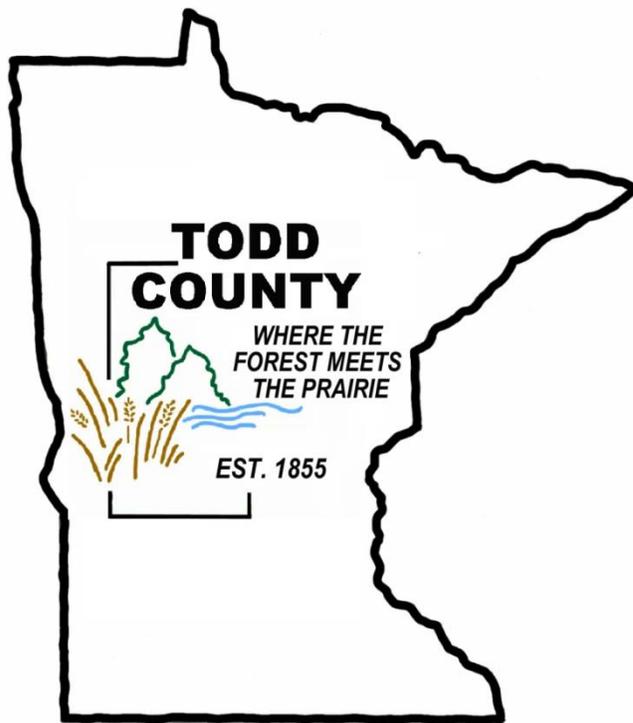


# TODD COUNTY, MINNESOTA

## *2030 Comprehensive Plan*



Adopted by Resolution of the Todd County Board of Commissioners on December 1, 2009.

## CONTENTS

Introduction .....	4
Todd County's Vision .....	4
Purpose .....	4
Regional Setting .....	5
Demographics .....	6
Planning Process .....	7
Economic Development.....	10
Introduction .....	10
Background Information and Statistics.....	10
Guiding Principles .....	11
Goals and Action Plan .....	11
Land Use.....	13
Introduction .....	13
Background Information and Statistics.....	13
Guiding Principles .....	15
Goals and Action Plan .....	18
Natural Resources.....	19
Introduction .....	19
Background Information and Statistics.....	20
Guiding Principles .....	34
Goals and Action Plan .....	36
Transportation .....	38
Introduction .....	38
Background Information and Statistics.....	41

Guiding Principles .....	42
Goals and Action Plan .....	44
Housing .....	46
Introduction .....	46
Statistics and Background Information.....	46
Guiding Principles .....	48
Goals and Action Plan .....	48
Utilities, Energy and Communications.....	49
Introduction .....	49
Background Information and Statistics.....	49
Guiding Principles .....	55
Goals and Action Plan .....	56
Intergovernmental Cooperation.....	57
Introduction .....	57
Background Information and Statistics.....	57
Guiding Principles .....	57
Goals and Action Plan .....	58
County Facilities and Services.....	60
Introduction .....	60
Background Information and Statistics.....	60
Guiding Principles .....	61
Goals and Action Plan .....	64
Parks, Trails, Open Spaces and Recreation.....	65
Introduction .....	65
Background Information and Statistics.....	65

Guiding Principles ..... 65

Goals and Action Plan ..... 67

## **INTRODUCTION**

### **Todd County's Vision**

Todd County will continue to offer a high quality of life by creating opportunities for growth through the support of economic development while enhancing the use of our cultural, natural, commercial and agricultural resources.

### **Purpose**

The Todd County Community-based Comprehensive Plan provides a framework for how the County and its citizens will guide growth and development in the County over the next twenty years. It is the intent of the Todd County Board of Commissioners that this Plan be viewed as the primary growth management tool for the County. This Comprehensive Plan is intended to be flexible so that it can respond to changing conditions, yet static enough so that long-term land-use and related policies are maintained and ad-hoc decision making is avoided.

As the name of this document implies, input from the public was actively sought throughout the “community-based” planning process. This input shaped all portions of the plan, from identification of major issues to the creation of the County’s vision, along with strategies and actions to implement this vision. Furthermore, the County is committed to continuing broad citizen involvement in the implementation of the Plan. During the next 20 years, this Plan will help the citizens of Todd County use land, physical and fiscal resources wisely.

This Plan represents the third formally adopted countywide comprehensive plan for Todd County. The County completed its first comprehensive plan in 2001 and subsequently updated that plan in 2003. This plan is a major revision from the prior version. To ensure its usefulness to local leaders, property owners, business owners and residents over time, the Plan will need to be maintained and revised periodically.

This Plan uses the previously completed plan as a backdrop to provide context and information. It was the consensus of the Comprehensive Planning Committee (CPC) that the newest version of the plan should not contain so much background information and statistics that it becomes a challenge to use as a resource. This Plan shall be set forth in a straightforward and comprehensible structure that does not dwell on back-up documentation and statistics that could be gathered. Therefore, much supporting documentation is included in an appendix and the first version and rewrite of the plan may be referenced to provide context.

This Plan will be available in paper copy but is being prepared in such a way that it is most usable as an interactive document on the internet. Therefore, throughout the Plan there will be web references so that the reader or any interested party may refer back and gather information.

## **Regional Setting**

Located in Central Minnesota, Todd County is approximately 110 miles northwest of the Twin Cities Metropolitan Area. Covering 980 square miles, Todd County is a relatively large county, ranking 23rd in the state in terms of land area. The County measures 41 miles from north to south and 24 miles from east to west. There are 215 lakes and six major watersheds in the County. The total surface water area covers approximately 38 square miles. Counties neighboring Todd include Douglas and Ottertail to the west, Wadena and Cass to the north, Morrison to the east and Stearns to the south. Todd County is located in-between three regional centers: Alexandria, Brainerd and St. Cloud. Each of these employment and retail centers is within an easy commuting distance for many of residents of the County.

The townships of Kandota, Birchdale, Grey Eagle, Villard, Fawn Lake, and Burhamville represent the main growth areas of the County. These areas are defined by a rich abundance of lakes and old-growth hardwood forests. The remainder of the County is dominated by agricultural and recreational land uses split evenly throughout.

Regional transportation is provided via three major highways that cross through the County. Interstate 94 travels across the southwestern corner of the County. From this area, St. Cloud is 40 miles and the Twin Cities is 100 miles to the southeast. U.S. Highway 10 parallels the eastern County line and then turns west passing through the City of Staples. The Fargo-Moorhead metropolitan area is 110 miles to the northwest on Highway 10.

U.S. Highway 71 travels in a north-south direction through the County. It connects Interstate 94 and U.S. Highway 10 with lake destination points in northern Minnesota. Some of the tourist communities and attractions to the north of Todd County include Park Rapids, Bemidji, Walker, Leech Lake and Itasca State Park. Six of the eleven cities in the County are located along the Highway 71 corridor.

Traffic on these major highways in the County becomes quite congested especially in the summer and fall in the communities along the major routes.

From an ecological perspective, Todd County is at the confluence of three biomes including the prairie, the central hardwoods and northeastern coniferous forests. The County's varied geologic features include drumlins—

long, narrow hills that cover more than one-third of the County. This unique glacial feature is one of the few drumlin fields found in Minnesota.

Within Todd County, there are 11 incorporated cities and 28 townships. The county seat is in Long Prairie. There are three cities that straddle the County line: Swanville, Staples and Osakis. Motley comes to the County line, but as of the writing of this update, is fully in Morrison County.

For current and detailed regional and County maps, the Todd County Geographic Information Systems (GIS) Department maintains an excellent and extensive website with many resources:

[http://www.co.todd.mn.us/HTML\\_Files/departments/gis.html](http://www.co.todd.mn.us/HTML_Files/departments/gis.html)

## **Demographics**

The population of Todd County in 1990 was 23,363 persons according to the U.S. Census. The most recent population estimate by the Minnesota State Demographer's Office As of April 1, 1998, the population of Todd County had increased to 23,994 people. The population was estimated at 24,029 in 2007, which represents a 2.7 percent increase from the 2000 census data (<http://www.demography.state.mn.us/estimates.html>). Current projections from the state demographer's office suggest that by the year 2015 the population of the County will grow to about 26,000 and hold relatively steady until 2035 (<http://www.demography.state.mn.us/projections.html>).

Todd County contains 28 townships, 11 incorporated cities and eight unincorporated villages. The city of Long Prairie is the largest city with a population estimated at 2,840 in 2007. The majority of the growth is located in the southern half and eastern quarter of the County.

Another important demographic in the County is age. The age of the population will drive many of the needs of the County. According to the State Demographer, the County can expect to have a growth of about 10 percent in the demographic of 62+ year olds. (For detailed and current information see <http://www.lmic.state.mn.us/datanetweb/php/DemProjection/PrjMenu.php>.)

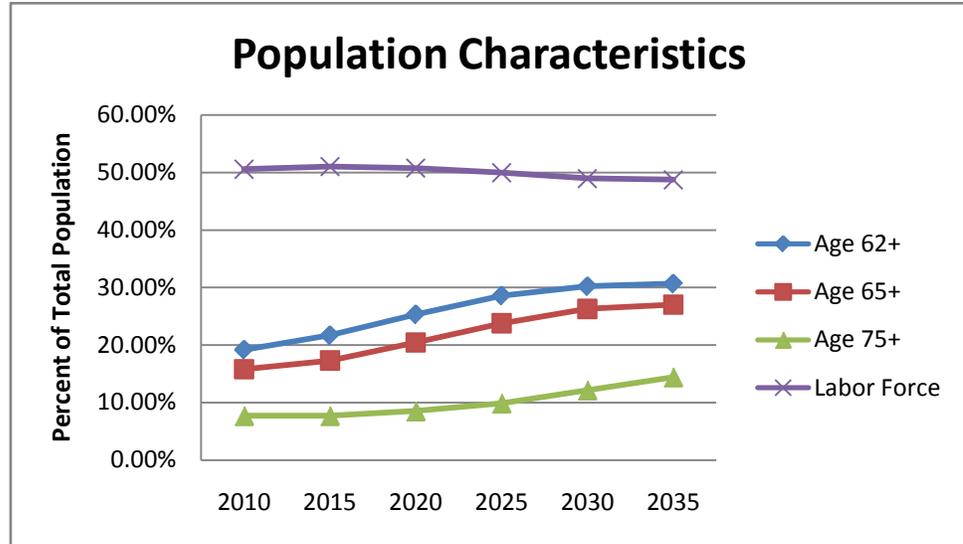


Figure 1

### Planning Process

The planning process for the current revision began in the fall of 2007. Members of the Comprehensive Plan Committee (CPC) were appointed by the Board of Commissioners. Those appointments were confirmed again during the final stages of completing the Plan in Summer of 2009. The CPC was affirmed and charged at this time through the use of a committee charge approved by the Todd County Board of Commissioners at a public meeting.

One of the major goals of a community-based comprehensive planning process is to gather and utilize public input in the creation of the Plan. Comments collected during the process are included as an appendix to this document.

The following is an outline of the public input process:

1. The County surveyed citizens to gather information regarding their vision for the County, including needs and desires to better the community. This data was compiled and is included as an attachment to this Plan.
2. The Committee held public meetings.
3. During the final stages of the Plan, the Committee issued bi-weekly press releases for publication in the area newspapers and made announcements on local radio stations encouraging citizens to provide input through several channels created by the County (web, email, phone, postal service).

4. The Committee issued a letter to all cities, townships, non-profit organizations, and hospitals encouraging participation and comment. Also, the Committee acquired copies of all comprehensive plans already completed by jurisdictions within the County and adjoining the County to consider and review the content and goals of those plans.

