



BROWN COUNTY COMPREHENSIVE PLAN

a vision for great communities

Brown County Planning Commission
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Brown County Comprehensive Plan

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CHAPTER 1

Issues and Opportunities

Introduction

The Brown County Comprehensive Plan – A Vision for Great Communities was developed through an intensive public participation and review process and is intended to be reflective of the values, goals, and vision of the residents and communities that comprise Brown County. The development of this plan, along with many of the more detailed comprehensive plans for Brown County’s local communities, was made possible through the State of Wisconsin Comprehensive Planning Grant Program administered by the Wisconsin Department of Administration – Division of Intergovernmental Relations.

The Brown County Comprehensive Plan is not intended to pre-empt local comprehensive plans developed under Wis. Stats. 66.1001 that address the 14 State of Wisconsin comprehensive planning goals. Rather, the plan is intended to be a framework or “toolbox,” which can provide local communities with concepts and ideas (tools) to implement the objectives set forth in their own localized comprehensive plans while still maintaining a coordinated and consistent vision with the Brown County plan.

Purpose and Intent

A comprehensive plan is an official public document adopted by ordinance by the local government that sets forth its major policies concerning the future physical development of the community. The primary purposes of this plan are to generate goals for attaining a desirable development pattern, devise strategies and recommendations the County can follow to achieve its desired development pattern, and meet the requirements of the State of Wisconsin Comprehensive Planning Law. It is intended that the recommendations in this plan reflect the 14 local comprehensive planning goals prescribed in state statute and listed below:

1. Promotion of the redevelopment of lands with existing infrastructures and public services and the maintenance and rehabilitation of existing residential, commercial, and industrial areas.
2. Encouragement of neighborhood designs that support a range of transportation choices.
3. Protection of natural areas, including wetlands, wildlife habitats, lakes, woodlands, open spaces, and groundwater resources.
4. Protection of economically productive areas, including farmland and forests.
5. Encouragement of land uses, densities, and regulations that promote efficient development patterns and relatively low municipal, state governmental, and utility costs.
6. Preservation of cultural, historic, and archeological sites.
7. Encouragement of coordination and cooperation among nearby units of government.
8. Building of community identity by revitalizing main streets and enforcing design standards.

9. Providing an adequate supply of affordable housing for individuals of all income levels throughout each community.
10. Providing adequate infrastructure and public services and an adequate supply of developable land to meet existing and future market demand for residential, commercial, and industrial uses.
11. Promoting the expansion or stabilization of the current economic base and the creation of a range of employment opportunities at the state, regional, and local levels.
12. Balancing individual property rights with community interests and goals.
13. Planning and development of land uses that create or preserve varied and unique urban and rural communities.
14. Providing an integrated, efficient, and economical transportation system that affords mobility, convenience, and safety and that meets the needs of all citizens, including transit-dependent and disabled citizens.

The Brown County Comprehensive Plan should be used by County officials when revising and administering its countywide ordinances, as well as when setting priorities for major investments. The plan should be the basis for reviewing future developments, constructing transportation improvements, and extending public services. The plan is designed to be a guiding vision so that there is a consistent policy to follow and a clear goal for the future of the residents of Brown County.

Comprehensive Planning Process

The last plan for land and transportation in Brown County was adopted in 1996. Since 1990 (the base population year for the 1996 update), Brown County has experienced very strong residential, commercial, and industrial growth, adding an estimated 37,000 new residents. County leaders decided to take advantage of the State of Wisconsin Department of Administration - Division of Intergovernmental Relations Comprehensive Planning Grant program to develop a new plan that would meet the requirements of the Comprehensive Planning Law, take into account the changes in the County since 1996, and better reflect Brown County residents' vision of how the County should develop over the next 20 years. In order to oversee the planning process, the Brown County Planning Commission (BCPC) Board of Directors was given the task of representing the diverse interests of the local communities, residents, and other interested parties, while always keeping in mind what is good for Brown County as a whole over the 20-year timeframe of this plan.

In order to better reflect local trends and knowledge, the staff of the Brown County Planning Commission was contracted to provide professional planning expertise. BCPC staff prepared the background information and the recommendations of this plan based upon the consensus opinions of BCPC Board of Directors, public visioning session, Brown County stakeholder interviews, element discussion groups, and the State of Wisconsin Comprehensive Planning Law.

This document is comprised of ten chapters reflecting the various elements in the Comprehensive Planning Law: Issues and Opportunities; Housing; Transportation; Utilities and Community Facilities; Agriculture; Natural and Cultural Resources; Economic Development; Intergovernmental Cooperation; Land Use; and

Implementation. Although all of these chapters have their own goals, objectives, and recommendations, the elements are all interrelated, and therefore, the goals, objectives, and recommendations are also. This plan was developed with the interrelationships of the elements in mind.

Since all local communities in Brown County administer their own local ordinances (zoning, building permits, etc.) and have a strong tradition of local control, it is not appropriate for Brown County to develop a countywide future land use map without including the local communities' individual future land use maps. Rather, the future land use map for Brown County is actually a "quilt" composed of each local community's future land use map that meets the Wisconsin Comprehensive Planning Law requirements. Since all of the local comprehensive plans are not yet completed, it is not possible to create a complete composite map showing the future land uses of all of the Brown County communities. However, the Land Use chapter provides a map (Figure 2-11) that generalizes those local future land use maps in Brown County that meet the requirements of the comprehensive planning law. As additional communities adopt their local comprehensive plans, the future land use maps should be added as new pieces of the overall future land use map of Brown County.

The final part of the plan involves implementing the recommendations. A comprehensive plan is only effective when it is actually used. This includes utilizing the plan on a routine basis when making policy and administrative decisions and when creating or revising County ordinances, such as the subdivision ordinance, to guide development consistent with the plan.

This document is not the end of the planning process. For Brown County to succeed in achieving its vision for the future, planning must be a continual, ongoing exercise. Just as this plan replaces the 1996 Brown County Land Use and Transportation Plan, planning within the County must continue to evolve to reflect new trends and concepts.

Goals and Objectives Development Process

A major element of the comprehensive planning process is the identification of community-wide goals and objectives. The identification is often difficult as values held by residents are highly elusive and complex. People vary widely in their choice of values and the degree to which they would accept or tolerate differing attitudes.

Visioning Session

In order to identify the County's priorities for community development, as well as key issues and concerns to be addressed, the Brown County Planning Commission held a public visioning session, which utilized the nominal group method, on September 19, 2002, in the Resch Center lobby in Ashwaubenon. Approximately 100 residents attended and provided input into how they want Brown County to develop over the next 20 years.

The results from this meeting were processed into 72 general objective statements. The objective statements were mailed to all of the original attendees, as well as to a 350-person mailing list of local elected officials, business owners, interested residents, and

other interested parties. They were asked to rank each issue on a strongly agree, agree, neutral, disagree, and strongly disagree scale, as well as to identify their top 10 issues out of the 72 total issues. The following are the issues identified the most often in the respondents' top ten issues list:

Rank:

1. Ensure that there is and will always be an adequate supply of high quality public drinking water, such as through the construction of a new pipeline to Lake Michigan.
2. Encourage the preservation of environmental corridors and other sensitive areas, such as waterfronts, streams, and wetlands.
3. Identify, propose, and consolidate government services to the greatest extent possible in an effort to maintain or improve quality, streamline services, and reduce costs.
4. Encourage efficient, compact, and well-balanced land development to control sprawl (inefficient development).
5. Preserve, restore, and improve surface water quality (wetlands, lakes, rivers, and streams) through education, erosion control, buffer strips, easements, land use controls, flood controls, and nutrient/sediment reductions.
6. Promote safe neighborhoods for all residents.
7. Control commercial sprawl and reduce blight by filling and rehabilitating existing structures and vacant lots.
8. Encourage greenspace and open space in planned developments.
9. Reduce the number of governmental jurisdictions.
- 10T. Promote more transportation options, such as sidewalks, trails, bicycle facilities, and transit.
- 10T. Retain and attract business and industry.

Discussion Group Meetings

After an initial draft of the goals and objectives were developed from the input at the visioning session and survey, two discussion group meetings were held to gain additional insight into the draft goals and objectives, as well as any potential goals or objectives that may have been missed. The discussion group meetings were held on July 17 and July 31, 2003, at the Brown County UW-Extension offices. Local and state experts with knowledge in the pertinent elements were invited and asked for their input regarding the draft goals and objectives. As a result of the discussion group meetings, revisions and further refinement to the draft goals and objectives were completed.

The nominal group workshop, issue ranking survey, discussion group meetings, input from the BCPC Board of Directors, State of Wisconsin Comprehensive Planning Law, and sound planning principles formed the basis for the development of the goals and objectives.

Brown County Comprehensive Plan Goals and Objectives

Goals and objectives each have a distinct and different purpose within the planning process. Goals describe desired situations toward which planning efforts should be directed. They are broad and long-range. They represent an end to be sought; although,

they may never actually be fully attained. Objectives describe more specific purposes, which should be sought in order to advance toward the achievement of the overall goals. The third part of the planning process – recommendations (policies) and programs – is discussed in each chapter specific to that comprehensive plan element.

The objectives are broken down into those that Brown County has direct responsibility over, those where responsibility is divided between the local units of government and Brown County, and those where the local units of government have direct responsibility. This was done in order to recognize the limits of Brown County government and to encourage the local units of government to incorporate the relevant objectives into their local plans in order to present a coordinated and consistent vision for the future of Brown County.

The Brown County Comprehensive Plan is based on the following goals and objectives:

Land Use Goal #1

Manage future growth in Brown County by promoting and encouraging the orderly, efficient, compact, and well-balanced development of land, which maintains a balance among the preservation of environmentally sensitive areas, agricultural lands, and continued residential, commercial, and industrial development.

County Objectives

- Conduct an inventory and analysis of existing land uses in the County to determine and encourage municipalities to enable the most appropriate use of land.

County and Local Objectives

- Promote the development and enforcement of land use, planning, and design standards that are consistent and compatible across municipal boundaries while recognizing the uniqueness of individual communities.
- Designate realistic and flexible growth areas while taking into account economic realities and the provision of efficient services.
- Provide incentives to developers to use traditional neighborhood developments and planned developments to promote mixed-use development and to use conservation by design subdivisions to preserve greenspace, environmentally sensitive areas, and agricultural land.

Local Objectives

- Encourage higher density development and promote the development of existing undeveloped and underutilized lots and the rehabilitation of existing structures.
- Promote the compatibility of adjoining land uses for both existing and future development.

Land Use Goal #2

Encourage communities to establish and maintain unique identities and the sense of community through the layout, design, and regulation of new development.

County and Local Objectives

- Balance individual property rights with community interests and goals.
- Promote the design and maintenance of safe neighborhoods and utilize available programs to ensure well-maintained properties.

Local Objectives

- Encourage the development of municipal centers and civic spaces that are integrated into communities to promote neighborhood activities and gatherings.
- Encourage development approaches that establish and maintain community identity.
- Promote the concept of traditional neighborhood design (TND) that focuses on creating walkable neighborhoods with a mix of uses that encourage social interaction.
- Encourage local communities to utilize design standards for commercial, industrial, and multifamily development to promote quality building design and community identity.

Transportation Goal

Develop a safe and efficient multi-modal transportation system that serves all Brown County residents.

County Objectives

- Ensure that major highway and bridge construction projects do not occur until the land use and other impacts associated with these projects are thoroughly studied.
- Ensure that existing and planned land uses are considered when determining the physical characteristics of new and reconstructed Brown County highways.
- Emphasize maintenance of the existing county highway system over the construction of new county highways.
- Work with Brown County's communities, WisDOT, Green Bay Metro, school districts within the County, and other entities to develop the County's multi-modal transportation system.
- Continue to implement the recommendations in Austin Straubel International Airport's recently completed airport master plan and investigate methods of expanding passenger and freight service at the airport.
- Complete the comprehensive plan for the Port of Green Bay and begin implementing the plan's recommendations.

- Encourage Brown County residents and visitors to utilize the high-speed passenger rail service proposed by the US-DOT for Brown County to minimize vehicle traffic on the area's highways.
- Ensure that all Brown County residents retain access to the transportation system when major highway and other projects occur.

County and Local Objectives

- Maximize safety, efficiency, and accessibility at intersections throughout Brown County.
- Promote safe and continuous pedestrian and bicycle systems throughout Brown County by constructing sidewalks, multi-use trails, bicycle lanes, and other facilities that are linked between communities and destinations.
- Design county highways and local streets within the context of the surrounding land use.
- Encourage traffic calming techniques throughout Brown County to improve safety and minimize the impacts of vehicles on neighborhoods.
- Identify a system of truck routes throughout Brown County and mark them with unique signs to enable them to be easily identified.
- Apply for grants to help fund the development of Brown County's multi-modal transportation system.

Local Objectives

- Create neighborhoods that contain a mix of residential, commercial, recreational, and institutional uses to make walking and bicycling viable transportation options.
- Promote development with population and employment densities that improve the viability and attractiveness of transit service by developing activity centers within the urbanized area.
- Promote well-connected street patterns to distribute traffic evenly and maximize mobility and accessibility for all residents and facilitate connectivity among neighborhoods. This may include the use of interconnected, curvilinear street patterns.

Agricultural Resources Goal

Balance the use and preservation of agriculture in Brown County in a sustainable manner so as to enhance its long-term viability and maintain the character of the County.

County Objective

- Evaluate the economic impact of agriculture and agricultural-related businesses on Brown County's economy.

County and Local Objectives

- Maintain the rural atmosphere of Brown County's agricultural areas.
- Prevent the premature extension of utilities and infrastructure in order to retain agricultural lands and land uses as long as appropriate and feasible.
- Provide additional educational, financial, and other types of assistance to Brown County's agricultural communities and farmers to enable them to become more economically viable.
- Preserve productive agricultural lands through innovative preservation and development techniques, such as purchase or transfer of development rights, farmland preservation, and agricultural planning programs.

Natural and Cultural Resources Goal

Balance the use and preservation of Brown County's cultural and natural resources in a sustainable manner so as to enhance the character and quality of life found within the County to the greatest extent possible.

County and Local Objectives

- Identify Brown County's mineral resources (sand, gravel, and dimension stone) and plan for their use accordingly.
- Promote the preservation of Brown County's irreplaceable resources, such as soils, surface and ground water, and wildlife habitat, through means, such as agricultural best management practices, erosion control, stormwater management, and land acquisition.
- Encourage the preservation and public acquisition of environmentally significant areas, such as shorelands, wetlands, streams, floodlands, upland forests, wildlife habitat, and geological features, such as the Niagara Escarpment.
- Support efforts to preserve threatened and endangered species.
- Promote the preservation of cultural, historic, and archaeological sites through interpretive programs and facilities.
- Encourage the preservation of open space, greenspace, and scenic resources within and adjacent to development through conservation by design development and the public dedication and acquisition of parks and open space.
- Support cultural facilities, such as the Neville Public Museum, Weidner Center, and Heritage Hill State Park, which increase the area's quality of life.
- Promote and support educational efforts that encourage Brown County residents to learn about and care for the County's natural and cultural resources.

Utilities and Community Facilities Goal #1

Provide adequate and efficient utilities, such as sewer, water, solid waste, and power, in a cost-effective manner.

County Objective

- Encourage the Green Bay Metropolitan Sewerage District (GBMSD) and Central Brown County Water Authority and other utility providers to minimize the extension of utility lines beyond the metropolitan area to encourage infill and contiguous development.

County and Local Objectives

- Develop and maintain a long-term viable supply and distribution system of high quality public drinking water, public sewage treatment, and stormwater management.
- Encourage future development to occur only where safe and environmentally sound sewage disposal, drinking water, and other services can be economically and efficiently provided.
- Identify techniques to properly collect and treat stormwater runoff.

Local Objective

- Promote the efficient use of existing streets, sewers, water systems, and other infrastructure through infill development and the planned outward expansion of the County's communities consistent with the 5-year increment growth areas identified in their plans.

Utilities and Community Facilities Goal #2

Promote a quality living environment through the timely provision of adequate and efficient community facilities, such as recreation, emergency, and other public facilities, and services affecting the health, safety, and well-being of Brown County's residents.

County Objectives

- Evaluate Brown County's long-term facility needs in relationship to vacant or underutilized County-owned lands.
- Maintain the County's existing public facilities and replace aging/obsolete infrastructure, buildings, and equipment in a coordinated fashion.
- Plan, locate, and develop new County-owned recreational facilities and expand the facilities within existing Brown County parks to respond to the needs and desires of all segments of the County's population.

County and Local Objectives

- Promote the development of community facilities in Brown County's municipalities that are linked to residential, commercial, institutional, and recreational land uses by trail and pedestrian systems.

- Continue to provide quality police, fire, and rescue services for all residents and businesses and identify sites for future public safety facilities as growth occurs throughout the County.
- Meet the ongoing physical and mental health needs of Brown County residents through the provision of adequate facilities.
- Enhance the Fox River and the Bay of Green Bay as Brown County resources by providing additional public waterfront access through pedestrian-friendly amenities and recreational opportunities at appropriate locations.
- Create an interconnected network of local, county, and state park and recreational facilities that focuses on the County's natural resource features.

Housing Goal

Work with the local communities to develop neighborhoods that provide a variety of quality housing opportunities for all segments of Brown County's population in such a way that adverse environmental impacts are minimized, public services are efficiently provided, and alternative means of transportation are encouraged.

County and Local Objectives

- Encourage all communities to provide housing and associated services for low- and moderate-income people so that no one community must provide for them all.
- Encourage the development of community-based residential facilities to help care for a diverse population.
- Identify and utilize government funding, programs, and agencies, neighborhood associations, non-profit agencies, and private sector industries to implement the housing recommendations contained in the plan.

Local Objectives

- Promote reinvestment into the existing housing stock in order to maintain property values and strong neighborhoods.
- Encourage the development of an adequate supply and mix of housing types for individuals of all income and ability levels.
- Coordinate with local communities, nonprofit organizations, and other charitable organizations to ensure adequate shelter for the homeless.
- Develop residential neighborhoods with mixed land uses that encourage alternative means of transportation to serve all ages and income levels.
- Promote the use of traditional neighborhood design (TND) to create a range of housing options.
- Promote the development and implementation of residential design and building maintenance standards to ensure quality accessible housing.

Economic Development Goal

Broaden the County's tax base and strengthen its economy and employment base through the retention and attraction of existing businesses, development of new businesses, and continued diversification of industries.

County and Local Objectives:

- Identify processes to encourage cooperation and coordination rather than competition among Brown County communities when locating large economic development projects.
- Identify growing and weakening business sectors of the Brown County economy in order to target local economic development programs and recruitment and to promote the diversification of the local economy.
- Partner with local communities to enhance or redevelop commercial and industrial waterfront uses along the Bay of Green Bay and the Fox River.
- Identify tools and techniques for local communities to preserve or redevelop their downtowns.
- Develop economic development partnerships with agencies, such as Advance, Bay-Lake Regional Planning Commission, and the Wisconsin Department of Commerce.
- Coordinate with local educational institutions, as well as institutions of higher learning, to ensure a qualified workforce.
- Explore the possibility of intercommunity revenue sharing as a way to encourage economic development cooperation between units of government.
- Recognize farming as an economic activity and promote steps to enhance its long-term economic viability.

Local Objectives:

- Encourage compact development and promote the redevelopment of underutilized, vacant, blighted, or brownfield commercial and industrial sites and buildings to efficiently utilize existing public utilities and services.
- Assist businesses in planning for a diverse and aging workforce.
- Encourage the local communities to ensure quality commercial and industrial building designs and site layouts.
- Promote businesses and industries that are good stewards of land, air, and water resources.
- Encourage commercial development in smaller neighborhood nodes and larger downtowns rather than in long strips along main thoroughfares.
- Ensure that large business park developments include a nearby mix of small commercial ventures and residential uses.

- Encourage commercial and industrial developments that promote alternative modes of transportation.

Intergovernmental Cooperation Goal #1

Consolidate services to the greatest extent possible in an effort to maintain or improve the quality of services, to streamline services, and to reduce overall governmental costs.

County Objectives:

- Review the Kettl Commission report and determine if any recommendations can be used for consolidation and cooperation within Brown County municipalities.

