato will remain focused on retaining a high quality of life, while at the same time working to encourage and facilitate job growth in its commercial and industrial sectors.

Goals, Objectives, and Policies

The following section outlines the primary goals for economic development, followed by a series of objectives and policies intended to influence future economic development efforts that align with the community visions in this plan.

GOAL 1: Encourage economic growth to meet the demand for industrial development.

Objective 1.1: Develop and expand North Port Industrial Park.

Policy 1.1.1: Strive to maximize the community's strategic location as a valuable resource.

Policy 1.1.2: Actively target companies, both large and small, that offer good employment prospects, draw from the local labor pool, and are good corporate citizens.

Policy 1.1.3: Work to maintain a labor force in the immediate area that supports the growth of business and industry in the North Port Industrial Park.

Policy 1.1.4: Encourage continuation of communication and coordination of planning between the Port Authority, Planning Commission, and City Council.

GOAL 2: Balance the use of undeveloped land and infill development throughout the City.

Objective 2.1: Continue and expand redevelopment efforts.

Policy 2.1.1: Address unique development challenges including the reuse and redevelopment of vacant buildings.

Policy 2.1.2: Foster private investment and economic activity without compromising community objectives to maintain and enhance North Mankato's environment.

Policy 2.1.3: Encourage landowners in areas guided for redevelopment to consolidate land and develop a master plan for future development rather than piecemeal development.

Policy 2.1.4: Monitor the status of vacant commercial buildings in order to encourage and facilitate redevelopment of underutilized or distressed properties into viable commercial, industrial and retail developments by working with property owners and interested developers.

GOAL 3: Maintain North Mankato's reputation as a resource to new and expanding businesses.

Objective 3.1: Retain and support local business and industry.

Policy 3.1.1: Set attracting new, and retention of existing, businesses and industries as a priority of the City's economic development plan.

Policy 3.1.2: Continue outreach by City Staff and Elected Officials whereby the City representatives meet periodically on an individual basis with businesses and industries to listen to concerns and discuss opportunities for success. During these meetings, identify any perceived or real barriers or obstacles (such as overly restrictive ordinances) that the City could potentially remove or minimize to help industries and businesses prosper, while still protecting the overall health, safety and welfare of the community.

Policy 3.1.3: Coordinate with Greater Mankato Growth, higher education institutions, the School District, and others in their efforts to promote training opportunities that can help businesses and industries prosper. If appropriate, co-sponsor and/or offer City facilities and/or meeting space for employee training programs.

Policy 3.1.4: Continue to promote North Mankato's high quality of life as a means to help attract new businesses and industries.

Policy 3.1.5: Continue to work with local businesses and industries to ensure needs for expansion and development are adequately met.

Policy 3.1.6: Pursue ways to streamline the development approval process while still maintaining high quality development standards.

Policy 3.1.7: Periodically review economic development incentive programs such as Tax Increment Financing (TIF), Tax Abatement and other regional and state incentive programs.

"Greater Mankato was recognized by Forbes as being #10 in the US for Business & Careers!"

"Mankato/North Mankato is now a Bronze Level Bike Friendly American City!"

CHAPTER 6:

Transportation

Introduction

The purpose of the Transportation chapter of the Comprehensive Plan is to provide guidance to the City of North Mankato, as well as existing and future landowners in preparing for future growth and development. As such, whether an existing roadway is proposed for upgrading or a land use change is proposed on a property, this Plan provides the framework for decisions regarding the nature of roadway infrastructure improvements necessary to achieve safety, adequate access, mobility, and performance of the existing and future roadway system. The primary goal of this Plan is to establish local policies, standards, and guidelines to guide major transportation investments and policy decisions. To accomplish these objectives, the Transportation Plan provides information about:

- Previous planning through the Mankato/North Mankato Area Transportation Planning Study (MATAPS) in 2011 which identified existing and potential deficiencies of the existing arterial-collector street system.
- The functional hierarchy of streets and roads related to access and capacity requirements.
- Access management policies and intersection controls.
- Future planning through the Mankato/North Mankato Area Planning Organization's (MAPO) 2045 Long Range Transportation Plan. This plan will be completed in 2015 and will identify future transportation system improvement needs.

Transportation System Principles And Standards

The transportation system principles and 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.

Functional Classification

It is recognized that individual roads and streets do not operate independently in any major way. Most travel involves movement through a network of roadways. It becomes necessary to determine how this travel can be channelized within the network in a logical and efficient manner. Functional classification defines the nature of this channelization process by defining the part that any particular road or street should play in serving the flow of trips through a roadway network. Functional classification is the process by which streets and highways are grouped into classes according to the character of service they are intended to provide. Functional classification involves determining what functions each roadway should perform prior to determining its design features, such as street widths, speed, and intersection control.

The Minnesota Department of Transportation (MnDOT) has developed definitions and criteria for roadway classification based on function. The functional classification system typically consists of four major classes of roadways: Principal Arterials, Minor Arterials, Major Collectors, and Minor Collectors. Roadways are classified as either arterials, collectors, or local streets based on several criteria including (but not limited to) geographic units connected, types of streets connected, length of trip served, distance between streets of the same classification, volume of traffic carried by the facility, speed limit and design (right-of-way width and access provisions).

2015 Comprehensive Plan

City of North Mankato

Figure 6.1 Proposed Functional Classification

January, 2015

Nicollet County

Blue Earth County

City of Mankato

City of Mankato

Minnesota River

Minnesota River

Hiniker Pond

Spring Lake Park

510TH ST.

512TH ST.

526TH ST.

522ND ST.

CH 6 520TH ST.

TIMM RD.

HOWARD DR.

West Howard Dr.

COMMERCE DR.

LEE BLVD.

LOOKOUT DR.

MARVIN BLVD.

CARLSON DR.

COUNTRYSIDE DR.

CH 77

405TH AVE.

415TH AVE.

409TH AVE.

CH 13

CR 13 LOOKOUT DR

CH 41 ROCKFORD RD.

US 14

US 169

MN 99

MN 60

LAKE ST.

TOWER BLVD.

ROE CREST DR.

HOOVER DR.

ALLEN AVE.

CLIFF DR.

OAK TERRACE

HAUGHTON AVE

CASTLE DR.

ORCHID DR.

LARK DR.

HOWARD DR.

LOR RAY DR.

CLAIRE CT.

CLAIRE DR.

BELVISTA DR.

WEBSTER AVE.

MC KINLEY AVE.

TYLER AVE.

MONROE AVE.

GARFIELD AVE.

GRANT AVE.

PAGE AVE.

WHEELER AVE.

PARK AVE.

BELGRADE AVE.

NICOLLET AVE.

SOUTH AVE.

CROSS ST.

SHERMAN ST.

CENTER ST.

WALL ST.

LYNDALE ST.

N. RIVER DR.

KERNS DR.

DEERWOOD

ABBYWOOD LN.

WILLOW LN.

ASPEN LN.

RED TAIL LN.

PLEASANT VIEW DR.

RAYMOND DR.

SNOWBIRD LN.

N. RIDGE DR.

TOR ST. LN.

FAIRBANKS DR.

COVENTRY LN.

NOTTINGHAM DR.

SHAFTON DR.

MEADOW LN.

CANDI LN.

MARY LN.

ROAD NAME UNAVAILABLE

COUNTY 71 ROAD

Legend

Proposed Functional Class

- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Future Minor Collector
- City Limits
- Parcels

0 2,000 Feet

Source: Nicollet County, MnDNR, ESRI

Map Document: \\arcserver1\gis\NMAN_Basemap\ESRI\Maps\2015\Comprehensive_Plan\Nman-Comp Plan Proposed Functional Classification-11x17.mxd
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The existing roadway classifications in North Mankato are described below.

A. **Principal Arterials**
Roadways of this classification typically connect large urban areas to other large urban areas or they connect metro centers to regional business concentrations via a continuous roadway without stub connections. They are designed to accommodate the longest trips. Their emphasis is focused on mobility rather than access. They connect only with other Principal Arterials, interstate freeways, and select Minor Arterials and Collector Streets. There are two Principal Arterial roadways in the City of North Mankato, US 14 and US 169. US 14 provides east-west connectivity across the southern portion of the state of Minnesota. US 169 runs north-south with connections into Iowa on the south and to the Twin Cities metropolitan area and beyond on the north.

B. **Minor Arterials**
Roadways of this classification typically link urban areas and rural Principal Arterials to larger towns 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. They connect with Principal Arterials, other Minor Arterials, and Collector Streets. Connections to Local Streets should be avoided if possible. Minor Arterials are responsible for accommodating thru-trips, as well as trips beginning or ending outside the North Mankato area. Minor Arterial roadways are typically spaced approximately ½ to 1 mile in developed areas and approximately 1 to 2 miles in developing areas. All or portions of Lookout Drive, Lor Ray Drive, Lee Boulevard, Belgrade Avenue, Range Street, Center Street and Sherman Street are identified as Minor Arterial roadways in North Mankato.

C. **Major Collectors**
Roadways of this classification typically link neighborhoods together within a city or they link neighborhoods to business concentrations. In highly urban areas, they also provide connectivity between major traffic generators. A trip length of less than 5 miles is most common for Major Collector roadways. A balance between mobility and access is desired. Major Collector street connections are predominately to Minor Arterials, but they can be connected to any of the other four roadway functional classes. Local access to Major Collectors should be provided via public streets and individual property access should be avoided. Generally, Major Collector streets are predominantly responsible for providing circulation within a city. However, the natural features associated with wetland and drainage complexes and parks, and location of principal arterials through the community results in circulation within North Mankato being reliant on a combination of the Minor Arterial and Major Collector roadways. Major Collectors are typically spaced approximately ¼ to ¾ mile in developed areas and approximately ½ to 1 mile in developing areas. Portions of Lookout Drive (CSAH 13), Howard Drive, Commerce Drive, Lee Boulevard, Lake Street, Webster Avenue, Lind Street and Center Street are functionally classified as Major Collector roadways in the North Mankato area.

D. **Minor Collector Streets**
Roadways of this classification typically include city streets and rural township roadways, which facilitate the collection of local traffic and convey it to Major Collectors and Minor Arterials. Minor Collector streets serve short trips at relatively low speeds. Their emphasis is focused on access rather than mobility. Minor Collectors are responsible for providing connections between neighborhoods and the Major Collector/Minor Arterial roadways. These roadways should be designed to discourage short-cut trips through the neighborhood by creating jogs in the roadway (i.e. not direct, through routes). CSAH 41 within the City of North Mankato is classified as a minor collector.

Roadway Capacity

Capacities of roadway systems vary based on the roadway's functional classification. Based on accepted standards, 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 around 10% of the daily physical roadway capacity.

Principal and Minor Arterials

Based on the per lane capacity figures cited 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 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 Collectors 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.

Table 6-A: Roadway Types and Capacities, identifies various roadway types and the estimated daily capacities that the given roadway can accommodate.

Table 6-A: Roadway Types and Capacity

Roadway Type	Daily Capacities
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

The capacity of a transportation facility reflects its ability to accommodate a moving stream of people or vehicles. It is a measure of a 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 operational 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 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 6-B** below:

Table 6-B: Highway Level of Service

LOS	Multilane	Two-Lane
	v/c Ratio	Avg. 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 criteria is established in **Table 6-C** below:

Table 6-C: Urban Street Level of Service

Range of Free-Flow Speed	55 to 45	45 to 35	35 to 30	35 to 25
LOS	Avg. Travel Speed (mph)			
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

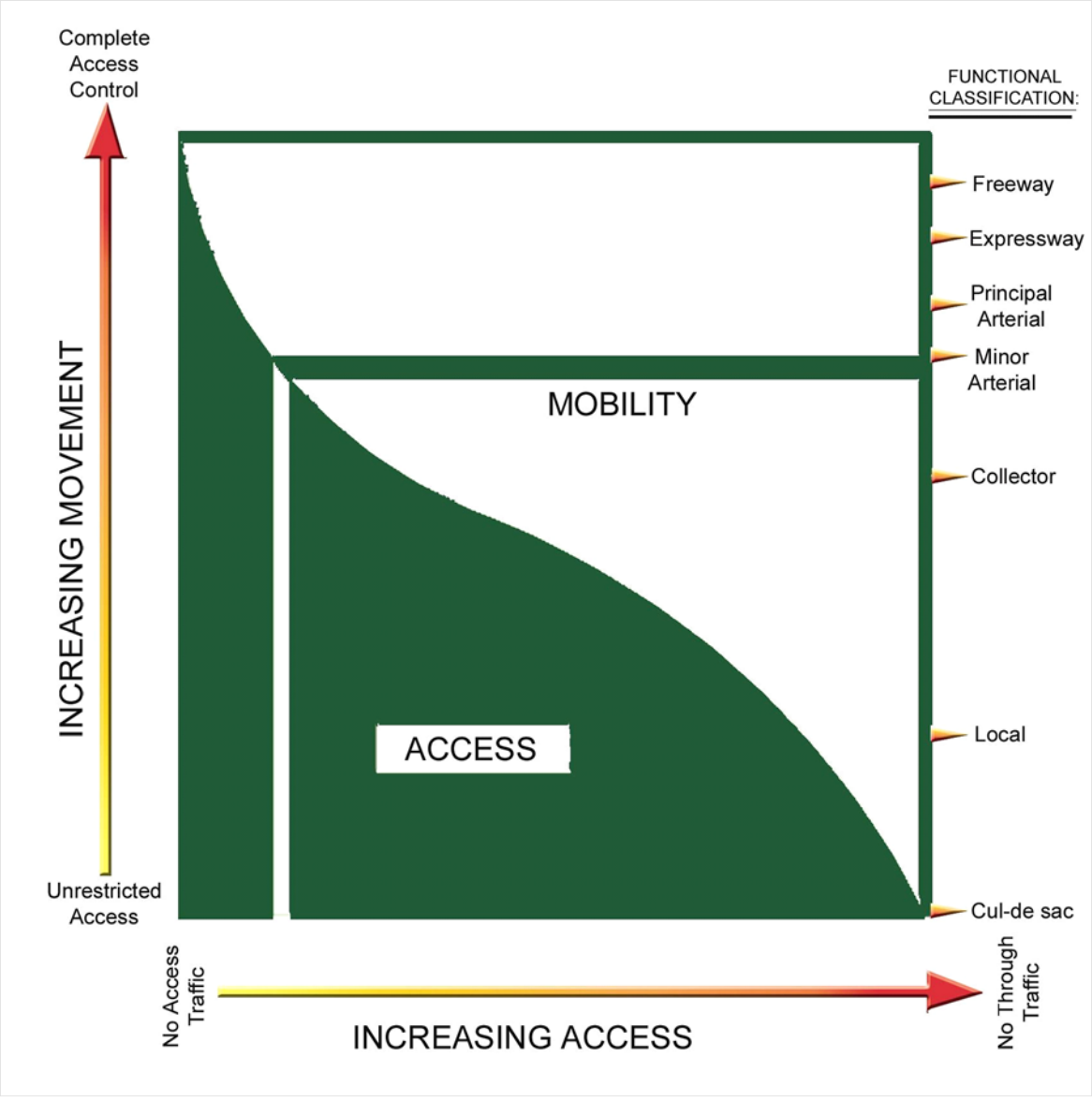
Generally, the City of North Mankato should consider capacity improvements on roadways with a LOS D or worse and volume-to-capacity ratios over 0.75 during the peak hours.

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 North Mankato, 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 North Mankato, 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 MnDOT State-Aid design standards. Tables 6-D and 6-E present the proposed access standards and access spacing for the North Mankato roadway network:

Table 6-D: Roadway Access Standards

	Maximum Curb Cut (Measured at Property Line)	Maximum Number of Curb Cuts	Minimum Distance Between Curb Cuts	Minimum Side Yard Driveway Setback
Single Family Interior Lot	24 feet	1	20 feet	10 feet
Single Family Corner Lot	24 feet	1	20 feet	10 feet
Single Family Corner Lot utilizing circular drive	14 feet	2	20 feet	10 feet
Single Family Cul-de-Sac Lot	24 feet	1	20 feet	10 feet
Multi-Family (2-8 Units)	24 feet	1	20 feet	10 feet
Multi-Family (Over 8 Units)	24 feet	2	20 feet	10 feet
Commercial/Business	36 feet	2	20 feet	10 feet
Industrial	50 feet	4	20 feet	10 feet

Roadway 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. For Minor Collector streets in residential areas, a minimum right-of-way width of 80 feet is recommended 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 of 80 feet to greater than 100 feet may be required on Minor Arterials and Major Collector roadways within commercial areas to accommodate the potential for higher traffic volumes and the need for additional lanes.

For the City of North Mankato, geometric design standards for the reconstruction or construction of new Minor Arterial, Major Collector, and Minor Collector Streets will be based on MnDOT State-Aid standards.

Table 6-E: Access Spacing Guidelines for Collector Roadways in North Mankato (1) (2)		
Type of Access by Land Use Type	**Minor Arterial/Major Collector**	**Minor Collector**
Low & Medium Density Residential		
Private Access	Not Permitted (3)	As Needed (4)
Minimum Corner Clearance from a Collector Street	660′	300′
Commercial, Industrial or High Density Residential		
Private Access	Not Permitted (3)	As Needed (4)
Minimum Corner Clearance from a Collector Street	660′	660′

(1) Some existing City streets that are currently functionally classified as Minor Arterial, Major Collector, or Minor Collector do not meet these criteria. These guidelines should be used for new streets and roadways that will functionally classified as Minor Arterial, Major Collector, or Minor Collector

(2) These guidelines apply to City streets only. Nicollet County and MnDOT have access authority for roadways under their jurisdiction.

(3) Access to Minor Arterials and Major Collectors should be 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.

(4) 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.

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. The following is a discussion of various geometric design elements and how each element relates to a particular roadway's ability to perform its function in the roadway network.

Roadway Width

Roadway and travel lane widths are directly associated with a roadway's ability to carry vehicular traffic. On Minor Arterial roadways, Major Collector roadways, Minor Collector streets and local streets, a 12-foot lane is required for each direction of travel. The 24-foot total travel width is needed to accommodate anticipated two-way traffic volumes without delay. 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.

Sidewalk/Trail

Sidewalks and/or trails are recommended to be adjacent to all Minor Arterial, Major Collector and Minor Collector roadways within North Mankato 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 necessary. In commercial and industrial areas, the requirements for trails and sidewalks may vary to accommodate additional pedestrian and bicycle traffic.

Along Minor Arterials and Major Collector roadways, an 8-foot wide bituminous or concrete trail and/or 6-foot wide concrete sidewalk is 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 Minor Arterials and Major Collectors. A sidewalk and trail will accommodate pedestrian and bicycle travel along the corridor, as well as provide a safe, comfortable link between lower volume residential streets and the other pedestrian and trail facilities within the community. A 10-foot wide trail would be more desirable as the 10-foot width would better accommodate two-way bicycle traffic. The City of North Mankato's comprehensive trail plan will be utilized to determine where bike trails are required.