<b>Name</b>	<b>Change</b>	<b>2005</b>	<b>2000</b>
Bartlett township	1.44%	353	348
Bertha city	1.06%	475	470
Bertha township	-6.80%	370	397
Birchdale township	-2.33%	795	814
Browerville city	-0.54%	731	735
Bruce township	-4.26%	540	564
Burleene township	-5.48%	345	365
Burnhamville township	-1.73%	738	751
Burtrum city	-10.96%	130	146
Clarissa city	3.61%	631	609
Eagle Bend city	3.03%	613	595
Eagle Valley township	-11.58%	504	570
Fawn Lake township	7.95%	475	440
Germania township	-1.69%	466	474
Gordon township	3.12%	562	545
Grey Eagle city	2.69%	344	335
Grey Eagle township	5.28%	698	663
Hartford township	5.76%	716	677
Hewitt city	1.87%	272	267
Iona township	7.21%	446	416
Kandota township	7.95%	733	679
Leslie township	-0.58%	686	690
Little Elk township	-3.24%	329	340
Little Sauk township	5.07%	808	769
Long Prairie city	0.16%	3045	3040
Long Prairie township	5.22%	866	823
Moran township	-2.14%	504	515
Osakis city (part)	1.14%	177	175
Reynolds township	2.91%	708	688
Round Prairie township	2.89%	712	692
Staples city (part)	1.38%	2496	2462
Staples township	-2.57%	606	622
Stowe Prairie township	-0.19%	528	529
Turtle Creek township	-1.24%	319	323
Villard township	1.01%	598	592
Ward township	0.42%	473	471
West Union city	-11.49%	77	87
West Union township	2.56%	320	312
Wykeham township	-2.52%	425	436

**Figure 2**

## **ECONOMIC DEVELOPMENT**

### **Introduction**

A number of key economic issues have been identified through the series of public participation efforts held as a part of the comprehensive planning process. The major issues raised include:

- The need for good paying jobs.
- The lack of technology infrastructure to support new economic opportunities.
- Limited opportunities for job training in a technological environment.
- The desire to create good opportunities and professions, allowing our youth to remain or return.

Economic activity plays a critical role in shaping the future character of growth and development for a county and its communities. It's become critical for diverse communities to work together to build a countywide or even regional economic strategy for promoting themselves, since businesses and markets are now more global in scope.

A comprehensive economic opportunity strategy is more important to Todd County than ever before. The purpose of this Plan element is to provide an overall policy framework and to coordinate efforts of the various economic development stakeholders in the County and region. In a world with more diverse globalized markets and more acute competition, it has become essential for private enterprises and economic development agencies serving Todd County to come together to create and implement a unified and coordinated economic opportunity strategy.

### **Background Information and Statistics**

Todd County is in the center of things in more ways than just geographic. The County is divided by many different service providers. For example, ten different telecommunication companies within 14 separate telephone districts service the County's residents and businesses. This number of providers has, at least initially, left the County with some confusion as to service areas; it has affected access to new communication systems and capabilities. The opportunity to unite the diversity of services and service providers into an integrated and coordinated network could become one of the County's greatest assets.

Todd County is currently served by several different economic development organizations, each providing different support elements and expertise. The

following recommendations are intended to provide an overall framework for addressing the County's economic issues in a coordinated fashion.

Economic development is the advancement of economic opportunities for people in a community. Those opportunities do not necessarily need to be in certain sectors, but it is to the advantage of the County to pursue development in sectors that makes sense. Since agriculture is a dominant industry in the County, focusing on development that works with and augments agriculture is likely one of the better potential developments.

## **Guiding Principles**

### **Goals and Action Plan**

*See Appendix 1 for changes from the previous comprehensive plan*

#### **Guiding Principle #1**

Educate and inform the public that agricultural businesses have the same, if not greater potential, than other industries.

- Foster a mentality of “we all succeed together.”
- Search for methods to help develop agricultural businesses and businesses that can benefit from being in an agricultural production area.

#### **Guiding Principle #2**

Look to local options first but do not become isolationist.

- Create opportunities for youth to grow up, get educated and work with a high quality of life in Todd County.
- Work on local investing options so that local businesses can get connected to local investors before looking for non-local capital and investment options.
- Recognize that bringing resources in from outside of the County might be the only way for significant growth to happen and support the search for reasonable opportunities.
- Actively market Todd County.

#### **Guiding Principle #3**

Anticipate and plan for future changes.

- Keep infrastructure levels reasonably ahead of needs so that when opportunities arise the County is able to take advantage of them.

- Strive to get the second next generation of technology rather than what is considered “state of the art.”
- Position the County to develop in such a way that synergy between existing and future businesses creates a greater level of opportunity.

**Guiding Principle #4**

Promote, protect and support existing business and agriculture.

- Ensure that any required infrastructure is in place.
- Ensure ordinances are conducive to conducting business.
- Presume that future economic growth will come from businesses that currently exist.

## **LAND USE**

### **Introduction**

Todd County is ranked near the top quarter of Minnesota counties in terms of size. The County has a lot of land, and therefore an important part of this plan is land use. Land use includes information about the physical makeup, population densities, and use of the land as well as other factors.

Todd County is approximately 627,000 acres or 980 square miles in size. About 1.2 percent of the County is covered by eleven cities. The remaining 968 square miles, or 19,000 acres, is covered by unincorporated areas throughout the County.

Land-use patterns are divided into four categories throughout the County. The majority of land use is agriculture, followed by woodland, water/wetlands, and other.

Population density is another important issue when dealing with land use. In 1998, the population density of Todd County was 25.5 people per square mile, with populations as high as 1,300 people in Staples and Long Prairie and as low as 130 people in Bertha. Throughout the rest of the County, there is a wide range of densities based on where the city and township centers are located.

Building sites and land plats also factor into land use and it is important to plan for these issues. Todd County is made up of approximately 21,000 land parcels and 8,000 land plats in the unincorporated parts of the County. Most of these were created in the 1800s by the U.S. Government Land Survey. The County works to keep its plat book updated for use by landowners, businesses and other people throughout the County.

### **Background Information and Statistics**

Todd County is rectangular in shape. It is 41 miles north to south and 24 miles east to west. It has a total area of approximately 980 square miles or 627,000 acres. Todd County ranks 23 out of 87 total Minnesota counties in terms of land area.

Activities occurring on the land in the County have been inventoried on three separate occasions. The following is a list of those land cover inventories:

- Mid-1800s – Marschner Survey - Original vegetation survey.
- 1969 – State of Minnesota – Land cover inventory.
- 1989 – International Coalition – Land cover inventory.

### Land Cover Inventories – Todd County

Land Cover Description	Mid 1800s		1969		1989	
	Acres	Percent	Acres	Percent	Acres	Percent
Urban and Rural Development	0	0	9,037	1.4	14,220	2.3
Cultivated Land	0	0	267,286	42.5	273,879	43.7
Hay/Pasture/Grassland	20,990	3.3	161,126	25.6	138,327	22.1
Brushland	161,377	25.8	0	0	29,860	4.8
Forested	325,024	51.9	157,521	25.1	134,039	21.4
Water	15,709	2.5	22,358	3.6	20,920	3.3
Bog/Marsh/Fen	103,571	16.5	10,991	1.7	14,791	2.4
Mining	0	0	213	<0.1	644	0.1
<b>Total</b>	<b>626,680</b>	<b>100</b>	<b>626,680</b>	<b>100</b>	<b>626,680</b>	<b>100</b>

**Figure 3**

The most predominant land use in Todd County today is agriculture, which makes up approximately 42 percent of the County; woodland makes up approximately 25 percent; water/wetlands make up approximately 5 percent; and other uses make up about 28 percent of the land use in the County.

Agricultural uses are scattered throughout the County. Farms increased in size from 197 acres in 1970 to 223 acres in 1997, and have since decreased to 198 acres in 2007. Farms decreased in number from 1970 to 1997 from 2,376 to 1,741, and they have slightly increased from 1997 to 2007 to 1,910. For the most current information available see the census of agriculture website.

[http://www.agcensus.usda.gov/Publications/2007/Online\\_Highlights/County\\_Profiles/Minnesota/index.asp](http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/Minnesota/index.asp)

Approximately 135,000 acres of Todd County are in woodland. Most of the large, uncleared woodlands are privately owned and occur in the eastern third of the County with other scattered woodlots occurring throughout the rest of the County.

Water/wetlands cover approximately 36,000 acres. Lakes in Todd County tend to be located in the southern and eastern portions of the County or in a J-shaped pattern. Wetlands are much more dispersed throughout the County. The larger wetlands tend to be located in the northern two-thirds of the County between the glacial drumlin patterns.

The “Other” category includes urban and rural development and other land activities such as mining. A more detailed discussion on three largest cities is provided below.

In 2000, the density of Todd County was 25.9 persons per square mile. The density of the cities ranged from approximately 1,300 persons per square mile in Staples and Long Prairie to 130 people per square mile in Hewitt. Other cities

in the County had densities ranging from 400 to 800 persons per square mile. The population density of the cities in the County varies greatly.

At the township level, population densities in 1998 ranged from 7.9 persons per square mile in Turtle Creek Township to 26.6 persons per square mile in Kandota Township. The southern townships typically had higher densities than those in the northern portion of the County. The densities reflect the land-use and development patterns in each township. Townships with shore land development reveal the higher densities. Agricultural townships have experienced declines in densities over the past two or three decades.

There are approximately 21,000 parcels and 8,000 building sites in the unincorporated area of the County. A majority of these parcels were created by the U.S. Government Land Survey in the 1800s. Parcels are typically quarter-quarter sections or about 40 acres or larger assemblies off the section system. There has been some further division or reassembly of these rural parcels through metes and bounds descriptions over the years but the County is still largely rural in nature.

In 1999, the County prepared an update to its plat book. A visual review of the County's plat maps reflects its rural character. Most of the property in the County is in large parcels or tracts, 40 acres or larger.

The majority of the land division activities have taken place in areas of high amenity – lakeshores, wooded lots and sites with a view. In shore land areas, the Sylvan Shores development is the largest platted area with more than 2,100 lots. Other large shore land subdivisions include plats around the following lakes; Osakis, Sauk, Big Birch, Little Birch, Big Swan, and Charlotte. In addition, there are several small rural communities there have been platted over the years such as Philbrook, Ward Springs, Round Prairie, Clotho, and Pillsbury. The parcels or lots in these rural neighborhoods are more urban in size ranging from 0.25 to 1 acre. The current zoning ordinance regulations do not accommodate or consider these small parcels.

## **Guiding Principles**

### **Guiding Principle #1**

Promote and guide the *orderly development and growth* in Todd County in a fair and common sense manner.

- Develop an educational program on land-use planning and various implementation tools.

- Consistently enforce all zoning regulations, subdivision regulations, individual sewage\_treatment systems (ISTS), and all other development regulations in the County.
- Encourage all townships and cities in the County to either 1) properly budget, develop and administer a coordinated system of land-use regulations or 2) coordinate land-use controls with the County.
- Encourage construction practices that minimize degradation to land and water resources.

### **Guiding Principle #2**

Optimize the existing and future use of our land resources, to be consistent with good economic development practices and concern for the environment, in ways that minimize conflicts between citizens of the County.

- Coordinate plans and work with all local governments and agencies responsible for the delegation and regulation of land use.
- Conduct a study that will identify best land-use practices in the County. This study should be based on the best available information (such as soil types, topography, existing land use, etc.) and be documented using the GIS system.
- Review and update the County’s zoning ordinance on a regular basis to ensure that the needs are met throughout the County. Specify in detail which land is available for which type of land use. This process should provide the background data needed to form the basis\_for the new zoning ordinance regulations.
- Create a plan to restore or convert improperly used land by using incentives that will compensate for such conversions. An example would be converting marginal cultivated land along a creek into a grass buffer strip to reduce runoff into the surface water.
- Educate people on the best management practices and potential consequences of mismanagement of forest and wildlife resources.

### **Guiding Principle #3**

Promote the location of more intense development in or near cities where urban services can easily be provided and extended.

- Encourage all cities and townships to develop community growth area plans to help guide where future development should be located.

- Encourage the location of residential subdivisions and major developments in or immediately adjacent to cities, including the community growth areas as shown on Figures 53, 54 and 55, where urban services can easily be provided.
- Locate commercial and industrial land uses in cities that have public water and sewer systems.
- Preserve and enhance the small community character and economy of the cities in the County through wise land-use decisions.
- Allow the location of multi-family residential development only in areas where public or community sewer and water facilities are available.
- Maintain a current parcel map that inventories existing lots of record in unincorporated areas. Shore land areas and unincorporated villages will receive a higher priority.
- Support the development of infrastructure needed to serve large numbers of undeveloped, platted lots in the Sylvan Shores community.

#### **Guiding Principle #4**

Promote compatible agricultural and rural residential development in the County.

- Identify the highest quality agricultural areas in the County as well as areas where rural residential housing could potentially be developed without conflicting with existing agricultural operations or creating detrimental impacts to natural resources.
- Control the location of new feedlots and other animal confinement areas in the County to minimize land-use conflicts, pollution and nuisance problems with existing rural residential development.
- Control the location of new rural residential housing near existing feedlots and other commercial agricultural operations that is likely to cause nuisance problems or disrupt farming operations.
- Discourage “spot zoning” in the County.
- Develop and adopt provisions in development ordinances that encourage innovative site and housing unit designs. The County encourages developers to consider cluster and conservation development designs when planning new rural residential

developments and the construction of community water and sewer systems.