County and Local Objectives:

- Identify existing duplication of services within municipal governments in Brown County to better coordinate services, potentially reduce costs, and improve efficiencies.
- Identify existing conflicts in Brown County within units of government and identify potential ways to resolve these conflicts.
- Promote the reduction in the number of governmental jurisdictions.
- Review privatization as a potential method of providing governmental services if the same or enhanced level of services can be provided at a lower cost.

Intergovernmental Cooperation Goal #2

Improve communication, coordination, and cooperation between and among units of governments.

County Objectives:

- Encourage cooperation between counties in the delivery of services and facilities.

County and Local Objectives:

- Encourage the development of boundary agreements between municipalities to help avoid conflicts, improve land use planning, and encourage cooperation.
- Promote consistent planning, land use, zoning, and design standards across municipal boundaries.
- Promote and encourage compatible land use planning at municipal borders to help avoid land use conflicts between adjacent communities.
- Encourage government consolidation and intergovernmental services agreements when costs would be minimized and efficiencies maximized.
- Promote intergovernmental cooperation and collaboration when planning for the future of Brown County's natural resources.

Programs and Recommendations

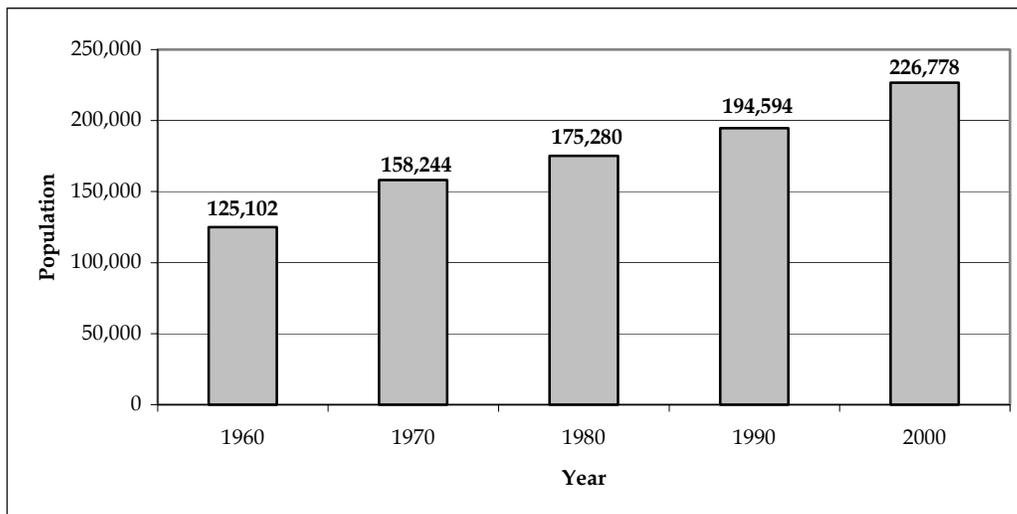
Programs are the means by which a community can achieve and/or implement the recommendations contained in a comprehensive plan. Typically, programs include information regarding financial aid through grants or loans, ordinance changes, or other creative means for a community to work toward its overall goals and objectives.

The recommendations (where relevant) for each chapter are included throughout each individual chapter and summarized in bulleted form at the end of each chapter. The programs to implement the recommendations are located in the Implementation chapter at the end of the comprehensive plan.

Demographic Trends

Over the past 40 years, Brown County has experienced strong population growth with the addition of 101,676 people. Between 1990 and 2000, the County added over 32,000 residents, for a growth rate of 16.5 percent. This is the second largest influx of people to Brown County in a 10-year period, behind only the decade of 1960-1970 when 33,142 people were added.

Figure 1-1: Brown County Historical Population Growth

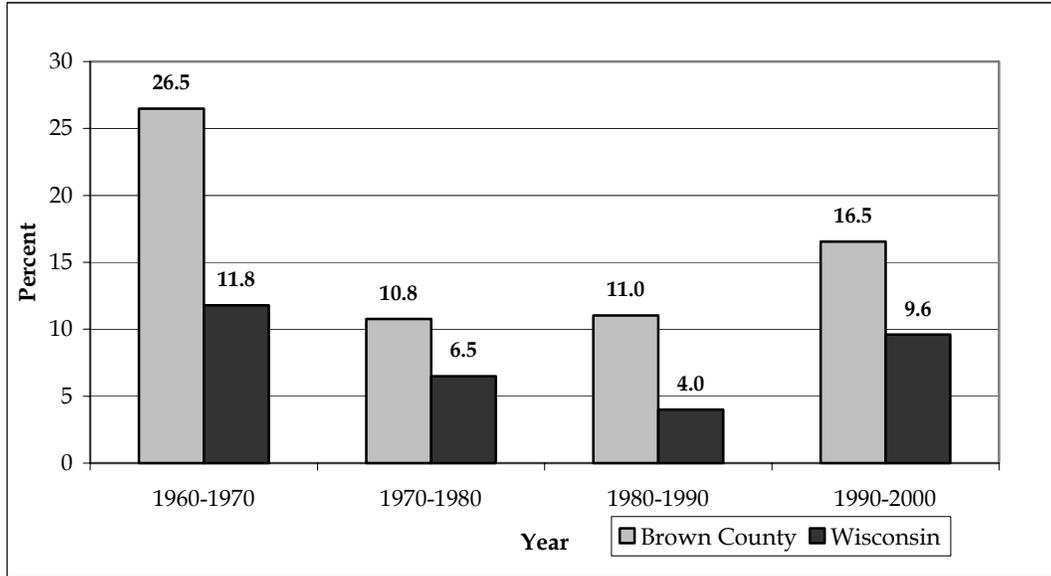


Source: U.S. Census of Population, 1960-2000; Wisconsin Department of Administration

The largest community in terms of population continues to be the City of Green Bay as it has increased its population from 62,888 people in 1960 to 102,313 people in 2000. However, over the same time-period, its relative share of population in Brown County has decreased slightly from 50.3 percent in 1960 to 45.1 percent in 2000. This trend is indicative of the comparatively stronger demographic growth in the suburban communities; although, no community has added more population in terms of the number of people between 1990 and 2000 than the City of Green Bay with 5,847 additional residents. Figure 1-1 displays the historical population growth of Brown County from 1960 to 2000 in terms of the number of residents, and Figure 1-2 compares

the growth rate of Brown County with the growth rate of the State of Wisconsin for the same time-periods.

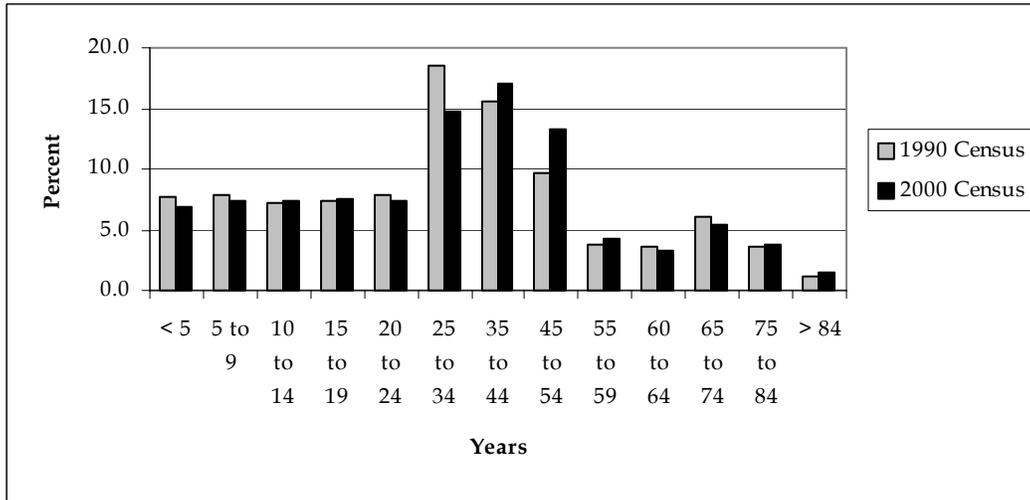
Figure 1-2: Brown County and State of Wisconsin Historical Growth Trends



Source: U.S. Census of Population, 1960-2000; Wisconsin Department of Administration.

Age Distribution

Figure 1-3: Age as a Percentage of Population in Brown County, 1990-2000.



Source: U.S. Bureau of the Census 1990 and 2000.

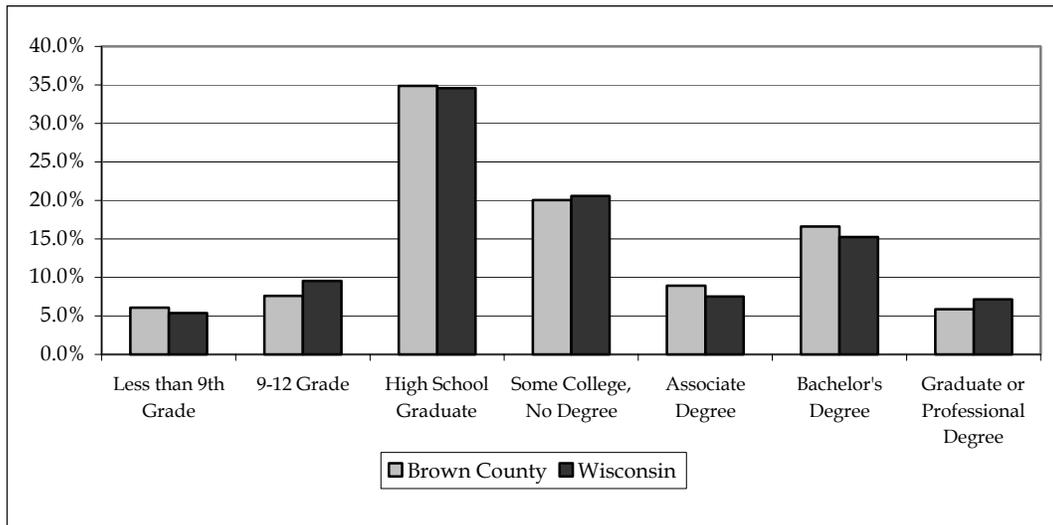
Census figures indicate that the 2000 median age for Brown County residents was 34.2 years, as compared to 31.4 years in 1990. This is an increase in the median age of 2.8 years, which is largely a result of the “baby boomer” generation continuing to age. This

trend is further identified when combining the age groups into the larger blocks of school age (<5-19), working age (20-59), and retirement age (60+) populations. From 1990 to 2000, the number of people school age and retirement age declined 1.0 percent and 0.4 percent, respectively. Although the working age population accordingly realized a 1.4 percent increase, as is displayed in Figure 1-3, large portions of the working age group will be retired or approaching retirement within the 20-year timeframe of this plan. As the people within the baby boomer generation continue to age, it is necessary to ensure that the social and economic support networks are in place for a comfortable retirement and to ensure an adequately educated and prepared workforce is ready to replace them.

Education Levels

As is evident from Figure 1-4, educational attainment rates are very similar between Brown County and the State of Wisconsin, with the largest single group being high school graduates, the second largest being some college with no degree, and the third largest group having a bachelor's degree. As the national economy continues to shift from a goods-producing economy to a service- and information-based economy, it is necessary to have a highly educated workforce to ensure that Brown County can continue to compete on the state, national, and international stage.

Figure 1-4: Educational Attainment, People 25 Years of Age and Older, Brown County and State of Wisconsin, 2000



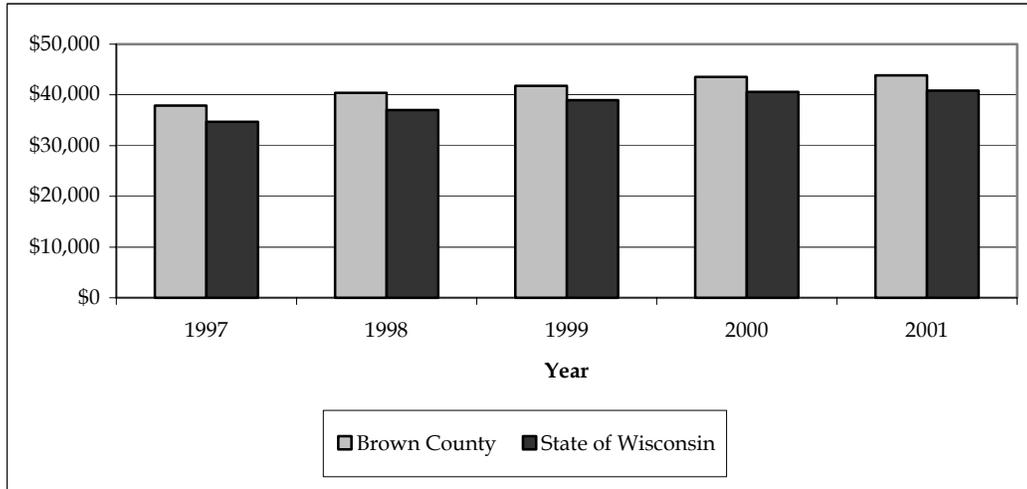
Source: U.S. Bureau of the Census, 2000.

Income Levels

According to the Wisconsin Department of Revenue-Division of Research and Analysis, Brown County's adjusted gross income (AGI) per tax return has increased every year since 1997 and has remained consistently above the state average. The most recent year, for which information is available, lists the year 2001 AGI for Brown County at \$43,823 as

compared to the State of Wisconsin at \$40,847. As is evident in Figure 1-5, increases in income have recently slowed along with the sagging state and national economy.

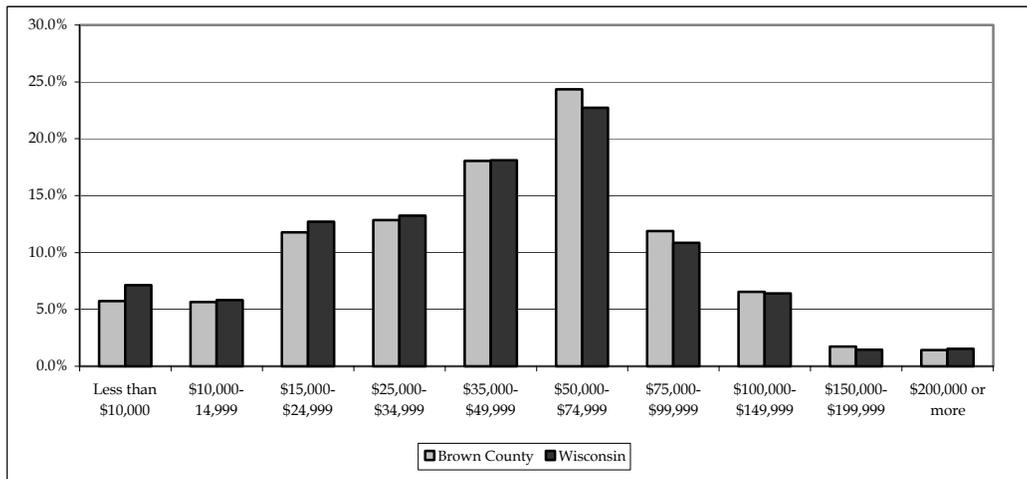
Figure 1-5: Adjusted Gross Income Per Tax Return, Brown County and State of Wisconsin: 1997-2001



Source: Wisconsin Department of Revenue-Division of Research and Analysis, 1997-2001.

Additionally, the year 2000 census provides a detailed snapshot of income ranges for households in Brown County and Wisconsin. Figure 1-6 provides a comparison of percentages of households in each income range for the county and state.

Figure 1-6: 1999 Brown County and State of Wisconsin Household Income



Source: U.S. Bureau of the Census, 2000.

Employment Characteristics

According to the 2000 census, of the 174,305 people considered to be of working age (16 years and older), 125,437, or 72 percent, are currently in the labor force, while 48,868

people consider themselves to be out of the labor force (student, stay-at-home parent, retiree, etc.). This compares to the 4,774 people (3.8 percent of the active labor force) who are currently unemployed and seeking employment.

In terms of employment, the largest industry in Brown County is manufacturing, with 25,449 people, or 21.1 percent of the labor force, working in this field. The next largest sector is the educational, health, and social services field, with 21,228 people, or 17.6 percent of the labor force. These two industries are also the largest sectors when analyzing data for the State of Wisconsin. Figure 1-7 displays the industries and their total numbers and percentages.

Figure 1-7: Brown County Employment by Industrial Sector

Industry	People	Brown County Percent	State Percent
Manufacturing	25,449	21.1	22.2
Educational, health, and social services	21,228	17.6	20.0
Retail trade	15,245	12.6	11.6
Finance, insurance, real estate, and rental and leasing	9,805	8.1	6.1
Arts, entertainment, recreation, accommodation, and food services	8,789	7.3	7.3
Professional, scientific, management, administrative, and waste management services	7,546	6.3	6.6
Transportation and warehousing and utilities	7,455	6.2	4.5
Construction	7,436	6.2	5.9
Other services (except public administration)	5,377	4.5	4.1
Wholesale trade	4,808	4.0	3.2
Public administration	3,464	2.9	3.5
Information	2,425	2.0	2.2
Agriculture, forestry, fishing & hunting, & mining	1,503	1.2	2.8

Source: Table DP-3: Profile of Selected Economic Characteristics: 2000 - Brown County and State of Wisconsin

Population Forecasts

In March 2004, the Wisconsin Department of Administration (WDOA) released the updated population projections for Wisconsin municipalities through the year 2025. According to these projections, the population of Brown County is forecasted to increase to 248,529 people by 2010 and 281,348 people by 2025.

The individual units of government within Brown County are projected to grow at very different rates between the years 2000 and 2025 from a low of 1.15 percent in the Village of Allouez to a high of 88.3 percent in the Village of Wrightstown, while Brown County's population as a whole is projected to increase 24.13 percent over the same 25-year period. Historically, the City of Green Bay may not have had the highest percentage of growth, but it did have the most growth numerically. This trend has changed to where the City of Green Bay is projected to add only the fifth most number of people, with four

suburban communities actually adding more residents over the next 20 years. The historic and projected populations for Brown County and the local units of government are displayed in Figure 1-8. A map of Brown County and the local units of government is provided in Figure 1-9.