Along Minor Collector roadways, a 6-foot concrete sidewalk is recommended on at least one side of the roadway both sides being preferred. With the anticipated vehicular volumes on Minor Collector streets, pedestrians can safely cross the roadway, however, pedestrian travel along the roadway may become uncomfortable.

Design Speed

The design speed of a roadway is directly related to the roadway's function in the roadway 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 6-F below presents the recommended design speed for the North Mankato roadway network.

Table 6-F: 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.

Roadway Jurisdiction

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 regional level of government. Recognizing that 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. Major Collector and Minor Collector roadways should fall under the jurisdiction of the City of North Mankato.

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.

Transportation Issues

The Mankato Area Transportation and Planning Study (MATAPS), completed in 2011, included a comprehensive technical analysis and public outreach effort to identify transportation issues for the MATAPS area. The following major issues were identified specific to North Mankato:

- US 14/US 169 interchange – safety and connectivity concern (eastbound on US 14 to northbound US 169); high-crash location
- US 169 at Lind Street and Webster Avenue – local access and safety concerns
- Commerce Drive – segment safety from CSAH 13 to Lor Ray Drive
- North-south connectivity – Need to improve connectivity within North Mankato Industrial Park
- Lee Boulevard – capacity concern from Roe Crest Drive to Lor Ray Drive
- Lee Boulevard at Belgrade Avenue – access/queues (problem with left turn movements)
- CSAH 41 (Judson Bottom Road) – safety and design issues (limited visibility and high speeds)
- North Mankato Transit Hub – need for convenient transfer location for local and regional transit service
- Trail expansion – potential trail expansion throughout the MATAPS study area and MAPO's Long Range Transportation Plan
- Multi-modal planning – residential, commercial and industrial developments need to accommodate varying modes of transportation

Existing Transportation System

This section of a typical Transportation Plan would include an analysis of the existing transportation system including a discussion of existing traffic volumes, capacity concerns and safety issues. However, the writing of this Transportation Plan element of the Comprehensive Plan falls between two significant regional transportation planning efforts that also include an analysis of North Mankato's transportation system. The following summarizes each of these planning efforts:

- **Mankato Area Transportation and Planning Study (MATAPS)** - This multi-jurisdictional study was completed in 2011. It documents the development of a 25-year vision for the Mankato and North Mankato region including a review of existing transportation conditions, future year transportation deficiencies and issues, potential transportation improvements and recommended multi-modal transportation projects and supporting policies.
- **Mankato/North Mankato Area Transportation Planning Organization (MAPO) 2045 Long-Range Transportation Plan** – This plan will be the first Metropolitan Long Range Transportation Plan for MAPO. The planning process began in 2014 and will be completed by 2015. The plan will:
  - advise MAPO policymakers about the metropolitan area's major transportation assets,
  - present key technical findings that inform policy discussion,
  - provide data on the multimodal improvements needed to maintain and upgrade the transportation infrastructure, and
  - provide a fiscally constrained program of projects for future public investments.

The City of North Mankato's participation in each of the above planning efforts is substantial. Consistent with their MATAPS involvement, the city will continue to have both technical and policy board representation in the MAPO 2045 Long Range Transportation Plan.

Because the timing of the City's Comprehensive Plan and this associated Transportation Plan falls between these two large regional planning efforts, it was agreed there was little value in re-analyzing existing transportation conditions for this Transportation Plan. Instead, the city encourages interested individuals to refer to the MATAPS report and figures for this information. The MATAPS report and figures can be found online at http://www.mankato-mn.gov/mataps/Page.aspx or by contacting the city. This report includes the following relevant figures:

- Average Daily Traffic (2010)
- Existing Roadway Capacity Deficiencies
- Intersection and Segment Crashes
- Truck Traffic
- Transit Service Concerns
- Roadway/Bicycle Compatibility
- 2035 Traffic Volumes
- 2035 Capacity Analysis
- Long Range Major Roadway Projects
- Bus Rapid Transit Concept Plan
- Proposed Non-Motorized System Plan

When complete, the MAPO 2045 Long Range Transportation Plan will also produce a report and graphics documenting existing conditions; future traffic forecasts; issues; goals; objectives and performance measures; range of alternatives; financial plan; and recommended future network and implementation report. Information relevant to North Mankato's Transportation System should be incorporated in an update to this Transportation Plan.

Future Transportation System

As described above, a full analysis of North Mankato's future transportation system needs was not conducted as part of this Transportation Plan. However, the City has begun discussions with MAPO representatives and MnDOT to consider an update of their functional classification system. As of this writing, the MAPO Technical Advisory Committee is working with Mn/DOT to update the functional classifications for the roadway systems within the MAPO planning area (including the City of North Mankato). Figure 6.1 shows the proposed functional classification system for existing roadways in the City of North Mankato and for future roadways within the growth areas identified in this Comprehensive Plan. The functional classification of the existing and future roadway network will be revisited as part of MAPO's 2045 Long Range Transportation Plan and any changes should be incorporated as an update to this Transportation Plan as well.

The large vacant parcel at the northwest quadrant of the TH 169/West Lind Street intersection lies within the City of Mankato and is designated for heavy industrial development on their land use map. The City of Mankato has also received inquiries from potential developers regarding the possibility of a large retail development being located on this site. Either an industrial or commercial/retail development could result in traffic impacts on the North Mankato local street system, namely West Lind Street and North Lake Street. Lake Street north of Webster Avenue is designated as a local street in the proposed functional classification. It is the intent of the City of North Mankato that this segment of Lake Street remain a low-volume local street in order to preserve the unique character of the street corridor and the adjacent residential properties. If a significant development were to be proposed on West Lind Street, a traffic study would typically be required by the City of Mankato to evaluate the impact of the proposed development on the surrounding transportation system. In the event that development is initiated in this area, the City of North Mankato will communicate to the City of Mankato the intent that North Lake Street remain a low volume local street such that the traffic impact study would include this as a parameter, and any required mitigation measures be included with the project.

Several scenarios for modifications to the TH 169 and TH14 interchange and for access modifications to the segment of TH 169 from the TH 14 interchange to Webster Avenue have been developed in the past. The primary objectives of the proposed improvements for the interchange are to eliminate the need to cross lanes of traffic when making the following turning movements:

- Eastbound TH 14 to northbound TH 169
- Northbound TH 169 to westbound TH 14

Most of the improvement scenarios also included modification to the existing access conditions at the Lind Street and/or Webster Avenue intersections. Options considered included the removal of signals, closing access completely, or modifying access to right in/right out at one or both locations.

During the last MATAPS updates in 2003 and 2011, the City of North Mankato staff and Council voiced opposition to any option that eliminated or reduced the level of access at Webster Avenue. Based on discussions with City staff and City Council, the position of the City of North Mankato has not changed on this issue and the City will only support options for improvements within this corridor that do not restrict access at the TH 169/Webster Avenue intersection from that which presently exists.

Transportation System Goals, Objectives, And Policies

The following section outlines the primary goals for the transportation system followed by a series of objectives and policies intended to influence future development efforts that align with the community visions in this plan.

GOAL 1: Participate in the preparation of the Mankato/North Mankato Area Transportation Planning Organization (MAPO) 2045 Long-Range Transportation Plan (LRTP).

Objective 1.1: Provide representation on behalf of the City of North Mankato throughout the LRTP preparation process.

Policy 1.1.1: The City Planner and City Engineer, as MAPO Technical Advisory Committee (TAC) members, will represent the interests of the City of North Mankato throughout the LRTP preparation process.

Policy 1.1.2.: The City Councilperson designated as the MAPO Policy Board member, will represent the interests of the City of North Mankato throughout the LRTP preparation process.

Objective 1.2: Provide information, input and feedback relative to the City of North Mankato's transportation system throughout the LRTP preparation process.

Policy 1.2.1: The MAPO TAC members and Policy Board Representative will promptly provide the technical information requested throughout the preparation of the LRTP, utilizing other City staff members and other resources as required.

Policy 1.2.2: The City's TAC representatives and Policy Board representative will periodically updated the City Council on the progress of the LRTP preparation.

Policy 1.2.3: The City's TAC representatives and Policy Board representative will seek input from the City Council on decisions impacting the City of North Mankato's transportation system and communicate such input as appropriate during the LRTP preparation process.

Policy 1.2.4: Continue to support options for the TH 169/TH 14 interchange and adjacent TH 169 corridor to the south that will maintain full access conditions at the TH 169/ Webster Avenue intersection.

GOAL 2: Implement and enforce standards for new streets and roadways within identified growth areas.

Objective 2.1: Assign appropriate functional classification to existing and new streets and roadways.

Policy 2.1.1: City Planner and City Engineer will provide the MAPO TAC and Policy Board with recommendations regarding functional classification of new streets and roadways.

Policy 2.1.2: City Planner and City Engineer will monitor traffic and other transportation characteristics of existing streets and roadways and make recommendations regarding changes to the functional classification of the existing streets and roadways.

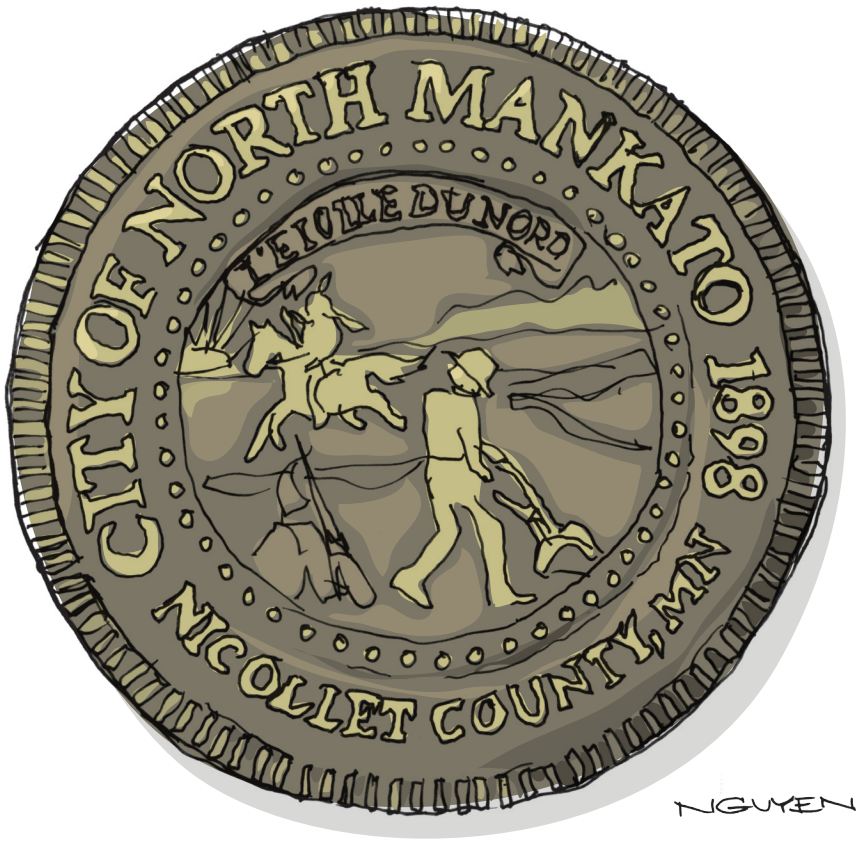
Objective 2.2: Implement and enforce standards for existing and new streets and roadways.

Policy 2.2.1: Incorporate standards related to access management standards and geometric design standards as outlined herein and as developed in the LRTP into the City's zoning ordinances related to new streets and roadways.

Policy 2.2.2: Monitor opportunities to incorporate standards related to access management standards and geometric design standards as outlined herein and as developed in the LRTP into the reconstruction of existing streets and roadways and implement to the extent practical.

CHAPTER 7:

Public Utilities



Introduction

The City of North Mankato has a significant investment in its existing public utilities systems (water, wastewater and stormwater). The continued expansion and development within the growth areas identified in this Comprehensive Plan will require the extension of public utilities into those areas. In general, the existing infrastructure system is well-positioned and of adequate size to support the required expansion into the growth areas. However, coordination will be required between community development and the required expansion of the utility system. In some cases, the cost of providing utility service may dictate where and when future growth will occur and when.

The following sections provide a general description of the existing water system, wastewater system and storm drainage system within the City of North Mankato. Also included are schematic concepts demonstrating how the public utility systems may be expanded into most of the growth areas identified in this plan. This Chapter is not intended to be a detailed infrastructure master plan, but rather a source of information that will assist stakeholders (citizens, City staff, and potential developers) with the information about these systems and factors that may impact decision-making regarding development strategies.

Water System

Existing Systems

The City of North Mankato operates an extensive water treatment and supply system, serving residential, commercial and industrial users in two pressure zones: the upper system and the lower system.

Under normal circumstances, the two systems operate independently, each with their own supply, treatment, storage, and distribution systems. However, there is a connection between the two systems to facilitate the transfer of water between systems in the event of an emergency.

Water supply in the lower system is provided by two groundwater wells, Well No. 5 and Well No. 6, both located near Water Treatment Plant No. 1 at the intersection of Belgrade Avenue and Nicollet Avenue. The upper system is currently provided by two groundwater wells, Well No. 7 and Well No. 8. Well No. 7 is located near Water Treatment Plant No. 2 on Howard Drive. Well No. 8 is located in the Caswell Park complex, just east of Water Treatment Plant No. 2. A third well, Well No. 9, is currently in the design phase and will be constructed in 2014 and 2015. Table 7-A below shows a summary of the well characteristics:

Table 7-A: Well Data

Well No.	5-Lower	6-Lower	7-Upper	8-Upper	9-Upper (proposed)
Year Constructed	1950	1959	1975	1986	2014-2015
Well Depth (ft)	680	687	860	845	845
Casing Diameter (in)	16	24/20	24/20	30/24/18	30/24/18
Water Bearing Foundation	Ironton / Galesville / Mt. Simon	Ironton / Galesville / Mt. Simon	Franconia / Mt. Simon	Mt. Simon	Mt. Simon
Pump Type	Vertical Turbine	Vertical Turbine	Vertical Turbine	Vertical Turbine	Vertical Turbine
Capacity (gal/min)	1000	1440	1100	1100	1100

As mentioned previously, two water treatment plants treat the well water before it is pumped into the distribution system. Treated water for the lower system is provided by Water Treatment Plant No. 1, located at the intersection of Belgrade Avenue and Nicollet Avenue. This facility was initially constructed in 1959 with rehabilitation work completed most recently in 1994. The facility consists of a steel gravity filter which treats the raw water for iron and manganese and has a capacity of 1,500 gallons per minute (gpm). Treated water for the upper system is provided by Water Treatment Plant No. 2, located on Howard Drive just east of the Caswell Park athletic complex. This facility was constructed in 1975 and most recently rehabilitated in 2001, and expanded. The treatment capacity was increased to 2200 gpm in 2001.

2015 Comprehensive Plan

City of North Mankato

Figure 7.1 Existing Water System

January, 2015

Water Pump 2

Well 9 (Proposed)

Well 8

Water Tower 2
(500, 000 Gal)

Hillside Reservoirs
(190,000 Gal &
60,000 Gal)

Ground Storage
Reaervoir
(500,000 Gal)

Well 6

Water Plant 1

Well 5

Water Tower 1
(500, 000 Gal)

Hiniker
Pond

Spring
Lake
Park

Minnesota River

City of
Mankato

City of
Mankato

CH 77

CH 13

CH 41 ROCKFORD RD.

512TH ST.

415TH AVE.

409TH AVE.

KERNS DR.

LOR RAY DR.

LEE BLVD.

LOOKOUT DR.

LAKE ST.

US 14

US 169

US 169 MN 60

COUNTY 71 ROAD

14

169

41

13

6

Legend

- Existing Wells
- Existing Resevoir
- Existing Tower
- Existing Watermain
- City Limits
- Parcels

0 2,000 Feet

Source: Nicollet County, MnDNR, ESRI

Map Document: \\arcserver1\gis\NMAN_Basemap\ESRI\Maps\2015\Comprehensive_Plan\Nman-Comp Plan Water Towers-11x17.mxd
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The existing treated water storage for the City of North Mankato consists of five reservoirs. Three ground-level storage reservoirs provide a total of 750,000 gallons of water storage for the lower system. One of the ground storage reservoirs (500,000 gallons) is located at Water Treatment Plant No. 1. The other two reservoirs for the lower system with a combined capacity of 250,000 gallons are located in the hillside bluff overlooking the lower North Mankato area and thus act as elevated reservoirs for the lower system. The upper system is served by two 500,000 gallon elevated water towers, one located on Tower Drive, constructed in 2011 and one located on Carlson Drive, constructed in 1993. In addition, a 750,000 gallon ground storage reservoir is located adjacent to Water Treatment Plant No. 2.

High service pumps are utilized to pump water from the two ground storage reservoirs located at the water treatment plants. Two high service pumps at Water Treatment Plant No. 1 are capable of pumping 1,200 gpm each and approximately 2,000 gpm when operating together. In addition, the pumps at this plant are capable of transferring water from the lower system to the upper system at a rate of approximately 1,000 gpm. High service fixed speed pumps at Water Treatment Plant No. 2 are capable of delivering 2,200 gpm from the ground storage reservoir ar Water Treatment Plant No. 2. A variable speed pump at this location is capable of delivering up to 1,100 gpm to the distribution system.

The existing water distribution system consists of 4-inch diameter through 16-inch diameter mains. The oldest watermains are in the lower area. Those that have not been replaced with ductile iron or polyvinyl chloride (PVC) pipe within the past 20 to 25 years are cast iron pipe. Most of the upper system is ductile iron or PVC pipe. Dead end mains have, in general, been minimized, which provides for adequate circulation and very few areas of stagnant water throughout the lower and upper systems. The City's water department staff flushes the system on a regular basis in order to clean sediment and rust from the system. Numerous reconstruction projects over the past 25 to 30 years, primarily in the lower system, have greatly improved the water supply and pressure, and have increased the reliability of the system. The existing water system in North Mankato is shown on **Figure 7.1.**

Future Improvements

The following table shows the current and projected water usage demands for the City of North Mankato:

Table 7-B: Water Usage

Year	Lower System		Upper System		Overall System	
	Annual Water Use (mg)	**Peak Day Water Use (gpm)**	**Annual Water Use (mg)**	**Peak Day Water Use (gpm)**	**Annual Water Use (mg)**	**Peak Day Water Use (gpm)**
Current	140	700	403	1,967	543	2,667
2020	140	700	417	2,025	557	2,725
2025	140	700	429	2,085	569	2,785
2035	140	700	452	2,200	592	2,900

With the proposed construction of new Well No. 9 in the upper system, the well capacity is adequate to meet the projected water demands throughout the planning period. Firm peak day capacity, calculated over 24 hours with the largest well in each system out of service is 1,000 gallons per minute (gpm) in the lower system and 2,200 gpm in the upper system. The City will continue to implement an on-going well maintenance program in order to maximize the useful lives of the well casings, pumps, piping and equipment. Periodic repairs and replacements will be performed as required.