- Use soils and other natural resource information as a basis for establishing minimum lot sizes for rural housing with septic tanks and drainfields.
- Prohibit the location of rural housing with septic tanks and drainfields in areas of high bedrock or water table or steep slopes to minimize pollution problems.
- Enforce the County's and Minnesota Pollution Control Agency's standards concerning on-site sewer systems.

#### **Guiding Principle #5**

Control the disposal of *solid, chemical and hazardous waste* in the County.

- Promote educational programs concerning waste disposal.
- Control the solid waste cycle in the County and identify the location of all old dumps.
- Locate solid waste disposal sites to minimize pollution and nuisance problems.

#### **Goals and Action Plan**

*See Appendix 1 for changes from the previous comprehensive plan*

- Encourage construction practices that minimize degradation to land and water resources during development.
- Develop ordinances to properly guide the location and development of telecommunication towers and alternative energy structures.
- Explore the creation of a new zoning district to protect and promote forest and wildlife resources.
- Conduct a study that will identify best land- and water-use practices in the County. This study will be based on the best available information (such as soil types, topography, existing land use, etc.) and be documented using the GIS system.
- Regularly review the County's subdivision regulations and update when necessary.
- Regularly review the County's zoning ordinance and update when necessary.

## **NATURAL RESOURCES**

### **Introduction**

Natural resources are an important part of any county or community, attracting businesses, recreation and other uses. Protecting and using these resources wisely and efficiently is critical to the health of a community.

Todd County was shaped by the Wisconsin glaciations when glaciers advanced at least four times during a 60,000-year period. These glaciations resulted in a landscape made up of hills and plains with lakes scattered in between. These distinct landscapes give the area a wide range of natural resources that benefit the quality of the County.

Another major factor that affects the natural resources of the County is the soil makeup. The glaciations that took place greatly influenced the soil composition. The soils in Todd County have been mapped to identify factors such as runoff, erosion and agriculture potential. The soil composition can also have an impact on the water resources in the County. Soil maps can be a resource used by landowners, farmers, businesses, and local officials when deciding how to utilize the land and natural resources of the County.

Watersheds also impact the natural resources of an area. Todd County is located within two of the watershed units of Minnesota; within these two units lay six major watersheds that make up the County.

Due to legislation that named water Minnesota's Number One natural resource to protect, Todd County has been very active in water planning. The County has a comprehensive water plan that sets goals, objectives and actions in regards to watersheds. The goal of this planning is to relate land management activities to water management through a better understanding of how each watershed functions. This planning is an important aspect of natural resources because of the effect that watersheds have on other resources.

Surface water, which includes wetlands, floodplains and protected water, are very valuable to our communities, enhancing tourism and providing protection from floods, animal habitat and other ecological functions. Since surface water resources are so valuable, it is important that the County plan and protect these resources so that they can continue benefitting the area.

Todd County also has a good supply of groundwater resources throughout the area. Due to the geologic features and landforms of the state, there are a number of different groundwater conditions throughout Minnesota. Todd County lies on two main aquifers that supply water to our area. Due to the high

demand for water and the limited resources available, the County must plan to protect and maintain these water resources.

Along with the rich water resources, Todd County also has a good source of forest resources. In the early days of the County, there was an abundance of timber. Since then, much of this has been forested and used as an asset to many of the people in the area. There is still a good supply of timber that can be an economic benefit to the County as a whole. Lands can be reforested and the timber used for wood products such as paper and pole timber. Forests also add to the scenery of the area. With proper management, forest resources can be beneficial to the future of Todd County.

### **Background Information and Statistics**

One of the more pronounced geologic features in the County are the drumlins. These long narrow hills, which are typically aligned in a north-south pattern, cover the northern and central portions of the County. The hills were formed by the Wadena Lobe of the Cary sub-age Glacier. In between the drumlins are long, linear shaped wetlands. The Todd drumlin field covers approximately 40 percent of the County. This is a unique geologic and topographic feature, one of the few drumlin fields found in Minnesota.

Along the eastern one-third of the County is a terminal moraine complex. This area is characterized by hills with short, steep slopes extending in several directions. These hills were formed as a part of the St. Croix Terminal Moraine. In between the hills are many of the County's lakes and streams. The glaciers left a series of lakes along the eastern and southern portion of the County in a J-shape or pattern.

Ground moraine typically covers the western side of the County. These areas are composed of clayey till with relatively high clay content and are associated with higher run-off rates. In addition, a small area in the southwestern part of the County was covered by the Mankato Sub-age Till, a sub-lobe of the Des Moines Lobe Glacier. This left calcareous, silty clay soils in a rolling, pothole-type of landscape.

The fourth major landform in the County is the outwash plain. The outwash area is primarily located in the northeastern part of the County. The glacial debris left in the outwash area is composed of a brown, sandy material.

The glacial till ranges from a few feet to almost 400 feet in thickness over granite bedrock. It should be noted that there are a few small areas in the County where there is exposed bedrock such as in Section 15 of Ward Township.

The highest elevation in Todd County appears to be located along its western edge in Wykeham Township, according to U.S.G.S. information. The elevation of this area exceeds 1,500 feet above sea level. A second high point, as documented in the Todd County Soil Survey, is Tower Love Hill, located in the east-central part of the County. It has a reported elevation of 1,498 feet. A third documented high point in the County, as identified in the 1990 Todd County Water Plan, is Mt. Nebo. This point is located in the northwest corner of the County and was reported as having an elevation of 1,511 feet above sea level (U.S.G.S. Bertha Quadrangle Map).

Perhaps with somewhat less attention, the lowest elevation in the County is located along the eastern border where the Swan River flows into Morrison County directly north of Swanville. Here, the elevation is reported to be 1,159 feet above sea level.

Approximately 65 percent of the County is above the 1,300 foot elevation. Most of the drumlins and terminal moraine areas are above the 1,300 foot elevation. The outwash plains and the ground moraines tend to be below the 1,300 foot mark.

Land in the County is generally characterized as being level to slightly sloped. As reported in the 1990 Water Plan, 41 percent of the County had slopes of 2 percent or less. Areas with steeper slopes, from 6 to 45 percent, are typically located in the eastern third of the County, in the terminal moraine area. There are some steeper slopes in the western portion of the County as well as the southwestern and southern portions. It is interesting to note that most of the steeper-sloped areas are located adjacent to many of the County's water resources including lakes, rivers and wetlands. Land development in the steeper-sloped areas needs careful attention in order to prevent negative impacts such as erosion on the water resources.

Drainage patterns are formed by the topographic features in the County. The Long Prairie River is the major drainage feature or watercourse in the County. Its watershed covers almost 50 percent of the County. The Sauk River is a second major watercourse in the County and its watershed covers about 20 percent of the County's total area.

For current and extensive information on the topographic features and geography of Todd County see:

<http://www.geo.umn.edu/mgs/>

<http://www.usgs.gov/pubprod/data.html#data>

<http://www.lmic.state.mn.us/>

## **Soils**

Soils are produced by natural processes acting through time on material deposited or accumulated by geologic processes. Generally, soil characteristics are determined by several factors including: a) the physical and mineralogical composition of the parent material, b) the climate under which the soil material accumulated, c) plant and animal activities and material on and in the soil, and d) relief or topography in the area of soil formation.

Soils with identical or near identical profiles are grouped into a soil series, normally named for a geographical feature where it was first described. Each series has the same characteristics, regardless of where it is subsequently found.

Soil associations, which are described on a general county soils map, are a distinct pattern of soil series in defined proportions. Most associations contain one or more major soil series and at least one minor series. Associations are named from the major soil series names.

Soil association maps provide an overview of the soils at a county level. These maps can help identify where high runoff or erosion could be expected, or where areas of high or low agricultural potential are likely to be located. These maps are not adequate for detailed planning and site selection of structures or roads or for the development of farm management plans.

Todd County soils have also been mapped by the more detailed soil series. The detailed soils classifications can be used to help in organizing and managing farms, individual fields and woodlands, and in engineering work. Only the general soils association map is included in this plan.

There are nine general soil associations in the County as identified in the Todd County Soil Survey. In addition, there are 97 soil series listed in the Soil Survey. Soil parent material in Todd County ranges from clay in the west to sandy loam in the major river valleys.

Soils have significant interaction with an effect on water resources. For example, highly erodible soils can contribute sedimentation to rivers and streams. Conversely, sandy soils with high infiltration and surface permeability characteristics significantly contribute to aquifer recharge.

The Todd County Soils Survey, published in 1989, provides further detailed information. The survey is an excellent information resource that should be used by landowners, businesses, farmers, and local officials in their decision

making as it relates to the use of land and natural resources. It should also be noted that the soils maps for the County are being digitized.

Persons considering a more intense use of land or development proposal should consult with the staff at the Todd Soil and Water Conservation Service (SWCD) and the Natural Resources Conservation Service (NRCS) for more information and technical assistance.

For more specific information on the soil types in Todd County see:

[http://soildatamart.nrcs.usda.gov/manuscripts/MN153/0/Todd\\_MN.pdf](http://soildatamart.nrcs.usda.gov/manuscripts/MN153/0/Todd_MN.pdf)

**Watersheds**

Watersheds are the lands that drain to a river or other water body that contribute to the recharge of an aquifer. There are 81 major watersheds in Minnesota, which in turn make up nine major watershed units or river basins.

Todd County is located within two major watershed units: the Crow Wing and the Mississippi-Sauk. Within these two units, the County contains portions of six different major watersheds. Within the County’s six major watersheds, there are a total of 91 minor watersheds. The major watersheds in Todd County are as follows:

- Crow Wing
- Long Prairie
- Mississippi - Brainerd
- Mississippi - Sartell
- Redeye
- Sauk River

Watershed	Area in Todd County		Total Watershed	
	Acres	Sq. Miles	Acres	Sq. Miles
Crow Wing	68,100	106	1,245,280	1946
Long Prairie	305,930	478	571,673	893
Mississippi - Brainerd	82,152	128	1,079,925	1687
Mississippi - Sartell	5,228	8	652,670	1020
Redeye	29,708	46	575,285	899
Sauk River	137,170	214	667,108	1,042

Figure 4

**Areas of Major Watersheds in Todd County**

Source: Land Management Information Center.

In 1986, the Minnesota State Legislature passed the Comprehensive Local Water Planning Act into law. This legislation made water Minnesota's highest natural resource priority and created the opportunity for counties to receive financial and technical assistance from the state to plan ways to better manage water resources at the local level. The directive in this legislation encourages counties to develop and implement local water plans and provides each county that develops such a plan the authority and duty to exercise any and all powers necessary to assure its implementation.

Todd County has been very active in local water planning. The Todd County water-planning process started when the Board of Commissioners passed a resolution on September 19, 1989, to enter into the Comprehensive Local Water Planning (CLWP) process under chapter 103B.311 and 103B.315. The original Todd County Comprehensive Local Water Plan was completed and adopted in 1991, and began to be implemented that year.

The Comprehensive Local Water Planning Act requires counties to assess the resource issues and develop goals, objectives and actions based on watersheds. The goal of water planning is to relate land management activities to water management through a better understanding of how each watershed functions.

As required by state law, the County's Water Plan is to be updated at least every five years. In 1995, the County completed its first plan update. The process to update the County's water plan in preparation for the third five-year interval began during the fall of 1999, and was completed during the spring of 2000. The 2000 Todd County Water Plan update continues the tradition of promoting better planning and management of our shared natural resources. Numerous implementation efforts have taken place over the past ten years, including the following projects:

- Provided cost-share to seal abandoned wells – 10 to 15 per year.
- Provided financial support to 18 livestock producers to better manage manure to protect water quality.
- Entered nearly 3,600 wells and sealed wells into the County well index database. Monitored water levels in 27 wells.
- Developed a feedlot inventory.
- Sponsored "Water Wellness Events" at several locations each year.
- Sponsored bus tours that promoted conservation practices, unique farming alternatives, tree planting.
- Cooperatively set up days and drop-off locations to collect hazardous waste and pesticide containers.
- Helped two cities start the Wellhead Protection planning process. Provided data and resource information.

- Secured a Clean Water Partnership grant to monitor the Long Prairie River for water levels, flow and nutrient loading.
- Sponsored the annual Envirofest, an all-day environment and natural resources workshop for 6<sup>th</sup> grade students.

Please refer to the 2000 Todd County Water Plan for a more detailed discussion of the County's watersheds. The plan provides a historical comparison of land uses that have developed in each watershed in the County over the past one hundred or more years.