Figure 1-8: Historic and Projected Populations for Brown County and Local Governments

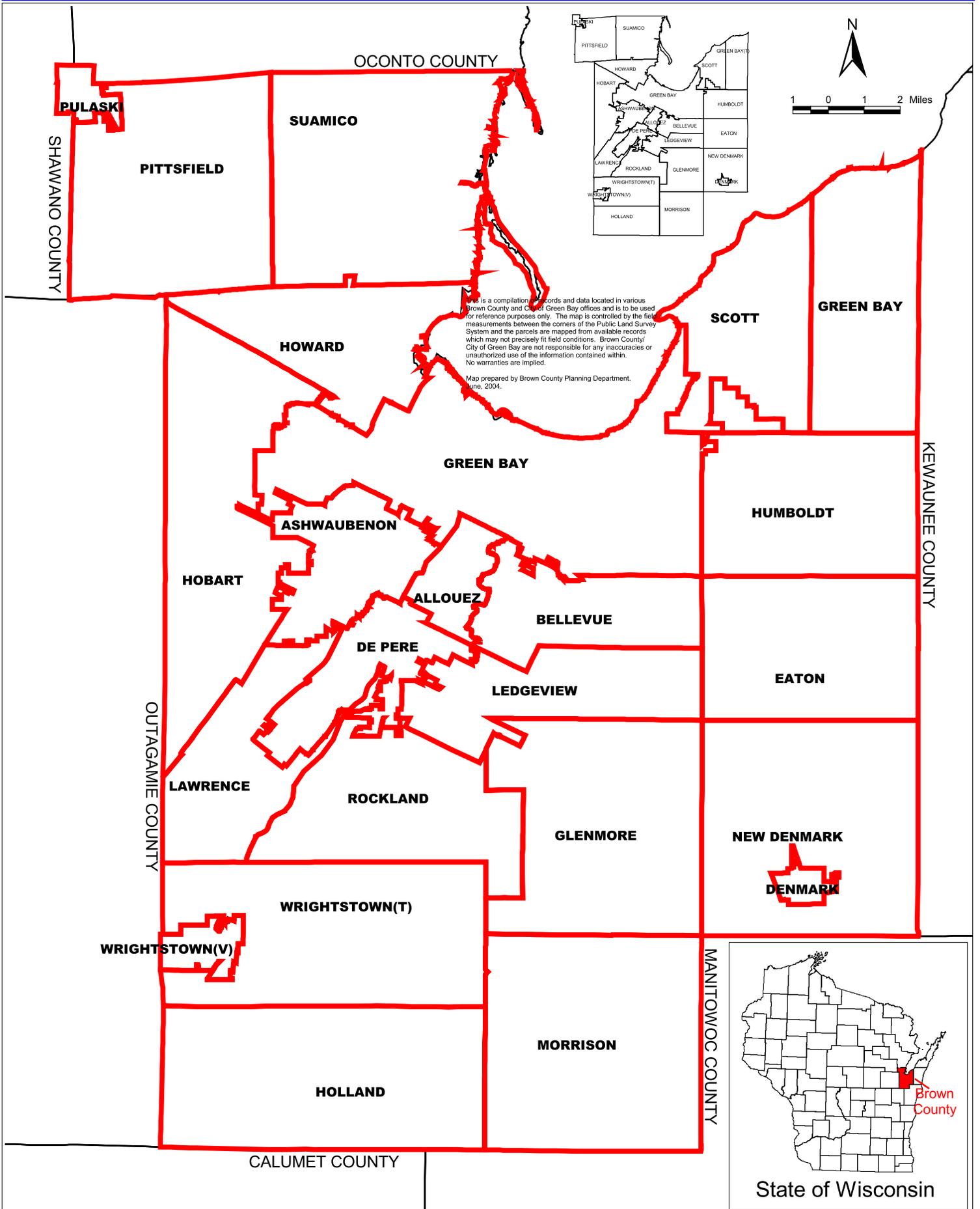
Community	Year					Projections		Projected Population Increase
	1960	1970	1980	1990	2000	2010	2025	2000-2025
V. Bellevue	1,007	1,736	4,101	7,541	11,828	16,037	22,044	10,216
V. Howard	3,485	4,911	8,240	9,874	13,546	16,851	21,700	8,154
C. De Pere	10,045	13,309	14,892	16,594	20,559	23,602	28,152	7,593
V. Suamico	2,073	2,830	4,003	5,214	8,686	11,715	16,120	7,434
C. Green Bay	62,888	87,809	87,899	96,466	102,313	105,207	107,737	5,424
V. Wrightstown	840	1,020	1,169	1,262	1,934	2,638	3,642	3,307*
T. Ledgeview	1,109	1,365	1,535	1,568	3,363	4,819	6,326	2,963
V. Hobart	2,343	2,599	3,765	4,284	5,090	5,815	6,902	1,812
T. Scott	1,869	1,969	1,929	2,044	3,712	3,985	5,225	1,513
V. Pulaski	1,540	1,717	1,875	2,200	3,013	3,568	4,377	1,364
T. Lawrence	1,571	1,622	1,431	1,328	1,548	1,993	2,643	1,095
T. Rockland	777	983	882	974	1,522	1,848	2,328	806
V. Ashwaubenon	2,657	10,042	14,486	16,376	17,634	17,884	18,429	795
T. Green Bay	886	958	1,106	1,292	1,772	2,092	2,566	794
T. Wrightstown	1,301	1,463	1,705	1,750	2,013	2,222	2,541	528
T. Pittsfield	1,273	1,647	2,219	2,165	2,433	2,616	2,916	483
T. Eaton	950	1,049	1,106	1,128	1,414	1,580	1,832	418
V. Denmark	1,106	1,364	1,475	1,612	1,958	2,113	2,354	396
T. Holland	1,078	1,211	1,268	1,237	1,339	1,442	1,603	264
T. New Denmark	1,188	1,203	1,420	1,370	1,482	1,550	1,664	182
V. Allouez	9,577	13,753	14,882	14,431	15,443	15,448	15,620	177
T. Morrison	1,351	1,473	1,565	1,493	1,651	1,713	1,818	167
T. Humboldt	908	1,101	1,281	1,334	1,338	1,398	1,498	160
T. Glenmore	1,035	1,110	1,046	1,057	1,187	1,233	1,311	124
Brown County	125,102	158,244	175,280	194,594	226,778	248,529	281,348	54,570

Source: Wisconsin Department of Administration, 2003; Brown County Planning Commission, 2004.

*The Village of Wrightstown elected to choose an alternative projection method in their comprehensive plan to reflect a more aggressive growth rate and a 2020 Village population of 5,241 residents.

As the local communities develop their local comprehensive plans that meet the Comprehensive Planning Law, they are to be given an opportunity to adjust their population projections based on localized trends using information, such as WDOA population estimates, building permits, new census or state data, and overall

Figure 1-9
Local Government Units
Brown County, WI



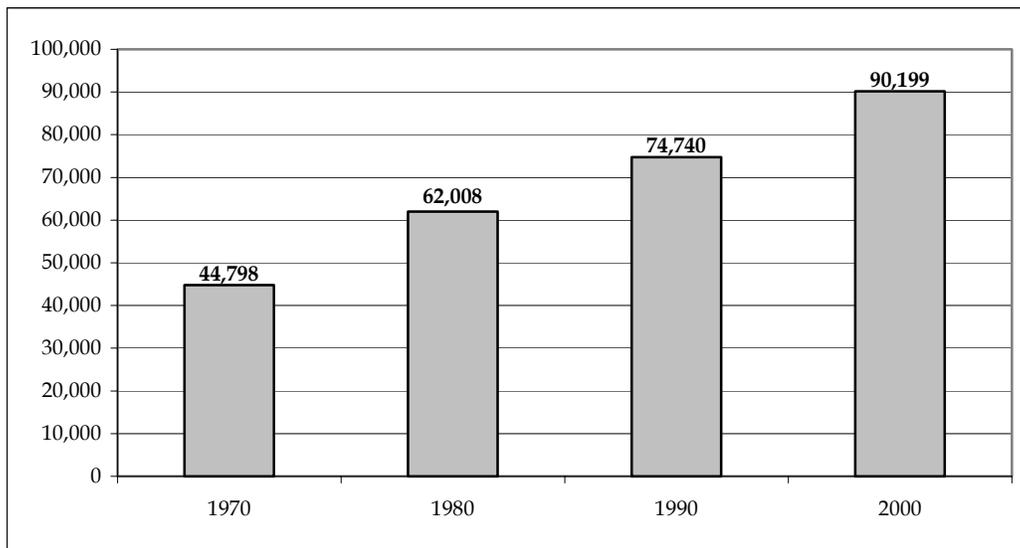
development activity. For the purposes of this planning effort and to be consistent with the recently revised Brown County Sewage Plan, the population projections listed will be utilized to determine future overall growth in Brown County.

Household Forecasts

In order to determine an approximate number of housing units that would be needed to house the Brown County population through the year 2020, an analysis of existing conditions was first completed.

The total number of housing units in Brown County has increased rather dramatically since the 1970 total of 44,798. The total increased to 62,008 in 1980, to 74,740 in 1990, and to 90,199 in 2000. Over the course of just 30 years, the total number of housing units in Brown County has increased by 101.3 percent. Figure 1-10 illustrates the trend in the number of housing units in Brown County.

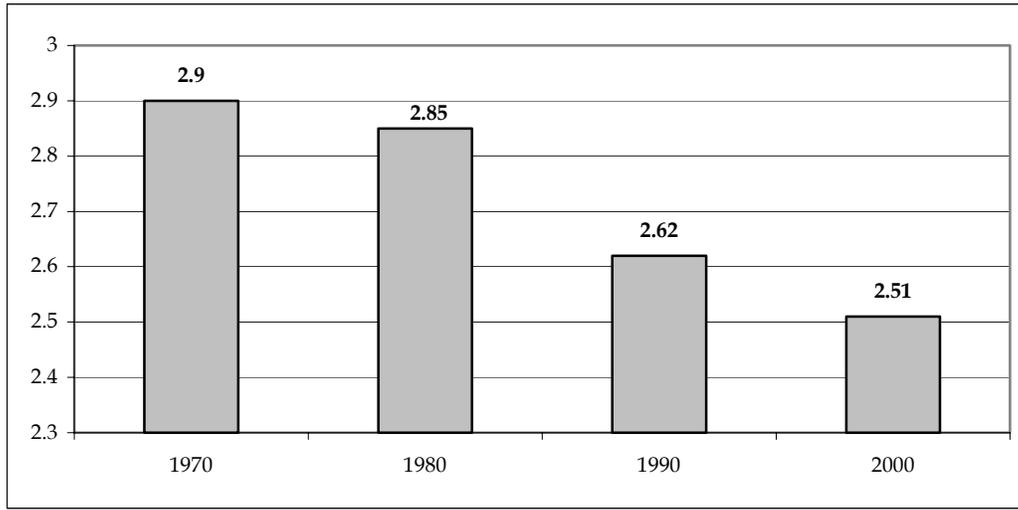
Figure 1-10: Number of Housing Units in Brown County, 1970-2000



Source: U.S. Bureau of the Census, 1970-2000

According to the year 2000 census, Brown County's average household size is currently 2.51 people. The average household size has continued to decline from 2.9 in 1970 to 2.85 in 1980 and to 2.62 in 1990, which reflects the nationwide trends of smaller families and an increasing number of single people living alone. However, over this same period of time, the population of Brown County increased by over 68,500 residents, and an additional 45,401 housing units were constructed. As new housing units and developments are constructed, it is necessary to keep in mind the changing demographics and the corresponding change in housing preferences. Figure 1-11 displays the average people per household trend in Brown County.

Figure 1-11: Average People Per Household in Brown County, 1970-2000



Source: U.S. Bureau of the Census, 1970-2000.

Utilizing the current Brown County average of 2.51 people per household in conjunction with the additional 54,570 people projected to reside in Brown County yields a need for approximately 21,800 additional housing units by 2025. This required number of housing units might increase if the average number of people per household continues to decrease over the next 20 years.

Currently in Brown County, 63.2 percent of the units in structure are 1-unit detached homes (standard, single-family house), while the remaining 36.8 percent of units are contained in a variety of other structures. As a larger percentage of the Brown County population approaches retirement age and families continue to have fewer children, there will be an increasing demand for a wider variety of housing options. The Housing chapter provides information relating to the different housing types that Brown County might wish to encourage, as well as the tools that the County and local communities can utilize to encourage a range of housing options for an increasingly diverse population.

Employment Forecasts

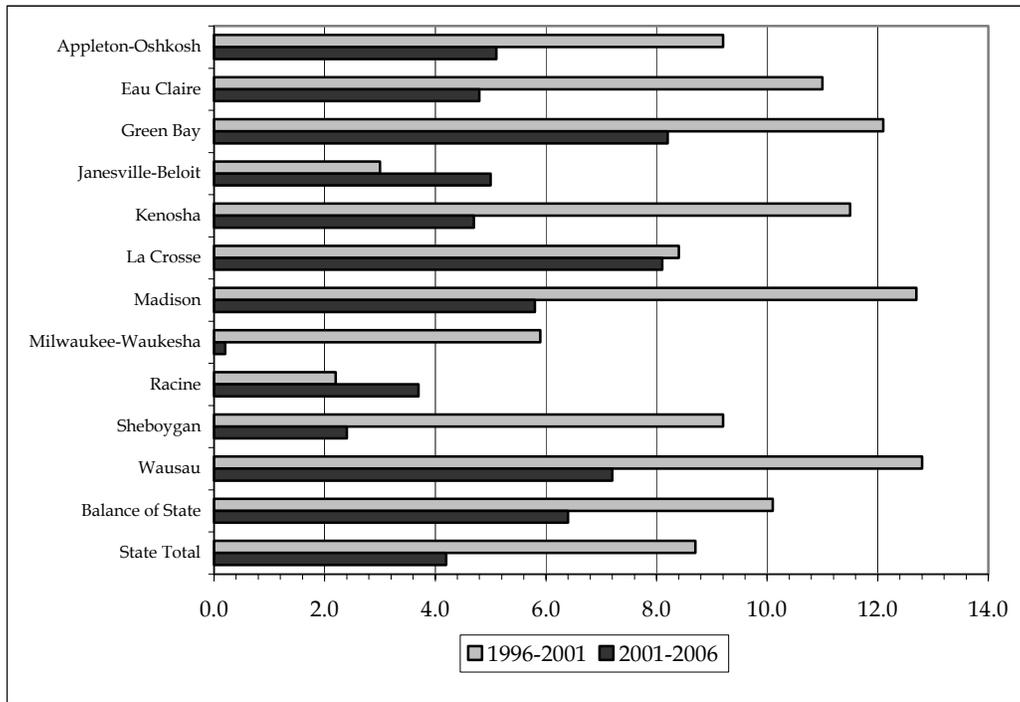
Current employment characteristics and trends are discussed in detail in the Economic Development chapter of the comprehensive plan. However, the forecast section of this chapter sets the stage for later discussion regarding strengths and weaknesses of Brown County employment sectors.

The Metropolitan Area Outlook Report (August 30, 2002), produced by the Wisconsin Department of Revenue - Division of Research and Policy, is a quarterly report that discusses and compares current employment trends in the nation, state, and state metropolitan statistical areas, which includes the Green Bay Metropolitan Statistical Area (MSA). The report also projects future employment trends by metropolitan statistical area based on local economic conditions and indicators.

The Division of Research and Policy projects that between 2001 and 2006 employment will grow but at a much slower rate than occurred between the years of 1996 and 2001. From 1996 to 2001, the Green Bay MSA added approximately 15,900 jobs (12.1 percent growth), which in terms of percentages is behind only the Wausau and Madison MSAs at 12.8 percent and 12.7 percent, respectively. This rate has slowed significantly during the years of 2000 and 2001 to 0.3 percent growth in the Green Bay MSA, as well as slowing significantly statewide. However, the Green Bay MSA is one of only four MSAs reporting employment growth over those two years.

Employment in the Green Bay MSA is forecasted to experience a slight growth of 0.1 percent in 2002, following a 0.3 percent growth in 2001. However, employment is forecasted to grow by 8.2 percent overall between the years 2001 to 2006, which is the highest growth rate among Wisconsin MSAs. The Metropolitan Area Outlook predicts that employment growth in printing and publishing will recover particularly strong, while strong growth is also predicted for the finance, insurance, and real estate sector, as well as the services and wholesale trade. Figure 1-12 displays employment growth by MSA from 1996 to 2001 and forecasted growth from 2001 to 2006.

Figure 1-12: Employment Growth, 1996-2001, and Forecasted Growth, 2001-2006 (Percent Change)



Source: *Metropolitan Area Outlook Report*, Wisconsin Department of Revenue - Division of Research and Policy August 30, 2002.

Summary

The goals and objectives identified in the Brown County Comprehensive Plan reflect the concepts contained in the 14 State of Wisconsin Comprehensive Planning goals, as well

as the thoughts and comments obtained from residents, elected officials, and other interested parties throughout the planning process. Accordingly, the goals and objectives create a framework around which the comprehensive plan is developed.

Brown County is expected to continue its strong population growth by adding 54,570 residents (a 24.1 percent increase) for a total population of 281,348 people by 2025. Population growth is projected to be particularly strong in the suburban communities of Bellevue, Howard, De Pere, and Suamico as these communities are expected to add 33,397 total residents, accounting for over 61 percent of the population growth in the County.

In order to provide shelter for the growing population, approximately 21,800 additional housing units are required to house the projected increase in population by 2025. As the demographic trends also indicate, the County's population, while growing, is also aging, and the local communities, in coordination with Brown County, need to ensure that all residents' needs are met by offering the tools to encourage a range of housing options for an increasingly diverse population.

Although the strong population, employment, and housing growth in the County would provide an opportunity to both the County and local communities to implement many of the stated objectives in the comprehensive plan, maintaining those features of Brown County that make it a desirable place to live and do business in the face of increasing development pressure must also be considered and planned.

CHAPTER 2

Land Use

Introduction

The wide ranges of land uses in Brown County are a reflection of the diverse demographics, geography, and communities within the County. From the urban settings of downtown Green Bay and De Pere to the rural Towns of Glenmore and Humboldt, Brown County is a study in contrasts. Sometimes as a result of these contrasts, conflicts regarding the use of land can occur. This is particularly the case as local communities experience a sometimes not-so-gradual shift from primarily rural communities to more suburban or urban communities as increasing numbers of people call Brown County home. While this chapter will not eliminate the conflicts resulting from change, it will provide a snapshot of the existing land uses in Brown County and identify specific policies or “tools” that the local communities can utilize to try and avoid potential conflicts resulting from the change. Which tools from the Brown County Comprehensive Plan each community chooses to utilize in implementing their local comprehensive plans that meet Section 66.1001, Wisconsin Statutes, is up to them, but what is necessary is that a consistent and coordinated vision for the future of Brown County is shared by all.

Existing Land Use

In order to plan for future land use and development in Brown County, it is necessary to consider existing land uses and development trends. A land use inventory, which classifies different types of land use activities, is an important means of identifying current conditions. In addition, by comparing land use inventories from previous years, various trends can be discerned that are helpful in establishing the plan for future land use.

The Brown County Planning Commission conducts a countywide land use inventory every decade. Fieldwork for the most recent inventory was completed in June 2001 and has been updated periodically. Using this data, the various land use categories were generalized, broken down by acreage, and compared to 1980. Figure 2-1 describes the land use composition of the County, and Figure 2-2 shows the location of the various land uses within the County. Appendix A contains the year 2000 land use breakdown for each community within Brown County.

As identified in Figure 2-1, Brown County has undergone some considerable land use changes in the past 20 years. Perhaps most remarkable is the loss in agricultural land experienced during this timeframe, which decreased by nearly 60,000 acres, a decrease from nearly 70 percent of the total County’s land base in 1980 to only 50 percent in 2000. Much of the agricultural land was lost to development (primarily residential), the acreage of which more than doubled between 1980 and 2000, while some of it simply was converted out of agricultural use and is now considered vacant land, which will likely be developed. The statistics indicated in Figure 2-1 come as no surprise as the signs of the decline in the agricultural economy and the increase in large-lot, lower-density

residential development are very evident when viewing the County’s landscape. The trends that have occurred over the years resulting in these changes and recommendations as to how communities can still achieve growth but in a more orderly, efficient manner are discussed within this chapter. This discussion begins with a look at the existing conditions of the various land uses.

Figure 2-1: Brown County Generalized Land Use Acreages, 1980 and 2000

Land Use	1980		2000		1980-2000	1980-2000
	Acres	%	Acres	%	# Change	% Change
Residential	20,835	6.1	44,464	13.0	23,629	113.4
Commercial	2,707	0.8	5,227	1.5	2,520	93.1
Industrial	3,855	1.1	6,410	1.9	2,555	66.3
Transportation	20,424	6.0	25,339	7.4	4,915	24.1
Communication/ Utilities	--	--	1,551	0.5	N/A	N/A
Institutional/ Governmental	3,795	1.1	3,490	1.0	-305	-8.0
Outdoor Recreation	7,361	2.1	9,330	2.7	1,969	26.7
Agricultural	236,128	68.9	176,336	51.5	-59,792	-25.3
Natural Areas/ Vacant Areas	47,459	13.9	70,204	20.5	22,745	47.9
GRAND TOTAL	342,564	100.0	342,351	100.0	--	--

Source: Brown County Planning Commission, 2003.