The capacity of the water treatment plants and high service pumping should equal the maximum day demands for the planning period. The projected future peak day demands for the planning period are 1.2 mgd in the lower system and 2.5 mgd in the upper system. Treatment capacity of Plant No. 1 is 1.8 mgd and Plant No. 2 is 2.6 mgd. Since the capacity of each treatment plant exceeds the projected peak day demand for each facility, the treatment capacity is adequate for the planning period. However, Water Treatment Plant No. 1 is 55 years old and was most recently rehabilitated 20 years ago. Water Treatment Plant No. 2 is 39 years old and was most recently rehabilitated 13 years ago. Therefore it is likely that both water treatment facilities will need to be rehabilitated or reconstructed within the planning period. At such time that significant rehabilitation is required at one or both of the facilities, consideration should be given to the cost-effectiveness of maintaining two separate water treatment facilities as compared to the option of expanding Water Treatment Plant No. 2 and decommissioning Water Treatment Plant No. 1.

Water storage for the City of North Mankato is located in both the upper and lower distribution zones. Storage adequacy can be assessed in several ways. The recommended water storage volume is based on fire demand, emergency reserve and equalization. Based on average day demand, a worst case fire event, and equalization volume equal to 20 percent of the average daily flow, an analysis indicates that the water storage provided in the upper area by the ground storage/high service pumps and the two elevated water towers is adequate to meet the projected storage requirements through the planning period. A similar analysis indicates that the lower system is currently deficient in storage by approximately 200,000 gallons. Since water demand in the lower system is not expected to increase significantly during the planning period, the lower system will be approximately 200,000 deficient in storage at the end of the planning period. However, water from the upper system can be diverted to the lower system without limiting services in the upper system, so the need to add storage in the lower system is not anticipated. However, the hillside ground storage reservoirs in the lower system are over 50 years old and the rehabilitation or replacement of these reservoirs will likely be required at some point during the planning period. It is recommended that the reservoirs be drained, inspected and maintained every 3 to 5 years.

In general the water distribution system for the City of North Mankato is well maintained and well managed. Although much of the old cast iron watermain system has been replaced through numerous reconstruction projects in the lower system in recent years, portions of the old system still remain. These segments should be replaced and, where required, increased in size as street construction projects are implemented. As previously noted, most of the upper system is much newer (relatively speaking) than the lower system and consists primarily of ductile iron and cast iron pipe. As with the lower area, the existing watermain system in the upper system should be evaluating for improvement and/or replacement when the City is contemplating street reconstruction projects.

Most of the water system improvements in the upper area will be driven by residential, commercial and/or industrial development in the undeveloped areas within the City limits and the projected growth areas beyond the City limits. A system of trunk watermains ranging in size from 10 to 16 inches in diameter will be extended into these growth areas as they develop. The approximate configuration of the trunk watermain systems within the projected growth areas is shown in **Figures 7.2, 7.3, and 7.4**.

2015 Comprehensive Plan

City of North Mankato

Figure 7.2 Future Water System Improvements

January, 2015

Legend

- Study Boundary
- 10"-16" Watermain
- Existing Hydrants
- Existing Valves
- Existing Resevoir
- Existing Tower
- Existing Wells
- Existing Watermain
- Existing Fire Service
- Parcels
- City Limits
- Lakes & Ponds

0 800 Feet

Source: Nicollet County, MnDNR

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Figure 7.3 Future Water System Improvements

January, 2015

Legend

- Study Boundary
- 10"-16" Watermain
- Existing Hydrants
- Existing Valves
- Existing Resevoir
- Existing Tower
- Existing Wells
- Existing Watermain
- Existing Fire Service
- Parcels
- City Limits
- Lakes & Ponds

0 800 Feet

Source: Nicollet County, MnDNR

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2015 Comprehensive Plan

City of North Mankato

Figure 7.4 Future Water System Improvements

January, 2015

Legend

- Study Boundary
- 10"-16" Watermain
- Existing Hydrants
- Existing Valves
- Existing Resevoir
- Existing Tower
- Existing Wells
- Existing Watermain
- Existing Fire Service
- Parcels
- City Limits
- Lakes & Ponds

0 800 Feet

Source: Nicollet County, MnDNR

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Water System Goals, Objectives, and Policies

The following section outlines the primary goals for the water system followed by a series of objectives and policies intended to influence future development efforts that align with the community visions in this plan.

GOAL 1: Expand existing water system infrastructure to meet the demands generated by continued development.

Objective 1.1: Expand the trunk watermain system into future growth areas.

Policy 1.1.1: Implement the expansion of the trunk watermain system as areas outside the limits of the existing water distribution system are developed.

Policy 1.1.2: The trunk watermain system within the future growth areas should generally follow the configuration as shown in Figures 7.2, 7.3 and 7.4. Final trunk watermain sizes and locations should be based on the type, location and sequence of development within the projected growth areas.

Policy 1.1.3.: Develop a financing strategy for funding the expansion of the trunk watermain system.

GOAL 2: Monitor, evaluate and improve the condition of the City's existing water system infrastructure

Objective 2.1: Replace aging water distribution system infrastructure.

Policy 2.1.1: Prepare a study to document the condition of deficient watermains based on age, materials and history of breaks, leaks, freezing and other deficiencies.

Policy 2.1.2: Utilize the information from the watermain condition study, in conjunction with the condition information for other infrastructure elements, to develop, expand and prioritize projects to be included in the capital improvements.

Objective 2.2: Monitor the condition of existing water supply, treatment, and storage infrastructure and replace as required.

Policy 2.2.1: Monitor changes in drinking water quality standards and identify possible changes to the treatment processes currently utilized by the City's two water treatment facilities.

Policy 2.2.2: Monitor the condition of Water Treatment Plant No. 2 and continue with regular maintenance and miscellaneous equipment replacement as required.

Policy 2.2.3: Prepare a study to evaluate the condition of Water Treatment Plant No. 1, to determine the estimated remaining useful life of the existing equipment, to develop alternatives for upgrades or replacement, and to develop alternatives for financing any required improvements.

Policy 2.2.4: Monitor the condition of the existing wells and related equipment and continue with regular inspections, maintenance and miscellaneous equipment replacement as required.

Policy 2.2.5: Monitor the condition of the water storage facilities and related equipment and continue with regular inspections, maintenance and miscellaneous equipment replacement as required.

Wastewater System

Existing Systems

The existing wastewater collection system within the City of North Mankato consists of a network of sanitary sewers ranging in size from 8 inches to 24 inches in diameter. There are also 12 lift stations located throughout the City which collect and pump the wastewater from those areas which cannot be served by gravity sewers. The sanitary sewers and lift stations throughout the City collect into three main trunk sewers. Each of the trunk sewers flow to Lift Station No. 1 and Lift Station No. 2 located on the east side of Trunk Highway (T.H.) 169 at Pierce Avenue. Lift Stations No. 1 and No. 2 operate in tandem to pump all of the wastewater generated within the City North Mankato, across the Minnesota River to the City of Mankato's wastewater treatment facility. **Figure No. 7.5** shows the three trunk sewers as well as with the areas served by each.

The capacity of the existing wastewater collection system is controlled, for the most part, by the capacity of the existing lift stations and trunk sewers. The sanitary sewer system and the lift stations within the City of North Mankato are well maintained and well managed. The sanitary sewers are cleaned and televised on a regular basis, and the lift stations are also inspected and maintained regularly. Although much of the old clay sanitary sewer systems in the lower North Mankato area have been replaced through numerous reconstruction projects in recent years, portions of the old system still remain. These segments should be replaced as street construction projects are implemented using newer materials less susceptible to inflow and infiltration of ground water and surface water into the system. Most of the sanitary sewer system in the upper North Mankato area is newer and consists primarily of plastic pipe. However, as with the lower area, the existing sanitary sewers in the upper system should be also be evaluating for improvement and/or replacement when the City is contemplating street reconstruction projects.

The City will continue to implement an on-going well maintenance and equipment replacement program to maximize the useful lives of the lift stations. Periodic repairs and replacements will be performed as required.

Future Improvements

The following table shows the current and projected wastewater flows from the City of North Mankato:

Table 7-C: Current and Projected Wastewater Flows

Year	Total Projected Average Daily Wastewater Flow (mgd)	Total Projected Average Wet Weather Wastewater Flow (mgd)
Current	1.21	1.55
2020	1.44	1.78
2025	1.61	1.95
2035	1.88	2.22

The average daily wastewater flow is the total annual volume of wastewater collected within the City of North Mankato and pumped to the Mankato Wastewater Treatment Plant divided by 365 days. The average wet weather wastewater flow is average daily flow for the 30 consecutive days that have the highest total flow during that 30-day period in each year.

The City recently completed improvements to one of the trunk sewer lines (Belgrade Avenue Hill and ravine) and is currently undertaking improvements to Lift Station No.1. With these improvements, the wastewater collection system has adequate capacity to accommodate the projected wastewater flows from residential, commercial and industrial development within a 20-year planning period. Most of the areas projected for future development are located within or adjacent to the existing city limits in the upper North Mankato area. The trunk sewer line on Carlson Drive and Countryside Drive will serve these future development areas. This trunk sewer line and Lift Station No. 2 were constructed in the mid-1990's and have capacity for the projected wastewater flows within the planning period of this Comprehensive Plan.

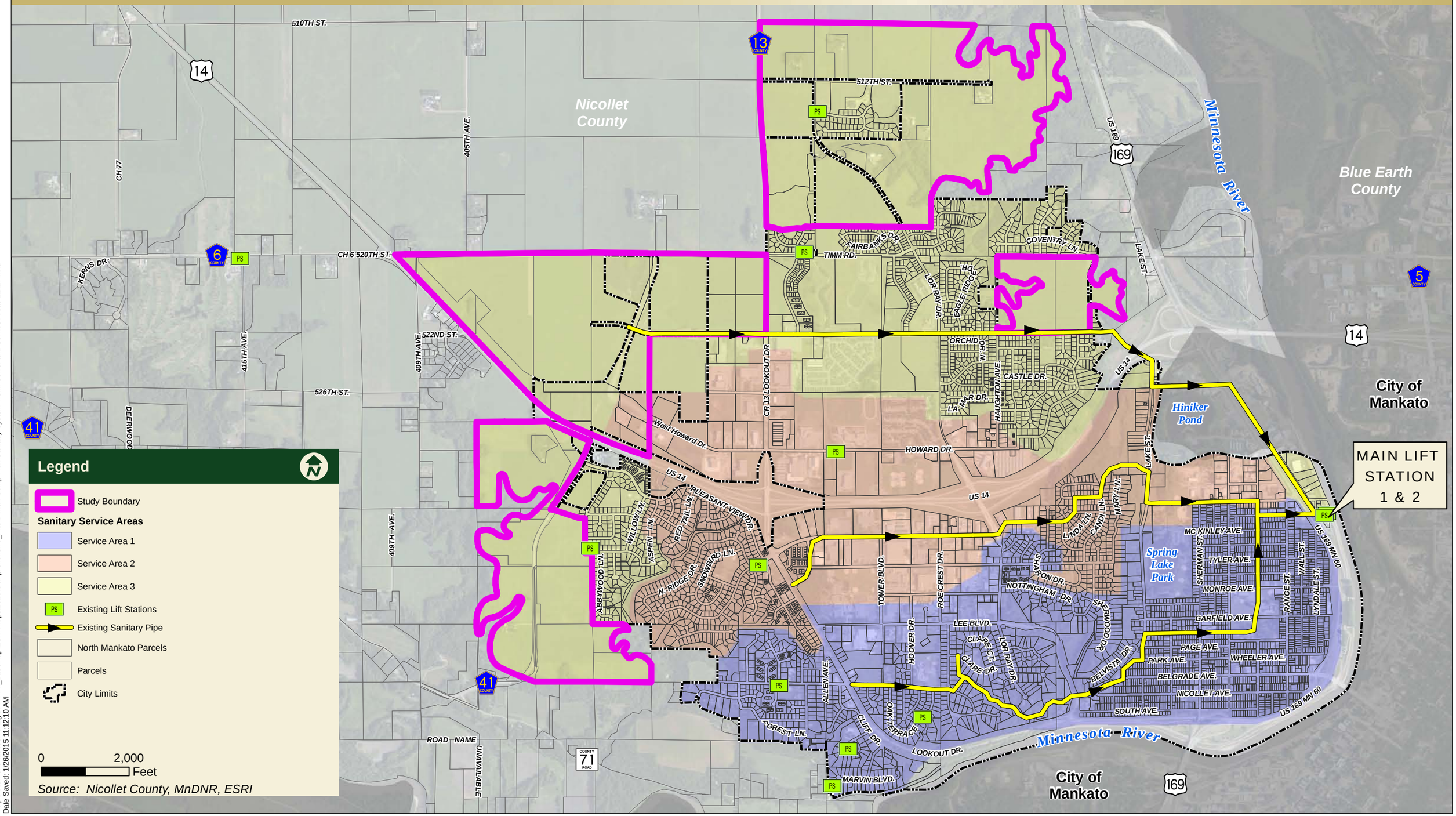
2015 Comprehensive Plan

City of North Mankato

Figure 7.5 Existing Sanitary Trunk Sewer & Service Areas

January, 2015

BOLTON & MENK Engineers & Surveyors



Legend

- Study Boundary

Sanitary Service Areas

- Service Area 1
- Service Area 2
- Service Area 3
- Existing Lift Stations
- Existing Sanitary Pipe
- North Mankato Parcels
- Parcels
- City Limits

0 2,000 Feet

Source: Nicollet County, MnDNR, ESRI

Map Document: \\arcserver1\gis\NMAN_Basemap\ESRIMaps\2015\Comprehensive_Plan\Nman-Comp Plan Sanitary System Trunk Sewer and Service Areas-11x17.mxd
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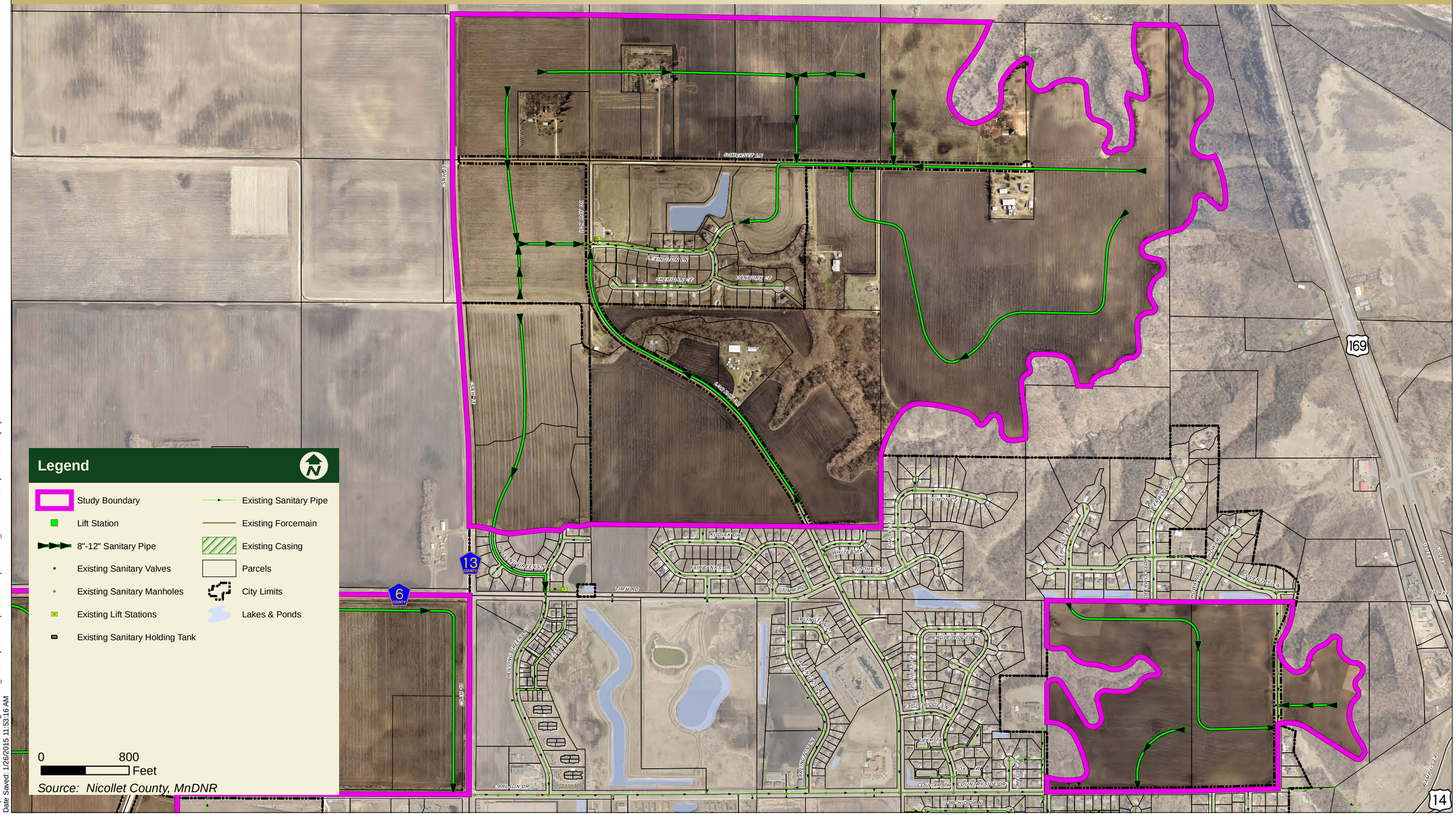
2015 Comprehensive Plan

City of North Mankato

Figure 7.6 Future Sanitary Sewer System Improvements

January, 2015

BOLTON & MENK Engineers & Surveyors



Legend

- Study Boundary
- Lift Station
- 8"-12" Sanitary Pipe
- Existing Sanitary Valves
- Existing Sanitary Manholes
- Existing Lift Stations
- Existing Sanitary Holding Tank
- Existing Sanitary Pipe
- Existing Forcemain
- Existing Casing
- Parcels
- City Limits
- Lakes & Ponds

0 800 Feet

Source: Nicollet County, MnDNR

Map Document: \\arcserver1\gis\NMAN_Basemap\ESRI\Maps\2015\Comprehensive_Plan\Nman-Comp Plan Sanitary System 1-11x17.mxd
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Figure 7.7 Future Sanitary Sewer System Improvements

January, 2015

Legend

- Study Boundary
- Lift Station
- 8"-12" Sanitary Pipe
- Existing Sanitary Valves
- Existing Sanitary Manholes
- Existing Lift Stations
- Existing Sanitary Holding Tank
- Existing Sanitary Pipe
- Existing Forcemain
- Existing Casing
- Parcels
- City Limits
- Lakes & Ponds

0 800 Feet

Source: Nicollet County, MnDNR

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Figure 7.8 Future Sanitary Sewer System Improvements

January, 2015

Legend

- Study Boundary
- Lift Station
- 8"-12" Sanitary Pipe
- Existing Sanitary Valves
- Existing Sanitary Manholes
- Existing Lift Stations
- Existing Sanitary Holding Tank
- Existing Sanitary Pipe
- Existing Forcemain
- Existing Casing
- Parcels
- City Limits
- Lakes & Ponds

0 800 Feet

Source: Nicollet County, MnDNR

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A system of sanitary sewers will be extended from the trunk sewer into the development areas. These trunk sewers will range in size from 8 inches to 15 inches in diameter. The exact size and configuration of the sanitary sewer system will be dependent on the type and density of development, existing and proposed topography, and in the case of commercial and industrial areas, the extent of water usage/wastewater discharged. The approximate configuration of the primary network of sanitary sewers and lift stations within the projected development areas is shown in **Figures 7.6, 7.7, and 7.8.**

The following section outlines the primary goals for the wastewater system followed by a series of objectives and policies intended to influence future development efforts that align with the community visions in this plan.