## **Surface Water Resources**

### **Wetlands**

In the mid-1800s, there was an estimated 19 million acres of wetland in the State of Minnesota. Today, more than one-half of these wetlands have been drained or filled. For many years, wetlands were considered obstacles to growth and progress. Major policy changes at the federal, state and local levels have been adopted and implemented over the past fifteen years in response to protecting wetlands.

Wetlands provide many benefits. They improve surface and groundwater quality. They serve as holding areas for storm water when rainfalls are heavy, thereby reducing flood damage. Wetlands also serve as sinks for nutrients, pesticides, heavy metals, and other contaminants. They provide valuable fish and wildlife habitat, resources critical to our tourism industry. Fish and wildlife also are critical to maintaining healthy biological diversity and a natural food web. Wetlands are also being used for a growing number of commercial purposes including peat mining, sod and vegetable farming and bait harvesting. Today, wetlands are viewed as resources rather than liabilities or obstacles.

Two wetland classification systems have been developed to define wetland types. In 1956, the U.S. Fish and Wildlife Service developed what became known as the Circular 39 system, a classification of eight wetland types. The eight types range from seasonally flooded areas to inland marshes to forested swamps and bogs. The main difference between the types is the depth of water and variety of vegetation.

A more extensive system, known as the Cowardin classification system, provides a more precise ecological description of wetlands. The Cowardin wetland areas were mapped as a part of the National Wetland Inventory (NWI). Landowners seeking more detail on wetlands can view or obtain copies of the NWI maps from the Todd County GIS Department or visit the following website:

[http://www.co.todd.mn.us/HTML\\_Files/departments/gis.html](http://www.co.todd.mn.us/HTML_Files/departments/gis.html)

There are more than 140,000 acres of wetlands in Todd County as classified in the NWI. The wetlands, as inventoried by the U.S. Fish and Wildlife Service, cover almost 23 percent of the land area of the County. Turtle Creek and Little Elk Townships, along the eastern edge of the County, have the largest number of wetlands acres on a township basis.

The Minnesota Wetlands Conservation Act (WCA) of 1991 requires that local governments protect wetlands from development. The law established a process known as sequencing – avoidance, minimization and replacement – to help maintain the wetland resources. SWCD staff should be contacted for more detailed information on the wetlands administration process before landowners take any physical actions on their property.

For purposes of meeting the replacement requirements set by WCA, Todd County is considered a 50 to 80 percent county. In general, a minimum acreage requirement of one acre replaced for each acre drained or filled must be provided. There are eight counties in Minnesota that have been grouped into this replacement category. These counties are all located in the center of the state in an ecological transitional zone between the prairies to the southwest and the forests to the northeast.

### **Floodplains**

The National Flood Insurance Program was established in 1968 by the federal government to reduce the cost of disaster relief caused by flooding and to provide flood insurance to the public.

The program is based on a cooperative relationship between federal and state governments with local governments. If a county or municipality implements measures to reduce future flood risks, the federal government will provide flood insurance and other federal financial assistance to property owners. Participation is voluntary.

Historically, flooding has not been a severe problem in Todd County since most development has occurred outside the floodplains. In addition, much of the excess surface water has been trapped and stored temporarily by the lakes, ponds and wetlands. Most flood damage has been the result of improperly maintained ditches or the improper drainage practices of agricultural land. A 100-year flash flood resulting from an extreme rainfall in July, 1972 was among the most damaging in the County's history. More recent flood damage has been restricted to roads, with some crop damage. Little personal property damage has been reported.

Although there has been limited damage related to flooding in Todd County, increased development along the lakes and rivers will generate the greater potential for flood damage if the proper precautions are not taken.

Land located within floodplains is generally shown on Figure 13. The majority of the flood-prone areas in the County are located along the Long Prairie River and other rivers and larger streams. The map is very general in nature. Staff has commented that the flood maps are difficult to interpret and need more detailed information. Better mapping of the floodplain areas needs to be developed for the County and the communities within.

The Minnesota Department of Natural Resources (DNR) oversees the state floodplain management program. It encourages local governments to proactively plan and guide land development in floodplain areas.

Typically, the development or use of land in floodplains is regulated through zoning ordinances adopted and administered by the County and cities. The last major update to the County's floodplain regulations was adopted in 1989. Several of the municipalities have not adopted a floodplain ordinance and don't have the staff time to administer the program. The County and cities should review and update the floodplain maps as well as the floodplain regulations to make sure they are current.

As development requests are submitted to the County and municipalities, staff should consult with the DNR area hydrologist to determine if potential floodplain impacts exist. Parties interested in developing parcels in areas where the floodplain appears to exist may need to consult with an appropriate professional engineer or hydrologist who can determine the elevations of the floodplain and the subject property. This information is necessary for the proper review and approval of the proposed use or activity.

The Federal Emergency Management Agency is responsible for updating the floodplain maps. The most current version as well as other State of Minnesota information on floodplains can be found at the following website:

[http://www.dnr.state.mn.us/waters/watermgmt\\_section/floodplain/index.html](http://www.dnr.state.mn.us/waters/watermgmt_section/floodplain/index.html)

### **Protected Waters**

The Minnesota DNR developed an inventory of all protected waters within all counties of the state in the 1980s. The protected waters in Todd County as defined by the DNR can be found at the following website:

[http://files.dnr.state.mn.us/waters/watermgmt\\_section/pwi/TODD\\_PWILIST.PDF](http://files.dnr.state.mn.us/waters/watermgmt_section/pwi/TODD_PWILIST.PDF)

Development adjacent to these protected waters,, including lakes such as Big Swan Lake and rivers such as the Crow River, is subject to state and local land-use regulations. These regulations are commonly known as shore land regulations. The County has adopted shore land regulations.

The Todd County GIS Department has significantly enhanced and improved the location of the water bodies identified in the state's Protected Waters Inventory. More work is needed on the watercourses. The revised map and corresponding data sets should be reviewed by the County Planning and Zoning staff along with staff from the cities and townships and DNR staff to ensure that the appropriate water features have been delineated.

### **Groundwater Resources**

The varying geologic features and landforms throughout Minnesota cause significant differences in groundwater conditions across the state. There are fourteen principal aquifers in the state and they are categorized into two broad groups – glacial drift aquifers and bedrock aquifers.

Glacial drift aquifers are further divided into two categories including surficial drift and buried drift aquifers. Surficial drift aquifers are exposed at the land surface and are found in about one-third of the state. Most of these aquifers consist of sand and gravel deposits called outwash. Wells in these aquifers are typically at a depth of 30 to 240 feet and produce from 100 to 800 gallons per minute. These aquifers are a significant source for irrigation in central Minnesota.

Buried drift aquifers are also composed of sand and gravel deposits but because of repeated glaciation in the state, lie beneath layers of confining silt and clay. These aquifers occur in nearly all areas of the state where the depth to bedrock exceeds 100 feet. Their size and extent are not well documented. Wells using these aquifers are commonly at depths of 80 to 280 feet with typical yields of 100 to 600 gallons per minute.

The Long Prairie Sand Plain is the major aquifer in the County and is related to outwash deposits. This surficial aquifer covers a large portion of the northeastern corner of the County and extends southward along the Long Prairie River. A second surficial aquifer, the Swanville spillway/sand plain, also trends north-south and is located near the Todd-Morrison county line.

The outwash of the surficial aquifers in the County ranges from 0 to 150 feet thick and is composed of medium to very coarse sand. The upper limit of the aquifer is the water table and the lower limit is the top of the glacial till. Water levels in this aquifer are generally less than 15 feet below the land surface.

Saturated thickness of the aquifer ranges from less than 10 feet to more than 140 feet. The average saturated thickness is 35 feet.

Most irrigation and municipal groundwater withdrawals in Todd County are from surficial aquifers that are in direct contact with the ground surface. These aquifers are rapidly recharged and are also very susceptible to contamination. Buried drift or confined aquifers provide groundwater for rural residents and farms as well as some of the smaller municipalities in the County.

Bedrock aquifers, both Cretaceous and Precambrian, are present under the surficial and buried drift aquifers, but have generally very low yields and are of poor water quality (U.S. Geological Survey 1972). There are no bedrock aquifers being used in the County and as reported in the 1990 Water Plan, there are no karst areas.

The general water movement in the County's aquifers is from south to north, following the surface water flow, but this varies throughout the aquifers (U.S. Geological Survey 1972). Groundwater flow in the Long Prairie area follows the river flow from south to north. North of Little Sauk, groundwater flow is to the northeast. South of Little Sauk, flow is to the south.

Very little is known about the connection of aquifers in Todd County, or where the specific recharge areas are located. In addition, the extent of these interconnections is not well known. Several of the confined aquifers are known to coalesce with either the unconfined aquifers or another confined aquifer.

Recharge of the major aquifers in Todd County occurs primarily through precipitation in surface areas with sand and gravel where infiltration rates are high and the topography is rolling and hummocky. Most recharge occurs in the spring from snowmelt and rainfall when groundwater demands by growing vegetation are minimal and precipitation can soak through to the water table. There is generally little recharge during the active growing season. Recharge areas include gravel pits, wetlands and ponds, lakes and rivers, and even road ditches. Recharge can also take place in the till drift plain areas but generally occurs much more slowly through confining layers into buried drift aquifers. As a result, these aquifers recharge more slowly, but are less susceptible to contamination.

Todd County has abundant groundwater resources in surficial and buried drift aquifers located throughout the County. Since surficial aquifers are quickly recharged by precipitation and snowmelt, there are no significant problems in the County related to groundwater quantity, based on current use rates.

Maintaining groundwater quality will be the more pressing challenge for the County in the future. Since most groundwater use in Todd County is from surficial aquifers, it is imperative to identify and protect those recharge areas with proper land-use practices.

The potential for the polluting of groundwater resources from improper land use in Todd County is a serious concern. It should be noted that Todd County serves as a groundwater recharge area for several neighboring counties. Since recharge occurs throughout the region and crosses county lines, every effort should be made to control land use in the recharge areas to prevent possible groundwater contamination for residents of Todd County and contiguous counties alike. .

These areas are often heavily irrigated, and can be areas of rapid, indiscriminate recharge. Best management practices relating to land development and intensive agricultural activities, such as the application of pesticides and fertilizers, must be encouraged. It may be necessary to control or restrict application of certain chemical products, or restrict land use in key areas to protect these sensitive regions.

As reported in the County's water plan, groundwater quality in Todd County is generally good and free from pesticide and nutrient contamination. The groundwater chemistry generally consists of calcium magnesium bicarbonate water types. Total dissolved solids are generally under 500 parts per million (within recommended limits) for most of the County. Monitoring activities have been and will continue to be an important part of the County's water planning process.

One example of the groundwater quality monitoring process is the program sponsored by the Minnesota Department of Agriculture. The Department established a program to monitor nitrate levels and flow patterns in the region. Monitoring wells were installed in March of 2000 in the sand-plain area of northern Todd County and in the Long Prairie River watershed to check nitrate levels over a five-year period.

Groundwater quality in Todd County is monitored in a number of other ways. All municipal wells are tested annually for nitrates and twice a month for bacteria. Municipal wells are tested every two years for a wide range of contaminants, including heavy metals. Resorts and restaurants not connected to municipal water supplies must have their water systems tested at least annually for bacteria and nitrates. Dairy farms must have their wells tested annually for nitrates and bacteria. All new wells drilled in the County are required to have the water tested, and some lending institutions require water

tests of rural water supplies prior to loan approval. In addition, many households have also had water tested privately to determine hardness prior to installation of home water treatment systems.

Any person in the County can easily and inexpensively get their well water tested for nitrates and bacteria. The County Health Department or the County Extension Service provides sampling instructions, containers for the water samples and instructions for sending the samples to a certified lab. They will also provide assistance interpreting test results.

The Minnesota Department of Health requires public water supply systems to develop and implement wellhead protections plans (please refer to Minnesota Statute 103.1 and Minnesota Rules 4720.5100 to 4720.5590). Wellhead protection is a method of preventing contamination of a well by effectively managing potential contaminant sources in the area that contributes water to a well. All the municipal public water supply systems in Todd County, with the exception of the City of Hewitt, are considered vulnerable by the Minnesota Department of Health.

Further information on groundwater and surface water resources and the local water planning process is available from the Todd Soil and Water Conservation Service. Information is also available at:

[http://www.mngeo.state.mn.us/chouse/ground\\_water/index.html](http://www.mngeo.state.mn.us/chouse/ground_water/index.html)

### **Forest Resources**

Forest resources in Todd County were substantial at the time of settlement. The forest resources included large stands of pine and hardwoods. One historical text reported the bountiful resource in the following manner:

“A stand of white pine that was the admiration and wonder of even old lumbermen. The trees were of ideal size for profitable logging and sawing, and stood so close together that the sun never saw the ground until the axmen had brought the forest giants to the earth. With the trees standing, even at noonday in sunny weather, the light was dim and subdued.”