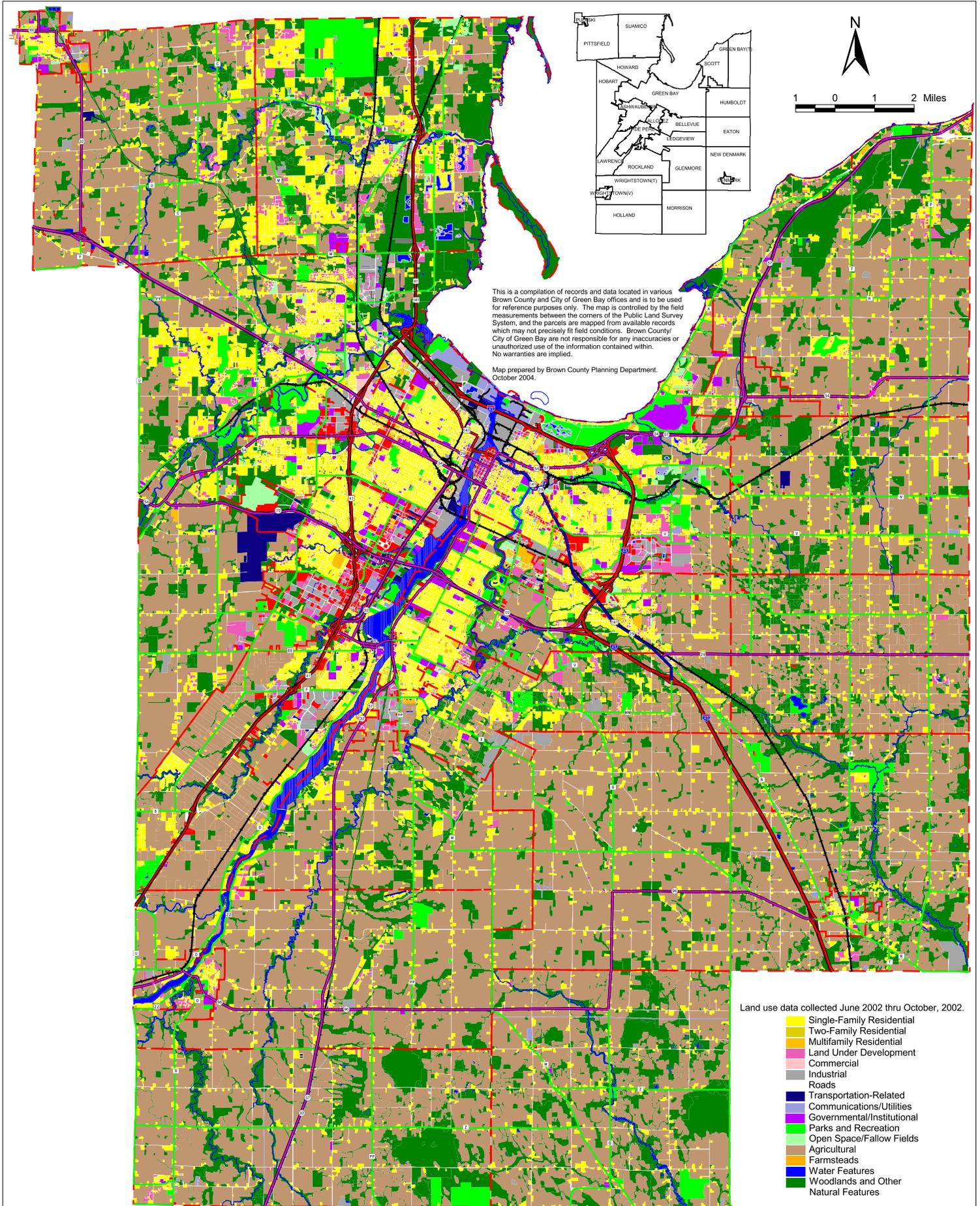
Residential Land Uses

Of the developed land uses, residential land use is the dominant category. In 2000, 44,464 acres within the County were devoted to residential land use, which is 13 percent of the County’s land base. As is depicted in Figure 2-1, the dominance of residential land uses is a trend that has steadily increased over the last few decades.

Residential land uses in Brown County are most heavily concentrated within the urban Green Bay Metropolitan Area communities, such as Green Bay, De Pere, Bellevue, Howard, and Ashwaubenon. Concentrations also exist in the rural villages, such as Denmark, Wrightstown, and Pulaski, and in smaller quantities in town hamlets, such as Greenleaf and Poland.

The older residential parts of the County, typically near the downtown areas of cities and villages, have a healthy mixture of single-family, two-family, and multifamily structures. As the municipalities grew, however, the residential uses tended to become more separated into their own distinct areas, creating large tracts of only one housing type. An example of this separation of housing types is noticeable in many communities where entire blocks (especially along high-volume streets) are uninterrupted blocks of duplex units. It is also apparent where large apartment complexes are located adjacent to one another in an effort to provide a “buffer” between commercial uses and lower-density single-family developments. Although the past trend in these municipalities has been to

Figure 2-2
Land Use
Brown County, WI



separate residential housing types, more recent “Smart Growth” plans are encouraging some variability in the housing locations, such as including duplexes on corner lots and mixing condominiums or smaller-scale multifamily units among single-family residences. Advantages associated with mixing residential types within neighborhoods is that it provides various housing options as individuals pass through their life cycles and enables people to stay within a neighborhood. Locating smaller multifamily housing within a neighborhood may also result in improved maintenance and design of structures so that they fit into the new subdivision.

In the rural areas of Brown County where public sewer is not available, residential development is typified by scattered single-family homes on large (5-10 acre) lots or within rural subdivisions on lots of 1.5–5 acres. This is often done in an effort to protect farmland and to preserve the rural character of the community. However, it oftentimes still results in taking land out of agricultural production and does little to preserve rural character or the environmental features that attract people to move to the country in the first place.

Commercial Land Uses

Commercial land uses occupied 5,227 acres in 2000, or 1.5 percent of the County. Not surprisingly, the amount of commercial activity has increased as the population has increased. Between 1980 and 2000, the acreage devoted to commercial uses has nearly doubled, while population increased by nearly one-third.

Like residential land uses, the heaviest concentrations of commercial uses are located within the Green Bay Metropolitan Area communities, primarily in the form of business parks, central business districts or “downtowns,” and commercial shopping centers, which are expanded upon in the Economic Development chapter. The downtown areas in the County, which have lost a lot of commercial development to suburban development in the past decades, have more recently been committing to revitalization efforts to attract and retain businesses in these core areas. Much of the more recent commercial development has been within commercial shopping centers, which are located away from the central business district to service fringe growth. Examples of such developments include Bay Park Square Mall in Ashwaubenon and the Green Bay Plaza Shopping Center and East Towne Mall in Green Bay. Many smaller shopping centers are seen in the form of strip centers or malls throughout the fringe areas of the cities and villages.

Smaller-scale commercial development is located within Brown County’s satellite communities (including Denmark, Pulaski, Wrightstown) in the form of community centers and neighborhood centers or nodes at the edges of residential development. The community centers are similar to central business districts of larger communities, while the neighborhood centers are generally geared to serve the immediate area rather than the entire community.

Industrial Land Uses

Industrial land uses occupied 6,410 acres in 2000, or 1.9 percent of the County. Industrial uses primarily include manufacturing, processing, or wholesaling. Many of the industrial areas in the County today have historically been utilized for industrial purposes. These areas include the paper industries located along or near the Fox River and trucking companies located near highways, railways, and the port. In addition, there are several industrial parks located within the County, which contain a concentration of industrial uses, including the 400-acre East De Pere Industrial Park, several industrial parks in the City of Green Bay, and the 700-acre Ashwaubenon Industrial Park. Industrial uses are also found scattered throughout the rural areas of the County either along major highways or in the form of smaller businesses located adjacent to rural residential development.

Institutional/Governmental Land Uses

Institutional/governmental land uses include public and quasi-public uses that serve the needs of the community, such as schools, government offices, fire stations, hospitals, churches, and libraries. These uses comprised 3,490 acres, or 1 percent of the County in 2000.

Outdoor Recreation Land Uses

The Brown County land use inventory indicates that in 2000 the County contained 9,330 acres of outdoor recreation uses, which comprised 2.7 percent of the County. This figure includes active recreational areas, such as the Brown County boat launches, school-affiliated athletic fields and playgrounds, trail systems, private recreation facilities, and various parks. It does not include publicly-owned natural areas, such as wildlife areas or WDNR lands along the Bay of Green Bay. Parks and other outdoor recreational uses are discussed in detail in the Community Facilities chapter of the plan.

Agricultural Land Uses

Agriculture has been the overall dominant land use in Brown County in terms of amount and percentage of land area since the late 1800s. However, this dominance has slowly but steadily decreased over time as urban land uses continue to increase. For example, the 1980 Brown County Land Use Inventory showed that Brown County had 236,128 acres of agricultural land, but the most recent inventory (2000) lists the agricultural land at 176,336 acres. This demonstrates that the County lost approximately one-quarter of its farmland during this 20-year period alone. Perhaps more than any other land use statistic, this reduction in farmland shows how quickly the communities in the County are evolving from rural farm communities to rural residential areas and areas of suburban development.

The majority of the agricultural lands within Brown County are located in the Towns of Glenmore, Holland, Morrison, New Denmark, Rockland, and Wrightstown in southern Brown County, while considerable amounts are also located in the Towns of Eaton, Humboldt, and Pittsfield.

Natural Areas/Vacant Areas

Natural areas/vacant areas account for 70,204 acres, or 20.5 percent of the County. The primary natural areas in the County are associated with the Fox River and its tributaries, the Bay of Green Bay, the Niagara Escarpment, and smaller rivers and streams, including Duck Creek, the East River, and the Suamico River. In addition, there are numerous County and state-owned natural areas and conservancy areas, including wildlife areas and large wetland complexes. Privately-owned natural areas also exist in the County; however, they are not as prevalent. The locations of and features associated with the County's natural areas and vacant areas are described in greater detail in the Natural and Cultural Resources chapter.

Transportation

The transportation system within Brown County is comprised of one interstate highway, two US highways, nine state highways, several county trunk highways, and numerous local streets. Combined, this transportation network consumes 25,339 acres of the County, or 7.4 percent.

Land Use Trend Analysis

General Development Influences

Analysis of land use requires an understanding of the factors that influence the effect, the location, and the distribution of land use. Once these factors are acknowledged, districts with an individual set of influences can be identified based on development trends and land use management issues. Many factors common to Brown County municipalities should be considered in the analysis, including the following:

Urban Centers and Growth

Urban areas generally contain amenities that attract more intense development. Filled with central services, such as government centers, shopping facilities, medical facilities, schools, and work places, urban areas are convenient locations for residences and businesses to locate. Conversely, negative urban images sometimes have the effect of repelling development. These negative attributes, both real and perceived, include crime, urban blight, traffic congestion, environmental contamination, tax impacts, and lifestyles. A combination of these influences, along with transportation improvements, has caused the development of lands on the fringe of many county municipalities or urban areas. Of greater concern is the fact that development patterns have become more dispersed, taking to the countryside in the form of single-family homes and clustered enclaves of small subdivisions, which are typically referred to as "sprawl" developments. These developments often disrupt agricultural activities and stress the natural environment and impact the transportation network due to their lack of connectivity and reliance upon the use of major arterial streets and highways.

Utility Availability

Development location decisions are greatly influenced by the availability of infrastructure-intensive utilities. Land development patterns in the County have been substantially impacted by the availability, or lack thereof, of sanitary sewers. In many areas, the lack of sanitary sewer service has caused large-lot, single-family detached homes to locate in unincorporated areas around county roads and small subdivisions. These large lots are necessary to fulfill state requirements for onsite sewage disposal and more so to adhere to local zoning ordinances, which establish large minimum lot sizes for rural residential development. In other areas, sewer services have been extended out to areas before they were developed, resulting in premature and haphazard development, inefficient development patterns, and discouragement of infill, redevelopment, and brownfield development opportunities. The designation of sewer service areas within communities can and should be used to encourage more efficient and economical sewer growth and development and discourage inefficient, uneconomical (from a government service perspective) low-density private onsite sewage disposal systems growth and development.

The presence of sanitary sewer services is also necessary for large commercial, industrial, and medium-density or greater residential uses and is of vital importance to developers. Commercial and industrial developments generally need a much higher level of service than residential development. Therefore, sewer service is a strong determinate in where more intensive development can locate.

Transportation Network and Nodes

Transportation systems have always influenced development patterns. Perhaps no other element of the built environment has had as much of an influence on the location and shaping of development as the transportation network. Locating development near transportation corridors provides a fast, economic means of transporting goods and people. Additionally, transportation corridors and nodes generate development for the support of transportation itself. In essence, everything that happens to land use has transportation implications, and every transportation action affects land use.

While historical development in the County is associated with river and rail transportation systems, today's greatest influences are roads and highway systems. Interstate and state highways afford greater freedom for commuting workers and convenient commerce. The older pattern of concentric development rings around urban centers has changed due to a more dispersed pattern of development that follows transportation corridors with a greater density at intersections.

The trend since World War II in Brown County has been toward the creation of automobile-oriented transportation systems that are characterized by a strict separation of land uses (residential from commercial, commercial from industrial, etc.), a lack of convenient connections between these uses, large parking lots situated between streets and buildings, wide streets that may not have sidewalks on either side, development significantly outside the urban core, and other features that force people to drive to and from all of their destinations because other transportation modes are not practical. In many places, these land use and transportation facility decisions have created a

dependency on the automobile so significant that the communities feel they have no choice but to continue building, rebuilding, and expanding their street and highway systems so they can continue to function. In addition to being very expensive to build and maintain, these systems make traveling very difficult for people who cannot drive.

Natural Features and Environmental Factors

The presence of geographic and environmental features often has significant positive and negative impacts upon the desirability and practicality of a particular land use. Every parcel of land has certain natural-physical features that affect the manner in which it can be used. Several natural features of the land act in association with each other, which directly influences development plans and decisions and development intensity, such as soil types, drainage, water bodies, wetlands, aquifers, minerals, slopes, woodlands, and visual aesthetics. For these reasons, the Natural Resources chapter of this plan includes the identification, mapping, and analysis of the natural-physical features that exist in Brown County.

In addition, regulations regarding the development of or proximity to certain natural and environmental features also drive land use decisions and composition. Such regulations are primarily required by the federal and state levels of government, while others are from the county, and still others are from local communities that wish to preserve and enhance these valuable land resources. Most regulations directed from the federal and state are intended to protect water quality, such as the regulation of development within shorelands, wetlands, and floodplains and how to deal effectively with stormwater resulting from development. Local communities may impose greater restrictions on other natural features, such as significant woodlands and topographic features, such as the Niagara Escarpment.

Socio-Cultural Reasons

Development location decisions have been significantly influenced by sociological and cultural factors, such as school district preferences, workforce availability, historic heritage, population characteristics, and community values. Although influential, the impact of these social and cultural components is not always apparent when viewing the physical landscape. While socio-cultural factors may influence development decisions in areas that are less homogeneous, they generally have a lesser impact in the communities of Brown County, whose socio-cultural environments are fairly similar.

Annexations

Another factor which influences land use in Brown County is that of annexation. State law gives cities and villages the power to annex land from adjacent towns/unincorporated lands. Annexations are often contentious and tend to lead to bad relationships between local governments. Some influences on land use due to annexation, or threat thereof, include the private onsite sewage disposal systems development of lands in unincorporated communities along their borders with a city or village in an effort to prevent annexation of the land or the premature extension of sewer services to such areas before they are ready for development, resulting in sprawling, haphazard development.

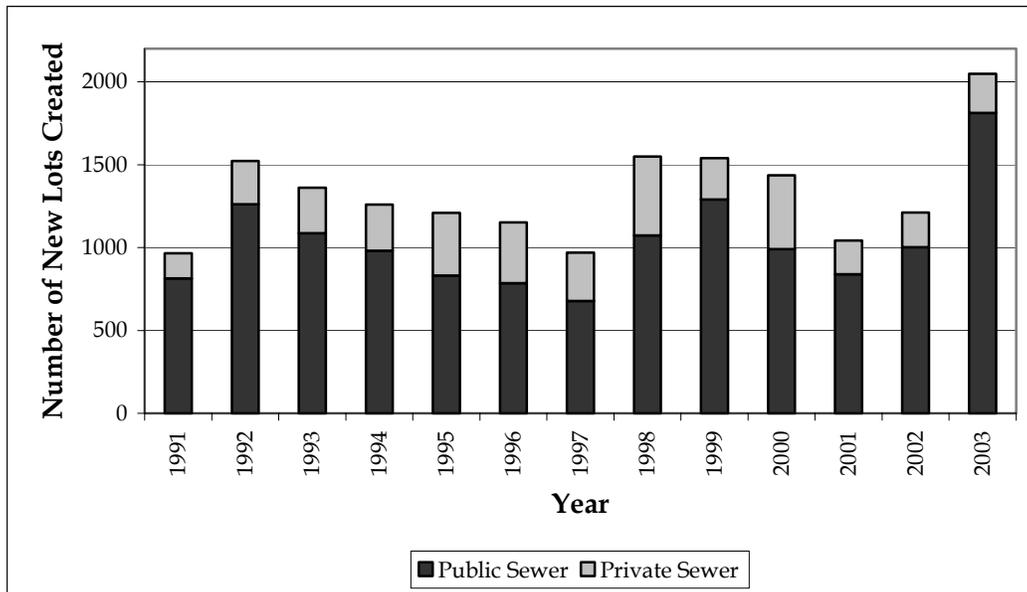
An alternative to annexation in some instances is for unincorporated areas to incorporate as a city or village, which has been done in Brown County, whereby the former towns of Bellevue and Suamico have recently become villages. However, this option is not for all unincorporated communities as certain statutory criteria must be met, such as level of services provided, compactness of area, and the existence of a reasonably-developed community center.

Another option is for neighboring communities to develop cooperative boundary agreements. Such agreements can reduce some of the conflict regarding boundary and annexation issues that often arise between local governments. The communities involved in such agreements undertake cooperative preparation of a plan for the areas of contention. This plan is then sent to the State Department of Administration for approval of a contract binding the parties to put it into effect.

Supply and Demand

In order to assess the supply of available building sites on the market, an analysis of the number of newly created lots per year was completed. As is evident from Figure 2-3, the number of new lots that are created tends to be cyclical with periods of high activity followed by the development of fewer lots over the next few years. The graph provides the total number of new lots created each year and does not differentiate between residential, commercial, or industrial uses. Over the 13-year period, an average of 1,268 new lots came onto the market in a given year.

Figure 2-3: Number of New Publicly- and Privately-Sewered Lots Created by Subdivision Plat or Certified Survey Map in Brown County, 1991-2003.



Source: Brown County Planning Commission, 2003.

A second part of the analysis was identifying which lots public sewer serves and which ones are served privately (conventional septic system, mound system, holding tank, etc.).

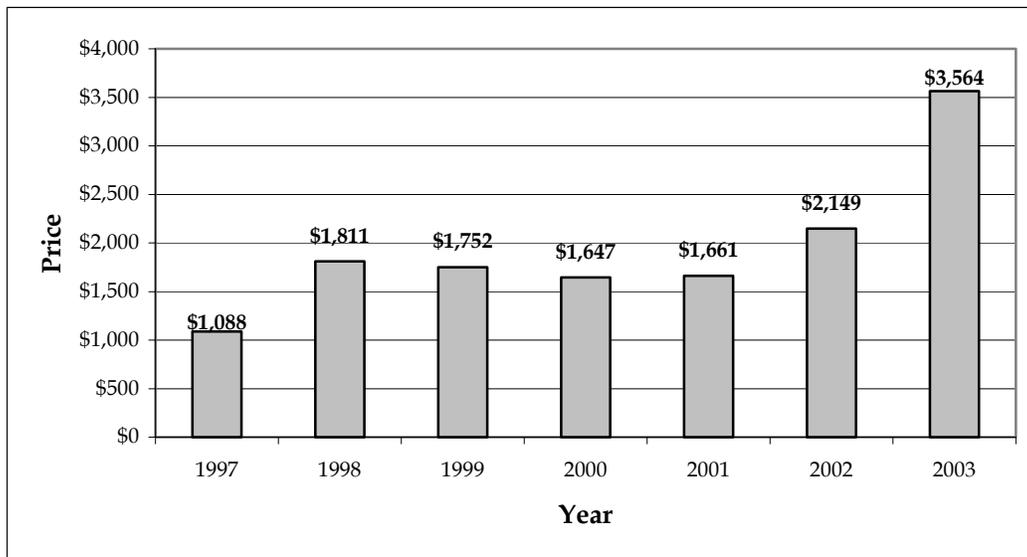
According to the data, an average of the 13-year period indicates that public sewer serves 76.4 percent of the newly created lots, while 23.6 percent are served by onsite systems. The land use impact of the differences in sewage disposal is that in order to utilize an onsite system, a lot may not be less than 40,000 square feet, while a new lot served by public sewer may not be less than 7,500 square feet.

Land Prices

Figure 2-4 identifies the median sale price of unimproved land that is assessed agricultural from 1997 to July 2003. There is a small jump in land prices from 1997 to 1998, with a small decline afterwards until 2002 when the median price increased to \$2,149 per acre. The increase in sale price continued through 2003 when there was a large spike upwards in the amount of \$1,415 per acre, which increased the median sale price of agricultural land to \$3,564 per acre.