Wastewater System Goals, Objectives, and Policies

GOAL 1: Expand existing wastewater system infrastructure to meet the demands generated by continued development.

Objective 1.1: Expand the trunk wastewater system into future growth areas.

Policy 1.1.1: Implement the expansion of the trunk sanitary sewer system as areas outside the limits of the existing wastewater collection system are developed.

Policy 1.1.2: The trunk wastewater collection system within the future growth areas should generally follow the configuration as shown in Figures 7.6, 7.7 and 7.8. Final trunk sanitary sewer and lift station sizes and locations should be based on the type, location and sequence of development within the projected growth areas.

Policy 1.1.3.: Develop a financing strategy for funding the expansion of the trunk sanitary sewer system.

GOAL 2: Monitor, evaluate and improve the condition of the City's existing wastewater system infrastructure.

Objective 2.1: Replace aging sanitary sewer system infrastructure.

Policy 2.1.1: Prepare a study to document the condition of deficient sanitary sewers and collection system lift stations based on age, materials and deficiencies identified in sewer televising reports.

Policy 2.1.2: Utilize the information from the sanitary sewer condition study, in conjunction with the condition information for other infrastructure elements, to develop, expand and prioritize projects to be included in the capital improvements.

Objective 2.2: Monitor the condition of existing wastewater pumping and treatment infrastructure and replace as required

Policy 2.2.1: Monitor changes wastewater quality standards and identify possible changes to the treatment processes currently utilized by the City of Mankato's wastewater treatment facility and potential impacts to the treatment costs paid by the City of North Mankato.

Policy 2.2.2: Monitor the condition of the City's two main lift stations (Lift Station No. 1 and Lift Station No. 2) continue with regular inspections, maintenance and miscellaneous equipment replacement as required.

Stormwater System

General

The goal of the plan is to maintain and improve surface water quality and minimize impacts of increased water quantity through appropriate planning, policy enforcement and capital improvement projects.

Most Minnesota cities have existing pipe networks that were designed to relieve ponding within the original platted city limits. When these systems were designed, the concern for the downstream properties was not a consideration. The goal was the efficient and cost effective removal of stormwater runoff from developed areas. In North Mankato's case, this meant the construction of direct pipelines to the Minnesota River.

As little as 20 years ago, the urban storm sewer pipe design recommended by the Minnesota Department of Transportation (MnDOT) on County State Aid Highways for cities the size of North Mankato was a 3-year design storm. That is, the pipe system was designed to handle less than a typical 3.5-inch rainfall. Now, as rainfall intensities appear to be increasing and construction costs are increasing faster than material costs, the recommended design is for the pipes to handle a 10-year storm while ensuring that overflow spillway routes prevent property damage for larger storms.

Based on the existing system, the effects of unmitigated growth on the downstream systems can be devastating and can lead to legal action against the governing authority. One of the best methods of mitigating the effects of growth is through the construction of stormwater retention basins. These basins are designed to store excess runoff at elevations where there is no adjacent property damage. The runoff is stored until the existing storm sewer system can take it away. Studies have shown that these basins not only provide flood protection, but can also help to remove stormwater pollutants.

Typically, the most efficient and most economical retention basins serve larger areas. Hence, an effort has been made to locate regional retention ponds as opposed to scattering smaller, localized development basins throughout the City. However, topography and available space must provide optimum locations for regional ponds. Regional ponds cannot be located in an existing wetland without the costly mitigation of the impacted wetland. They are also not recommended in floodplains. Recently, a Minnesota suburb was fined by the Minnesota Pollution Control Agency (MPCA) for illicit discharge of sediment into the Minnesota River associated with its floodplain stormwater treatment pond having its containment bank eroded away by the flooded river. This comprehensive plan considers these factors when recommending Best Management Practices (BMPs). It also considers information from long term residents of North Mankato and City staff regarding the observation of the natural ponding associated with heavy rainfalls when siting regional basins.

One drawback associated with regional pond planning is finding a funding mechanism to purchase the land needed and finding ways to have new development assist in their construction. Ideal planning of regional basins includes the purchase of the needed land while constructing the basin with funding generated from area charges on the new developments that generate the excess runoff. The trouble is that the land acquisition should be made before the development occurs, but the development fees are used to pay for the land and regional pond. Greater Minnesota cities are also reluctant to impose development charges, because their goal is to attract new businesses with low cost, and not to burden them with additional fees.

Although regional ponds are the most cost effective method of hydraulically managing flooding, they are not necessarily the best method of handling the new water quality regulations for stormwater. The water quality regulations for stormwater are ever changing. For example, since 2007, the City of North Mankato has been required to obtain a permit for its Municipally Separate Storm Sewer System (MS4). This MS4 permit is renewed every 5 years and the permit rules continue to evolve. Although the last cycle took more than 5 years for final acceptance, the most recent MS4 permit became enforceable in 2013. In this recent version of the MS4 permit and in the coincidental 2013 Construction Stormwater Permit, municipalties and developers are required to reduce the runoff volume from new construction sites by removing the first 1-inch of runoff. To accomplish this, each new construction site having more than 1-acre of new impervious surfacing must take all appropriate measures to reduce the additional runoff volume created by the proposed new impervious surfaces (roofs and pavement).

Typically the most cost effective ways of accomplishing the required volume reduction is through infiltration or rainwater harvesting. Infiltration practices have the benefit of using the soil to assist in filtering the runoff. They also reduce runoff volumes from a developed area by taking a portion of the runoff and recharging the ground water. As such, they are often touted by surface water management agencies and review authorities. However, they must also be strategically placed to prevent the potential for contamination of City wells. Many cities have restricted the use of infiltration practices inside their wellhead protection area or well capture zone.

Filtration practices, such as filtration basins, biofilters, iron infused sand filters, etc., are similar to the more common infiltration practices, but are designed so that the stormwater filters through plants and filter media before draining into a storm sewer and not infiltrating into the ground. Filtration basins are recommended to manage stormwater runoff and improve water quality within the 1-year Wellhead Protection Area (WHPA). Filtration basins are recommended wherever they will fit into the designs and encouraged wherever local private property owners might request retrofitting them into their landscaping. Any private filtration basins that are installed will help lessen the load on the existing storm sewer system and improve water quality.

Lower North Mankato is ideally suited for infiltration because the underlying soils are predominately sandy. On the other hand, Upper North Mankato predominately consists clay soils that are not conducive to infiltration. The City may need to consider planning/allowing construction without infiltration in upper North Mankato because of the general inability for infiltration, while planning/ requiring infiltration opportunities in lower North Mankato.

Rainwater harvesting – storing and reusing rainwater for irrigation or other non-potable uses - should also be encouraged wherever possible.

Because of these water quality regulation changes, it may be advantageous to plan regional ponds for flood prevention associated with extreme rainfall events, while planning smaller water quality BMPs on a neighborhood or individual development scale.

As part of the 2013 MS4 permit, the City will need to consider new opportunities to retrofit water quality measures associated with its reconstruction projects. Because retrofitting is often more difficult, the MPCA accepts less effective, but still beneficial alternative BMPs, such as vegetated buffer strips, grit chambers and proprietary sediment trap manholes as a viable aspect of reconstruction projects.

Finally, the City has a Total Maximum Daily Load (TMDL) goal (see discussion below).

Wetlands

In 1991, the Minnesota Legislature passed the Wetlands Conservation Act (WCA). The WCA is administered according to Minnesota Rules Chapter 8420 to implement the purpose of the Act, which is to:

1. Achieve no net loss in the quantity, quality, and biological diversity of Minnesota's existing wetlands;
2. Increase the quantity, quality and biological diversity of Minnesota wetlands by restoring or enhancing diminished or drained wetlands;
3. Avoid direct and indirect impacts from activities that destroy or diminish the quantity, quality, or biological diversity of wetlands;
4. Replace wetland values where avoidance of activities is not feasible and prudent. [1]

Pretreatment of all stormwater from new developments is required prior to discharge into any wetlands. Wetlands may be, and are currently being used for stormwater storage for larger rainfall events. They may continue to be used for this purpose even after upstream development, provided that:

1. There is acceptable Best Management Practice pretreatment of the runoff in accordance with the MPCA NPDES/SDS Construction Permit, Section III.D., Permanent Stormwater Management System.
2. The bounce from the normal water level to the high water level does not exceed two feet.

The Minnesota Wetland Conservation Act (WCA) requires the designated Local Governmental Unit (LGU) in charge of administering the WCA to generate a Notice of Wetland Conservation Act Decision for any impact to wetlands within the City of North Mankato. For North Mankato, the wetland LGU is Michael Fischer with the City of North Mankato.

In all but minor decisions, the LGU will call for a Technical Evaluation Panel (TEP) review of the application or impact prior to issuing a decision. The LGU must give notice of proposed actions affecting wetlands to all of the following:

1. The Minnesota Board of Water and Soil Resources
2. The Soil and Water Conservation District
3. The Minnesota Department of Natural Resources
4. City of North Mankato (LGU)
5. The U.S. Army Corps of Engineers
6. Interested citizens requesting notification of such actions

If a TEP meeting is required, all listed parties are invited to review the proposed action. However, it is not uncommon for a TEP meeting to consist of only a small contingent of this list, as some invitees may have no jurisdiction over the proposed action.

1. Excerpt taken from the University of Minnesota Duluth website: http://www.d.umn.edu/fm/safety_envir/wetlands/pdf_pages/4.0%20Wetland%20Regulations.pdf

NPDES Phase II Considerations

General City Permits

In 1987, the US Congress amended the Clean Water Act to include stormwater pollution and directed the Environmental Protection Agency (EPA) to initiate rulemaking. The first round of EPA rules were implemented in 1991 when NPDES Phase I permits were required for all cities exceeding 100,000 in population. Phase II was implemented in 2003 and targeted all cities with populations exceeding 10,000. In 2008, the Phase II rulemaking expanded the list of targeted cities to include cities with populations exceeding 5,000 and that discharge into an impaired water. The Minnesota Pollution Control Agency (MPCA) assumed responsibility for implementing the rules and issuing all Phase II permits. The NPDES Phase II rules apply to all construction disturbances of one acre or more. Furthermore, impaired waters like the Minnesota River mean that waste load allocations will be distributed to all potential contributors within the watershed in order to meet the Total Maximum Daily Load (TMDL) limitations that are required by federal law to facilitate correcting the impairment.

The primary targets of TMDL requirements are urban runoff and construction runoff. This is because urban runoff carries pollutants from cars, lawn fertilizers, pesticide spills and other contaminants into our lakes, wetlands and streams without entering wastewater treatment systems. Construction runoff is often laden with sediment caused by large areas of open, exposed soil that is loosened by excavation and grading.

The federal mandates are intended to regulate these sources of continued environmental degradation. New developments have become increasingly targeted. All new developments, creating more than one acre of impervious surfacing, are required to have some form of stormwater treatment. In general, this need can be satisfied by properly designed infiltration/ filtration basins or wet retention basins.

The following is a listing of the available stormwater quality and quantity systems currently being designed to handle the water quality/quantity issue:

a. **Regional Wet Retention Basins**
   Numerous studies have been done on the water quality treatment afforded by wet retention basins, most notably one by William Walker Jr. for the Vadnais Lake Area Water Management Area (1987). The Walker study found that properly sized wet retention basins can effectively remove pollutants through sediment removal. When properly sized, these ponds can significantly reduce the contaminant levels, including phosphorus, commonly found in urban stormwater runoff. According to the MPCA's Stormwater Manual, on average wet retention basins can remove 84% of suspended solids, 50% of total phosphorus, and 30% of total nitrogen. Wet retention basins also provide flood storage. Wet retention basins are also well known for their stormwater quantity handling capabilities and work well for areas with Hydrologic Soil Group Type D (clay) soils.

b. **Bioretention Systems**
   Another method of managing stormwater runoff is to install bioretention practices in strategic locations where stormwater will be collected and allowed to filtrate through the planting media or be taken up by vegetation before entering the storm sewer.

c. **Infiltration/Filtration Bioretention Basins**

According to the MPCA's Stormwater Manual [2], bioretention facilities capture rainwater runoff to be filtered through a prepared soil medium. Pollutants are removed by a number of processes including adsorption, filtration, volatilization, ion exchange and decomposition (Prince George's County, MD, 1993). Filtered runoff from bioretention basins can either be allowed to infiltrate into the surrounding soil (functioning as an infiltration basin or rainwater garden), or collected by an under-drain system and discharged to the storm sewer system or directly to receiving waters ("filtration only" bioretention basin). Due to the groundwater vulnerability and the WHPA covering a portion of lower North Mankato, lined filtration basins are recommended for the areas of North Mankato within the 1-year WHPA. Runoff from larger storms is generally allowed to bypass the filled bioretention basin and flow directly to the storm drain system. Infiltration/filtration basins are typically designed for treating the water quality and not for the water quantity of urban stormwater runoff. That is, the MPCA requirement for water quality is to treat the first 1 inch of runoff from a site (water quality volume). This is in contrast to the larger amount of runoff that may be actually leaving the site for a 3 to 6 inch rainfall (water quantity). Because stormwater quality has become a greater issue, bioretention basins have become a significant design tool for municipal stormwater systems. Bioretention basins can remove 85% of suspended solids, 100% of total phosphorus, and 50% of total nitrogen.

NPDES Phase II Construction Permits

The NPDES Phase II construction stormwater permit requirements have also taken effect. As of August 1, 2013 a new NPDES permit is in effect. A construction permit is required for any disturbance of more than 1 acre. The permit process is best summarized in the following table:

Table 7-D: Construction Stormwater Permit Requirements

Item	Requirement
Minimum Disturbance Triggering a permit	1 acre
New Homes	Permit required if part of the larger development
Permit Fee	$400
Stormwater Pollution Prevention Plan (SWPPP)	1. Must be on file 2. Must be submitted if over 50 acres and is within 1 mile and discharges into a Special Water
Responsibility for compliance	Contractor is responsible for erosion controls.
Responsibility after land sale	Owner is responsible for implementation of the SWPPP
	Transferred with the property until Notice of Termination

Inspection reports and certifications are required.

2. Minnesota Stormwater Manual wiki, July 2014. http://stormwater.pca.state.mn.us/index.php/Main_Page

SWPPP for Construction Permits

The construction permit also requires the preparation of a Stormwater Pollution Prevention Plan (SWPPP) for the disturbed site. The SWPPP requirements are as follows:

a. Must be designed prior to permit application and available on site.

b. Should typically use BMPs that are recognized as effective.

c. Unique innovative designs may be used, but have formal review and monitoring requirements.

d. Owner must identify a person with approved training in accordance with the Permit who will oversee the implementation of the SWPPP.

e. Owner must identify a person with approved training in accordance with the Permit that will be responsible for long-term operation and maintenance of the permanent BMPs.

f. Owner must develop a chain of responsibility to ensure that the SWPPP will be implemented and stay in effect until termination. The SWPPP must have the following:

    1. Location and type of all temporary and permanent erosion controls and sediment control BMPs.
    2. Standard plates and specifications for the BMPs.
    3. A site map with existing and final grades, subwatershed limits and direction of flow for both the pre and post development drainage areas. The site map must include existing and proposed impervious surfaces and soil types.
    4. Locations of areas not to be disturbed (construction limits).
    5. Locations of areas of phased construction to minimize duration of exposed soil.
    6. All surface waters and wetlands within 1 mile that can be identified on a quadrangle map and will receive runoff from the site.
    7. Methods used for final stabilization of exposed soils.
    8. The range of soil particles expected to be present at the site.

Permanent Sedimentation Pond Requirements

If more than one acre of new impervious surface is created by the construction, permanent water quality BMPs are required as part of the permanent SWPPP. If the filtration or infiltration alternatives listed above are not possible, a permanent wet retention basin is the most utilized method of meeting the requirements. The new construction stormwater permit requires that the stormwater volume equivalent of 1 inch over any new impervious surface area be retained on site through infiltration or other volume reduction practices. There are some exceptions to this requirement, including projects that have Hydrologic Soil Group D (clay) soils. In the case of D soils, a permanent stormwater pond is a good option. The permanent pond requirements are summarized as follows:

a. A permanent volume (dead storage) of 1,800 cubic feet per acre draining to the basin.

b. A water quality volume (equal to 1 inch multiplied by the new impervious surface) that cannot be discharged at a rate exceeding 5.66 cfs per acre of pond surface area (when the pond has both the permanent volume and water quality volume in it).

c. A 3 foot minimum depth and a 10 foot maximum depth.

d. Outlets placed to minimize short circuiting and designed to skim floating debris.

e. An emergency overflow.

f. Adequate public access (typically 8 feet wide).

Regional Pond Considerations

An area regional pond may be used provided that:

a. The regional pond is not a wetland.

b. Must be designed to meet the treatment pond criteria for all impervious surfaces.

c. Regional pond owner's authorization must be secured as part of the permitting process.