*Todd County Histories , 61*

As recorded in many of the historical journals for Todd County, lumber played an essential role in the early economy of the County. Many of the early settlers were loggers who came to harvest timber and ship the lumber out to other areas. In fact, most of the farmland in the County today was formerly wooded areas from which trees had been cleared. More than one-half of the land area in the County, or 325,000 acres, was once forested.

Perhaps due to the over-cutting of timber in the early years and the dominance of agriculture, forest resources have become overlooked in the local economy. Yet, current land-use data indicates that more than 20 percent of the County, or more than 135,000 acres, is forested. This area would be equal in size to six of the County's townships.

Todd County lies in two forest zones or types, including the northern pines and the central hardwood forests. The original vegetation in the northern pine forests was dominated by red and white pine. Jack pine barrens were found on well-drained sites. Black spruce, tamarack, white cedar, and black ash were predominant tree species on poor soils. The pine forests of Todd County were the western extreme of the great pine forests of eastern Minnesota and much of Wisconsin. The original vegetation in the hardwood type forests included maple-basswood forests interspersed by oak forests and savannas.

Today, the eastern tier of townships, from Grey Eagle in the southeast to Villard in the northeast, contains many of the larger tracts of forestland in the County. These areas are dominated by pine species and aspen in the north and oak species in the south. Poor access and low quality farmland were deciding factors that left much of the area in the eastern portion of the County forested.

The rolling hills and lakes of the southern tier of townships influenced the manipulation of vegetation by human activity. Large blocks of forestland exist in hilly areas around the lakes. Deciduous woodlots are interspersed throughout the rest of the landscape. Soil conditions here are more favorable for producing large, good quality hardwoods such as oak and ash.

Central and western townships contain larger areas of wetlands with deciduous forests scattered between them. On a landscape level, this is where the forest meets the prairie. The forests and woodlots here influence the quality of water in many streams and ponds in the area.

Harvest records from the DNR indicate that the stumpage value of forest resources harvested in 1997 in Todd County exceeded \$ 435,000. According to the County Assessor's records, timberland had an estimated market value of more than \$ 3.3 million and contributed more than \$ 60,000 in property tax revenue to the County general fund in 1999. Some of the lumber harvested in the County has been marketed internationally, including red oak to countries in the Far East.

One of the more recent directions in managing forest resources in the County is the formation of a landowners' forestry cooperative. Another prominent direction in forest resource management is the purchase of land by International Paper Company to grow hybrid poplar trees for its plant in Sartell,

In the early 1990s, the DNR Division of Forestry developed a program to help private landowners better manage their woodlands for multiple uses. Known as the Forest Stewardship Program, the program provides private landowners with technical assistance, resource education and cost-sharing incentives. Through the program, landowners work with natural resource professionals to plan and manage their forestland. To date, landowners have entered approximately 20,500 acres into this program. DNR staff estimates that individual forest management plans will be prepared for an additional 3,000 to 5,000 acres each year for the foreseeable future. The new Class 2C law, where people are given a tax break for private forest land (state), has greatly increased the backlog of stewardship plan requests.

In addition to the Forest Stewardship Program, the DNR Division of Forestry manages about 2,000 acres of State land in the County. An additional 5,699 acres of Wildlife Management Areas are administered by the Division of Wildlife. These public lands provide further opportunities for improving the forest resource base in Todd County.

Figure 16 illustrates the location of properties with a Forest Stewardship Plan, as well as other public and private forest-managed sites.

### **Sand and Gravel Resources**

Since 1976, Todd County has granted 50 conditional-use permits for sand and gravel mining operations. The sites are shown on Figure 17. The gravel mining operations are fairly well distributed throughout the County, although there is some concentration of mining sites along the U.S. Highway 71 corridor.

This inventory, it should be noted, does not include pits operated for roadway construction projects by the County Highway Department or others. The inventory also does not include small gravel pits being operated for non-commercial uses by property owners or any of the abandoned gravel pits.

The Todd County Zoning Ordinance regulates sand and gravel mining operations. The ordinance requires a conditional-use permit for operations if it exceeds 40,000 cubic yards, is in operation for more than one season, material mined is for commercial uses, and if there is any processing of materials.

### **Natural Habitats and Rare Communities**

In 1987, the DNR began a systematic survey of rare biological features in what is known as the Minnesota County Biological Survey. The goal of the survey is to identify significant natural areas and to collect and interpret data on the distribution and ecology of rare plants, animals and natural communities.

Although a biological survey for Todd County has not yet been developed, the Natural Heritage and Nongame Research Program maintains a database on rare natural resource features in the County. Some of the species listed in the database for Todd County include Sandhill Crane, Bald Eagle, Blanding's Turtle, American Ginseng; several bird nesting sites also are listed. Persons interested in learning more about the biological survey or the database should contact the DNR Natural Heritage and Nongame Research staff.

## **Guiding Principles**

### **Guiding Principle #1**

Protect, preserve and enhance the County's *land resources*, including agricultural and forest land, recreation and open space, scenic areas, and significant historic and archaeological sites.

- Promote land management practices that protect the natural resources in the County.
- Encourage the use of natural resource information for soils, topography, vegetation, groundwater, etc., in guiding rural land-use and development activities and urban expansion in the County.
- Regulate land development in the areas adjacent to floodplains, shore lands and wetlands to preserve these natural resource areas as attractive amenities.
- Enforce floodplain, shore land and wetland ordinances and regulations in a consistent manner. The County will update and maintain these regulations on a regular basis as appropriate.
- Promote soil conservation and erosion-control practices in both urbanized and rural portions of the County.
- Encourage rural subdivisions and urban development to conform to the natural limitations presented by topography, soils and other natural conditions.
- Identify and protect important scenic areas and open spaces.
- Identify and protect significant historic and archaeological sites.

### **Guiding Principle #2**

Protect the quality and use of surface water through programs such as the County water planning process, lake associations and watershed districts.

- Encourage and promote land-use practices to protect and improve surface water resources.
- Establish a priority listing of wetlands and lakes in the County on which to monitor surface water quality and quantity.
- Increase monitoring of surface water quality and quantity and establish a database on trends in degradation of surface water.
- Evaluate the impact of stormwater runoff on surface water in the County and determine the need for stormwater management controls.
- Enforce existing regulations and develop programs and new regulations where necessary to protect surface water.
- Encourage the formation and continuation of lake associations to get more citizens involved in the management and protection of the County's lakes.
- Support the coordination of planning and implementation efforts between the Sauk River Watershed District, lake associations, Todd SWCD, Planning and Zoning Department, and state and federal agencies.

### **Guiding Principle #3**

Protect and preserve **groundwater** supply and quality through programs such as the County water planning process, lake associations and watershed districts.

- Encourage land-use practices that enhance the quality of groundwater recharge.
- Increase the level and extent of groundwater testing in the County.
- Protect groundwater resources from contamination through the development and implementation of Wellhead Protection plans and other programs.
- Identify geologically sensitive areas in the County and define the limits and recharge areas of major aquifers.
- Encourage the coordination of land-use planning and water planning efforts in the County to help protect groundwater resources.

#### **Guiding Principle #4**

Promote the use, conservation and preservation of *forest resources* and a healthy forest products industry.

- Develop a Forest Resources Plan that will guide the development of forest resources in the County. The plan should address topics such as identifying potential sites for agro-forestry projects (hybrid poplar plantations), identifying and enhancing significant natural resource corridors such as the Long Prairie River (riparian streamside planting project), forest management educational programs, and marketing approaches including efforts such as Green Certification, Tree Farm certification and other accepted forestry programs.
- Support the implementation of community forestry programs that bring landowners, community leaders, youth, forestry professionals and other citizens together to promote good forest management practices.
- Support the creation of a wood products cooperative to help market wood products produced in the County. The marketing approach should promote sustainable practices and value-added products.
- Encourage landowners to increase and enhance wildlife habitat in the County.

#### **Guiding Principle #5**

Protect the *air quality* in the County to comply with Minnesota Pollution Control standards.

#### **Goals and Action Plan**

*See Appendix 1 for changes from the previous comprehensive plan*

- Coordinate and support the natural resource education efforts listed in the Todd County Water Plan.
- Update the subdivision and zoning ordinances to require rural residential and lakeshore developments to develop in ways that protect and enhance the County's natural resources.
- Review the performance standards in the Zoning Ordinance to ensure that they adequately control dust and wind erosion related to land use and development.

- Develop management plans for each major lake in the County. Analyze and assess the carrying capacity of the lakes and share the information with the people that live on the lakes.
- Develop an inventory of aggregate resources in the County.
- Prepare an aggregate resource map for the County.
- Encourage woodland property owners to become Green Certified.
- Support the creation of conservation easements that have a variety of time frames or limits (50 or 100 years, perpetual, etc.) and promote their use to protect rural land resources in the County. Work with organizations such as the Minnesota Land Trust and state and federal agencies to establish conservation easements.
- Prepare a County Forest Management Plan. The plan should address topics such as identifying potential sites for agro-forestry projects (hybrid poplar plantations), identifying and enhancing significant natural resource corridors such as the Long Prairie River (riparian streamside planting project), forest management educational programs, and marketing approaches including efforts such as Green Certification.

# TRANSPORTATION

## Introduction

A safe and efficient transportation system is essential to the quality of life in any county or community. Without good transportation networks, people and businesses lack a fundamental infrastructure component needed to sustain their economy over time.

The transportation system in Todd County presently is made up of highways and streets, railroads and airports. As with most rural areas, transport of people and goods in the County is done via car and roads. While other transportation methods are in use, it is likely that for the next 20 years roadways will continue to be the most viable method of transportation within the County.

There are variable sources of funding for the construction and maintenance of the roadway system. The five sources of jurisdictional funding for roadways include the federal interstate system, state trunk highway system, county state aid highway system, county road system, and the local road system (cities and townships).

The interstate and trunk highway systems are determined by the State Legislature in conjunction with the state and federal highway agencies. Interstate and trunk highways provide cross-country routes for both regional and interstate travel. Interstate 94 and U.S. Highways 10 and 71 link Todd County to other regions and states as a part of the nation's major highway system. Major state highways in Todd County include Highways 27, 28 and 210.

County state aid highways (CSAH) involve a partnership between the State and counties in terms of designation and funding. The Minnesota Department of Transportation (MNDOT) works with counties to designate, design and maintain these roads. County roads are funded primarily by local funds raised by a county. County boards designate these roadways. Within Todd County, the county roads and county state aid highways are maintained by the Todd County Highway Department.

Township roads and city streets are designated and maintained by the various local units of government within the County. Occasionally, some funding is provided by the State or County to assist in the construction and/or

maintenance of local streets, but the roadways are primarily funded by local governments and the benefiting adjacent property owners or land developers.

One of the primary tools used in transportation planning is the functional classification system. Essentially all streets and highways in a given jurisdiction are classified into one of three general categories including a) arterial, b) collector, or c) local roads. Each classification can be further divided into sub-categories, such as major collector and minor collector as needed, to fit a given jurisdiction's needs.

The classification of any given street or highway is defined by a number of conditions. Some of these conditions include design or roadway usage factors such as:

- Trip purpose or type.
- Traffic speed.
- Right-of-way width.
- Roadway surface design and width.
- Access restrictions.
- Traffic capacity.
- Spacing of similar roads or streets.
- Parking restrictions.

Todd County benefits from having direct access to an interstate highway. Interstate 94 travels through the southwestern corner of the County with an interchange at West Union. A second interchange to the south of the County is the Interstate 94 and U.S. Highway 71 intersection, located in Sauk Centre. The interstate provides the County with its primary connections to the regional centers of St. Cloud and Alexandria as well as the Twin Cities and Fargo-Moorhead metropolitan areas.

U.S. Highway 71 serves as the major north-south transportation corridor in Todd County. It is designated as a Principal Arterial. Six of the eleven cities in the County are located along Highway 71. More than 64 percent of the County's population that resides in cities lives in one of these six cities.

U.S. Highway 10, also designated as a principle arterial, travels along the northeastern edge of the County and then turns west through the City of Staples and extends to the Fargo-Moorhead metropolitan area and the cities of Little Falls and Brainerd to the east of the County. U.S. Highway 10 intersects with Minnesota Highway 210 in Staples and with U.S. Highway 71 just north of the County in the City of Wadena.