Much of the increase in median sale price is the result of agricultural land being purchased and utilized for development within the suburban communities. However, land prices are also increasing significantly in some areas of Brown County that have not yet experienced the growth that the suburban communities have. The impact of the increasing cost of agricultural land is that existing farmers who wish to expand their operations by purchasing or renting neighboring agricultural fields may be priced out of the market due to a higher price being offered for development speculation.

Figure 2-4: Median Sale Price of Unimproved Agricultural Land, 1997 to July 2003



Source: Brown County Property Listing, Brown County Planning Commission, 2003.

Land Conversions

Figure 2-5: Change in Developed vs. Undeveloped Acreage by Community

	1980					2000					% Change '80-'00
	Developed		Undeveloped		Total	Developed		Undeveloped		Total	Developed
	#	%	#	%		#	%	#	%		
TOWNS											
Eaton	1,093	7%	14,444	93%	15,537	1,494	10%	14,083	90%	15,577	3%
Glenmore	1,103	5%	19,715	95%	20,818	1,520	7%	19,502	93%	21,022	2%
Green Bay	989	7%	12,988	93%	13,977	2,035	14%	12,111	86%	14,146	7%
Holland	1,708	7%	21,371	93%	23,079	2,059	9%	20,974	91%	23,033	2%
Humboldt	1,045	7%	14,351	93%	15,396	1,680	11%	13,701	89%	15,381	4%
Lawrence	1,547	13%	10,670	87%	12,217	2,872	28%	7,417	72%	10,289	15%
Ledgeview	1,620	14%	9,791	86%	11,411	3,836	34%	7,484	66%	11,320	20%
Morrison	1,195	5%	21,930	95%	23,125	1,872	8%	21,449	92%	23,321	3%
New Denmark	2,347	11%	19,787	89%	22,134	2,878	13%	19,436	87%	22,314	2%
Pittsfield	1,866	9%	19,774	91%	21,640	3,148	15%	17,445	85%	20,593	7%
Rockland	851	6%	13,677	94%	14,528	2,186	15%	12,513	85%	14,699	9%
Scott	1,433	12%	10,927	88%	12,360	2,013	17%	9,919	83%	11,932	5%
Wrightstown	1,290	6%	20,492	94%	21,782	2,172	10%	19,234	90%	21,406	4%
TOWN TOTAL	18,087	8%	209,917	92%	228,004	29,765	13%	195,268	87%	225,033	5%
VILLAGES											
Allouez	2,193	67%	1,080	33%	3,273	2,709	82%	605	18%	3,314	15%
Ashwaubenon	3,882	61%	2,437	39%	6,319	6,567	79%	1,721	21%	8,288	18%
Bellevue	1,751	19%	7,430	81%	9,181	3,878	42%	5,251	58%	9,129	23%
Denmark	436	44%	550	56%	986	539	57%	405	43%	944	13%
Hobart	3,607	17%	18,067	83%	21,674	7,222	34%	13,951	66%	21,173	17%
Howard	3,356	27%	8,894	73%	12,250	5,468	47%	6,226	53%	11,694	19%
Pulaski	549	55%	450	45%	999	896	65%	483	35%	1,379	10%
Suamico	5,476	23%	18,133	77%	23,609	10,757	46%	12,434	54%	23,191	23%
Wrightstown	373	27%	1,016	73%	1,389	834	44%	1,057	56%	1,891	17%
VILLAGE TOTAL	21,623	27%	58,057	73%	79,680	38,870	48%	42,133	52%	81,003	21%
CITIES											
De Pere	2,793	50%	2,817	50%	5,610	5,243	74%	1,881	26%	7,124	24%
Green Bay	16,477	56%	12,793	44%	29,270	21,872	75%	7,319	25%	29,191	19%
CITY TOTAL	19,270	55%	15,610	45%	34,880	27,115	75%	9,200	25%	36,315	19%
COUNTY TOTAL	58,980	17%	283,584	83%	342,564	95,750	28%	246,601	72%	342,351	11%

Source: Brown County Planning Commission

Note: Developed includes Residential, Commercial, Industrial, Institutional/Governmental, Transportation, Outdoor Recreation, and Communications/Utilities. Undeveloped includes Natural Areas/Vacant Areas (including water) and Agricultural.

An interesting trend to analyze regarding land use is that of developed versus undeveloped land in the County. Figure 2-5 identifies both the acreage and percentage of developed and undeveloped land in each of the Brown County communities in both 1980 and 2000 and the overall change in the amount of developed land. This figure ultimately portrays the conversion of undeveloped lands to developed lands over the 20-year period.

As would be expected, the amount of developed land in each community increased between 1980 and 2000. What is interesting, however, is the amount of land that has been converted from undeveloped to developed and the locations in the County that the greatest conversions were experienced. The most dramatic amount of development occurred in the villages within Brown County, three of which were actually towns at the time of the 1980 land use inventory, which is representative of the desire by many to reside in more suburban settings on the urban fringes. Also noteworthy is the amount of increased development experienced in the Towns of Lawrence and Ledgeview, which are both near very urban locations. The pace of this conversion will likely continue over time as population levels in Brown County continue to increase, the average household size continues to decrease, and the average residential density continues to decrease unless changes are made to the regulations regarding land development through local plans and zoning ordinances.

Future Land Conversion Projections

There are numerous ways to project future developed vs. undeveloped land use trends. One example is shown in Figure 2-6. While this projection is a possible outcome, it is only one of many possibilities and, for that reason, is for discussion purposes only.

As shown in Figure 2-6, if the current rate of development continues in a linear fashion (continuation of the amount of development experienced between 1980 and 2000), by the year 2020, an additional 35,000 acres or more of land, most likely agricultural land, could be lost to development. At this rate, half of the land in Brown County would be developed by 2040.

Figure 2-6: Analysis of Historical and Projected Developed Lands In Brown County

Year	Developed Acres	Percentage of County	Absolute Change	Percent Change
1980	58,980	17.0	--	--
2000	95,750	28.0	36,770	62.3
2020	132,520	39.0	36,770	38.4
2040	169,290	49.0	36,770	27.8

Source: Brown County Planning Commission.

Note: Years 1980 and 2000 are based upon actual land use inventories. Years 2020 and 2040 are projections based upon the absolute change between 1980 and 2000.

Density Analysis

Density of development often has an impact on the availability of land for future development. The density of development varies significantly from community to

community within Brown County, such as that of a rural town versus an incorporated village. The level of density is only one factor in that some communities, such as the Town of Holland, have directed new development to areas within the sewer service area of their community.

Figure 2-7: Density by Community, 1980 and 2000

	1980			2000			Change in Density
	Residential Acreage	Population	Density (persons/acre)	Residential Acreage	Population	Density (persons/acre)	
TOWNS							
Eaton	379	1,106	2.92	813	1,414	1.74	-1.18
Glenmore	344	1,046	3.04	593	1,187	2.00	-1.04
Green Bay	371	1,106	2.98	1,057	1,772	1.68	-1.30
Holland	374	1,268	3.39	650	1,339	2.06	-1.33
Humboldt	440	1,281	2.91	884	1,338	1.51	-1.40
Lawrence	441	1,431	3.24	1,480	1,548	1.05	-2.20
Ledgeview	546	1,535	2.81	2,130	3,363	1.58	-1.23
Morrison	447	1,565	3.50	684	1,651	2.41	-1.09
New Denmark	511	1,420	2.78	918	1,482	1.61	-1.16
Pittsfield	822	2,219	2.70	2,000	2,433	1.22	-1.48
Rockland	337	882	2.62	1,470	1,522	1.04	-1.58
Scott	537	1,929	3.59	1,490	3,712	2.49	-1.10
Wrightstown	449	1,705	3.80	1,051	2,013	1.92	-1.88
TOWN TOTAL	5,998	18,493	3.08	15,220	24,774	1.63	-1.46
VILLAGES							
Allouez	1,132	14,882	13.15	1,444	15,443	10.69	-2.45
Ashwaubenon	1,114	14,486	13.00	1,791	17,634	9.85	-3.16
Bellevue	728	4,101	5.63	1,852	11,828	6.39	0.75
Denmark	170	1,475	8.68	204	1,958	9.60	0.92
Hobart	1,359	3,765	2.77	4,063	5,090	1.25	-1.52
Howard	1,237	8,240	6.66	2,371	13,546	5.71	-0.95
Pulaski	186	1,875	10.08	364	3,013	8.28	-1.80
Suamico	1,708	4,003	2.34	6,705	8,686	1.30	-1.05
Wrightstown	154	1,169	7.59	458	1,934	4.22	-3.37
VILLAGE TOTAL	7,788	53,996	6.93	19,252	79,132	4.11	-2.82
CITIES							
De Pere	1,105	14,892	13.48	2,116	20,559	9.72	-3.76
Green Bay	5,948	87,899	14.78	7,876	102,313	12.99	-1.79
CITY TOTAL	7,053	102,791	14.57	9,992	122,872	12.30	-2.28
COUNTY TOTAL	20,839	175,280	8.41	44,464	226,778	5.10	-3.31

Figure 2-7 identifies the density of each community in Brown County in 1980 and 2000 and compares the change in density experienced. The density of a community is derived by dividing the total residential acreage in the community by its total population, resulting in the number of people per acre. The figure shows that density of communities in Brown County has declined between 1980 and 2000 or that residential lot

sizes are getting larger. What this means is that as the populations increase, the people are utilizing greater land area for their residences. However, the Villages of Bellevue and Denmark are the only communities in the County that experienced an increase in density; therefore, development in these communities has been more compact or on smaller lots than in the past.

Existing and Perceived Land Use Conflicts

One goal of developing a comprehensive plan is to formulate a functional strategy for the orderly transition of land uses. There may be some degree of undesirability between many land use combinations. However, there are typical associations that continually create problems. A typical example might be a residential development in close proximity to a particularly intense commercial or industrial development that might conflict due to sight, sound, odor, or other undesirable characteristics. Another example could be an auto salvage yard in proximity to a recreational or natural area or a home occupation in a single-family residential area that has outgrown its roots. However, with the constraints of existing development and limiting factors on future growth, the most desirable situations are not always possible. What should be strived for is an awareness of incompatible land uses and an effort to alleviate or avoid them where possible. The following identifies some of the existing, potential, and perceived land use conflicts in Brown County.

Agricultural Operations and Residential Development

Currently, the major land use conflict experienced by many developing villages and towns is that of new homes in close proximity to active farming operations. It is important that new residents in these areas be made aware of active farms, as well as the sights, smells, and other activities that characterize farming operations. These communities should work with agricultural landowners to identify those areas that are to remain agricultural, and every effort should be made to ensure that the existing farming operations are not negatively impacted by development. In addition, cities and villages should continue to work with the farmers and neighboring towns to ensure that future development, either agricultural or residential, does not negatively impact existing residents or farming operations. This can be accomplished through setting facilitated yearly meetings to discuss issues, such as farming and residential development, and to try to work toward a compromise or solution that both sides find agreeable. The Intergovernmental chapter provides additional policies and programs that communities can utilize to help minimize or resolve conflicts among one another.

Wisconsin adopted a Right To Farm Law in 1982, which was substantially amended in 1995, specifically to address the issue of land use conflicts between farming operations and residential developments. The primary intent of the law is to encourage agricultural production and discourage land use conflicts between expanding farming operations and their neighbors.

Multifamily Developments

A land use conflict often experienced in communities is that of disproportionate amounts of large multifamily structures being concentrated in one location. This often results in

greater traffic impacts and a general dissatisfaction by nearby single-family dwelling occupants. Rather than allowing a concentration of multifamily structures in a specific location, communities should instead promote the development of well-designed owner- and renter-occupied housing units that are oriented toward the surrounding neighborhood and dispersed throughout the community. More specifically, multifamily structures can be limited to fewer dwelling units per structure, and the structures can be designed to be more architecturally-compatible to the surrounding single-family homes.

Development Trends

A growing trend in recent decades within Brown County, as well as in other communities around the state and nation, is the extension of sanitary sewer services by local communities to areas distant from existing development and other services. Experience indicates that such practice results in inefficient development patterns and more expensive utilities and services (longer extensions of infrastructure with fewer users and more underutilized facilities). This type of development pattern results in land use conflicts, such as increases in traffic, noise, lights, pollution, stormwater runoff, and the resultant friction between urban, rural, and agricultural landowners.

The premature extension of sewer service frequently occurs without other comparable and necessary services, which also creates conflict. A development served by public sanitary sewer typically needs a comparable level of drinking water, stormwater, roads, and other utilities and services. If these other services are not provided at the same time as the sewer, efficiencies of scale and concurrency will not be achieved, and it will be much more costly to provide these services at a later date.

Home-Based Businesses and Residential Districts

Home occupations are becoming more popular as the workforce disseminates from the office environment and more people begin testing the waters of self-employment from their homes. In addition, employees can be networked to home offices with Internet service and overnight mail. The transformation of the worldwide web and fiber optic technology has and will continue to change the way people work and do business now and in the future.

In many instances, home occupations are acceptable. They are especially important in acting as an incubator to entrepreneurs looking to develop bigger, more successful businesses. However, communities need to be able to draw the line on when a business is in incubation and when it has graduated to the next level, whereby being placed more appropriately in a commercial or industrial business environment.

Sand and Gravel Quarry Operations and Residential Development

Due to the nature of quarry operations, they can create conflicts with nearby residential development. Quarries are often associated with heavy machinery operations, truck traffic, blasting and other similar practices that are typically incompatible with residential development. As such, communities are encouraged to keep residential developments from locating near active quarries. Adequate buffers should be established between

residential development and the quarry operation, and potential homebuyers should be notified by the community that there is an active quarry in the vicinity.

Development at Community Borders

Conflicting land uses can arise as a result of a lack of coordination among neighboring communities. If there are no lines of communication among the communities, one community could be establishing an industrial area directly across from where the other community is planning for low-density residential development, resulting in two uses that do not typically co-exist well together. The development more often than not ends up negatively impacting both communities. As such, communities are encouraged to cooperatively plan for development activity at their borders, which can be accomplished through the establishment of boundary agreements, joint planning commissions, or simply involvement in one another's planning processes.

General Land Use Compatibility

As communities continue to develop, they need to ensure that new land uses are compatible with each other. Many uses, such as neighborhood commercial, institutional, recreational, and different housing types, should be integrated into new residential developments so long as they are designed to a scale and architecture that is compatible with a residential neighborhood. However, uses, such as industries with heavy semi-trailer traffic, noise, or odors, and big box retail are typically not compatible with residential developments and should be sited in appropriate locations.

25-Year Projection of Land Uses

The State of Wisconsin Comprehensive Planning Law requires communities to project their future land use needs for residential, commercial, industrial, and agricultural lands for a 20-year period in 5-year increments. In order to determine how much land Brown County will need to continue to grow at its current rate, the land use inventories for 1980 and 2000 were first compared. In order to provide a historical perspective on land uses in Brown County, the land use acreages from 1980 were compared to those in the year 2000. Figure 2-8 identifies the changes in land uses over this 20-year period. As is evident from the chart, Brown County has experienced a rather significant amount of land development between 1980 and 2000, with much of it occurring in the latter half of the time-period.

Figure 2-8: Changes in Brown County Land Uses, 1980 - 2000

Land Use	1980 (Total Acres)	2000 (Total Acres)	Difference 1980-2000	Percent Change 1980-2000
Residential	20,835 acres	44,464 acres	+23,629 acres	113.4%
Commercial	2,707 acres	5,227 acres	+2,520 acres	93.1%
Industrial	3,855 acres	6,410 acres	+2,555 acres	66.3%
Agricultural	236,128 acres	176,336 acres	-59,792 acres	-25.3%

While the population of the County increased by 29.4 percent from approximately 175,000 people in 1980 to nearly 227,000 in 2000, the amount of land consumed by

residential development has more than doubled, increasing by 113.4 percent. This is reflective of the predominance of larger lots for single-family residential development, which typified development throughout the County during this period.

The Issues and Opportunities chapter states that Brown County’s population is expected to grow by approximately 54,819 people over the 20-year timeframe of this plan to 281,348 residents. Based on the average of 2.51 people per household in the County, there will be a need for 21,840 additional housing units over the timeframe of this plan. Recent development trends show that new lots developed on public sewer systems in the County average 1/4 acre (10,890 square feet) in size, while those developed on private sewage systems generally average 2-1/2 acres in size.

An analysis of development trends in the County since 1990 shows that approximately 75 percent of new residential development is on public sewer, and the remaining 25 percent have private sewer systems. Based on this pattern of development continuing through the planning period (2025), there would be a need for 4,791 acres of additional sewered residential development and 15,970 acres of private onsite sewage disposal systems residential development. Adding the two totals together results in 20,761 acres of land needed to accommodate residential development through the year 2025. This total accounts for the amount of land necessary for new street rights-of-way needed to serve the developing areas based on 17 percent of the average subdivision plat being devoted to street rights-of-way.

The land use inventory found that the ratio of land uses in the County is (approximately) for every 1 acre of commercial and 1 acre of industrial land, there are 8.5 acres and 6.9 acres of residential development, respectively. Applying the ratios to the 20,761 acres needed for residential development yields the need for another 2,447 acres of commercial land and 3,043 acres of industrial land during the 20-year planning period. It is estimated that for every acre of land needed for new development, an acre of agricultural land will be lost. However, based on the trend from 1980 to 2000, the amount of agricultural land actually declined at a rate of 2.5 acres of agricultural land lost for every 1 acre of land for residential development.

Figure 2-9: 5-Year Growth Increments by Acreage for Brown County Based on Residential Development at 75 Percent Sewered

Use	Year					
	2000 (existing)	2005	2010	2015	2020	2025
Residential	44,464	48,616	52,768	56,920	61,072	65,225
Commercial	5,227	5,720	6,208	6,696	7,185	7,674
Industrial	6,410	7,046	7,648	8,249	8,851	9,453
Agricultural	176,336	171,055	165,813	160,572	155,329	150,085

Based on the population growth and associated land use changes experienced in the County between 1980 and 2000, it is assumed that approximately 26,251 acres of land will be needed to accommodate growth over the next 25 years. This total includes 20,761 acres for residential development, 2,447 acres for commercial development, and 3,043

acres for industrial development. In addition, a continued decline in agricultural land is anticipated. Figure 2-9 depicts the anticipated land use changes in residential, commercial, industrial, and agricultural land in 5-year increments.

For comparative purposes, a second projection of acreage needs was completed. This second projection is based on a greater amount of new residential development occurring on public sewer systems (90 percent) than what has typically been the case in most communities in the County between 1990 and 2002 (75 percent sewered/25 percent private onsite sewage disposal systems). The results of this analysis are shown in Figure 2-10.

Figure 2-10: 5-Year Growth Increments by Acreage for Brown County Based on Residential Development at 90 Percent Sewered

Use	Year					
	2000 (existing)	2005	2010	2015	2020	2025
Residential	44,464	46,891	49,318	51,745	54,172	56,601
Commercial	5,227	5,517	5,802	6,088	6,373	6,659
Industrial	6,410	6,796	7,148	7,499	7,851	8,203
Agricultural	176,336	173,233	170,169	167,105	164,041	160,974

Based on a comparison of Figures 2-9 and 2-10, it is evident that encouraging communities to promote more of the new development to occur on public sewer and allowing less development to occur with private onsite sewage systems would result in more than 10,000 acres being spared from development over the planning period. This comparison shows how much more efficiently growth can occur if it is addressed in a planned and orderly manner.

Future Land Use Recommendations

In order to achieve the overall goals and the general objectives for Brown County’s land use, future development should be based on the themes of order and efficiency, balance, integration, and neighborhoods. The County’s growth should be orderly and cost-effective, making maximum use of existing and planned services. For instance, the plan recommends that the areas most easily serviced by municipal sewer and water develop first and infill areas and areas contiguous to existing development be given priority before other non-contiguous and more costly areas are developed. Eventual expansion into the surrounding non-sewered areas will occur, but this should be accomplished in an orderly and cost-efficient manner.

Future development decisions will also be integrated with the other elements and recommendations of the comprehensive plan, which include utilities and infrastructure, transportation, community facilities, and natural resources. To be effective, the recommendations for future land use must be consistent with the recommendations for other aspects of the plan, such as the location and timing for new public utilities or future streets.