Existing Systems

The City of North Mankato is a Municipally Separate Storm Sewer System (MS4). The City of North Mankato ultimately drains to the Minnesota River. The City of North Mankato operates an extensive stormwater treatment system, serving residential, commercial and industrial users in two zones: the upper system and the lower system. There are several ravines that drain water from the upper system. Spring Lake, in the lower system, receives stormwater from North Mankato, and it is not an impaired water. There are also several stormwater ponds in the City's stormwater system. The majority of stormwater ponds are in the upper system, as that area was developed later when stormwater treatment was required and there was more space and flexibility to incorporate stormwater ponds into the development plans. There is also a difference in soils between the upper and lower systems; generally the lower system has soils that have higher infiltration rates and the upper system has soils that have lower infiltration rates.

All areas served by public ditches are subject to the rules governed by Minnesota Statute 103E and under the governance of Nicollet County. Minnesota Statute 103E states that all connections to the ditch, or in this case, the County Tile, must be petitioned to the County Auditor.

There is no other record that the City has entered into any water resource management related agreements with its neighboring cities, the county, watershed district, lake associations or the state of Minnesota. The City of North Mankato has been responsible for construction, maintenance, and other projects in or along the City's stormwater collection systems outside of the mainline County ditch and tile systems.

Total Maximum Daily Load Limits (TMDL)

We have reviewed the current 303d list of impaired waters on the MPCA website and found the following:

a. The Minnesota River is the ultimate receiving water for both the upper and lower stormwater systems. There are two segments of the river that receive stormwater from the City of North Mankato. Both the Minnesota River segment 07020007-504 (upstream of the confluence with the Blue Earth River) and segment 07020007-502 (downstream of the confluence with the Blue Earth River) are impaired and have an US Environmental Protection Agency (EPA)-approved Total Maximum Daily Load (TMDL) for Mercury in Fish Tissue. These river segments require a TMDL plan to be written for:

    1) Polychlorinated biphenyl (PCB) in Fish Tissue

    2) Turbidity

    These impairments affect Aquatic Consumption and Aquatic Life.

b. North Mankato is subject to the established Lower Minnesota River's Dissolved Oxygen TMDL, which has a waste load allocation of 30.5 lbs/day or a 30% reduction in phosphorus loading from the City's existing impervious surfacing as of the year 2000. This level is finite, meaning that, if the City grows, the impervious area grows as well, but the level of phosphorus loading is not allowed to increase.

    To meet this requirement, the City has had P8 phosphorus modeling performed to establish the baseline phosphorus loading in the year 2000 and the current phosphorus loading associated with the current development conditions. The MPCA and the model also considered the phosphorus removal rates of its existing BMPs to determine the level of retrofitting needed to meet the TMDL requirements.

    The City has a list of recommended retrofitting projects that will help it meet the TMDL requirements. In addition, the new volume restrictions associated with the new construction permit automatically includes phosphorus reduction techniques.

Additional TMDL restrictions can be may anticipated in the future as the Minnesota River is tested for other impairments. It is hoped that the measures taken to limit turbidity and phosphorus will automatically remove other impairments as well.

Future Improvements

Generally, the City will work to ensure erosion control and surface water quality standards are met through enforcement of the City's permitting requirements and implementation of Best Management Practices (BMPs) such as regional stormwater ponds. The City will ensure compliance with the National Pollutant Discharge Elimination System (NPDES) Phase II permits for municipal operations and for construction activity greater than 1 acre. City cooperation with the Minnesota Pollution Control Agency (MPCA) and Nicollet County is key to maintaining the relevance of the City's plan.

This comprehensive plan covers several growth areas. Many regional ponds and new storm sewer pipes are proposed for these as yet undeveloped areas, and the general locations are indicated on **Figures 7.9, 7.10, and 7.11.** In addition to those BMPs, the City of North Mankato intends to construct stormwater treatment BMPs in conjunction with 12 street improvement projects in the next 22 years. There are also 5 proposed regional pond locations. These will comply with the MPCA's requirements for stormwater treatment at the time they are constructed.

Figure 7.9 Future Storm Sewer System Improvements

January, 2015

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Figure 7.10 Future Storm Sewer System Improvements

January, 2015

Legend

- Study Boundary
- 18"-48" Storm Sewer
- Pond
- Existing Culverts
- Existing Back Yard Drains
- Existing Catch Basins
- Existing Manholes
- Existing Manhole Box
- Existing Storm Pipe
- Existing Subsurface Basin
- Parcels
- City Limits
- Lakes & Ponds

0 800 Feet

Source: Nicollet County, MnDNR

Map Document: \\arcserver1gis\NMAN_Basemap\ESRIMaps\2015\Comprehensive_Plan\Nman-Comp Plan Storm System 2-11x17.mxd
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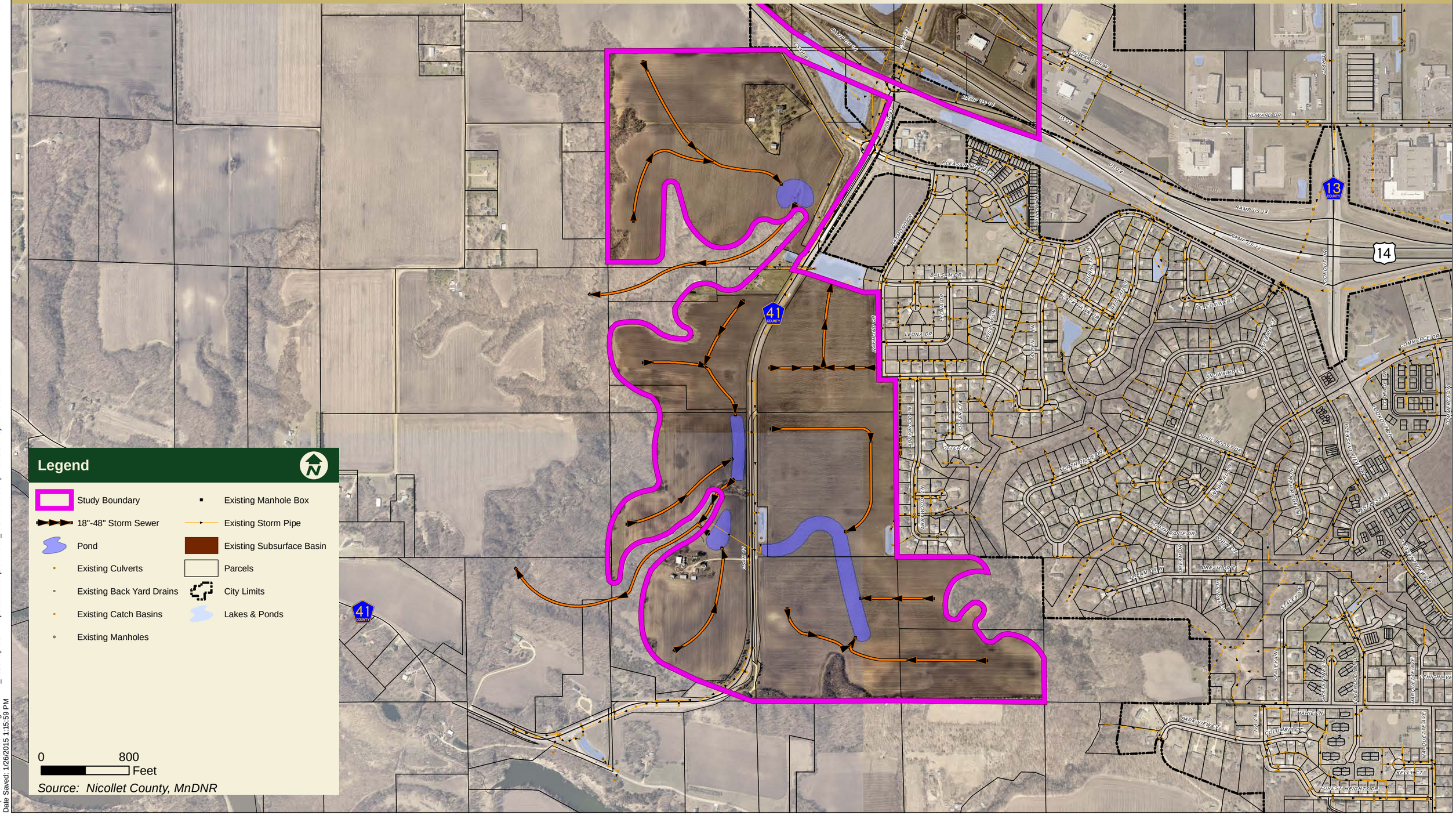
Figure 7.11 Future Storm Sewer System Improvements

January, 2015



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Stormwater System Goals, Objectives, and Policies

The following section outlines the primary goals for the stormwater system followed by a series of objectives and policies intended to influence future development efforts that align with the community visions in this plan.

GOAL 1: Expand existing stormwater management system infrastructure to meet the demands generated by continued development.

Objective 1.1: Expand the stormwater collection, treatment and outfall system into future growth areas.

Policy 1.1.1: Implement the expansion of the stormwater collection, treatment and outfall system as areas outside the limits of the existing stormwater collection system are developed, with a focus on regional stormwater ponds, where possible.

Policy 1.1.2: The stormwater collection, treatment and outfall system within the future growth areas should generally follow the configuration as shown in Figures 7.9, 7.10, and 7.11. Final collection, treatment and outfall sizes and locations should be based on the type, location and sequence of development within the projected growth areas.

Policy 1.1.3.: Develop a financing strategy for funding the expansion of the stormwater collection, treatment and outfall system.

GOAL 2: Monitor, evaluate and improve the condition of the City's existing stormwater system infrastructure.

Objective 2.1: Replace aging storm sewer system infrastructure.

Policy 2.1.1: Prepare a study to document the condition of deficient storm sewers and ponds based on age, materials and other known deficiencies.

Policy 2.1.2: Utilize the information from the storm sewer condition study, in conjunction with the condition information for other infrastructure elements, to develop, expand and prioritize projects to be included in the capital improvements.

Objective 2.2: Address sedimentation issues in the City's existing stormwater treatment ponds.

Policy 2.2.1: Develop a study to determine the levels and characteristics of sediment in the City's existing stormwater ponds.

Policy 2.2.2: Develop a plan for cleaning sediment from ponds and for disposal of sediment.

Objective 2.3: Incorporate BMPs to Meet TMDL Limits.

Policy 2.3.1 Implement the recommended retrofitting projects that will help it meet the TMDL requirements, targeting the current phosphorus TMDL and the future turbidity removal needs.

Policy 2.3.2 Develop a BMP strategy for undeveloped areas that is based on existing area soils and targets the current phosphorus TMDL and the future turbidity removal needs.

CHAPTER 8

Parks, Trails, and Recreation

I. Introduction

The comprehensive parks and recreation plan is the first planning document devoted to establishing park, recreation, and trail planning criteria, guidelines, and standards, for future development of these amenities within the City of North Mankato.

The existing park system is already fairly developed with a strong emphasis and need placed on youth recreation opportunities. The community has done a good job of including sidewalks in various neighborhoods, but currently lacks north and south connections in some areas across Highway 14 and the Minnesota River. In addition, alternative transportation and exercise options through the use of trails should continue to be expanded and enhanced. Recreation programming opportunities are currently offered through city programming and the local YMCA

Guiding Assumptions

- The City's population is projected to increase. Interest in trails, passive parks, cultural and fine arts programs, and indoor year-round recreation and programming is likely to increase.
- Exercise and health will continue to be an integral part of the lives of the people of North Mankato. A comprehensive trail system would help meet these demands. A loop trail network with connections to key local destinations and to regional and state trails is needed to meet recreation, active living and non-vehicular transportation needs. A city and regional trail system would attract both residents and visitors alike.
- Parks, trails, and open space play an important role in attracting tourism, and for neighborhood and community quality of life.
- Maintenance, cleanliness and safety of parks and recreation facilities are a key factor in satisfaction with the park system.
- Partnerships for park and recreation facility development and operation will continue to increase in importance. The City has a good working relationship with not only the local schools and universities, but also the many organizations and groups which utilize parks and recreation facilities. Enhancement of those partnerships and expansion of other partnerships will help provide the best and most efficient system.

The purpose of the Parks, Trails, and Recreation section of the Comprehensive Plan is to:

- Address the community's desire to create year-round recreation programming and facilities.
- Guide development of new bike routes, grade-separated crossings, and off-street trails.
- Guide the city in acquiring land for new parks and trail corridors.

Park and Greenway Classifications

The system plan consists of a variety of parks and open spaces defined under various classifications. Each classification serves a particular purpose in meeting local park and recreation needs. Although some flexibility is warranted, classifying parks is necessary to ensure a well-balanced system and that all recreational needs are effectively and efficiently met.

The classifications applied to North Mankato are based on guidelines recommended in the National Parks, Recreation, Open Space and Greenways Guidelines (National Recreation and Parks Association, 1996) and Planning and Urban Design Standards (American Planning Association, 2006), albeit expanded or modified to address circumstances unique to the city. The following table provides an overview of each classification used in North Mankato. (Each of the classifications is further expanded upon later in this section.)

Classification	Common Guidelines	Application to North Mankato
Neighborhood Park (and Mini-Neighborhood/ Pocket Park)	Neighborhood parks are the basic units of the park system and serve a recreational and social purpose. Focus is on informal active and passive recreation. Neighborhood parks are typically 5 acres or more, with 8 to 10 acres preferred for new parks. Mini-neighborhood parks, which are used only on a limited basis when securing more land is impractical, are 1 to 3 acres of developable land. Service area is ¼-mile radius for mini parks and up to a ½-mile for a typical neighborhood park, uninterrupted by major roads and other physical barriers.	Neighborhood parks remain a basic unit of the park system in North Mankato. In areas with urban densities, a service area of ¼- to ½-mile radius remains appropriate. When new parks are connected with greenway-based trails, service areas can be expanded to ½-mile radius or slightly more since trails and open space become part of the park experience. 5 acres* is typically adequate for new parks if the park is integrated into larger greenway system.
Community/ Regional Park	Community parks serve a broader purpose than neighborhood parks. Focus is on meeting community-based recreational needs, that may also provide amenities that have a regional draw, as well as preserving unique landscapes and open spaces. Size varies, depending on function. 20 acres minimum preferred, with 40 or more acres optimal. Service area can be community-wide, several neighborhoods in a given area of the city, or a larger regional area.	The community has a long tradition of setting aside land for Community and Regional Parks like Spring Lake, Wheeler, and Benson. As additional land develops this tradition should be continued.
Regional Athletic Complex/Facility	Consolidates programmed adult and youth athletic fields and associated facilities to a limited number of sites. Tournament level facilities are appropriate. Size varies, with 20 acres or more desirable, but not absolute. 40 to 80 acres is optimal. These complexes serve both the community as well as a regional area.	This classification has application to North Mankato to meet local and regional needs for athletic facilities (in concert with school sites.) As a growing community with families, facility demand will continue to grow in sync with age-group population growth.

Greenway/ Natural Open Space/ Conservation Areas	Lands set aside for preserving natural resources, remnant landscapes, and open space, and providing visual aesthetics/buffering. Also provides passive use opportunities. Ecological resource stewardship and wildlife protection are high priorities. Suitable for trail corridors. Overall land area varies depending on opportunity and general character of natural systems within a city.	Within the city proper, the potential for establishing greenways and preserving open space is limited. This reinforces the importance of working closely with landowners and developers in growth areas to set aside land for greenways and interconnected trails systems.
Special Use	Covers a broad range of parks and recreation facilities oriented toward single-purpose uses – such as a nature center, historic sites, plazas, urban squares, aquatic centers, campgrounds, golf courses, etc. Overall size varies, depending on need.	The use of this classification will be limited in North Mankato, primarily the open space and plaza areas in the downtown area.
School Site	Covers school sites that are used in concert with, or in lieu of, city parks to meet community recreation needs. School sites often provide the majority of indoor recreational facilities within a community. Size varies, depending on specific site opportunities.	Continuing the established relationship between the School District and the City is vital to successfully meeting the long-term demand for athletic facilities in a cost-effective manner.

** Neighborhood park size note: The recommended minimum 5 acre size for new neighborhood parks may be modified at the City's discretion if the park is part of an overall public amenity package associated with a given development area. This might include, for example, providing enhanced streetscapes and public squares that add value to the public realm and complement neighborhood park features. Note, however, that the essential value of a neighborhood park should be retained to ensure that 1) the recreational needs of local residents are adequately meet, and 2) the City does not accept a series of smaller mini-parks in lieu of a neighborhood park, which is inefficient and inconsistent with the system plan as defined in this section.*

Cumulative Park System Acreage Standards

The current national guidelines are for each community to evaluate and determine its own park and open space needs and desired level of service through local public process, then, if necessary, compare that evaluation against similar situations within the region. North Mankato's system plan falls within standard practices and compares favorably to other communities in terms of public land area and park distribution to service community needs. General guidelines for parks and open spaces suggest there are at least 7 acres of municipal park land per 1,000 residents and that 90% or more of residents are within one-half mile of a park or protected green space.

Nuances with North Mankato's system include the opportunity for an extensive natural greenway/open space system surrounding the city and along the riverfront. This is a unique opportunity that sets North Mankato apart from many communities of similar size. However, due to the floodwalls along the river it is recognized that challenges do exist when attempting to create recreational opportunities along the river.

Inventory & Analysis

Although the greenway and park system functions as a cohesive whole, individual parks will continue to have a significant and defined purpose consistent with their classifications. Figure 8-1: Parks Plan illustrates the location and name of each park within the system, and the general proposed areas where new parks will be needed as development occurs. The following table provides an overview of the total number of parks under each classification (existing and proposed future), along with approximate number of total acres.

Existing Park System		
Park Classification	**Total Number**	**Total Combined Acreage**
Neighborhood Parks	12	42.5
Community Regional Parks	3	138.5
Athletic Complex / Facility	2	47.8
Special-Use Parks	2	8.6
Open Space Parks	2	40.3
Total Existing Parks	**21**	**277.7**

Note: Greenways are not included in the table.

Proposed Park System		
Park Classification	**Total Number**	**Total Combined Acreage**
Neighborhood Parks *(Contingent on extent of future residential development and annexation; based on 5 acres / site and a 1/2 mile service area radius)*	1	2.7
Community Regional Parks	1	2.7
Athletic Complex / Facility	2	29.7
Special-Use Parks	0	0
Open Space Parks	0	0
Total Existing Parks	**5**	**35.1**

Note: Greenways are not included in the table.

Neighborhood Parks

Neighborhood parks are the basic unit of the park system and serve a recreation and social purpose. Development focuses on informal recreation. Programmed activities are typically limited to youth sports practices and very occasionally, games.

There are 12 existing parks within the North Mankato system that serve neighborhood uses, including:

- Forest Heights Park
- King Arthur Park
- Langness Playground
- North Ridge Park
- Pleasant View Park
- Reserve Park
- Roe Crest Park
- South Avenue Playlot
- Storybook Park
- Tower Park
- Walter S. Farm Park
- Wallyn Park

In general, the existing parks are capable of meeting the primary needs of the neighborhoods they serve and, collectively, meet acceptable standards for neighborhood parks. Placement of the parks and the areas they serve are also well-distributed throughout the city.