See a map of Todd County roads at the following website:

<http://www.co.todd.mn.us/toddcounty/propertyinfo0002.asp>

Minnesota Highways 27 and 28 are designated as minor arterials. These state highways connect Todd County with larger communities in adjacent counties such as Little Falls and Alexandria.

The network of major and minor collector roadways in the County provides excellent local circulation throughout each of the townships and cities in the County. The spacing of the collector roadways is good and supports the efficient circulation of people and goods. Each township is served by three or four major roadways.

Right-of-way for Interstate 94 varies in width with ramps and topography but is typically up to 300 feet in width. The typical width of rights-of-way for other state and federal highways ranges from 100 to 300 feet. County highways range from 66 to 100 feet. Township roadways in the County are typically 66 feet wide and were created as a part of the government land survey as easements. The typical right-of-way width for the local streets in the cities or built up areas of the County is 60 to 66 feet.

Public rights-of-way are a resource for not only moving automobiles but also for locating public utilities including high-tech infrastructure such as fiber optics. Public thoroughfares are also increasingly being used for more pedestrian facilities (sidewalks and trails) and recreational uses (snowmobile trails). With the increasing use of public rights-of-way, an accurate map depicting the boundaries of rights-of-way and property lines can be an essential tool for managing these critical resources.

Interstate 94 carries the largest volume of traffic of all roads in the County. In 2008, the average daily traffic as measured by the Minnesota Department of Transportation was 19,850 trips. U.S. Highway 10 was the second busiest roadway in the County in 2008 with 7,775 trips per day on average. U.S. Highway 71 carried on average up to 5,100 vehicles per day in the same year.

The movement of agricultural goods and commodities in Todd County is critical, especially at certain times of the year, such as spring when grain is trucked to market. As farming operations become larger and the equipment needed to move the goods increase in size, attention will need to be given to providing adequate transportation facilities for these operations.

Citizens and businesses benefit from the Minnesota Department of Transportation and the Todd County Highway Department maintenance of major highways in the County. County and local officials have commented

favorably on the good working relationships between with the County and the State on highway maintenance.

One area of improvement noted as needed by citizens in the public input phase of the planning process (of both the original Plan and the update) was to pave more of the County roads that are currently gravel surfaced.

## **Background Information and Statistics**

### **Transportation Infrastructure – Roads**

There are 1,852 miles of public roadways in Todd County.

- State or Federal – 139.7 miles, 139.7 paved (100 percent)
- County - 617.3 miles, 511 paved (82.8 percent)
- City – 65 miles
- Township – 1,030 miles

### **Transportation Infrastructure – Rail**

The Burlington Northern – Santa Fe Railway provides railroad service in Todd County. The railroad lines are located in the northeastern corner of the County running through the City of Staples. Staples has historically been a major railroad town and continues to have large volumes of trains passing through the community daily. The railroad line splits east of Staples with a line to the northeast bound for Duluth and the other line heading to the southeast and connecting to the Twin Cities. Amtrak currently has a stop for passenger service in Staples.

### **Transportation Infrastructure – Airports**

The City of Long Prairie/Todd County Airport is the largest airport in Todd County. It is located approximately six miles south of the City. The following is a description of the facilities at the Long Prairie Airport:

- 1 runway 3,000' by 75' -- tar
- Lighted dawn to dusk
- Fuel available 24 hours -- 100LL
- Courtesy car available
- FBO = Prairie Aviation
- Field elevation = 1,333'

The Clarissa Airport is the second airport facility in Todd County. It is located midway between Browerville and Clarissa and is southeast of Clarissa by approximately two miles. The following is a brief description of the facilities at the airport:

- 1 runway 2600' by 200' – grass

- No fuel services available
- No lights
- Field elevation = 1,308'

The Staples Airport is located just outside of Todd County in the north part of Staples. Even though it is not located in Todd County, it is still an important asset to the county because it is located so close. The following is a description of the facilities at the Staples Airport:

- 1 runway 3,304' by 75' – tar
- Lighted dawn to dusk
- Fuel available 24 hours -- 100LL
- Field elevation = 1,287'

### **Transportation Infrastructure – Other transportation methods**

There are many other potential transportation methods that may be used. Most have a dual transportation and recreational use. In an effort to maintain consistency and to keep this comprehensive plan user-friendly, alternative transportation methods will be included under the Parks, Trails and Open Spaces section.

### **Transportation Services – Public Transit and Carpools**

The County offers a transportation service that serves the cities of Clarissa, Browerville, Long Prairie, Round Prairie, Little Sauk, Grey Eagle, Burtrum, and occasional trips to Eagle Bend. The County contracts with a non-profit organization, Rainbow Rider, and subsidizes its operation. Rainbow Rider averages 6,737 riders per year in Todd County. Riders are able to call a dispatch center and schedule a ride (for a fee). The service generally serves senior citizens but there are no age restrictions, and some individuals use the service to attend school (from grade school to technical school). Some school districts contract with Rainbow Rider to transport students to school. See information about Rainbow Rider at [www.rainbowriderbus.com](http://www.rainbowriderbus.com).

The County is also served by Friendly Rider in the northern areas. Friendly Rider serves the communities of Wadena, Bluffton, Verndale, Sebeka, Nimrod, Menahga, and Staples. Riders are able to call a dispatch center and schedule a ride (for a fee). The Friendly Rider serves all ages from school age to senior citizens. The Friendly Rider operates four buses with various routes running throughout the week. See information about Friendly Rider at <http://www.co.wadena.mn.us/files/friendlyrider.htm>.

## **Guiding Principles**

### **Guiding Principle #1**

Provide a *safe, efficient and economical transportation system* that satisfies both local and regional needs and compliments land-use policies and land development throughout the County.

- Encourage the development of a transportation system that properly integrates the various types and levels of highways (state, county and local) to maximize safety and appropriate levels of accessibility.
- Encourage transportation facilities and programs that improve general accessibility while reinforcing the County's land-use and development policies.
- Encourage the development of a transportation system that properly balances consideration of safety, accessibility, environmental protection and cost.
- Avoid locating transportation facilities so as to adversely affect the natural resources or prime agricultural areas of the County.
- Control land development at the major transportation intersections and along major roadways to avoid compromising safety, accessibility and functions of the highways.
- Develop and adopt access management standards to guide the location of driveway and public roadway locations on the County highway system that are consistent with MNDOT accepted standards.
- Give priority to maintaining the existing road network. New roadway pavement projects should be constructed only when the development is consistent with the land-use policies.

### **Guiding Principle # 2**

Focus on the *movement of people and goods*, rather than on the movement of automobiles, in transportation planning.

- Promote a transportation system that maximizes accessibility of all income groups to places of employment, recreation, shopping, housing, entertainment, and health care.
- Promote alternative modes of transportation including public transit, bicycling, walking, car pooling, etc.
- Monitor the development of light rail concepts being developed by the state.

- Develop a network of trails throughout the County that use existing rights-of-way and roadway shoulders to connect residential areas with employment, shopping, parks and other destination points.
- Integrate land-use and transportation designs to minimize the adverse effects of transportation systems (noise, air pollution) on adjacent developments.
- Promote the use of airports in the County for both personal and business needs.
- Promote an efficient transportation system for commodities.
- Identify and improve substandard roadways in the County.
- Promote alternative modes of transportation including public transit, bicycling, walking, car pooling, etc.
- Promote the use of airports in the County for both personal and business needs.
- Coordinate the construction of sidewalks along county roads, through the cities and in more developed areas in the County.
- 

## **Goals and Action Plan**

*See Appendix 1 for changes from the previous comprehensive plan*

- Designate and construct CSAH 11 and CSAH 21 as major routes.
- Work with the townships and cities to repair priority roads.
- Develop and adopt detailed access management standards to guide the location of driveway and public roadway locations on the County highway system.
- Develop the appropriate regulations that integrate land-use and transportation designs to minimize the adverse effects of transportation systems (noise, air pollution) on adjacent developments.
- Establish common roadway design standards for County and township roads using the types of roads listed in the functional classification system.
- Coordinate the development of an access management program with the cities and townships in the County and the Minnesota Department of Transportation.

- Coordinate the land development review process between the cities, townships, County Highway Department, and Minnesota Department of Transportation as it relates to access management and other transportation planning and design issues.

## **HOUSING**

### **Introduction**

As a rural county covering a large land base with a relatively stable population, housing has not been as much of a priority as some others. Rather, the County has taken a supportive or coordinating role in promoting housing and left many of the major housing projects up to the cities and/or the private sector.

Major issues related to housing are as follows:

- The County has an old housing stock. More than one-third of the residential structures are more than 60 years old and in need of rehabilitation.
- The value of owner-occupied housing is relatively low.
- The cost of new home construction is often more than the market value; this creates a value gap problem for prospective homebuilders.
- There is a shortage of housing for both owner-occupied and rental housing in many areas of the County. The housing shortage limits in-migration and economic development opportunities.
- The cost of rental housing is relatively high when compared to housing costs in adjacent counties of the region.

### **Statistics and Background Information**

#### **Todd County Housing and Redevelopment Authority (HRA)**

Todd County has an established Housing and Redevelopment Authority (HRA). Its mission is to assist low-income families with safe, decent and affordable housing opportunities as they strive to achieve self-sufficiency and improve the quality of their lives.

As a small organization, the HRA works on projects such as rehabilitating the Reichert Hotel in Long Prairie into low-income rental units, managing Section 8 housing programs and other public housing buildings and facilities, and promoting low-income owner-occupied housing.

Another program that the Todd County HRA administers is the Minnesota Urban and Rural Homesteading Program (MURL). Homes in this program are sold on a zero interest, no down payment and contract-for-deed to families who could not otherwise afford to purchase a home. Applicants must meet income and other guidelines to qualify. This program, like many others through the HRA, is administered in conjunction with other organizations including the Central

Minnesota Housing Partnership, Todd County Social Services and cities in the County.

The Todd County HRA maintains and updates an agency plan that includes a needs assessment. The assessment reflects the need for additional affordable housing resources in the County. The needs assessment also includes a statement on how the organization intends to address the housing needs. The HRA lacks the resources in terms of funding and staffing levels to address the County's housing needs.

### **Todd County Social Services**

A second entity working to improve the housing stock in Todd County at the county level is the Social Services Department. Social Services employs one staff person, a Housing Coordinator, to assist residents with various housing programs. Some of the programs that are provided through Social Services include:

- Central Minnesota Housing Partnership's Home Stretch Program. Free classes designed to teach people the basics of home ownership.
- Rehabilitation and Revolving Loans. No-interest and low-interest loans to help people repair their homes.
- MHFA Home Improvement Loans. Low-interest loans available through local banks to assist people with home improvements.
- USDA Rural Development. No-interest grants for the elderly and 1 percent loans for home rehabilitation.
- USDA Rural Development Home Loan Program. Low-interest loans to assist in home purchases.
- Affordable Housing Project. State prisoners will build two homes in Staples that will be sold for about \$ 60,000.

### **City Housing and Redevelopment Authorities**

Both the City of Long Prairie and Staples have established a Housing and Redevelopment Authority. The County's HRA staff also serves as staff to the city HRAs. Each community operates some local housing programs in conjunction with the County's efforts.

### **Other Resources**

There are several regional and state agencies that can and do provide technical and financial assistance to Todd County and the communities within. The

Central Minnesota Housing Partnership (CMHP) is one such group. CMHP is a non-profit regional housing development corporation based in St. Cloud that provides more than a dozen housing programs. Other housing agencies include the Minnesota Housing Finance Agency (MHFA) and USDA Rural Development.

For links to housing data, information and programs see:

[www.mnhousing.gov](http://www.mnhousing.gov).

## **Guiding Principles**

### **Guiding Principle #1**

Promote and maintain an adequate supply of affordable and life-cycle housing throughout the County.

- Encourage the development of housing for all income and socio-economic groups who reside in the County.
- Increase housing opportunities available for low- and moderate-income households.

### **Guiding Principle #2**

Promote safe, decent housing in a suitable living environment at a reasonable cost for all families and individuals.

- Encourage all residential property owners to maintain their properties in a safe, healthful and blight-free environment.
- Encourage the rehabilitation of existing homes in the County.
- Encourage safe and convenient access for housing to public and private facilities and activities.
- Explore the feasibility of a countywide building code as a means to promote minimum standards for housing conditions.