In addition, the County's recommended development policies will focus more on encouraging the mixing and joining of compatible land uses rather than the conventional method of separating residential, commercial, and other land uses from one another. For example, the plan's residential recommendations encourage the development of neighborhoods with mixed housing types rather than single-use residential subdivisions. The idea of creating diverse neighborhoods rather than stand-alone single-use developments is a common theme throughout the Future Land Use section of this chapter. It is recognized, however, that much of the development in the County will continue to be consistent with conventional development patterns.

Since all local communities in Brown County administer their own local ordinances (zoning, building permits, etc.), there isn't a tangible future land use map of Brown County contained within this plan. Rather, the future land use map for Brown County is actually a "quilt" composed of each local community's future land use map that meets the Wisconsin Comprehensive Planning Law requirements. Since all of the local comprehensive plans are not yet completed, it is not possible to create a composite map showing the future land uses of all of the Brown County communities. As the local, detailed future land use maps are developed, they should be considered as additional pieces of the overall future land use map quilt of Brown County, and the County's future land use map should be amended to include them. In addition, as local communities amend their future land use maps, the municipalities should notify Brown County so that the County's future land use map can be updated on an annual basis to reflect the most current local decisions. The Future Land Use Map (Figure 2-11) identifies in a generalized fashion the future land use maps from those communities that have completed local comprehensive plans that meet the requirements of the comprehensive planning law.

The emphasis of this Land Use chapter has been to identify land use concepts and tools that should be taken into consideration by the local communities when developing and updating their own comprehensive plans and zoning ordinances. The alternatives described here attempt to provide a greater variety of choices for land use development and to successfully balance competing ideas of preserving rural character while encouraging improved, organized patterns for future development.

Urban Residential Development

The following land use concepts and tools are geared more toward use within the cities and villages of Brown County, as well as within the more urban towns (i.e., Ledgeview) and town hamlets (i.e., Poland). While it is recognized that conventional development patterns will continue to be prominent in Brown County, this plan identifies some other options that are available for development that communities and developers may wish to implement.

Traditional Neighborhood Development (TND)

Communities should encourage future residential development in the more urban areas of the County to be based upon the concept of traditional neighborhood developments (TNDs). A TND is more than just a housing development by itself. It also includes recreational uses, such as a neighborhood park, institutional uses, such as churches or

schools, and neighborhood commercial uses providing goods and services geared primarily for the surrounding residents. Homes within a TND typically resemble those found in older, pre-1950 neighborhoods like those found near downtown De Pere or Green Bay or within the older portions of the rural villages. The homes in these areas are located on smaller lots, typically have a front porch, include a range of housing types, styles, and costs, and are located within walking distance of recreational, commercial, and institutional amenities. Future residential development in urbanized communities should grow outward from areas of existing development. As new areas develop, consideration should be given to planning these areas as traditional neighborhood developments that can provide for the location of small businesses, institutional, recreational, or higher density residential development. The intent of these areas is to encourage developers to use their ingenuity and for government officials to encourage the provision of a mix of land uses for the surrounding neighborhood and to encourage alternative means of transportation within and between the neighborhoods.



Market Demand for TNDs

The only opportunity to live in a TND for Brown County residents or for those looking to come to Brown County is to locate within existing near downtown neighborhoods. New development is primarily characterized by single-family residential developments, which do not offer the amenities and conveniences associated with TNDs. As such, it is difficult to determine the market demand in Brown County for traditional neighborhood developments since this option is currently not provided. However, the success of older neighborhoods in the downtown Green Bay and De Pere areas, such as the Astor Neighborhood, may signify there is a demand for developments that offer elements that are found in TNDs. TNDs have been realized in other communities in Wisconsin and around the nation and are proving to be successful for the developers, communities, and the residents. Brown County should consider undertaking a study to address the question of the market demand/potential for new residential development that is representative of Smart Growth within the municipalities of Brown County.

General Neighborhood Features

Neighborhoods should include, at a minimum, the following features: compact, walkable neighborhoods with roughly a quarter-mile radius from center to edge (5-minute walk), an interconnected street network, a balanced mixture of uses, and a prominent public realm of streets, parks, and civic buildings. The ultimate goal is not to exclude or abandon facilities for cars but to plan for automobiles as a segment of our communities rather than allowing pavement and garage doors to dominate the streetscape.

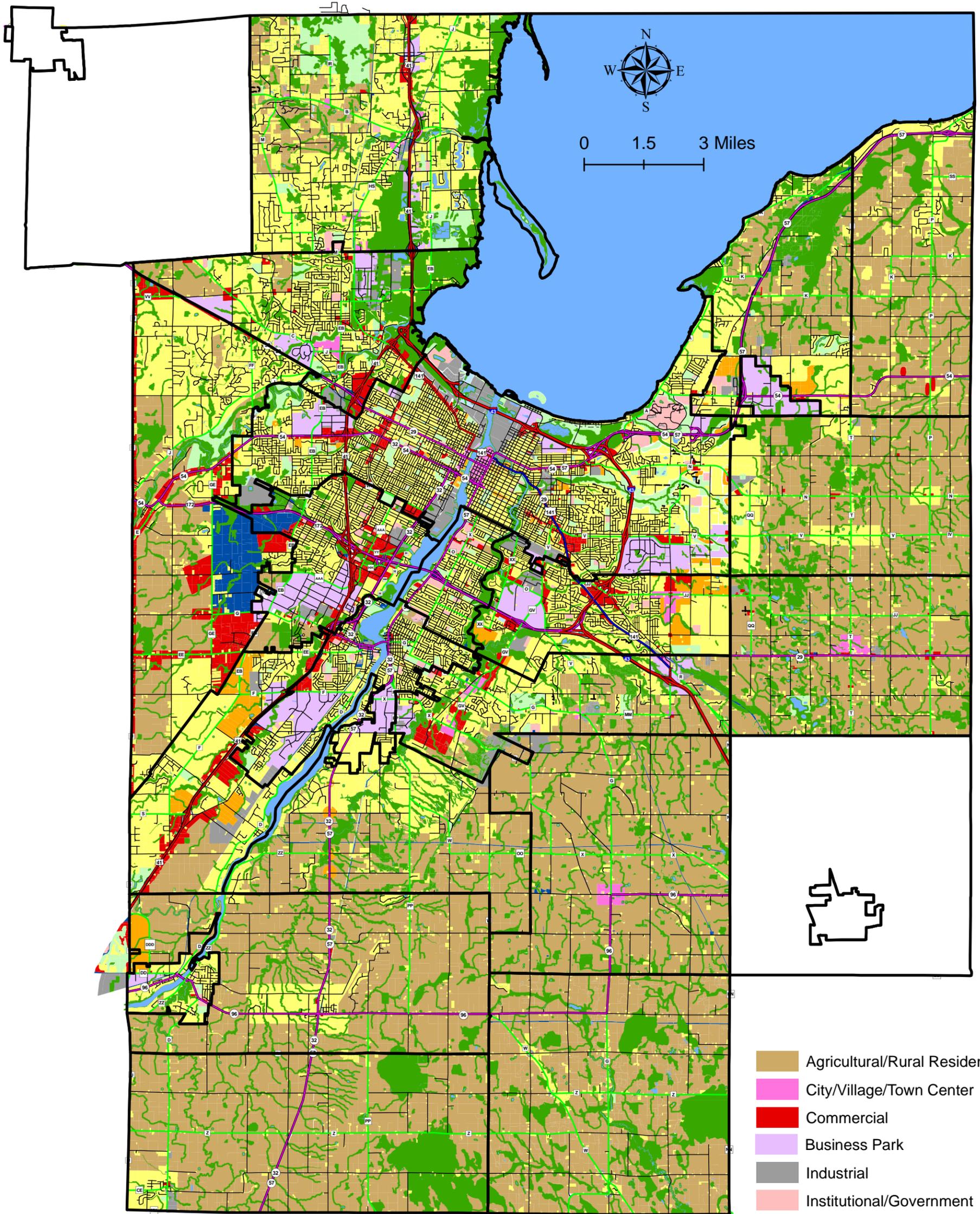
Figure 2-11

Composite Adopted 66.1001 Brown County Future Land Uses

Brown County, Wisconsin



Amended 5/23/07



- Agricultural/Rural Residential
- City/Village/Town Center
- Commercial
- Business Park
- Industrial
- Institutional/Government
- Mixed Use
- Natural Areas/ESA
- Park/Recreational
- Residential
- Transportation/Utilities
- Water

This plan encourages that future residential development be placed in neighborhoods of about 160 acres in size (1/2-mile square). This is designed to create neighborhoods large enough to support services and amenities that meet some of the needs of daily life but small enough to be defined by pedestrian comfort and interest. This size range is based on a five-minute walking distance (about a quarter-mile) from the edge to the center and a ten-minute walking distance (about a half-mile) from edge to edge. Neighborhoods can, however, be smaller or larger depending upon circumstances, such as the location of main streets, topography, and natural features. In many instances, the neighborhood will likely be created over a period of time and will be comprised of a series of developments. Communities are encouraged to provide language within their local subdivision ordinances to encourage the creation of neighborhoods.

Preferably, each neighborhood should be grouped around (or otherwise include) public spaces, such as streets, parks and outdoor spaces, schools, places of worship, and other shared facilities. Each neighborhood should contain a small neighborhood park of about five acres to serve the recreational needs of the residents. These parks are meant to complement the larger community parks with playing fields and sports complexes, as well as school facilities, that serve entire communities.

In addition to residential uses, a neighborhood should be planned to include other neighborhood-serving uses and features. To make neighborhoods more livable, it is recommended that a year-round gathering place that is accessible to all residents be provided. Other features of the development area may include a recreation facility, a school, a daycare for children and adults, a place of assembly and worship, a small civic facility, a neighborhood-oriented market, shops, small professional offices, medical clinics, or other small businesses. These uses should have minimal signage to fit into a pedestrian neighborhood scale and should attract a limited amount of vehicle traffic. The inclusion of rooms or indoor space for meetings and neighborhood functions is encouraged, as is a public square, plaza, park, pavilion, or other outdoor space accessible to all residents.



Neighborhood dentist office (De Pere)



St. Paul's Catholic Parish (Wrightstown)

Neighborhood Traffic Features (Connectivity, Street Networks, Traffic Calming, Pedestrian Networks)

Greater connectivity between and within neighborhoods is also encouraged. The design of future residential developments should take into consideration pedestrian and

bicyclist movements, in addition to providing convenient access for automobiles. There should be an emphasis on sidewalks, walkways, and bike paths leading to the various public and quasi-public spaces. Each neighborhood should have many ways to get into and through it by driving, walking, and bicycling. Streets should knit neighborhoods together rather than form barriers. The intent is for residential developments to form neighborhoods that evolve to be part of the broader community by avoiding “islands” of separate subdivisions or freestanding individual complexes attached to the rest of the community strictly by one or two entrances for auto traffic.

The design of the street network has a huge impact on the character and form of development, particularly residential areas. It is critical that streets within neighborhoods are laid out and designed to be compatible with the neighborhood concept while fulfilling their inherent transportation function. For a network to provide a desirable residential environment, it must be designed to discourage excessive speeding and cut-through traffic. Traffic calming techniques, such as curb extensions and other specialized measures, can be used to slow and channel traffic without hampering convenience, direct access, and mobility. The Transportation chapter provides greater detail regarding pedestrian, traffic calming, and street patterns and should be referred to when making transportation network decisions.

Neighborhood Parks and Open Spaces

Each neighborhood should have a combination of a small park, playground, or other open spaces located within walking distance of all homes. These neighborhood parks would serve the immediate residential areas and would complement larger community parks. Parks and open spaces should be designed in conjunction with streets and walkways to be a primary feature of any land development and not merely areas left over from site planning for other purposes. They should also be situated along streets in order to maintain safety, accessibility, and visibility instead of tucked behind rows of houses.

Greater amounts of natural areas and other greenspace would also be included in newly developed areas. Wetlands, watercourses, and other natural features should be integrated into new developments rather than ignored, redesigned, or destroyed. Creeks and other linear features can be a common feature that link individual adjoining developments through the development of rustic hiking trails or paved bicycle paths. Where desirable, open spaces within subdivisions can be publicly owned while others can remain privately owned. These areas can also be utilized for the treatment of stormwater through the use of retention or detention ponds or infiltration fields.

Overall Coordination of Neighborhoods

New development proposals should show that it forms or contributes to a neighborhood. As applicable, a development should contribute as much as possible in terms of interconnecting streets, pedestrian connections, parks, neighborhood commercial centers, schools, and open space systems.

Where a pattern of narrow streets and outdoor spaces is already established, additional adjoining development should continue and extend the pattern. In the case of previously

unplanned areas, the design for new development will provide for its own pattern being continued and extended in the future.

Characteristics shared with adjoining neighborhoods, such as streets, natural areas, neighborhood commercial centers, and other features, should generally form the extent of a neighborhood. Landscaped outdoor spaces and trails may be used to create an attractive environment at a neighborhood's edge.

Mix of Housing Types and Lot Sizes

Forms of housing within neighborhoods should be mixed so people of different ages and incomes have opportunities to live in various areas in the community, as is found in the older parts of cities, villages, and towns. The recommendation for most of the future residential developments is to encourage variation and a mixing of residential types. Townhouses, duplexes, and smaller apartment buildings can be strategically interspersed with single-family residences. Design standards and the creation of open space and other buffers can help integrate different residential intensities. Large expanses of strictly one residential type should be avoided. Variation in house models should also be encouraged to avoid monotonous streetscapes.

Builders and developers are encouraged to use their ingenuity to combine and distribute a variety of housing types to make an attractive marketable neighborhood with housing for people of various income levels and preferences. In order to account for this trend, the Housing chapter encourages that at least two housing types be included in any residential project encompassing more than 30 acres. This can be achieved in various ways. Some examples include:

- Standard lot single-family houses (lots over 10,000 square feet).
- Small lot single-family houses (lots 10,000 square feet or less).
- Duplexes.
- Townhouses (attached housing).
- Accessory dwelling units.
- Group homes.
- Apartments (provided they are compatible in scale and character with other dwellings in the proposed neighborhood and limited to a maximum of eight dwelling units in a building).

Duplexes are often appropriate on corner lots since these lots usually need to be wider and larger for them to be appropriately situated next to two streets. Also, because each unit can face a different frontage, the visual impact of the larger building and garage façade is lessened.

Multifamily Housing

There are numerous ways communities can achieve successful multifamily housing project developments. Implementation of the following recommendations may ease the negative perception many single-family residential property owners have with regards to

multifamily development, which is often the biggest obstacle for communities in approving multifamily developments.

Housing Variety

Local communities should encourage greater variety in the types of multifamily developments, including the promotion of townhouse, condominium, and smaller 3-unit to 8-unit building developments that are in scale with the surrounding neighborhood.

Mixing with Single-Family Residences

In keeping with the theme of mixed-use neighborhoods, duplexes and multifamily developments should be scattered throughout the residential areas rather than confined to a few areas within communities. In this way, the impact of higher density development is limited as this density is spread over larger areas. Multifamily buildings could also be placed next to the neighborhood commercial centers. This would promote a smooth transition between the commercial activity and single-family homes. Higher density developments are recommended near parks and other open space to take advantage of that amenity.

Building Design

Multifamily buildings should be designed to reflect, as much as possible, the characteristics and amenities typically associated with single-family detached houses. These characteristics and amenities include front doors facing the sidewalk/street, private outdoor space, and adequate parking and storage. Multifamily development should also offer variation among individual buildings through any combination of design features, such as building footprints, façade treatments, roof forms, or building orientation.

Building Placement

Placing multifamily buildings close to and fronting the streets with parking in the rear is strongly encouraged as an effective way to integrate multifamily housing with other uses to form a coherent, livable area. Such a pattern incorporates attached housing types into the community fabric in a manner similar to detached houses by facing buildings onto attractive neighborhood streets and sidewalks that are part of the community network. This pattern will maximize other positive housing characteristics, including:

- Individual identity.
- Easy way-finding for visitors.
- More and better accessibility and personal mobility.
- Human scale.
- A defined transition from front to back, thus providing a logical rear location to incorporate parking and garages, service functions, and outbuildings for storage.
- The security that comes with visibility from and to public streets.
- The sense of community that comes with dwellings sharing a neighborhood street.

Projects with multiple buildings should offer variation among individual buildings while staying within a coordinated overall design theme. Monotonous complexes of identical buildings should be discouraged; although, there may be ways to achieve visual interest among identical buildings with a high degree of articulation on each building combined with variation in massing on the site.

Rural Residential Development

The following land use concepts and tools are geared more toward use within the rural towns of Brown County where preservation of rural character is a main goal and where sewer service is not available. However, some of these concepts, such as conservation by design subdivisions, can also be applied in urban areas as an alternative to traditional development practices. It is recognized that while much of the development will continue to follow conventional development patterns, there are other options available that communities may wish to consider to promote and implement.

Conservation by Design Subdivisions

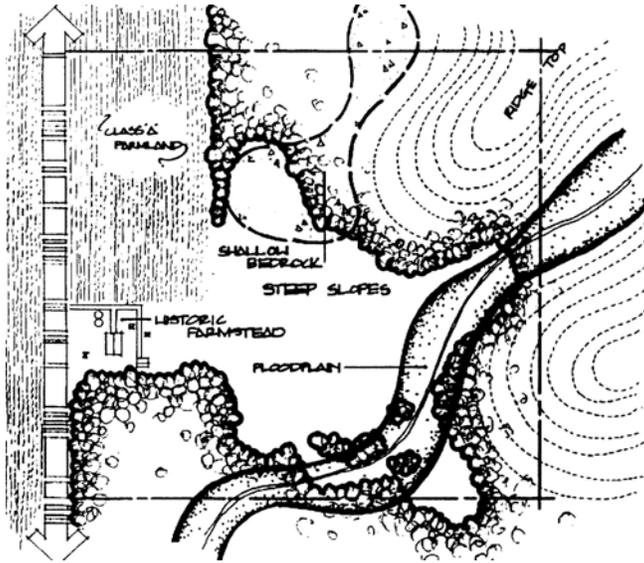
Conservation by design development, or conservation by design, is a subdividing method that focuses on maintaining open space and conserving significant natural and cultural features. This is accomplished by preserving a significant portion of a development site as undivided open space with the remaining land uses for the house lots and necessary roads. The open space is permanently preserved through conservation easements. A conservation by design subdivision provides the landowner with the same number, or possibly more, lots than could be accomplished through a conventional subdivision.

As a method for maintaining the rural character desired by some towns, the conservation by design development should be a key tenet of local comprehensive plans. This method of development is not new to Brown County, as it has been successfully implemented in a few communities, such as the Village of Howard and the Town of Glenmore. This technique can help towns preserve many of the natural and agricultural features that first attracted new residents by improving the design of future residential developments.

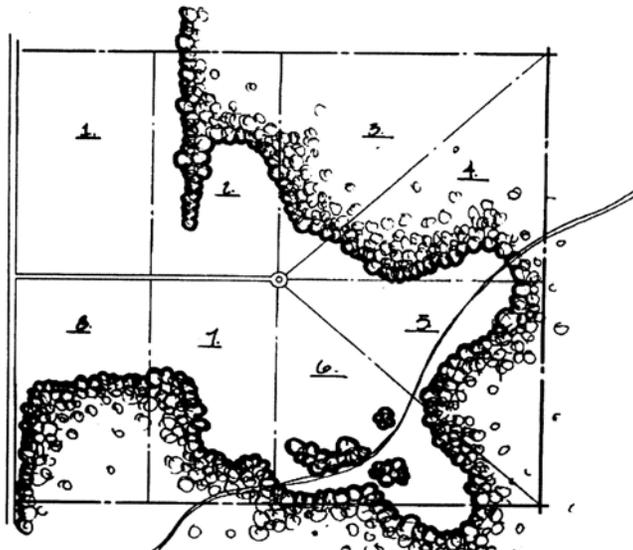
The following conservation by design example in this section uses the same number of house lots from the conventional layout but completely alters the design by simply reducing the lot size and being sensitive to the environmental features in order to preserve farmland. The sketches in Figure 2-12 are from "A Model Ordinance for a Conservation Subdivision" prepared by the University of Wisconsin Extension.

Figure 2-12: "A Model Ordinance for a Conservation Subdivision," Prepared by the University of Wisconsin Extension.