Community/Regional Parks

Community/Regional parks typically serve a broader and more specialized purpose than neighborhood parks and are sometimes referred to as community and/or regional parks. Their focus is on meeting community-based recreational needs, regional-based recreational needs, as well as preserving unique landscapes and open spaces. The general palette of amenities typically found within this class of park includes:

- Amenities common to a neighborhood park, albeit at a larger scale
- Larger group picnic facilities
- More extensive looped trail systems
- Open maintained green space for passive and active use
- Winter activities, such as ice skating, sledding, and skiing
- Event space
- Special use facilities having a community appeal

In addition to specific amenities, community/regional parks also often serve an important aesthetic role by providing green space and buffering, along with creating an appealing sense of place that helps define the essential character of the community.

As illustrated on **Figure 8-1: Parks Plan**, there are three parks that fall under the community/regional park classification.

- Benson Park
- Spring Lake Park

Regional Athletic Complexes / Facilities

The Parks Plan includes athletic facilities in a number of parks for varying levels of programmed uses. City-provided facilities are also complemented by the local schools, colleges, and neighboring communities' athletic facilities. There are currently two defined parks for regional programmed athletics, which include:

- Caswell Park
- Caswell North Soccer Complex
- Webster Ball Diamonds

A recent Market Analysis for a Proposed Sports Complex was completed in November of 2013 identifying and verifying the desire for a wide variety of athletic facilities, both indoor and outdoor. Through the Comprehensive Plan public involvement process it was obvious the community and especially youth are in favor of developing this type of facility.

Special-Use Parks

In addition to the parks and athletic facilities previously defined, a number of special-use facilities and amenities are also part of the system plan, including the following parks:

- Centennial Park
- Riverview Park

Open Space

- Bluff Park
- Lee Boulevard Park

Schools / Colleges

- South Central College
- Dakota Meadows Middle School
- Hoover Elementary
- Monroe School
- Garfield Elementary

North Mankato Park Facilities

P - Proposed O - Open Skating H - Hockey S - Shelters L - Lighted	Picnic Area	Restrooms	Waters Fountains	Basketball Courts	Tennis Courts	Sand Volleyball	Horseshoe Court	Ball Fields	Playground Area	Trails* Distance	Swimming	Ice Skating	Warming House	Sliding	X Country Skiing	Wildlife*Nature	Dump Station	Fishing	Lake*Depth	Park Size Acres
Benson Park 2000 Carlson Drive	P	P	X						P	1+				P	X	P		Blue Gills	8 ft	69.12
Bluff Park 194 Mary Circle		X	X							1.20					X	X				30.01
Caswell Park 625-3621 1875 Howard Drive	X	X	X			4		L6	X											25.00
Centennial Park 840 Belgrade Ave			X																	1.00
Forest Heights Park 401 Marie Lane	X		X	X	L2			1	X						X					5.00
King Arthur Park 1580 Sharon Drive	X		X	X	L2			1	X			O			X					5.10
Langness Playground 355 Carol Court	X			X					X						X					1.10
Lee Blvd Park 1500 Lee Blvd	X																			1.20
North Ridge Park 1720 Quail Roost Drive	X		X	X		1		1	X			O			X					6.50
Pleasant View Park 2215 Pleasant View Dr	X		X	X				1	X						X					7.79
Reserve Park 1902 Lexington Lane	S1		P						X						X					5.39
Riverview Park 900 North River Drive	X	X	X							X					X	X	X			6.20
Roe Crest Park 2214 Clare Drive	X		X					1	X			O			X					3.50
South Ave Playlot 937 South Ave	X								X											0.75
Spring Lake Park 641 Webster Ave	S5	X	X	X		4		3	X	0.82	X	H	X		X	X		crappies	12 ft	52.00
Tower Park 1525 Tower Blvd			X		L2															3.00
Walter S. Farm Park 1601 Countryside Dr.	X		X	X			1	1	X			O			X					6.10
Wallyn Park 201 Pierce Ave	X							1	X						X					2.30
Webster Ball Diamond 640 Webster Ave								2		0.30				X	X					6.50
Wheeler Park 387-5187 402 Page Ave	S2	X	X	X	2		12	1	X			O	X		X					12.50
South Central College (leased April - August)	X							5												

The following figure indicates the existing and proposed parks system plan.

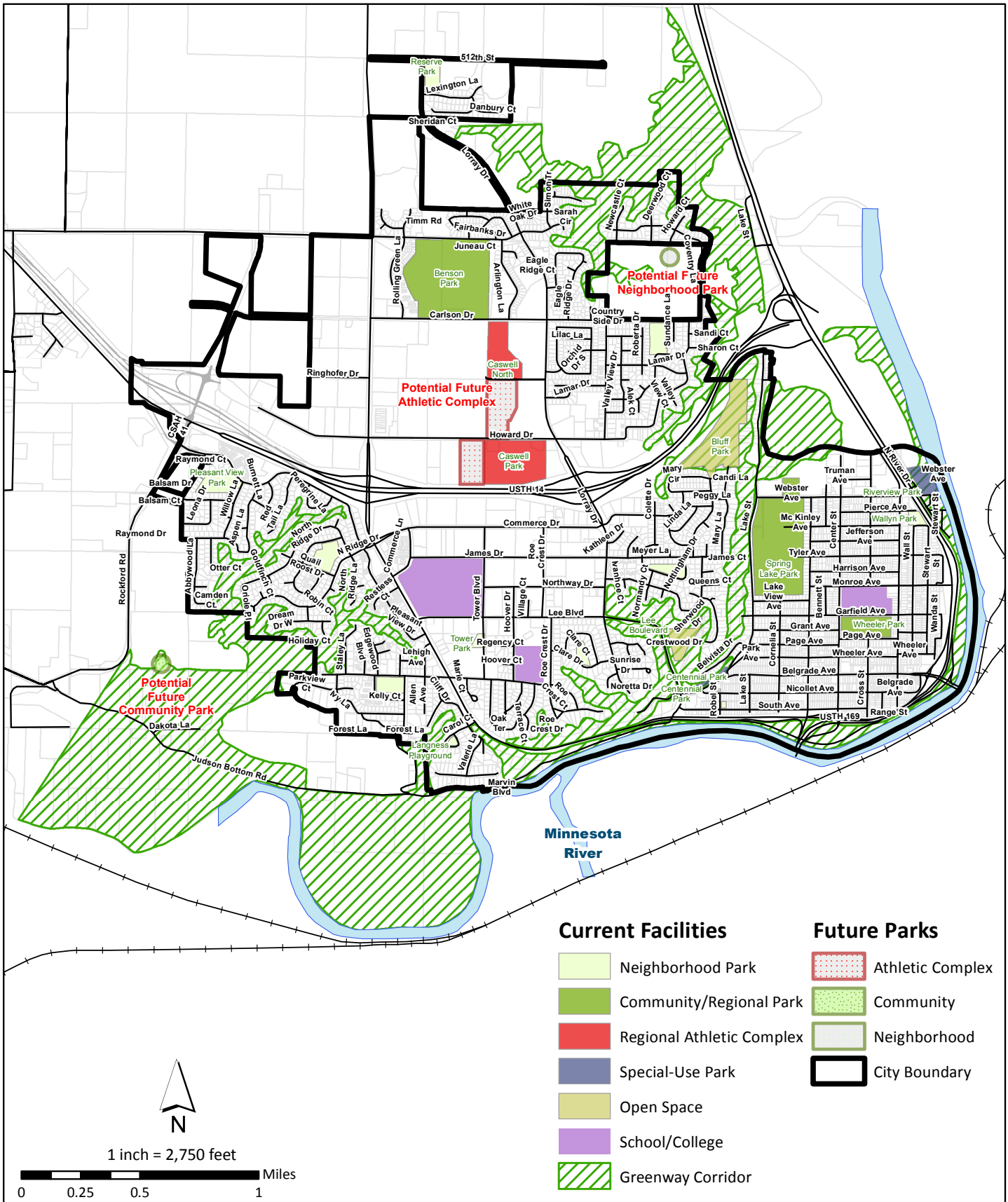


Figure 8-1: Park Plan
North Mankato Comprehensive Plan

Vision for Parks, Trails, and Recreation

To provide a comprehensive and balanced system of parks, greenways, trails, and support for providers of recreation-orientated activities / programs for city residents in an as cost effective manner as possible.

Park Goals, Objectives, and Policies

The following section outlines the primary goals for parks followed by a series of objectives and policies intended to influence future development efforts that align with the community visions in this plan.

GOAL 1: Plan for a sustainable park system.

Objective 1.1: Plan and design parks in a way that ensures their long term viability.

Policy 1.1.1: All park properties that are set aside (and/or are proposed in the future) must take into account the long-term commitments required to develop,operate, and maintain across their lifecycles.

Policy 1.1.2: Balance maintained turf areas with natural areas to add aesthetic appeal, control maintenance costs, infiltrate stormwater, provide wildlife habitat, and reduce carbon emissions.

Policy 1.1.3: Update parks plan every 5-10 years depending on the amount of change and development within the city.

Policy 1.1.4: Explore alternative methods for parkland dedication that will assure sufficient park facilities well into the future.

Objective 1.2: Understand current trends and community issues, opportunities, and needs as related to parks within the city.

Policy 1.2.1: Discuss local and regional park issues and opportunities with the Department of Natural Resources, adjacent communities, environmental organizations, and others.

Policy 1.2.2: Master plans should be prepared for each park prior to their development to ensure that the right mix of amenities are provided and the park's design is cohesive and complementary to the design for other parks and public spaces.

Policy 1.2.3: Ensure public participation in the master planning process is included for each park development project.

Policy 1.2.4: Analyze the placement and use of "nature play" equipment in existing and proposed parks.

GOAL 2: Provide additional park and recreation opportunities in areas of new development throughout the city.

Objective 2.1: Service local park and recreation needs by providing neighborhood and community parks as residential growth occurs.

Policy 2.1.1: Ensure neighborhood parks are developed as part of new residential neighborhoods.

Policy 2.1.2: Explore the possibility of including a community park in appropriate areas of the City. Analyze placement of such a park in the Southwest quadrant of the City.

Policy 2.1.3: Locate new parks based on how they can be best integrated with the new development that the park will serve.

GOAL 3: Adhere to Park Master Planning and Facility Design Quality / Development Standards.

Objective 3.1: Ensure the quality standard for built features within the park system is consistent with industry standards for safety, durability, and accessibility.

Policy 3.1.1: Periodically inspect and repair all parks, trails, and recreation facilities for hazardous conditions, including unsafe play equipment, fallen vegetation, etc.

Policy 3.1.2: The design of individual parks should be of a consistent quality.

GOAL 4: North Mankato's parks meet the diverse recreation needs of the community.

Objective 4.1: Partner with the North Mankato School District, local colleges, athletic organizations, private enterprises, surrounding communities, and others to address those community and regional needs that cannot be met exclusively by the city or others.

Policy 4.1.1: Involve representatives from the North Mankato School District, athletic organizations, Sports Commission, and others when developing new parks.

Policy 4.1.2: Coordinate with surrounding communities to address park and recreation issues during the creation of the Parks, Trails, and Open Space System Plan.

Objective 4.2: Consider the desire of the community to offer a multi-use athletic facility to the residents and attract regional tournaments and events.

Policy 4.2.1: Explore the impacts of developing such facilities, including impacts to adjacent neighborhoods.

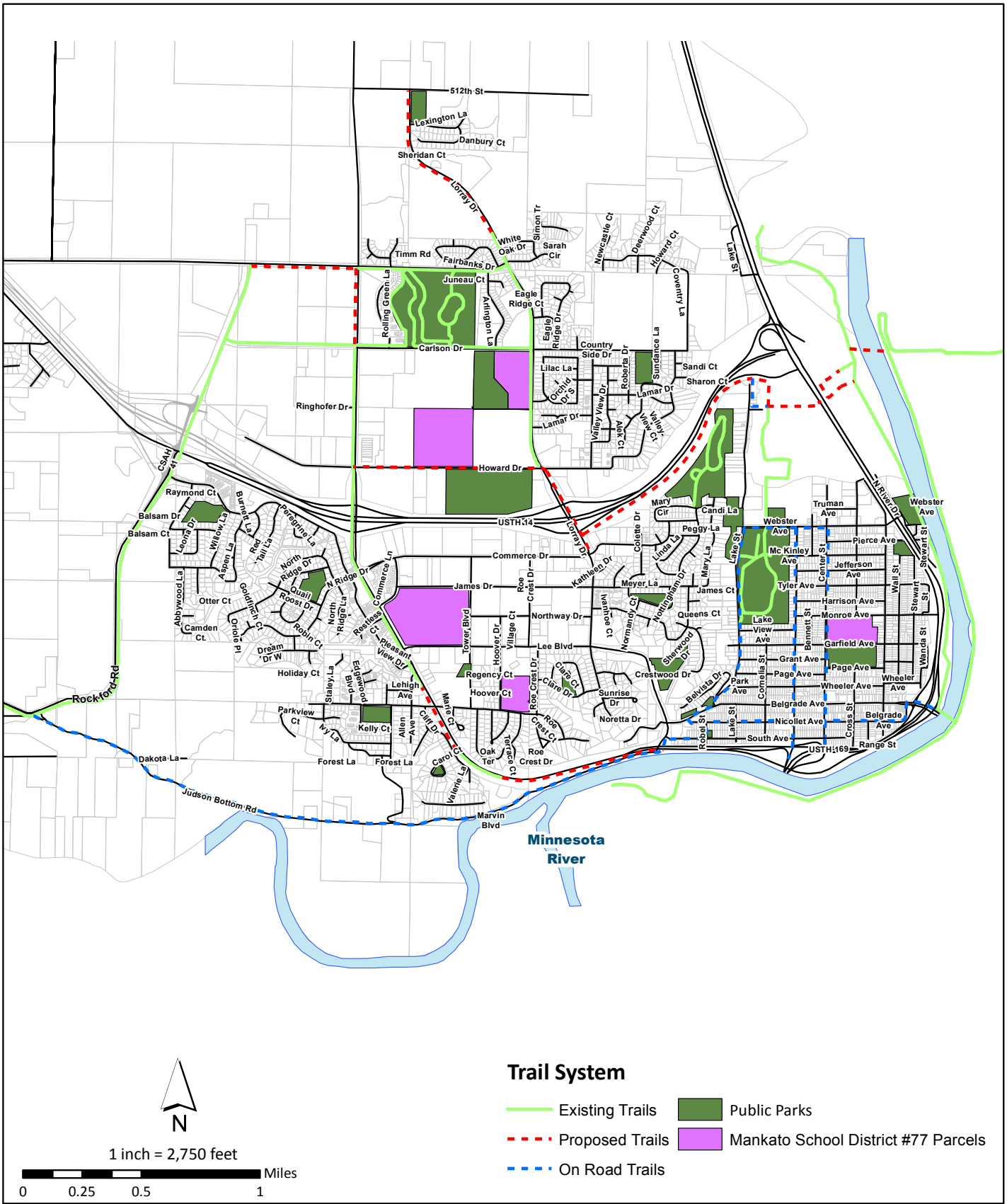
Policy 4.2.2: New facilities should provide year-round activities and programs for all age groups and all income levels.

GOAL 5: Create a comprehensive signage program for park facilities.

Objective 5.1: Provide a consistent message and information to park visitors through the use of a uniform sign style and program throughout the city.

Policy 5.1.1: Identify the information to be included on the signage. Typically this includes: park names, direction to features, general information and rules, and ecological stewardship program and interpretive information.

Policy 5.1.2: Ensure the program remains an ongoing priority by providing an annual investment in a signage program.



CITY OF NORTH MANKATO

WSB & Associates, Inc.

Figure 8-2: Trail Plan

North Mankato Comprehensive Plan

North Mankato Trail System

Trail System Inventory & Analysis

North Mankato's trail system primarily parallels major vehicular routes throughout the city with some internal trail loops within the community parks, and a section of trail that follows the river. There are many gaps within the City and opportunities to cross major barriers such as Highway 14, Highway 169, and the Minnesota River are limited as indicated in the existing trail system plan. There is a great trail system surrounding North Mankato and it was verified in the community process that safer and easier connections are desired. **Figure 8-2: Trails** shows the plan for trails within the City of North Mankato.

Regional & State Trails

These regional and state trails provide wonderful commuting and recreational value to the area. Connections from North Mankato to them should be a high priority for the City.

North Minnesota River Trail:

- Length: 4.8 miles
- Trail end points: US 14 and North Riverfront Drive to Sibley Parkway
- Trail Surface: Asphalt

Red Jacket Trail

- Length: 13 miles
- Trail end points: North Minnesota River Trail Under US 169 to Huffy Lane just west of 552nd Avenue (Rapidan)
- Trail Surface: Asphalt, Crushed Stone

Sakatah Singing Hills State Trail

- Length: 39 miles
- Trail end points: North Riverfront Drive and US 14 to State Route 21 north of 7th St. NW (Faribault)
- Trail Surface: Asphalt

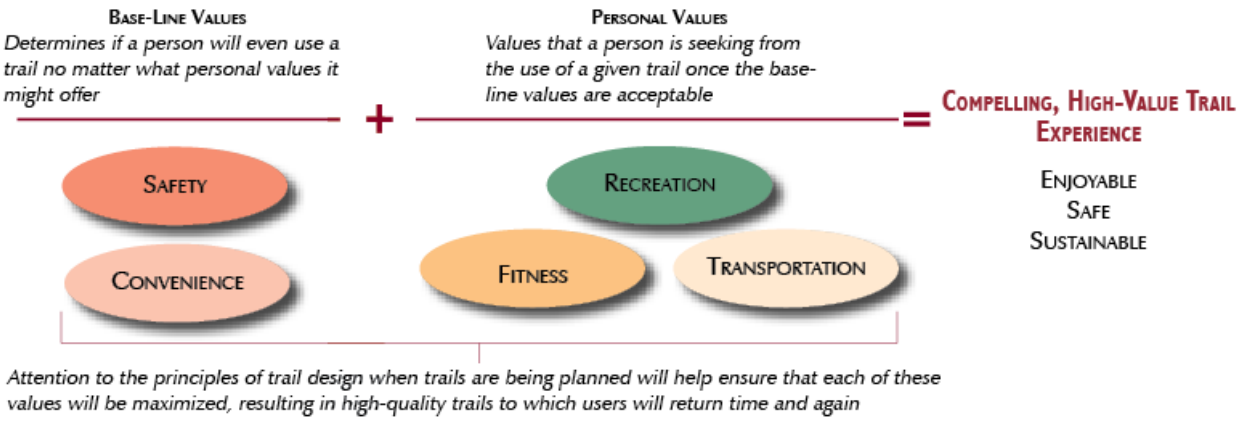
South Route Trail

- Length: 8.3 miles
- Trail end points: County Road 69 (Gadwell Road) to State Route 22 and County Road 90
- Trail Surface: Asphalt

Trail Classifications & User Groups Guidelines

The proposed trail system plan is consistent with MN DNR's Trail Planning, Design, and Development Guidelines (2007) for designing and developing sustainable trails. The DNR guidelines are recognized as the most comprehensive standards for trails and address trail planning, design, and development. All trail development should be consistent with these guidelines as applicable to the classifications used in North Mankato.