## **Goals and Action Plan**

*See Appendix 1 for changes from the previous comprehensive plan*

- Partner with private and non-profit organizations to develop at least 200 to 400 units of senior housing before 2015.
- Make information available on website about credits and other savings when using energy efficient practices in new homes.

## **UTILITIES, ENERGY AND COMMUNICATIONS**

### **Introduction**

Responsible usage and provision of utilities, energy and communications are the greatest reasons that a community will remain viable into the future.

Communities that embrace technological advancement in these areas are better positioned to compete in today's dynamic environment..

To be a good neighbor to nearby counties and to the world, the County needs to help business and individuals reduce their environmental impacts. To make these possibilities realities, the County will need to expand the reach of business to all parts of the world, which can be done through effective deployment of high-speed and fiber optic networks.

The areas of issue outlined in this section are the keys to future success. Many of the principles and goals outlined in this section should take precedence over other sections. By effectively advancing utilities, energy and communications, the County can lay a foundation for economic prosperity well into the future.

### **Background Information and Statistics**

#### **Utilities**

For current electric utility and renewable energy data and information, see the following websites:

[www.puc.state.mn.us](http://www.puc.state.mn.us)

[www.mn.energy.gov](http://www.mn.energy.gov)

#### **Electric Utilities**

The entire County is adequately served by electric utilities. There are however, many Amish homes in the County that currently do not have electrical service. While these homes currently do not have service, there is availability should the time come that the home needs to be modernized.

The State of Minnesota has passed significant legislation that mandates 20 percent of the State's electrical generation will come from renewable sources by the year 2020. (<http://www.renewable.state.mn.us/favicon.ico>). Currently, the electric utilities utilized in Todd County do not meet that standard and aren't on track to do so by the time required in statute.

Todd County currently has one major ongoing renewable energy project. Near the City of Hewitt in the northwest corner of the County, a single wind turbine

has been installed for the purposes of mass production of electricity. There are lessons to be learned from this project that the County and private industry should consider as new projects are explored.

### **Water Utilities**

- The following cities have municipal water services:
  - Staples
  - Hewitt
  - Bertha
  - Clarissa
  - Eagle Bend
  - Browerville
  - Long Prairie
  - Grey Eagle
  - Osakis
  - Swanville

Most homes outside of the cities listed above have individual private well systems. Providing water on a residential level has not been noted as a concern throughout the County.

### **Sewer Utilities.**

- The following cities have municipal sewer services:
  - Staples
  - Hewitt
  - Bertha
  - Clarissa
  - Eagle Bend
  - Browerville
  - Long Prairie
  - Grey Eagle
  - Osakis
  - Swanville

Most homes outside of each of the cities listed above have individual home sewers. Soils throughout the County are generally good to ensure that private septic systems are able to function properly. There is significant enforcement on the County level to ensure that septic systems are kept up to standard due to the fact that septic systems can cause considerable groundwater pollution.

## **Energy**

There are many individual renewable energy generation methods being used in Todd County including solar, wind and geothermal technology. The County should explore and encourage individuals to install and use these technologies. Along with such technologies, issues arise with regards to land use. The County should engage in a process to understand and explore the potential downfalls or limitations of these methods and work to address them in the County Land Use Ordinances.

In July 2009 a renewable energy study was conducted by TimberGreen Services on behalf of Region V that outlined some of Todd County's potential in the renewable energy production area:

### **Wind, Solar and Geothermal**

- Unlimited resource potential but there is some restricted availability.
- Feasibility of projects on a commercial scale for a utility company is limited due to current low cost electricity in the Midwest. Feasibility for individuals or companies is site specific.
- Solar energy for thermal vs. electrical applications have different efficiencies and ROIs. Most ROIs are longer term (> 5 years).
- Job growth area.
- Transmission of electrical energy feasibility or efficiency is site specific. Parameters are related to proximity to high KV transmission lines and line characteristics (load, diameter, phase, etc).
- One of the challenges with electrical production by solar or wind is efficient transmission of the electricity. This is currently being discussed at the regional level (Smart Grid).

**Wind:** Rated at an average of 13.4 mph, 69 percent of land is classified as open acres with potential for wind development. Wind power is about 200 to 300 watts/m<sup>2</sup>.

**Solar:** Currently not feasible in an agricultural application. There are many factors effecting efficiencies for both solar thermal and electrical. Average solar radiation is 150 to 155 watts/m<sup>2</sup>.

**Geothermal:** Installation costs are high depending on type of system (closed or open loop). ROI is typically 7 to 10 years. There are many commercial and residential applications. Some areas limited by access to groundwater, site space or zoning regulations.

### **Animal waste**

- Methane production is practical at individual farm level with anaerobic digester. An industrial scaled collection system is expensive because of water weight.
- High moisture content of animal waste is a problem for combustion and must be supplemented with drier feed stocks like wood chips.
- Lowest total Btus from the renewable energy sources.
- Local turkey litter burner in Benson, MN. There has been a large increase in turkey operations in the past decade.

### **Biomass**

#### Biomass platforms:

- **Electrical generation.** Direct burn biomass to replace coal or other fuels. The feasibility is questionable with low regional electricity costs except by government mandates (20/25). Feedstock must be low cost.
- **Pelletization.** Dry wood chips and pelletize for residential or briquettes for industrial applications. Several methods like the torrefaction process have been developed.
- **Cellulosic Ethanol** through a biochemical process.
- **Biomass gasification** with or without a MTG platform to produce syngas, or gasoline and diesel plus other byproducts. The excess heat is used as heat/electricity generation for the process and can be up to 70 percent efficient.

#### Biomass energy potential:

- Excellent potential for job growth.
- Purchase Power Agreements from local governments or energy industry would secure long term stability for a large capital investment.
- High initial capital costs – example: \$ 265 MM for a 50 million GPY biomass gasification plant.

### **Ag crop residue, grass, & brush biomass**

- Efficient collection and transportation of low weight material is an obstacle.
- Crop plantings seasonally variable –Btu availability changes. CRP and public land acres are not currently available for biomass harvesting. Access to some lands is seasonally restricted. Price incentives will determine feedstock availability. (U of MN Biofuel study, 2009)
- There is concern of soil mining if all agricultural cropland residues are collected annually. Complex variables such as crop type and soil type determine a sustainable harvest level.
- Highest Btu potential biomass source.

Feedstock	low	high	
Small grains	95,000	240,000	acres
Hay & other	65,000	85,500	acres

Figure 5

- Range of crop acres is +/- 165,500 acres.
- There are currently 15,500 CRP acres that are not available for biomass.
- Cropland and grass or brushlands account for two-thirds of the Todd County land base.

### Woody biomass

Woody biomass is produced through residual logging material or whole tree chipping. There are 10,000 tons of logging residue or 25,500 tons of total tree biomass potential in Todd County annually.

#### Challenges:

- Competition for the timber resource and a limit to the supply volume.
- Largest volume of timber resource is in northern tier of the state. Transportation costs become a limiting factor for lower value feedstocks.
- Logging residue biomass only available if there is a strong pulpwood market.
- A large biomass facility (>75,000 ton) would have to pay the higher “roundwood” log prices to source the plant if solely dependent on a forest biomass feedstocks.
- Todd County has 21percent of its land base in forest cover of predominately oak/hardwood forests. High value oak logs are not suitable for biomass.

#### Opportunities:

- Recent collapse in Minnesota of the forest products industry leaves an excess of 1 MM to 1.25 MM tons of supply vs. demand. Less than 1 percent of the state’s forest acres are harvested annually.
- The Region 5 area minimal biomass potential is 10 trillion Btus or 1 MM tons. Additional volumes are also available in Morrison, Mille Lacs and Kanabec Counties. Not all potential volume is available for numerous reasons.
- The logging infrastructure is in place for collection and transportation that could require +/- 50 logging operations depending on the biomass facility consumption rates.
- Each dollar spent on timber returns \$ 41.60 to the state economy.
- Existing Bio fuel feasibility study for Pine/Isanti/Chisago counties by the U of MN.

## **Communications**

### ***Telephone Communications***

#### ***Cellular Telephone***

At the time of the 2009 update of the Todd County Comprehensive Plan, there are many improvements being made to cellular communications availability throughout the County. Cellular telephone technology will someday take over hardwired phone lines as the method that people communicate via telephone.

#### ***Land-line Telephone***

Landline telephone communications are available throughout the County. Aside from the fact that the availability is constant and present, the technology will eventually become obsolete. While the County should encourage services to continue to be available, the County or other organizations should not put any further effort into landline telephones.

### **Data Communications**

Quality telecommunications infrastructure and services are essential to economic competitiveness and quality of life. Businesses, schools, health care providers, governments, and citizens are increasingly dependent upon high-speed Internet services. Individuals and organizations use the Internet to:

- Obtain and distribute information.
- Purchase and sell products and services.
- Be entertained.
- Receive training and education.
- Research health information and receive medical care.

Leaders around the world are acting to ensure that the telecommunications infrastructure, networks and services offered in their community are viewed as an asset, not as a constraint on economic development. Communities want to be attractive for corporate investments, entrepreneurial development and business growth; telecommunications is seen as an essential service in the global economic environment.

When communities study telecommunications issues, accessible and affordable broadband emerges as a common goal. A community's location, demographics and current access levels will impact their definitions of accessibility and affordability. In the short term, a rural community may be satisfied to obtain

broadband services within the city limits at prices that businesses could afford. Longer term, community expectations shift to demand higher speeds, universal coverage and lower prices.

*Community Technology Advisors, 2007*

For more information on the report Todd County Telecommunications Inventory and Assessment see:

[http://www.co.todd.mn.us/toddcounty/downloads/todd\\_county\\_telecommunications\\_report\\_final\\_10\\_26\\_07.pdf](http://www.co.todd.mn.us/toddcounty/downloads/todd_county_telecommunications_report_final_10_26_07.pdf).

## **Guiding Principles**

### **Guiding Principle #1**

Provide public facilities in a manner that maximizes public health, safety and welfare.

- Encourage all cities to develop plans for guiding the expansion and maintenance of public water and sewer facilities. The community utility plans should reinforce the County's land-use and development policies and be consistent with the community growth area plans.
- Encourage all cities to adopt and/or update standards for water and sewer facilities that will minimize pollution problems and reinforce the County's land-use and development policies.
- Avoid locating public facilities and utilities in areas designated for long-term or permanent agricultural use by the County's Land-use Plan that disrupt or hinder farming practices.
- Discourage the extension of public utilities over large, undeveloped parcels and prime agricultural areas to serve new scattered rural residential and commercial development.
- Support the research into the feasibility of providing or extending public utilities to existing rural residential areas if mutually beneficial.
- Encourage sewer cooperatives or districts around densely populated lakeshore districts.

### **Guiding Principle #2**

Promote communication with the public through the development and maintenance of a countywide website and newsletter for use by all departments and County agencies.

- Maintain a website for all County departments for access by the public.
- Prepare a quarterly newsletter for residents of that describes major projects and events in the County.

### **Guiding Principle #3**

Do not pursue the current standard in utilities, energy and communications. Always pursue at least one or two generations further down the line, because by the time the current standard is implemented, the County will already be behind other areas.

- Support the deployment of fiber optic networks that are the future of the technology.
- Support next-generation cellular network deployment.
- Do not put effort or resources into current or outdated technologies.

### **Goals and Action Plan**

*See Appendix 1 for changes from the previous comprehensive plan*

- Adopt ordinances that encourage reasonable usage and deployment of individual renewable energy creation methods.
- Ensure that current Todd County ordinance allows reasonable latitude for renewable energy producers to locate in the County.
- Specifically target, through legislative and economic/community development efforts, renewable energy producers.
- Lobby legislators to reduce and/or eliminate the laws that give certain providers monopolies for utilities and communication services.
- Prepare a map that inventories the location and capacity of all fiber optic and other high-tech facilities.
- Form a commission to study and document problems and possible solutions to the lack of telecommunication facilities in the County.

## **INTERGOVERNMENTAL COOPERATION**

### **Introduction**

This section of the Comprehensive Plan focuses on the relationships between county and local governments in Todd County and in surrounding counties. Given the multiple jurisdictions and agencies that manage land use, transportation, economic development, and natural resource protection within the region, coordination between these different governmental units is essential to effectively implement this plan.

### **Background Information and Statistics**

#### **County-city-township cooperation**

Todd County works with cities and townships in several areas: economic development, transportation improvements, city expansion and annexation, and many other areas. Cooperation between multiple jurisdictions helps to ensure that citizens are served most effectively and consistently.