Step 1: Inventory and mapping of existing resources for a hypothetical 40-acre site.

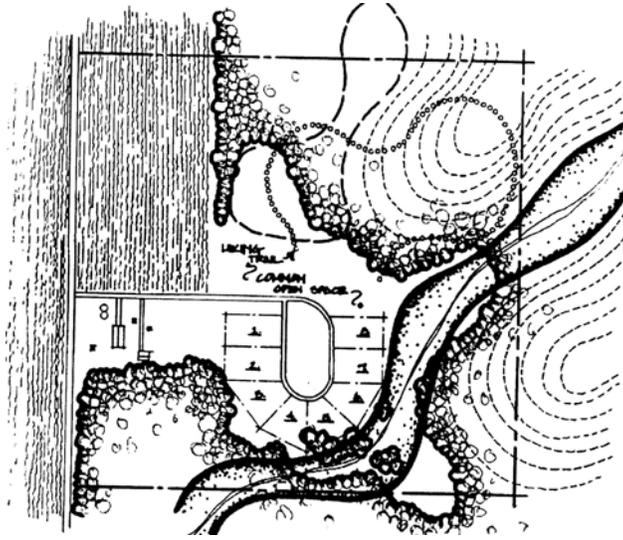


Step 2: Development yield as permitted under existing ordinances (zoning, etc.) for the 40-acre site and assuming a 5-acre minimum lot size zoning standard. Eight lots would be permitted under this scenario.



**Figure 2-12 continued: "A Model Ordinance for a Conservation Subdivision,"
Prepared by the University of Wisconsin Extension.**

Step 3: Concept map of the conservation subdivision showing the eight lots that would be permitted, plus the historic farmhouse, which would be preserved, for a total of nine dwelling units.



The following are some observations from comparing the conventional subdivision to the conservation by design subdivision:

- Conventional layout – all parts of the tract are either house lots or roads.
- Conservation layout – close to half of the site is undivided open space or agricultural land that can be permanently preserved.
- Conventional layout – view from across the road to the trees and creek is disrupted, and houses can be seen in all parts of the development.
- Conservation layout – view from across the road to trees and creek is almost entirely preserved.
- Conventional layout – only four property owners have access to parts of the creek.
- Conservation layout – all property owners have access to the length of the creek.
- Conventional layout – no common space; each lot owner only has use of his own 5-acre parcel.
- Conservation layout – creates a number of common open space areas with a large area remaining for active agricultural use.
- Conventional layout – no pedestrianways unless sidewalks are included in the construction of the roads.

- Conservation layout – trail network can be completed and can link with neighboring subdivisions.
- Conventional layout – no area for neighborhood facilities.
- Conservation layout – central green area can include children’s play area, shelter, or other amenities.

Given the strong desire of many town residents to retain rural character and preserve natural features and farmland, conservation by design subdivisions offer a preferable alternative to typical subdivisions with large house lots blanketing entire tracts of land. There are several recommendations relating to conservation by design developments. They include:

- Conservation by design should be encouraged as a preferred method for future residential subdivisions, particularly in areas where there are significant natural or cultural features that should be preserved.
- Require a minimum of 30 percent of the acreage of the conservation by design subdivision to be dedicated to open space, natural areas, or agricultural uses. The 30 percent requirement can include undevelopable land, such as wetlands, creeks, and other water features, in the calculation.
- Changes to local zoning ordinances should be made to remove barriers to conservation by design subdivisions. Specifically, flexibility for individual lot sizes is needed, provided overall maximum density is not exceeded (as compared to the conventional subdivision yield plan).
- Communities should work with Brown County in reviewing and permitting conservation by design subdivisions as provided in the Brown County Subdivision Ordinance.
- To ensure that each conservation by design subdivision meets the density requirements set by the community, yield plans should be required to determine the maximum number of home sites allowed. Each yield plan would show how many lots could be created if the tract were subdivided conventionally using a standard minimum lot area and width. The total number of lots under the yield plan then becomes the total number of home sites allowed within the conservation by design subdivision.
- Prime agricultural land, in addition to natural resource features, such as wetlands, steep slopes, and floodplains, should be included within the preserved open space to the greatest extent possible. Additional features that a community feels adds to its rural character, such as blocks of upland woods, should be identified as secondary conservation areas and are preferred for the balance of the open space areas, if needed.
- The open space within the conservation by design subdivisions should be owned by any of the following four entities: land trust, homeowners association, individual landowner, or community and should be spelled out and agreed upon in writing before the subdivision is approved.
- The uses allowed in the open space areas should be limited to agricultural uses, conservation practices, and passive recreation, such as trails. However, active

recreation areas, such as playgrounds and ballfields, could be considered on a case-by-case basis.

Sliding Scale Zoning

A concern common to many communities in Brown County is to ensure that all residents are treated fairly in regards to the ability to sell some land as a means of income. In order to allow all residents who have a large enough parcel of land to develop, communities may want to consider utilizing a sliding scale zoning application within their zoning ordinance. The sliding scale enforced within a community’s agricultural zone controls the number of parcel splits that are allowed to occur within the zone and, consequently, the number of houses that can be built. An example of a sliding scale, which has been adopted by the Town of Eaton, is identified in Figure 2-13.

Figure 2-13: Example of Sliding Scale Zoning Ordinance

Area of Lot of Record at the Time of Effective Date of the Ordinance	Maximum Number of Parcel Splits
0-3.99 acres	1
4.00-10.99 acres	2
11.00-20.99 acres	3
21.00-40 acres	4
40+ acres	1 additional split for every 10 additional acres of land

Source: Town of Eaton, 2003.

New development in a community utilizing the sliding scale zoning should preferably occur in areas that are considered non-prime farmland soils. Areas that are also wooded, hilly, adjacent to ravines, and small wedge-shaped that are difficult to farm are some of the physical characteristics where residential development should be steered. Other location factors include areas adjacent to existing houses or other development.

For example, in order to keep larger contiguous parcels of land in the Town of Eaton, which are conducive to farming, the Town established a maximum lot size (two acres) for residential parcels created by Certified Survey Map under the sliding scale rather than allowing, for example, the creation of four 10-acre lots from a 40-acre parcel. In Eaton, a landowner has the option to combine two 2-acre lots to create one 4-acre lot, but this would still count as two splits. Highlights from the Town of Eaton Zoning Ordinance in the Agricultural District include:

- Require a 2-acre maximum lot size for new residential parcel splits by Certified Survey Map.
- Steer newly split parcels into areas that are not as suitable for farming, including nonproductive agricultural soils, and areas that are wooded, hilly, adjacent to ravines, and other areas that have physical constraints to agricultural uses or are adjacent to existing residential development.
- Provide a bonus split to encourage locating new parcels into the areas previously listed.

- Allow existing farm dwellings and buildings to be split off from the rest of the parcel without counting against the total number of available splits.
- Carefully review existing parcels and proposed parcel splits adjacent to existing roads to determine if the community should require future street plans or require that the landowner, at a minimum, identify and preserve future road access locations that would be held for future community street intersections.

This is but one way that a Brown County community is trying to preserve agricultural uses while balancing the desires of local property owners to derive some income from development. As the other Brown County communities develop their comprehensive plans, they should determine how they envision their future and identify appropriate tools tailored to their specific vision, goals, and needs.

Coordinated, Orderly, and Balanced Growth

A sufficient supply of vacant lands that can be provided with public services should be maintained in communities in order to allow for continued orderly growth. The supply should be based on the projected 5-year growth increments for the community but should be flexible enough to allow for market conditions. These areas should be considered “Smart Growth” areas and identified on the community’s 5-year growth increments map. Local communities will identify these Smart Growth areas as part of their individual comprehensive planning processes.

The 5-year growth increments should be developed in the local comprehensive plans to identify where services, such as sewer and water, currently exist, where extensions of the services are planned, and where they can be most cost-effectively extended when warranted by development pressures, all consistent with the direction provided by the State of Wisconsin’s Comprehensive Planning Law. The mapped increments are not intended to be growth boundaries. Rather, they indicate where the local community is planning for the extension of public utilities and services based upon sound planning through the promotion of the efficient, logical growth of the community instead of far more costly and inefficient “hop-scotch” development patterns. Identifying where and when the local community is intending to extend public utilities and services in conjunction with the projected growth of the community shows all parties involved its intended development pattern, thereby providing additional information to the property owner who can then make more informed decisions regarding future utilization of his land.

Properties that can be more easily serviced and that are more strategically located in relation to existing municipal services should be a top priority for cost-efficient development. Extending public sanitary sewer and water service into areas with existing private onsite sewage disposal systems development is politically very difficult and economically expensive. Existing residents are reluctant to expend money for public sewer and water service when they have existing systems that, in their estimations, work adequately. In addition, the lot sizes and widths of such developments are typically much larger in non-sewered areas than in public sewer situations. Buildings are oftentimes set back much farther from the road in non-sewered situations. This also makes for higher costs to homeowners when converting to public sewer and water service because of the

need for more lineal footage for lateral connections to the homes. Additionally, future street designs are often out of skew because of the different lot sizes required for non-sewered versus sewerred lots.

It is for these reasons that new large, privately sewerred development should not be encouraged within a community's identified 5-year growth areas. Individual lot splits could be considered; however, the local community should carefully review and consider the future impact this may have on the cost-effective, efficient, and logical extension of public sewer and water. If local communities decide to allow new privately sewerred lots in areas where they are planning to extend public sewer and water (5-year growth increments), the road frontage, lot size, and depth to the new structure should be minimized to provide for the cost-effective provision of public sewer and water when they become available. A notification process should also be developed so that future residents will know that public sewer and water will be available in the near future. Of course, areas outside of the identified 5-year growth increments should continue to develop as the local community sees fit based on a determination of how far out public sewer and water will ultimately reach.

In order to account for unexpected growth or opportunities, a local amendment process should be developed, and the growth increments can be amended if consistent with the goals, objectives, and intent of the plan. Because there is a local amendment process to go through, it gives the local community a chance to determine whether the action is consistent with the plan before making a large public investment in terms of the extension of utilities and services. The amendment process would also give the property owner and/or developer an indication of whether utilities and services will be extended before making a large private investment outlay.

Consistency with Brown County Sewage Plan

It is important for the local communities to keep in mind that the local 5-year growth increments do not take the place of the sewer service areas identified in the Brown County Sewage Plan. The increments identify where the local community is planning to extend sewer and water services over the next 20 years, along with an associated timeline, while the sewer service area is a regulatory tool under Wisconsin Administrative Code NR121. As local communities look to expand their sewer service areas, they must have a corresponding amount of new development to enable the expansion to occur in a manner consistent with the policies set forth in the Brown County Sewage Plan. In order to more smoothly facilitate sewer service boundary amendments consistent with the 5-year growth increments, the local communities should maintain a running tally of the acres of new development that have occurred in the sewer service area since the sewage plan was developed.

Joint Planning Areas

Communities should work with adjacent communities in identifying plans for areas along their borders to ensure compatible land uses. In instances where a village or city borders a town, a boundary agreement should be established. Any development activities that are proposed within such an area in a town should be reviewed by the adjacent village or city for conformance to its comprehensive plan, development

standards, and the boundary agreement. Likewise, it is encouraged that villages and cities consider allowing town review of development along their boundaries. An example of a joint planning area in Brown County is the City of Green Bay-Town of Scott Joint Planning Commission, which was formed in 2003.

Design Issues

Communities should encourage design elements, such as streetscaping, flags, banners, seasonal decorations, and signage controls, to aesthetically integrate individual land use areas. This is especially recommended at the main entrance corridors of communities to help establish their overall character and provide a positive first impression to visitors.

Establishing design criteria for new businesses is another effective way of ensuring high quality development. In commercial areas, reducing the expanse of parking areas should be encouraged. Parking lot landscaping standards should be enforced, and these standards should include landscaped “islands” within large parking lots and the promotion of placing parking behind buildings instead of between the buildings and sidewalks/streets, and other features.

Additionally, as communities continue to grow, rather than expanding roads from two lanes to four lanes, landscaped boulevards with left-turn bays should be a desired alternative. Boulevards can create very appealing entrances into communities and can create a very positive first impression to visitors.

Streetscape Design Characteristics (i.e., Coving, House Type, Scale, Street Trees)

Variation in house models in large developments should be encouraged to avoid a monotonous streetscape and eliminate the appearance of a standardized subdivision. Lot widths, depths, and setbacks can also be varied to promote multiple house designs and variety of building mass.

To foster visual interest along neighborhood streets, garages and driveways can be designed to be less dominant features of the street frontage. Garages that are recessed from the front building façade or at least even with the rest of the front façade are preferred over protruding garages. Locating garages farther from the street can allow narrower driveway frontage at the curb, leaving more room for an attractive streetscape. Garages can also be tucked into side or rear yards or can be side-loaded to avoid a streetscape dominated by the repetition of garage doors.

Alleys and various forms of shared driveways are means to improve the visual interest of neighborhood streets by reducing driveway curb cuts along main thoroughfares and street-facing garage doors. These alleys and driveways can also serve as locations for ancillary buildings, utilities, service functions, and interior-block parking access. They are especially appropriate in traditional neighborhood developments (TNDs), and they allow rear access to lots along collector and arterial streets where driveways entering these streets may not be desirable. The plan’s Housing chapter (Chapter 5) contains a series of photos to illustrate this type of development.

Street trees have a tremendous positive visual impact on the streetscape. As trees planted along the edge of streets mature, they can often become the defining element of a neighborhood. Additionally, existing trees should be incorporated into the design of neighborhoods whenever possible. Subdivision ordinances should include provisions for street trees as a required improvement for new subdivisions. Methods to evaluate and incorporate existing stands of trees should also be explored.



Street lined with protruding garage doors



Street lined with porches, windows, and front doors

Existing Development

The concepts discussed thus far primarily apply to new development. However, it may pertain to *existing* neighborhoods if there are opportunities to infill, update, and/or improve particular situations. Some of the existing older developments in various communities already reflect these patterns of neighborhood development.

Infill Development

Most communities have historically done a very good job of filling in vacant areas within their developed portions before growing outward. However, there are many locations throughout the County where communities should continue to focus their efforts for residential, commercial, and industrial infill development. Such areas are served by public utilities and should be utilized more efficiently by encouraging further development of them.

Redevelopment/Rehabilitation

Although the majority of the County's housing stock is less than 30 years old and the older homes are generally very well cared for, there may be opportunities for redevelopment or rehabilitation of homes, particularly in the near downtown areas of the cities and villages.

Infill development, redevelopment, and rehabilitation opportunities should be encouraged in order to take advantage of existing infrastructure and services, to provide opportunities for affordable housing, and to prevent blight due to the presence of vacant parcels or dilapidated buildings. Density bonuses, housing grants for rehabilitation, and other incentives should be utilized. Brownfields (no longer active commercial or industrial sites that are or may be polluted) should also be identified, cleaned, and

promoted for redevelopment. Brown County should partner with local communities to enhance or redevelop commercial and industrial waterfront uses along the Bay of Green Bay and the Fox River.

Policies, Standards, and Procedures

Infill/redevelopment policies, standards, and procedures will apply to proposals for activities in designated areas. Forms of potential infill development include:

- The addition of new dwellings on vacant lots and other undeveloped parcels surrounded by existing residential development.
- The redevelopment of properties.
- The introduction of neighborhood-related non-residential development, provided that these developments meet performance and architectural standards respecting the neighborhood's positive characteristics, level of activity, scale, and parking and traffic conditions.
- The conversion of vacant aging rental housing stock to rehabilitated affordable single-family housing through various grant sources.
- Redevelopment of formal industrial areas into mixed-use commercial, residential, and recreational uses along the County's waterways.

Commercial, Office, and Industrial Development

As identified in the Economic Development chapter, a significant change in how economic development is done is needed for continued success. This connects to land use because it is critical for local communities to recognize their physical and cultural amenities and to build off of those in order to attract and retain creative people and businesses that will be successful. As such, the land use decisions that communities make can impact their ability to improve the quality of life for residents and to create interesting places that attract and retain a quality workforce.

With regards to business development in Brown County, efforts should be focused on revitalization/redevelopment efforts in the downtown Central Business Districts, investment into community centers, encouragement of commercial and industrial waterfront redevelopment, port development and improvement, and proper planning for new commercial development. Communities are encouraged to develop and/or strengthen their design review standards and site plan review processes to ensure development is consistent with the design goals of the community. Strip commercial development along main thoroughfares should be discouraged. Rather, commercial development should be steered toward community and neighborhood nodes and larger downtowns, and small commercial ventures should be allowed to be mixed with residential uses.

Agriculture

As previously noted, agriculture in Brown County has steadily declined. In addition, based on the goals and objectives of this plan for agriculture, focus should be placed on preserving those agricultural lands that still exist. It is, therefore, recommended that Brown County, in cooperation with the local units of government, the State of Wisconsin, and the federal government, make a concerted effort to preserve Brown County's best remaining farmlands for continued agricultural production. It is further recommended that this include efforts to protect the economic viability and sustainability of agriculture in Brown County. The following identifies some methods and concepts that could be implemented to achieve this goal.

Purchase of Agricultural Conservation Easements (PACE) Programs

Many communities have had success with the purchase of agricultural conservation easements, also known as the purchase of development rights. This farmland preservation tool benefits the farmer, as well as the community, in many ways. First, the farmer can benefit financially on the development potential of the land while still keeping it in production. He or she will maintain all other rights to the land, including the right to live on and farm it and exclude trespassers. The farmer may enjoy reduced income and estate taxes. The monies received for the easement can be used for farm improvements, making the farm more productive and economically viable. Finally, the community will enjoy all the environmental, aesthetic, and economic benefits of farming while preserving a large area of productive farmland.

While this tool is an effective one at preserving farmland, it is expensive. Communities can explore many different options for funding this program, including an increase in property taxes or a commitment of other sources of revenue, and should explore any potential state or federal grant programs that would assist in funding these efforts. One of these programs is the Farmland Preservation Program sponsored by the USDA. This program helps state, tribal, or local government entities purchase development rights to keep productive farmland in agricultural use. To qualify, farmland must:

- Be part of a pending offer from a state, tribe, or local farmland preservation program.
- Be privately owned.
- Have a conservation plan.
- Be large enough to sustain agricultural production.
- Be accessible to markets for what the land produces.
- Have adequate infrastructure and agricultural support services.
- Have surrounding parcels of land that can support long-term agricultural production.

If the land qualifies, the USDA provides up to 50 percent of the cost of purchasing the easement.

The Town of Dunn in Dane County has been very successful in preserving its agricultural land using purchase of development rights. Dunn has received multiple Farmland Preservation Program grants to help with its efforts, allowing them to preserve over 1,700 acres of valuable farmland.

Other Programs/Concepts

Other programs also exist that communities should consider implementing in an effort to preserve agriculture within their communities. The Agricultural chapter of this plan addresses some of these at length, as do some of the recommendations of this section.

- Sliding scale zoning.
- Conservation by design subdivision techniques.
- Support and encouragement of both conventional and entrepreneurial agriculture.
- Transfer of development rights (TDR) programs.

Natural Areas

Environmentally sensitive areas (ESAs), such as wetlands, floodways, and steep slopes, should not be developed and should be placed in conservancy. These features should be included in the design of developments as integral amenities and in some cases maintained in common ownership and utilized in the design of stormwater management facilities.

Parkways are recommended as linear parks typically along waterways. These parks are proposed to be primarily passive in nature, but they could contain multipurpose trails and associated amenities, such as park benches and/or picnic tables. The parkways and trails could be used for walking, biking, picnicking, and general access to the waterways.

Additional specific improvements to the park and recreation facilities in Brown County are contained in the Community Facilities chapter and the Brown County Open Space and Outdoor Recreation Plan.

Summary of Recommendations

One of the main challenges of the Brown County Comprehensive Plan is that it must attempt to promote and encourage the orderly, efficient, and compact development of land in a manner that maintains a balance among the preservation of environmentally-sensitive areas and agricultural lands and continued residential, commercial, and industrial development. As such, future land use decisions must be careful to compatibly and efficiently maximize the County's limited land resources. This chapter has identified some of the integral elements needed to achieve the desired balance. While Brown County recognizes that each individual community will continue to create its own plans and implement local land use changes through local ordinances, it is hoped that the ideas presented in this chapter will serve as a framework for communities in building and implementing their plans. Ultimately, accomplishment of the Smart

Growth philosophy requires a cooperative effort between county and municipal government in the management of future development. The following provides a summary of the recommendations for Brown County and its representative local municipalities to undertake and consider when creating plans and policies for the management of future land use.