A key concept of the trail guidelines is maximizing the value of trails to local residents. The values ascribed to trails are important because they are at the core of why a person uses a particular trail on a repeat basis. Studies clearly indicate that trail users make a distinction between trails based on their perception of value, as the figure below illustrates.



As the graphic illustrates, safety and convenience are base-line determinants for whether a person will even use a trail irrespective of its quality. Once these two values are perceived as being acceptable, then the personal values will be given more consideration by a trail user. The following considers each of these values in greater detail.

Safety

A sense of physical and personal safety is the most important trail value in that without it people are disinclined to use a trail irrespective of how many other values it might provide. Physical safety can be relatively assured through good trail design. Personal safety, which relates to a sense of well-being while using a trail, is a less tangible yet still important factor that cannot be taken lightly.

Convenience

Convenience is important to day-to-day use of a trail. Studies have shown that the vast majority of shared-use paved trails are used by those living within a few miles of the trail they use most frequently.

Although convenience is important, its influence is still tempered by recreational value. No matter how convenient, a poorly designed trail in an uninteresting setting will have limited recreational value. Alternatively, a well-designed trail in an interesting setting might draw users from some distance. The point is that trails should be located where they are both convenient and offer the recreational amenities that users are seeking.

Recreation

Of all the values ascribed to a trail, its recreational value is the most important in terms of predicting its level of use, assuming that safety and convenience are not issues. In general, trails offering a high-quality recreational experience are those that:

- Are scenic and located in a pleasant park-like setting, natural open space, or linear corridor away from traffic and the built environment
- Provide a continuous and varying experience that takes visitors to a variety of destinations and is a destination unto itself
- Offer continuity with limited interruptions and impediments to travel

This underscores that trail planning must be based on criteria that go beyond simply providing miles of trail – with considerable emphasis on the quality of the trail experience as much or more than quantity.

In North Mankato, creating trails with high recreational value inherently affects community planning and development. Planning for trails that follow greenways that seamlessly traverse public open spaces and private developments alike is considerably different than planning for trails that follow road rights-of-way. While greenway-based trails often pose more challenges to plan and implement, the value of these trails to the community has proven to be very high and worth the investment. Cities that have successfully integrated these types of trails often highlight them as key aspects of the community's quality of life.

Fitness

Fitness is a growing value that cannot be overlooked. Fortunately, this value is generally achieved if safety, convenience, recreational, and transportation values are met. Most critical to accommodating this value is developing an interlinking trail system that provides numerous route options with trail lengths necessary for the types of uses envisioned.

Transportation (Commuting)

The transportation (commuting) aspect of trails is valuable to a growing subset of the user population. This is especially the case with shared-use paved trails, where bicycling, in-line skating, and walking are viable means of transportation, especially for people in urban and suburban settings.

On-road bikeway facilities are also viable and important means of transportation if developed to acceptable standards. Importantly, promoting the use of trails and on-road bikeways for transportation will only be successful if the system is perceived as safe and convenient relative to a user's skill level. Without such a system, residents will simply use their vehicle.

Trail Classifications

The proposed trail connections indicated in the comprehensive plan are a baseline to continue to add to. It is recommended the city complete a multi-modal system plan study to identify additional key connections throughout the city.

Understanding the different classifications of trails appeal to different users is critical to the success over the overall system. Each classification serves a particular purpose in meeting local trail needs. The distinction between trail types is important due to the variability in their recreational value, which greatly affects the value of the system to residents and the degree to which a trail or system of trails will be used.

The following table provides an overview of the classifications for trails North Mankato should consider. Each of these classifications is further defined later in this section.

Classifications	Common Guidelines	Applications to North Mankato
Destination Trails	Destination trails are paved trails for walking, jogging, bicycling, and in-line skating located within a greenway, open space, park, parkway, or designated trail corridor.	Destination trails will be the backbone of the greenway-based trail system that loops the city and connects to adjoining communities and college campuses.
Linking Trails	Linking trails emphasize safe travel for walking, jogging, bicycling, and in-line skating to/from parks and around the community. Linking trails are most often located within road rights-of-way or utility easements.	Linking trails will be primarily used as a means to connect neighborhoods and developed areas to the destination trail system, and provide safe routes to schools.
Sidewalks	Sidewalks emphasize safe travel for walking and jogging within residential areas and business districts and to/ from parks and around the community. Although biking and in-line skating are allowed on sidewalks, the narrower width and concrete surface limit their use for this purpose. Sidewalks are most often located within road rights-of-way of a local street.	Sidewalks work in concert with linking trails and are primarily used as a means to connect neighborhoods and developed areas together and to the destination trail system, as well as provide safe routes to schools.
Nature Trails	Nature trails are commonly used in areas where natural tread is desired and harmony with the natural environment is emphasized. Use is limited to hikers and joggers in North Mankato.	Natural trails will be primarily used in nature areas and as secondary connections to the destination trail system, especially within a preserved natural area or conservation easement.
On-Road Bikeways	Bike routes and lanes are on-road facilities that primarily serve fitness and transportation bicyclists and in-line skaters, as well as recreationalists with a higher skill and comfort level being around automobiles.	Bikeways augment, but do not take the place of, the trail and sidewalk system.

Character and Value Comparison between Trail Classifications

Each of the trail classifications defined above:

- Accommodate specific types of trail users
- Provide a certain type of recreational experience and value to pedestrians, bicyclists, in-line skaters, and wheelchair users
- Are located in a specific type of setting appropriate for the activity
- Follow design guidelines that allow for a safe and enjoyable use of the facility

The following table considers the expectations of the most common types of trail users in North Mankato, and the values and preferences that are likely to be of most importance.

User Group	Value and Preferences
Family Group – Various Modes	Safety and convenience are top priorities, followed by a pleasant recreational experience. Controlled, traffic-free access to sidewalks and trails is preferred. Length of trail is less important than quality of experience. Will typically only use low-volume residential streets when biking or skating, and rarely busy streets even with bike lanes or routes.
Recreational Walker, Bicyclists, and In-Line Skater	Same as family user group, with trail continuity and length also being important for repeated use. 20 miles of connected trails are needed for bicyclists, at a minimum. This user group is also more comfortable with street crossings. Bicyclists and in-line skaters will use roads that are not too busy. Loops are preferred over out-and-back routes for variety.
Fitness Walker/ Jogger, Bicyclists, and In-Line Skater	Length of trail and continuity are most important, although an appealing setting is also desired. Bikers are reasonably comfortable on busier roads, but prefer bike lanes/routes to provide separation from vehicles. Bikers will often use a combination of roads and trails to create a desirable loop, which is much preferred over out-and-back routes.
Transportation Walker, Bicyclists, and In-Line Skater	Directness of route is important. Will use a combination of sidewalks, trails, residential streets, and roads that are relatively safe, convenient, and direct. Bike lanes/routes are preferred on busy roads to improve safety. Bicyclists are not overly dependent on trails, but will use them if convenient and not too heavily used by families and recreational users, who tend to slow them down. Walkers need a trail or sidewalk.

Trail System Goals, Objectives, and Policies

The following section outlines the primary goals for trails followed by a series of objectives and policies intended to influence future development efforts that align with the community visions in this plan.

GOAL 1: Expand on the existing interlinking system of trails throughout the city that connect with adjoining communities, regional, and state trails.

Objective 1.1: Create a trail system plan for the City to better understand community needs and desires.

Policy 1.1.1: Ensure the quality standard for trails within the system is consistent with industry standards for safety, durability, and access.

Policy 1.1.2: Create a comprehensive signage program for trail facilities.

Policy 1.1.3: Integrate new residential, commercial, and industrial development into the existing and expanding trail system when possible.

Policy 1.1.4 Include the development of trails in North Mankato's Capital Improvements Plan.

Policy 1.1.5 During the planning process for major street and utility improvements, evaluate the appropriateness of developing community and neighborhood trails with the proposed improvements, even if the Trail System Plan does not show proposed trails associated with the areas to be improved.

Recreation Programs

Current Programming Opportunities

Currently the majority of the recreation opportunities are administered by the Mankato Area Public Schools Community Education and Recreation Program. Other opportunities are offered by the YMCA, YWCA, and MSU-Mankato.

There are also many organized sports groups for soccer, baseball, softball, hockey, figure skating, basketball, lacrosse, swimming etc. that offer their own programming opportunities for league play.

Regarding the arts, most programs and events are run by Twin Rivers Council for the Arts (TRCA), which is a non-profit organization devoted to promoting arts and culture in Greater Mankato. TRCA serves as a great resource for information related to the arts and cultural events. The City of North Mankato recognizes the importance of arts and culture and its contribution to quality of life. The City will support the use of parks and other public spaces for cultural and art related events and activities.

Greenway System Definition & Characteristics

The Greenway Corridor System protects preserves and enhances natural areas and open spaces, and maintains connections among these areas. The Corridor system is designed to grow with local communities, and provide connections to neighboring communities and nearby natural and cultural resources.

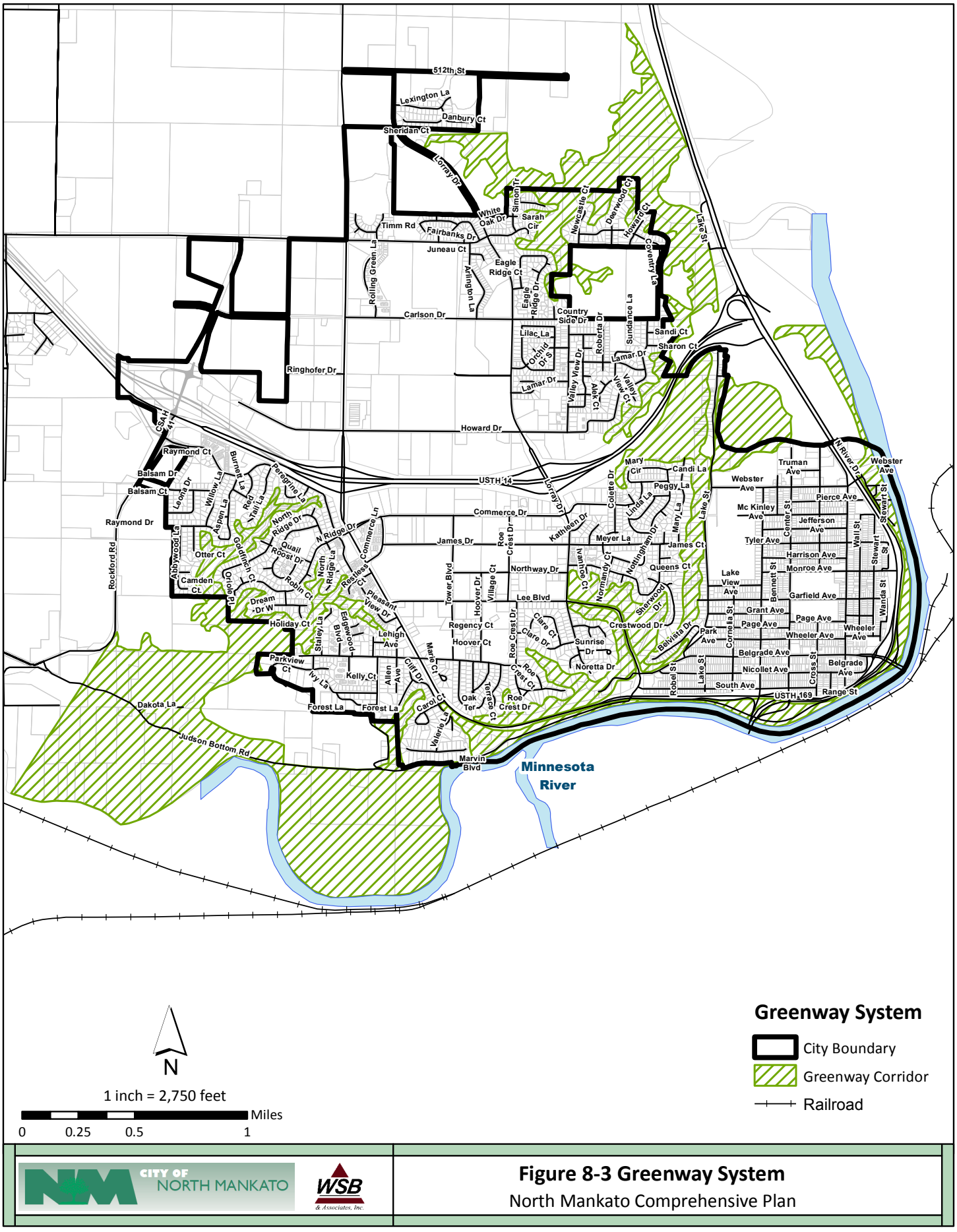


Figure 8-3 Greenway System
North Mankato Comprehensive Plan

The Greenway System should be viewed as a long-term vision for a system that protects natural resource areas as the communities grow, and provides for recreation for area residents.

Figure 8-3: Greenway System identifies the Greenway System, and indicates that the system includes broad "green" loops.

Greenway Goals, Objectives, and Policies

GOAL 1: Create a greenway system that provides recreational opportunities, protects and enhances natural resources, is valued by the community, and can be maintained long-term by the city.

Objective 1.1: Complete an action plan that further defines the limits and opportunities of the greenway corridors and includes strategies, timelines, and costs for implementing the system.

Policy 1.1.1: Develop an operations and maintenance strategy for each greenway to assure the public that the city has the capacity to meet these responsibilities.

Policy 1.1.2: Clearly define how improvements will be funded, and the potential costs to the average homeowner in the city, to avoid any uncertainties in this regard.

Policy 1.1.3: Make strategic prioritized investments toward the greenway system that will continue to expand their role as defining elements in the city's infrastructure and enhance the region's economic prospects by attracting new residents and supporting robust levels of tourism.

Potential Funding Sources for Parks, Trails, and Greenways

The availability of funding for implementing the park, open space and trail system initiatives will have direct impacts on the timing of implementing the plan. The following table provides a brief overview of the funding sources typically available to local governments. It also provides an overview of a strategic approach to implementing the System Plan.

Important underpinnings to consider for further developing the implementation strategy in the Parks, Trails, and Open Space System Plan include:

- Understanding that the opportunities to enhance the park and trail system are substantial and diverse
- Recognizing that the magnitude of investments needed to achieve full plan implementation presents a major challenge and will require the community to set priorities that respond to public will and realistic limitations of resources

With this in mind, the underlying strategy for implementing this plan is to undertake initiatives that best respond to the prioritization criteria set forth in this section. By making strategic, prioritized investments, the city's parks and trails will continue to expand their role as defining elements in the city's infrastructure and enhance the region's economic prospects by attracting new residents and supporting robust levels of tourism.

Note that each of the non-local funding sources requires an application process that includes an action plan and description of funding requirements. All of these funding sources are competitive and/or require political action, local funding commitments, and citizen approval.

Funding Source	Description / Overview	Probability
State Outdoor Recreation, LCCMR, Legacy Fund, and Similar Grants	The State of Minnesota annually allocates funds for park acquisition and development projects which meet recreational needs identified by the State Comprehensive Outdoor Recreation Plan. In recent years, Legacy Amendment Fund has emerged as a legitimate potential funding source for projects of regional or state-wide significance. Whatever the program, the grants are competitive and awarded according to project merits.	Very competitive, especially with very tight public funding available at all levels. Most promising might be Legacy Amendment Funds, especially for parks or trails of regional significance.
Land and Water Conservation Fund	The federal government allocates monies each year to states for public acquisition and development projects. The State of Minnesota Administers these grants through the Department of Natural Resources.	Funding availability through this program has been limited in recent years.
Federal Transportation Funds (T-21, RTP, etc.)	The federal government allocates monies each year for alternative forms of transportation, which includes bicycle trails that focus on transportation.	Funding availability through this program has been significant in past years. The potential for receiving funding for local trails is relatively good.
Fees/ Enterprise Funds	Minnesota statute allows cities to prescribe and provide for the collection of fees for the use of any city park or other unit of the city park system or any facilities, accommodations, or services provided for public use therein.	Becoming a much more relied upon funding source, especially for singular use facilities ranging from ballfields to hockey arenas.
Partnerships	Relates to partnerships formed with adjacent cities, the county, and school districts to develop, maintain, and operate parks and recreational facilities on a joint-use basis.	Although limited public funding availability is an issue at all levels, forming partnerships to spread the cost of providing a specific type of service or facility still has merit whenever there is an opportunity.
Park Dedication Fees	The park dedication fund provides funding for parks as long as community development continues to occur. Any controls imposed on the extent (i.e., total number of units) or rate of development (i.e., number of units per year) allowed within the city will limit the revenue generated under this fund. The City will need to ensure the fees imposed are consistent with current state statutes.	Even with periodic adjustments, park dedication fees alone will not be adequate to fund the system plan to an optimal level.
Donations	Donations related to cash donations, gifts, volunteerism, and professional services donated to the park for planning, acquisition, or development purposes.	Limited potential from a cash perspective, but important with respect to the use of volunteers to offset some program costs.

CHAPTER 9:

Downtown Redevelopment

Introduction

The City of North Mankato values its downtown as a vital community asset. The downtown is located in the southeast part of the City, the heart of which is Belgrade Avenue. It extends from Highway 169 to property on the west side of Center Street. Belgrade Avenue has been a key commercial corridor within the City for many years. There are numerous established businesses that serve the commercial needs of area residents, as well as a variety of housing densities. The higher density nature of the downtown provides for a more naturally walkable environment by having numerous residents and businesses within close proximity. The downtown serves as a gathering place for community events such as Blues on Belgrade and Oktoberfest.

Opportunities exist to reimagine the impact the downtown can have on North Mankato. As a point of entry into the community, Belgrade Avenue is a gateway and provides visitors with a first impression. Therefore, a healthy downtown is critical for developing a successful image of the city, as well as a strong sense of place. The future downtown should be memorable, vibrant, attractive and welcoming to pedestrians. Several sites within the downtown may be suitable for redevelopment. Redevelopment of these sites would revitalize the downtown by bringing in additional businesses and residents. Revitalization of the downtown will not happen overnight; however, the policies and objectives outlined in this chapter are intended to ensure that the values expressed will be realized as development and redevelopment occurs.