#### **Coordination with Other Agencies**

Todd County works closely with the following agencies and organizations:

- Soil and Water Conservation District
- Watershed Districts
- Minnesota DNR
- Minnesota Pollution Control Agency
- Region V Development Commission
- AMC District IV

### **Guiding Principles**

#### **Guiding Principle #1**

Promote a community-based planning process with broad citizen participation in order to build local capacity to plan for sustainable development.

- Review the Todd County Community-based Comprehensive Plan on an annual basis.
- Update the plan on a five-year basis and seek public input in the update process.

#### **Guiding Principle #2**

Establish a community-based framework for all future decisions and actions related to the implementation of the County's Comprehensive Plan.

- Develop and adopt methods that will effectively implement the goals and policies in the County’s Comprehensive Plan.
- Encourage effective and coordinated implementation methods that properly balance private incentives and the protection of the public interest.
- Effectively coordinate the various public implementation tools such as regulatory devices (zoning ordinance, subdivision regulations, etc.), capital improvement program, public acquisitions, utility extensions (sewer, water, highways), and property tax policies.
- Review and update the County’s development ordinances on a regular or periodic basis.

**Guiding Principle #3**

Promote cooperation and collaboration among communities to work toward the most efficient, planned and cost-effective delivery of government services.

- Facilitate cooperative agreements among adjacent communities.
- Coordinate planning to ensure compatibility of one community’s development with development of neighboring communities.
- Provide basic public services and facilities to as many citizens of the County as possible without creating any substantial hardships or economic problems.
- Develop monitoring programs that help account for the full environmental, social and economic costs of new development, including infrastructure costs such as transportation, sewers and wastewater treatment, water, schools, recreation, and open space; plan the funding mechanisms necessary to cover the costs of the infrastructure.

**Guiding Principle #4**

Support public education on the need for planning and resource management that will sustain growth.

- Develop and promote educational programs relating to comprehensive planning and implementation for elected officials, Planning Commissions, Boards of Adjustment, and citizens.
- Develop educational programs relating to surface water degradation problems in the County.
- Cooperate with state agencies to develop educational programs to address ground water issues in the County.
- Maintain inventories on land-use conditions, building permit trends, conditional use permits, variances, subdivision plats, feedlots, etc.

**Goals and Action Plan**

*See Appendix 1 for changes from the previous comprehensive plan*

- Create an Implementation Team to oversee the implementation of the Todd County Community-based Comprehensive Plan. The Committee would report directly to the County Board.
- Distribute a copy of the adopted Plan and all subsequent amendments to the cities and townships in the County, the Soil and Water Conservation District Board, watershed districts, school districts, and other appropriate agencies.
- Coordinate a yearly review of the Annual Report between the County Board, Planning Commission, Board of Adjustment, and the Implementation Committee to identify potential amendments to the Plan.
- Provide an educational program on planning and implementation procedures to members of the Planning Commission, Board of Adjustment and County Board on a periodic basis. New members should receive an orientation on County planning policies and procedures.
- Develop a handbook for all board and commission members to refer to when they are reviewing land development proposals.
- Hold an annual workshop or orientation for local officials on comprehensive planning and implementation tools.
- Survey agencies and non-profit organizations on a regular basis to determine if there have been changes in their programs.

## **COUNTY FACILITIES AND SERVICES**

### **Introduction**

Community services and facilities support community development and enhance the quality of life for citizens. The primary services provided by Todd County include:

- Maintaining county roads.
- Enhancing and maintaining the public health and social welfare of the County.
- Providing law enforcement and related administration of criminal justice services.
- Managing and maintaining County solid waste facilities and waste facility planning.
- Providing administration and enforcement of certain state and federal laws as well as Todd County ordinances.

Critical to the success of providing County services in Todd County is the balancing of rural and urban service accessibility. This includes the convenient location of important County services and the expansion of services as needed. Currently the majority of citizens feel County facilities and services adequately meet their needs. The continued success of these services will rely on careful analysis and attention to citizen needs, and may warrant expansion of County services.

### **Background Information and Statistics**

#### **County Services**

The County services are made up of five areas that include Administration, Health and Human Services, Public Safety, Public Works, and Tax and Land Use. Within each of these areas, there are departments that perform the various services that the County provides.

County Administration is comprised of five departments that include Administration, County Attorney, Board of Commissioners, Cooperative Extension, and the MIS department. Each of these departments performs a number of services that provides the overall administration for the County.

Health and Human Services is comprised of the Public Health, Veterans Services and Social Services departments, which are responsible for the general health and wellbeing of the County. They provide services to people throughout the County who need to maintain and improve their health and economic standing.

Public Safety is comprised of four departments that include Community Corrections, Emergency Management, Court Administration, and Sheriff. These departments are responsible for maintaining a safe environment and offer services (offender, emergency, court, other) and patrol the County to keep citizens safe.

Public Works is the fourth area of the County government, comprised of three departments including Public Works, Solid Waste and the County Ditch Inspector. These departments are responsible for the public roads, land and other areas throughout the County. They provide services such as maintaining public roads, County ditch maintenance and the disposal of waste throughout the County.

Tax and Land Use is the fifth area and it is made up of five departments that provide services to the County. These departments include Assessor, Auditor/Treasurer, Environment and Land Resource Management, GIS and Land Services, and Recorder. This area is responsible for overseeing the land use, land records and taxation system throughout the County. Services include appraising land values in accordance with Minnesota Statutes; maintaining land records, birth and death records; issuing marriage and other licenses and registrations; issuing tax statements for all taxing jurisdictions in the County; advising on tax issues; enforcing Todd County's Land-use Ordinances; issuing necessary and appropriate land-use permits; and various other services.

### **Services Available in the County**

Besides services provided by the County, there are a number of different services that are provided to citizens through a number of different organizations. Police Department services are provided throughout the County by Long Prairie, Staples, Osakis, Bertha, and Eagle Bend. The Sheriff's Department works alongside these departments to provide a safe environment for the citizens of the County. Ambulance services are also provided throughout the County by Long Prairie Memorial Hospital, City of Bertha, City of Browerville, and the City of Staples. The Minnesota Workforce Center System provides job placement services to the citizens of Todd County through their Little Falls office.

## **Guiding Principles**

### **Guiding Principle #1**

Provide County services in a strategic and organized manner with a focus on obtaining near-, mid-term and long-term goals.

- Place the greatest emphasis on programs and operations that will further economic opportunities in the County for all residents.

- Place secondary emphasis on programs that will sustain and support individual families.
- Work to manage County services in the most efficient manner possible.
- Find opportunities to eliminate unnecessary overlap of services.
- Maintain reasonable tax rates and equitable allocation of resources to demonstrate public value.
- Work to consolidate departments and make accessing County services more customer friendly.
- Promote community involvement and volunteerism as a way to support staffing and reduce costs for social and human development programs.

**Guiding Principle #2**

Ensure public safety by supporting the Sheriff’s office, County Attorney, Todd-Wadena Community Corrections, and Social Services

- Develop community support to reduce violence in all age groups.
- Develop systems to identify needs and promote comprehensive services through a network of public and private interventions.

**Guiding Principle #3**

Ensure individuals and families have the programs and services to provide for their essential social and economic well-being.

- Encourage the use of public assistance programs to help individuals and families achieve or maintain self-sufficiency and reduce or prevent dependency.
- Encourage the use of community-based services for mental health and chemical dependency to reduce inappropriate institutional care for people with disabilities.
- Support and provide direct services to prevent or remedy the neglect, abuse and exploitation of children and adults unable to protect themselves; and to preserve, rehabilitate or reunite families when possible.
- Support and/or provide services that maintain individuals and families in their own homes or in a least restrictive environment.
- Refer, support and encourage the use and development of work and training (employment) vendors to help citizens achieve economic self-sufficiency.

#### **Guiding Principle #4**

Provide for protection of the public health.

- Encourage the increased use of community-based services by persons at risk of institutionalization
- Promote intergenerational care giving as a community norm.
- Promote health system change that encourages and supports lifestyle change to decrease disability and increase quality of life. Encourage the increased involvement of patient/client in end-of-life decision-making.
- Assure access to a coordinated, comprehensive home health care delivery system.
- Encourage the development or expansion of services for the increasing elderly population that will enable them to live in their own homes or least restrictive environment.
- Encourage the increased use of community-based services by persons at risk of institutionalization.
- Promote healthy lifestyle choices at a young age.
- Promote community involvement in comprehensive alcohol, tobacco and other drug intervention/prevention efforts.
- Promote a decrease in obesity rates by encourage the public to increase physical activity, increase fruit and vegetable intake and reduce intake of fats and carbohydrates.
- Promote the health of infants, children, pregnant women, and family units.
- Encourage vaccinations to decrease the risk of contracting vaccine-preventable diseases.
- Encourage health habits and behaviors that reduce the spread of infectious diseases.
- Encourage residents to proactively prepare for all types of health hazards and emergencies.
- Promote healthy environments to protect against exposure to vector-borne disease, radon, lead, carbon monoxide, chemicals, nitrites, etc.

General hygiene and sanitation must be maintained and the quality of water and indoor/outdoor air must be protected.

**Guiding Principle #5**

Provide for administration of elections, land records, land ordinances and mapping systems.

**Goals and Action Plan**

- Prepare a facilities study for the County Courthouse site to assess future building and parking needs for County services.
- Direct the County Commissioners to adopt a strategic framework from which the County will operate.
- Develop a Capital Improvement Program (CIP) for all major public improvements (not just road projects) starting in the year 2001 and update it every year.
- Update the County Fee Schedule on annual basis.
- Develop a program that increases awareness of the need for volunteerism, which promotes social and human development in the County.

## **PARKS, TRAILS, OPEN SPACES AND RECREATION**

### **Introduction**

Todd County has a Parks, Open Space and Trails Plan currently in place to guide the development of recreational opportunities during the next 10 to 20 years. The plan was a result of a collaborative effort between the Todd County Development Corporation on behalf of the Todd County Board of Commissioners with interested citizens and landowners, recreational organizations, cities and townships, and other groups in Todd County. This plan has been developed to protect and enhance the quality of life of citizens, landowners, and business operators in Todd County by promoting safe and reasonable recreational opportunities.

In recent surveys, it has become evident that citizens in Todd County desire recreation opportunities. During the kick off of the “Building Healthy Communities” grant process in Long Prairie, the most widely suggested goal was to increase opportunities for recreation, either through parks, trails or the development of a community center.

The Comprehensive Plan Committee has chosen to support, but not necessarily adopt, the current Todd County Parks, Trails and Open Spaces plan. The plan is officially adopted as a reference document, but the goals and objectives contained therein are not.

### **Background Information and Statistics**

The County currently has one park, Battle Point Park, which is located on Lake Osakis. At the time of this revision there are two potential opportunities for new parks in the County.

For further background information see the Todd County Parks, Trails and Open Spaces Plan.

### **Guiding Principles**

#### **Guiding Principle #1**

Preserve open spaces for uses permitted by ordinance and statute, including hunting, fishing, cross-country skiing, snowshoeing, hiking, biking, etc., as well as reasonable spaces for recreating on motorized vehicles such as ATVs, snowmobiles, etc.

- Protect and enhance the existing open spaces that are already present in Todd County.

- Protect and enhance the existing trail systems and facilities of Todd County.
- Promote the development of private trails in the County to enhance recreational opportunities.
- Support the expansion of the existing public trail systems and facilities.
- Support the study and development of new public trails and facilities.
- Protect and enhance the existing park and recreation facilities in Todd County.
- Promote the development of private parks in the County to enhance recreational opportunities. Encourage operations and activities run by camps to be compatible with adjacent properties and the natural resource base.
- Support the expansions of the existing public parks and recreation facilities in Todd County.

### **Guiding Principle #2**

Support the development and expansion of recreational facilities, opportunities and spaces without using eminent domain procedures or removing productive land from the tax base.

- Coordinate, guide and control the amount of public land ownership in Todd County so as to minimize negative impacts on the local tax base.
- Promote the development of new public parks and recreation facilities in the County to accommodate existing and future population needs.
- Leverage outside and grant funding for projects.

### **Guiding Principle #3**

Encourage active and ongoing participation and partnership among local units of County government to plan and implement public and private recreation.

- Support the efforts and continuation of the Todd County Parks and Trails Board.
- Encourage the wise expenditure of public funds for recreation and open space projects through the County's capital improvement program process.
- Promote the safe and harmonious development of private recreational opportunities on private lands that are consistent with local land-use planning policies and requirements.

## **Goals and Action Plan**

*See Appendix 1 for changes from the previous comprehensive plan*

- Create a scenic trail along one or more roadways in the County that can be used for walking, biking, running, and other activities.