The ideas expressed in this chapter apply to the area identified on **Figure 3-2: Future Land Use Map** designated as the Central Business District.

Previous Planning Efforts

Downtown Planning Study, 2011-2012 – I&S Group

In 2012, I&S Group completed a study of the downtown area (200-400 blocks of Belgrade Avenue). This plan casts a vision for the downtown and provides a framework for future build out options of these blocks. It offers design concepts, façade and streetscape improvements, parking enhancements, and guidance on next steps. A public involvement component was also conducted as part of this plan. This chapter aims to emphasize the themes that evolved from the public processes of both plans.

Existing Conditions

The downtown currently consists mostly of one and two story buildings, many of which date back to the early part of the 20th century. These buildings are all in various states of physical condition. Some are still able to accommodate modern uses while others remain vacant and may need to be redeveloped to attract future commercial tenants. Several modern buildings are also mixed within. The downtown currently has a very healthy mixture of neighborhood serving uses including restaurants, offices, retail stores, service businesses and residential uses, both single- and multi-family.

The 200 block of Belgrade Avenue contains the highest concentration of businesses and is predominantly commercial on both sides of the street, although upper levels of some buildings are used as apartments. The 300 and 400 blocks contain more single family homes, apartments, and some larger commercial users. As the downtown has grown, numerous single family homes along Belgrade Avenue have been converted for commercial use.

The development pattern and many of the existing buildings provide a sense of community, which residents value. Most buildings are built close to the street or sidewalk and have parking located in the rear or side of the building. Throughout the downtown sidewalks are provided on both sides of the street. These qualities contribute to making the downtown pedestrian friendly and could be incorporated in new development as a way to maintain the existing downtown character. Existing characteristics such as large storefront windows, awnings, façade details and unique signage also contribute to an engaging pedestrian atmosphere.

Key Issues and Opportunities

The following provides an overview of the key issues and opportunities pertaining to downtown redevelopment. These topics help provide guidance for future development decisions in the downtown.

Walkability and the Pedestrian Realm

A key element of successful downtowns is walkability and the creation of a comfortable and attractive pedestrian realm. Ensuring that this environment is safe, comfortable, and inviting is essential for providing people this opportunity. Through the public involvement process of this plan, as well as the Downtown Planning Study completed by I&S group, creating an attractive and walkable pedestrian realm was desired by the community.

Where possible, sidewalks should be widened to accommodate pedestrian flow. The sidewalk should be kept free of potential barriers such as utility poles or street signs wherever possible.

Creating an attractive pedestrian realm can also go a long way towards creating a destination where people want to be. Various streetscape features can be incorporated to enhance the appearance of the downtown and should be explored by

the City. This could be in the form of boulevard trees and plantings, outdoor seating, plazas, signage, fountains, decorative lighting, sidewalk pavers, and other pedestrian amenities. The Downtown Planning Study lays out very detailed streetscape recommendations that could be implemented.

The City should work with businesses in the downtown and future developers to encourage attractive storefronts and ground level facades that engage pedestrians. Some examples of how this could be achieved include large storefront windows, architectural details at the ground level, landscaping, awnings, seating, buildings that open up to the sidewalk, and interesting signage. The City should also work with property owners of older buildings to ensure their upkeep and prevent any deterioration.

Community events and festivals held downtown which draw in people from outside the City, provide an opportunity to further brand North Mankato. Currently, there are banners that hang from streetlights along Belgrade that aid in this regard. Other possible improvements could be the implementation of a landscaping plan or consistent color scheme throughout the downtown.

Because of its connection to the City of Mankato and Highway 169, Belgrade Avenue must be viewed as a gateway into the community, which provides a first impression to visitors. Therefore, the importance of the appearance and impression of Belgrade Avenue should not be understated. An attractive and unified public realm can enhance the branding for North Mankato, making it memorable and reflecting a positive image for the City.

Business Mix

Downtown North Mankato currently provides a healthy mix of businesses, many of which serve the neighborhood. A variety of different business types are desired to allow residents the opportunity to meet different commercial needs in close proximity to one another. It is desired that new businesses will locate in the downtown in the future to create a wider draw to the area. In addition to neighborhood serving businesses, it is important to have destination type businesses that will draw people in from a wider area. An example of a destination type business might include a specialized retail store. Making the downtown desirable to potential businesses will depend on several factors, including zoning, upkeep and appearance of surrounding buildings and the streetscape, and available parking, which are all addressed in this chapter and other portions of this plan.

The physical state or conditions of some buildings in the downtown may result in those buildings no longer being desirable to potential commercial tenants. The City should work with existing property owners and businesses to explore where redevelopment should occur. For cases of redevelopment, mixed use buildings are encouraged to support an increase in the downtown residential population, while also providing additional commercial opportunities; however, standalone residential or commercial uses are also supported. Older buildings that are in good condition and remain desirable for commercial use should be preserved to maintain some of the historic feel to the downtown.

As the economy changes and new types of businesses are created, it is important to review existing zoning standards and regularly update the zoning code. The list of permitted and conditional uses should be updated to include any desirable uses that may not currently be permitted. In addition, the list of performance standards should be regularly reviewed to ensure that businesses are not unnecessarily constrained by zoning requirements. An up-to-date zoning code can have a significant impact on the development potential of a community.

Parking

Development patterns typical of most downtowns tend to provide mixed opinions about the availability of parking. In many downtowns, it is typical to incorporate a variety of different parking strategies to achieve an adequate supply of parking such as on-street parking, shared parking and municipal lots. Several businesses currently have parking in the rear or side of their property. On-street parking is currently allowed along most of Belgrade Avenue throughout the downtown, with the exception of the north side of the 200 block.

The Downtown Planning Study found that although there is a perceived shortage of parking, the supply is generally sufficient for the existing uses during most times of the day. Some of the available parking may be perceived as inconvenient and may lack visibility. Improved way-finding signage could help visitors and residents make better use of the existing parking supply. However, as the downtown grows and new businesses and residential units are added, the parking supply will also need to increase. This will likely occur through a combination of parking provided on-site, on-street parking and shared parking lots. The City should look to identify property that could be developed for future parking lots specifically designated for downtown businesses. Ideally, these properties would be either north or south of property adjacent to Belgrade Avenue but would not front Belgrade Avenue themselves. Redevelopment of these lots could be funded privately, publicly, or through a partnership between the City and downtown businesses.

Vision for Downtown Redevelopment

Downtown North Mankato will be a bustling commercial and residential district. Higher densities will allow for a greater number of businesses and residents within close proximity. The downtown will be highly walkable, attractive, and inviting for the pedestrian. A wide variety of businesses will draw people to the area.

Goals, Objectives, and Policies

The following is a series of goals for downtown redevelopment followed by a series of objectives and policies intended to influence future land use decisions in a direction that is aligned with the Vision Statement.

GOAL 1: Expand the number and variety of businesses and residential varieties in the downtown.

Objective 1.1: Redevelop underutilized parcels or outdated and deteriorating buildings.

Policy 1.1.1: Work with property owners and businesses to determine which buildings are no longer well suited or marketable for commercial use to identify redevelopment areas.

Policy 1.1.2: Actively recruit and match entrepreneurial start-up businesses with underutilized buildings.

Policy 1.1.3: Pursue state and federal grants which aid in the revitalization of downtown districts.

Policy 1.1.4: Assess the potential for creating tax increment financing (TIF) districts to aid in downtown revitalization.

Policy 1.1.5: Work with property owners and explore "outside-the-box" solutions for accommodating businesses that wish to expand their business in the downtown.

Policy 1.1.6: Work with property owners that have deteriorating buildings and connect them to resources for making improvements.

Objective 1.2: Increase the number of businesses and residents in the downtown.

Policy 1.2.1: Consider a market study to determine commercial and residential needs, existing capacity and areas for growth within the downtown.

Policy 1.2.2: Incorporate principles that support a "live, work, play" mentality for the downtown.

Policy 1.2.3: Identify locations for small public spaces which will attract residents and provide greater visibility for businesses.

Policy 1.2.4: Explore opportunities for additional downtown events and festivals to expand the branding of downtown North Mankato and increase awareness of the downtown businesses.

Policy 1.2.5: Regularly review the list of permitted and conditional uses for the Central Business District to ensure that an ideal mix and type of uses are allowed in the downtown.

Policy 1.2.6: Review the list of performance standards for the Central Business District and remove any standards that may unnecessarily constrain existing or potential future businesses.

Policy 1.2.7: Support the transition of residential homes to commercial uses along Belgrade Avenue.

Objective 1.3: Ensure adequate parking for all businesses.

Policy 1.3.1: Assess and where necessary amend the parking requirements for commercial uses in the downtown area.

Policy 1.3.2: Explore the establishment of a downtown parking district to create a revenue source for future parking improvements.

GOAL 2: Create a safe and inviting pedestrian realm.

Objective 2.1: Improve safety for pedestrians

Policy 2.1.1: Study the need for intersection improvements where conditions may be dangerous for pedestrians crossing the street and implement improvements at those intersections.

Policy 2.1.2: Provide adequate pedestrian lighting in the downtown at night.

Policy 2.1.3: Where possible, remove barriers from the pedestrian realm.

Policy 2.1.4: Incorporate wide sidewalks where possible.

Objective 2.2: Improve the appearance of the streetscape and façades in the downtown.

Policy 2.2.1: Implement streetscape policies consistent with the improvements called for in the Downtown Planning Study completed by I & S Group.

Policy 2.2.2: Encourage and work with businesses to allow them to place items in the pedestrian realm that enhance their storefronts such as planter boxes, seating, public art, sandwich board signs, etc.

Policy 2.2.3: Encourage façade characteristics that enhance the pedestrian realm such as large storefront windows, awnings, architectural detail at the ground level, and interesting signage.

Policy 2.2.4: Develop a streetscape plan to promote a positive and unified image for downtown.

Policy 2.2.5: Consider implementing design standards to enhance the downtown character.

CHAPTER 10:

Community Design

Introduction

Community design is about the cohesiveness of many different elements of a city, including scale, character, mobility, and density among others. Good community design results in places that are inviting, comfortable, and user friendly. It influences how people interact and move about within their environment. A key component of community design is the relationship between the natural and built environment. Development patterns such as block shape and form, the sidewalk, and landscaping are also part of community design. Many issues and topics covered in other parts of this plan have an influence on community design.

Existing Conditions

The City of North Mankato has several areas which developed at different time periods, resulting in different development patterns and building forms.

Lower North is the older part of the city which developed consistent with early 20th century development patterns. City blocks in Lower North are mostly on a grid network. Most single family homes in Lower North are older and well maintained. Many also have detached garages in the rear yard and many blocks have alley access. Residential lots are generally smaller in Lower North than in residential areas that developed at a later time period. Homes are also generally built with limited setbacks. Most streets have a sidewalk on both sides of the street and trees have been well preserved. Lower North is comprised mostly of low density residential with parks, schools, institutional uses and some higher density residential uses mixed in. Belgrade Avenue serves as the primary commercial corridor in Lower North and is the City's downtown. Many of the original buildings in the downtown remain. These buildings are built to the sidewalk and have relatively narrow storefronts creating a pedestrian friendly atmosphere. The combination of older houses and the downtown give Lower North a distinguishable quaint character and small town feel.

Upper North consists of newer development with more modern suburban style subdivisions. Residential lots are generally bigger than those in Lower North and are not on a grid network. Most single family homes have driveways off the front of their lots with garages in front of the home. Commercial, industrial and institutional uses are generally situated along arterial roadways. Sidewalks are generally located on at least one side of the street. Several small neighborhood parks are mixed throughout residential areas but several larger parks attract users from a wider area. In parts of Upper North, natural areas have been well preserved where residential subdivisions have been built around forested areas. Some areas in Upper North, such as Commerce Drive and Northport Industrial Park are designed with the consideration of accommodating large truck traffic in mind. Lot size, visibility, streets and intersections are all well designed for supporting a business friendly environment that should be considered attractive to existing and potential businesses.

Key Issues and Opportunities

The following provides an overview of the key issues and opportunities pertaining to community design for North Mankato.

Development Pattern

As mentioned previously, North Mankato developed with two different development patterns over time. Both have value for the City by offering residents variety in neighborhood character. Land available for future development in the City is mostly to the north and west. Growth areas in Upper North are mostly planned for low density residential and industrial; however, the plan aims to mix in more commercial uses in close proximity to residential areas to minimize the distance required to travel, and allow for biking and walking. This is mostly in the form of key commercial nodes and corridors. As such, key streets should be designed to accommodate cyclists and pedestrians to get to their destinations. Special consideration should be given for enhanced landscaping between residential neighborhoods and key destinations where walkers and cyclists may go. With new subdivisions, any proposed street network should also be analyzed for connectivity and the ability to efficiently get from one point to another.

Climate Sensitive Design

Being in Minnesota, special design considerations are necessary for new infrastructure to ensure usability throughout all seasons. The winter months generally have the greatest implications for impacting livability. Snow and ice can create a wide variety of problems for mobility and safety. Available space for snow storage is something that should be analyzed for new developments. Standards such as driveway setbacks and permitted slopes are examples of controls that can help mitigate impacts from snow or storm water runoff. In the public realm, streets, sidewalks and bikeways should be designed to accommodate easy snow removal and storage and be compatible with snow removal equipment. Space should be provided between the sidewalk and the street to allow for snow storage. Landscaping enhancements could also be considered in key pedestrian areas for wind screening.

Public Spaces

Well-designed public spaces can be a tremendous asset to a community. These may be in the form of plazas, public squares, parks, amphitheaters, gardens or others. These spaces provide areas for residents to spend time outdoors and provide opportunities for social interaction. Much of the public space in North Mankato is in the form of parks. Neighborhood parks are evenly spread throughout the community to provide public space in close proximity to most residents. Many of these parks offer playground equipment, picnic areas, and athletic facilities for sports such as tennis, soccer, basketball or softball. How public spaces are designed should be thoroughly analyzed. It is important to not just provide public spaces, but that they also be designed to consider safety, comfort and aesthetics. Elements such as lighting and vegetation can be designed to help improve the perception of safety at night. Any amenities that are installed such as seating should be comfortable and attractively designed.

Architecture and Character

North Mankato contains a variety of buildings and homes with different architectural styles, which is partly due to the varying time periods over which different areas developed. There is a noticeable difference in architectural style between the homes in Lower North near the east end of Belgrade Avenue, homes constructed in the 1970s, and homes built in the last ten years. Many of the homes in Lower North were constructed in the early part of the 20th century but have been well preserved and maintained over the years. These charming neighborhoods provide a classic small town feel that is valued by many of the residents.

Over the years, North Mankato has continued to see an influx of new residential development. New development has generally moved towards the north and west over time. Homes built towards the latter half of the 20th century offer a more traditional suburban style home. Many of the homes built in the last ten years present a more modern architectural style. The wide range of architectural styles of homes and buildings is an asset to the community because it provides a wide range of housing options, as some residents may prefer one style of home over another. The City of North Mankato will continue to support a varying degree of architectural styles through new development and redevelopment of existing areas.

Transportation

The ability for residents to move quickly and easily throughout the City is an important factor that influences livability. The transportation network should be designed to efficiently and safely accommodate all modes of travel during all seasons. Roads are designed based on the amount of traffic and speeds they are intended to accommodate. The expected type of traffic, such as large truck traffic, can also influence road design. This means that the location and design of new roadways is greatly influenced by land use. For example, larger commercial uses that tend to generate more traffic should be located adjacent to roadways that can accommodate such traffic. Residential streets are generally narrow and may not be striped while arterial roadways may be several lanes across. Buildings may be designed differently based on the type of roadway they are adjacent to. For example, a commercial use adjacent to a larger roadway with faster speeds will generally want to be setback farther from the roadway and have a wider storefront for improved visibility.

The design of roadways should always consider the user friendliness of alternative modes of transportation all while preserving on-street parking where feasible. **This does not mean that a bike lane should be striped on every street; however, if one is not provided, sufficient width should be provided to accommodate space for cyclists with two-way traffic.** In some areas, it may be beneficial to construct off-road trails as an alternative to biking on the street. Design of these trails should be wide enough to allow for bikes traveling in each direction. Barriers and structures should not be located directly adjacent to paths or impede visibility at intersections. Directional signage and pavement markings can also help with flow and safety. For pedestrians, sidewalks should generally be located a few feet off the street to provide some separation from vehicles and provide space for snow storage. In key pedestrian areas, landscaping enhancements should be considered to improve the aesthetics of the surroundings.

Vision for Community Design

The City of North Mankato will incorporate and support community design that enhances the livability and quality of life for residents. Strategic improvements will enhance the functionality of the public realm and result in a more enjoyable and aesthetically attractive environment.

Goals, Objectives, and Policies

The following is a series of goals for community design followed by a series of objectives and policies intended to influence future development decisions in a direction that is aligned with the Vision Statement above.

GOAL 1: Enhance the livability of North Mankato through quality design.

Objective 1.1: Make enhancements that improve the functionality of the public realm.

- Policy 1.1.1: In the design of new infrastructure, consider designs which accommodate seasonal variability and allow for use during all times of the year.
- Policy 1.1.2: Make infrastructure and public realm improvements that complement the surrounding land uses.
- Policy 1.1.3: Where appropriate, promote features that provide a physical buffer and transition between land uses of varying intensities, such as landscaping, fencing or setbacks.
- Policy 1.1.4: Support the development of medium and high density housing near commercial or high traffic areas.
- Policy 1.1.5: Make improvements to public spaces that improve the comfort and enjoyment of those areas.
- Policy 1.1.6: Consider non-motorized modes of transportation in the design of new roadways. Explore opportunities for off-road trails where appropriate.
- Policy 1.1.7: For new subdivisions, promote street patterns that maximize connectivity and efficiency of getting from one point to another.
- Policy 1.1.8: Explore opportunities for new forms of public spaces such as plazas, public squares or outdoor performing areas.
- Policy 1.1.9: Analyze existing pedestrian areas and public spaces for lighting and make improvements where necessary to increase safety at night.

Objective 1.2: Make decisions that enhance the appearance and attractiveness of the public realm.

Policy 1.2.1: Promote the protection and enhancement of natural resources as a means to maintain the integrity, heritage and local character of the community.

Policy 1.2.2: Consider revisions to the sign code that accommodate unique signage in the downtown.

Policy 1.2.3: Consider landscaping improvements along key pedestrian and bike corridors and in other public spaces.

Policy 1.2.4: When installing amenities such as seating, trash receptacles, pedestrian lightings, or others similar types of features, explore the feasibility of more attractive options.

Policy 1.2.5: Encourage reuse of existing buildings where feasible.

Policy 1.2.6: Consider developing a plan or implementation tool that offers incentives for infill development and removal of substandard buildings or consolidating of land where feasible.