Brown County

- Promote orderly and cost-effective development practices that make the maximum use of existing and planned services. This includes recommending that areas most easily serviced by municipal sewer and water develop first and infill areas and areas contiguous to existing development be given priority before the development of other noncontiguous areas.
- Make revisions to the Brown County Subdivision Ordinance to promote and encourage development consistent with recommendations of the Brown County Comprehensive Plan.
- Complete a cost of development fiscal analysis for each community in Brown County to estimate and report the effects of residential and non-residential development. Such an analysis should include physical, market, environmental, social, economical, fiscal, and traffic impacts.
- Consider conducting a study to address the question of the market demand/potential for new residential development that is representative of Smart Growth within the municipalities of Brown County.
- Develop model ordinances for use by local municipalities, such as subdivision, conservation by design, traditional neighborhood developments (TNDs), stormwater management, erosion control, and any other applicable ordinances.
- Develop model design guidelines and a site plan review process for local communities to ensure quality commercial and industrial building designs that meet community standards. This process should be streamlined to efficiently meet the design goals of the communities in an expeditious manner.
- Encourage local communities to mix compatible land uses rather than using the conventional method of separating residential, commercial, institutional, and other land uses from one another.
- Encourage communities to promote the development of diverse neighborhoods in areas where sewer services are available, as opposed to stand-alone, single-use developments.
- Brown County should continue implementation of its open space and outdoor recreation plan as the County continues to grow, including the acquisition and development of new parks, parkways, trails, and facilities.

Brown County Planning Commission and Local Municipalities

- Establish a system of data sharing among Brown County and the local municipalities for mapping, zoning, development proposals, ordinances, etc.

- Evaluate the establishment of a purchase of agricultural conservation easements (PACE) program to serve the Brown County communities.
- Work more closely on the review of development proposals, such as establishing joint meetings with developers to discuss proposed subdivisions.
- Brown County should encourage and, where possible, partner with local communities to enhance or redevelop commercial and industrial waterfront uses along the Bay of Green Bay and the Fox River.
- Brown County should, in cooperation with the local units of government, undertake a study of the feasibility of a countywide stormwater management effort.
- Brown County and local communities are encouraged to comprehensively and jointly plan for the extension of utilities and services, such as public sewer, public water, onsite sewage disposal systems, so that such utilities and services complement rather than conflict with one another.

Local Municipalities – General Land Use Recommendations

- Develop/revise subdivision regulations to allow for traditional neighborhood developments, conservation by design subdivisions, and to promote other elements of Smart Growth, such as narrower rights-of-way and smaller minimum lot sizes.
- Encourage and promote mixed-use and higher density developments where designated and where appropriate infrastructure exists.
- Promote compact development by encouraging development to locate in areas where existing services and infrastructure are provided or where they can be easily provided in a cost-efficient manner before extending new services.
- Expand utilities and services in accordance with locally identified 5-year growth increments.
- Promote development patterns that emphasize “community” and “neighborhood” while discouraging isolated, fragmented utilization of land.
- Encourage infill development.
- Work with neighboring communities to identify plans for areas along community borders and/or establish boundary agreements between local communities to ensure compatible land uses and minimize potential conflicts.
- Recognize that physical and cultural amenities are critical to attracting and retaining creative people and businesses.
- Work to improve the quality of life for citizens, avoid the negative consequences associated with loss of efficiencies from urban sprawl, and create interesting places that attract an educated workforce.
- Prepare, adopt, and implement stormwater management plans and stormwater management ordinances.

The following recommendations for the local municipalities are geared towards specific land uses. Please note that all recommendations may not apply to all communities (i.e., some apply in more rural areas, while others apply to more urban areas).

Residential Land Use

- Permit smaller residential lot sizes based on the standards contained in the Brown County Subdivision Ordinance of 7,500 square feet for lots with public sewer and 40,000 square feet for those with private septic systems in order to increase the number of affordable lots and homes on the market. Even smaller lot sizes should be considered in conservation subdivisions or traditional neighborhood developments.
- Encourage at least two (and preferably more) types of housing units (single-family, duplex, multifamily, condo, elderly care/group homes, etc.) in all large-acreage developments (i.e., over 30 acres in size) where at least one-half of the lots are intended for residential uses.
- Avoid the concentration of higher density housing types in any one location.
- Encourage greater variety in the types of multifamily developments that are in scale with the surrounding neighborhood, including the promotion of townhouse, condominium, and smaller 3- to 8-unit building developments.
- Consider permitting a small, secondary principal structure (granny flat) on residential parcels to allow the elderly a place to continue to live semi-independently.
- Local communities that have public services are encouraged to promote traditional neighborhood development (TND) and to adopt a traditional neighborhood development district in their respective zoning ordinances.
- Conservation by design developments should be encouraged in areas of the County where there are unique natural, cultural, or agricultural resources rather than large-lot rural subdivisions. Such developments should also be encouraged in more urban areas where unique natural features are present.
- Strategically mix commercial, institutional, and recreational uses within residential developments to ensure residents have the option to walk or bike to these uses.

Commercial/Industrial Land Uses

- Enhance or redevelop commercial and industrial waterfront uses along the Bay of Green Bay and the Fox River.
- Strongly promote the preservation and/or redevelopment of downtown areas.
- Encourage compact development and promote the redevelopment of underutilized, vacant, blighted, or brownfield commercial and industrial sites and buildings to efficiently utilize existing public utilities and services.
- Work to ensure that adequate infrastructure is in place, including utility services and transportation facilities, for existing and future business expansion needs.
- Develop and/or maintain design review standards and site plan review processes to ensure quality commercial and industrial development.
- Encourage commercial development in smaller community and neighborhood nodes and larger downtowns rather than in long strips along main thoroughfares.

- Promote the inclusion of a mix of small commercial ventures and residential uses within and in close proximity to business park developments.
- Focus redevelopment efforts (particularly in the downtown, community centers, and neighborhood centers) by making the streets and business facades more pedestrian-friendly for shoppers by encouraging buildings with minimal setbacks and with commercial uses on the first floor and residential uses above.
- Identify and expand industrial land to provide sufficient acreage for future needs in appropriate locations.
- Business development should be designed with consideration of the environmental sensitivity of the parkways that this plan identifies along the County's primary drainage corridors.
- Within neighborhood commercial areas, commercial buildings need to be held to a strict design guideline so that they are designed similar in scale and architecture to the residential surroundings.
- Complete and maintain an inventory of existing vacant buildings and land identified as potentially contaminated (brownfield) with industrial or petroleum-based pollutants. Brownfields should be cleaned and promoted for redevelopment through the use of state and federal brownfield cleansing funds.
- Consider requiring business site plans to include sidewalks and/or trails (where appropriate), parking (preferably behind the building), and parking lot landscaping standards, including landscaped islands within large parking lots that break up the expanse of pavement.
- Promote infill development and redevelopment opportunities to take advantage of existing infrastructure and services and to prevent blight created by vacant and dilapidated buildings and parcels.

Agricultural Land Use

- Explore the development of purchase of agricultural conservation easements (PACE), purchase of development rights (PDR), or transfer of development rights (TDR) programs and consider charging building permit fees to fund such programs.
- Implement innovative zoning techniques, such as sliding scale zoning, to preserve larger, contiguous tracts of agricultural land.
- Accommodate rural development in a way that encourages preservation of larger viable blocks of agricultural land, such as through conservation by design subdivisions.

Natural Resources/Open Space Areas and Outdoor Recreation Land Uses

- Preserve and protect surface water features, including the cultural and scenic resources associated with these stream corridors.
- The natural, cultural, or agricultural areas should be preserved in developments by various means, such as a permanent easement or dedication of land to a public

agency or land trust/nature conservancy, and the development should be built around these resources (i.e., conservation by design).

- Consider developing conservancy zoning districts to protect important natural resource features.
- Develop smaller, accessible neighborhood parks within residential areas to create a sense of identity for the neighborhood and a gathering place for its residents.

Transportation Systems

- Communities are encouraged to consider well-connected internal street patterns within new developments that also have frequent connections to the existing street system to enable and encourage people to walk and bicycle.
- Allow the development of cul-de-sacs near physical or environmental constraints that prohibit street connectivity.
- Brown County's communities are encouraged to amend their subdivision ordinances to enable developers to build narrower streets and to establish right-of-way width standards that do not require the acquisition of more right-of-way than necessary.
- Mix land uses to create destinations that can be easily reached by pedestrians and bicyclists.
- Encourage the development and redevelopment of buildings that have zero or minimal setbacks, parking along the side or in the rear, and other features to allow for user-friendly bicycle and pedestrian modes of transportation.
- When cul-de-sacs must be built and development and physical barriers are not insurmountable, communities should require the designation of public rights-of-way at or near the end of the cul-de-sacs for multi-use paths that connect to neighboring subdivisions, schools, parks, and other destinations.

CHAPTER 3

Transportation

Introduction

Over the last several decades, the term transportation has become synonymous with streets and highways. If you ask someone to come up with a brief definition of a community's transportation system, chances are the person will tell you it is the community's street network. The same person will probably also tell you that a state department of transportation's purpose is to build and maintain highways. Although streets and highways are components of a transportation system, they are just that – components. A truly comprehensive and balanced transportation system includes several modes and facilities that can be conveniently and safely used by the young, old, and everyone in between.

The trend over the last several years has been toward the creation of automobile-oriented transportation systems that are characterized by a strict separation of land uses (residential from commercial, commercial from industrial, etc.), a lack of convenient connections between these uses, large parking lots situated between streets and buildings, wide streets that do not have sidewalks on either side, development significantly outside of the urban core, and other features that force people to drive to and from all of their destinations because other transportation modes are not practical. In many places, these land use and transportation facility decisions have created a dependency on the automobile so significant that the communities feel they have no choice but to continue building, rebuilding, and expanding their street and highway systems so they can continue to function. In addition to being very expensive to build and maintain, these systems make traveling very difficult for people who cannot drive. These types of transportation systems also force elderly people and others who might prefer not to drive to continue using their cars out of fear of losing their independence.

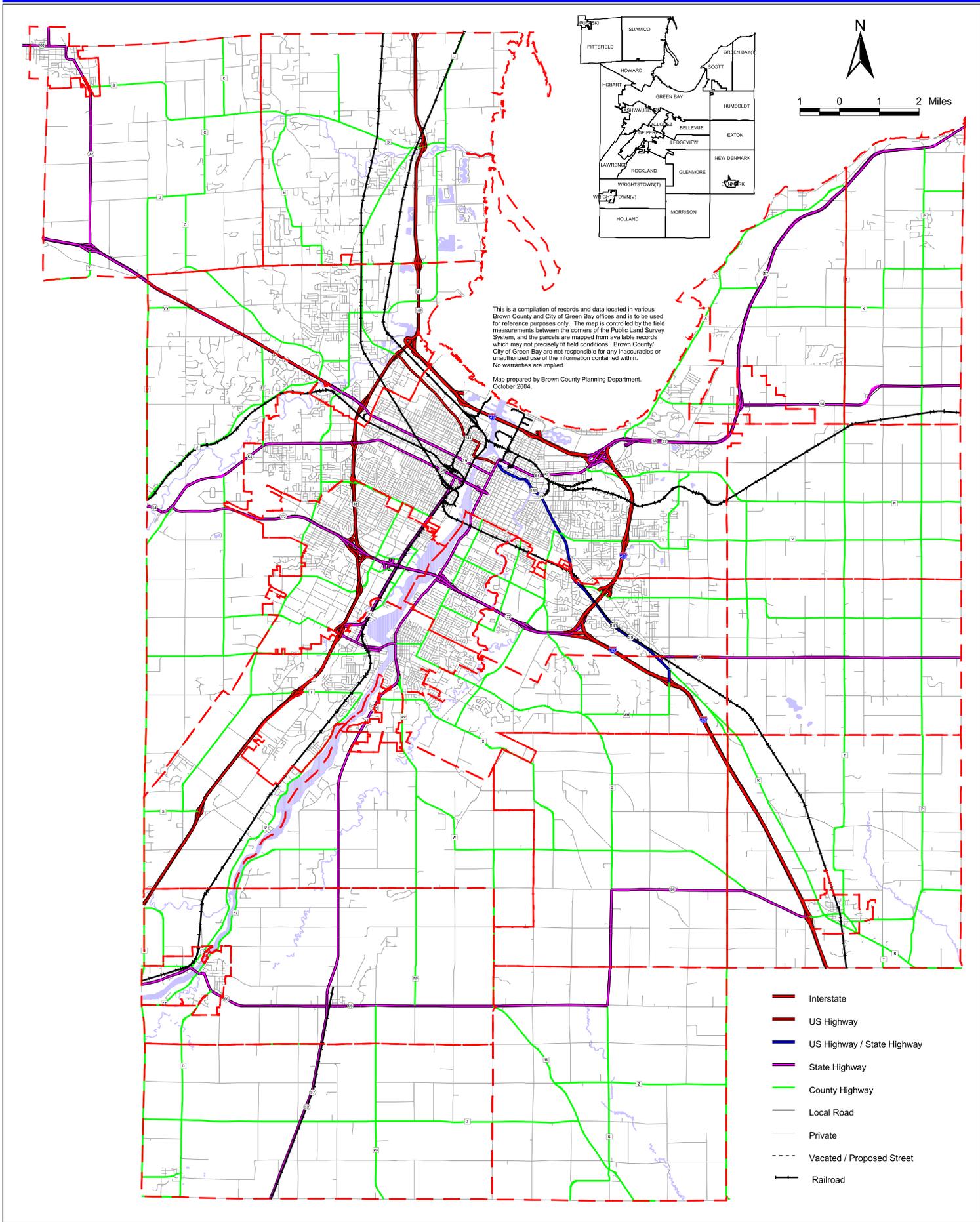
Creating a community (or, in this case, a county) where people and freight are able to move about safely and efficiently is the purpose of this chapter. Some of the methods of creating a comprehensive and balanced transportation system that serves everyone are addressed in the following sections.

Existing Transportation System

Streets and Highways

Brown County currently contains one interstate highway, two US highways, nine state highways, several county trunk highways, and many local streets. These streets and highways are currently the primary means of reaching the County's residential, commercial, industrial, and other destinations (see Figure 3-1 for the County's street and highway system).

Figure 3 - 1
 Street Network / Rail Lines
 Brown County, WI



Functional Classification System

A component of a street and highway system is the functional classification network. This network is typically based on traffic volumes, land uses, road spacing, and system continuity.

The four general functional classifications are freeways, arterials, collectors, and local streets. These classifications are summarized below.

Freeways: Freeways are controlled-access highways that have no at-grade intersections or driveway connections. Interstate 43 and US 41 are examples of freeways in Brown County.

Arterials: Principal and minor arterials carry longer-distance vehicle trips between activity centers. These facilities are designed to provide a very high amount of mobility and very little access.

Collectors: Collectors link local streets with the arterial street system. These facilities collect traffic in local areas, serve as local through routes, and directly serve abutting land uses.

Locals: Local roads and streets are used for short trips. Their primary function is to provide access to abutting land uses, and traffic volumes and speeds are relatively low.

The street patterns in some parts of Brown County's urban and rural communities enable many vehicle trips to occur on the local and collector streets because they are well connected. However, many communities contain several cul-de-sacs, horseshoe roads, and other streets that do not provide convenient connections to surrounding streets. This lack of street connectivity forces motorists to use the arterial streets and highways at some point during many trips, and this concentration of traffic can create barriers to other transportation modes (such as walking, bicycling, and transit). Figure 3-2 shows the County's existing functional classification system.

Pedestrian and Bicycle Facilities

Brown County's bicycle and pedestrian plan was adopted by the Brown County Planning Commission Board of Directors in 1998, and the plan's recommendations are gradually being implemented by the Brown County Highway Department and the County's communities. Although the number of bicycle facilities in the County has grown considerably since 1998 and pedestrian access has been improved through the construction of the Fox River Trail and other area trails, the number of communities that require sidewalks in new developments and elsewhere is still very small. The County's recommended and existing bicycle systems are shown in Figures 3-3 and 3-4, and methods of creating a comprehensive pedestrian system in the County's urban and rural areas are addressed later in this chapter.

Figure 3 - 2
Functional Classification
 Brown County, WI

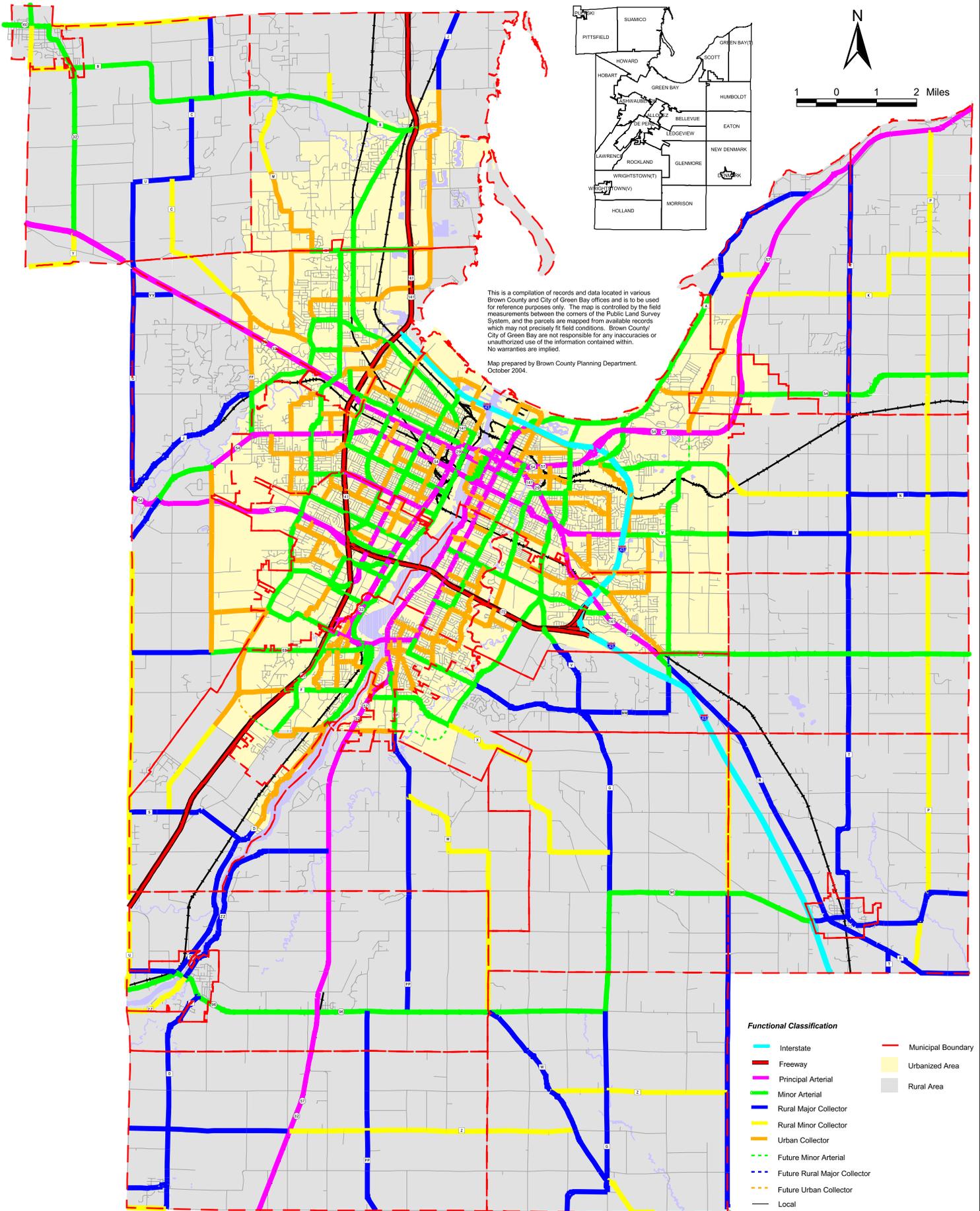


Figure 3 - 3
Recommended Bicycle Facilities in Brown County
 Brown County, WI

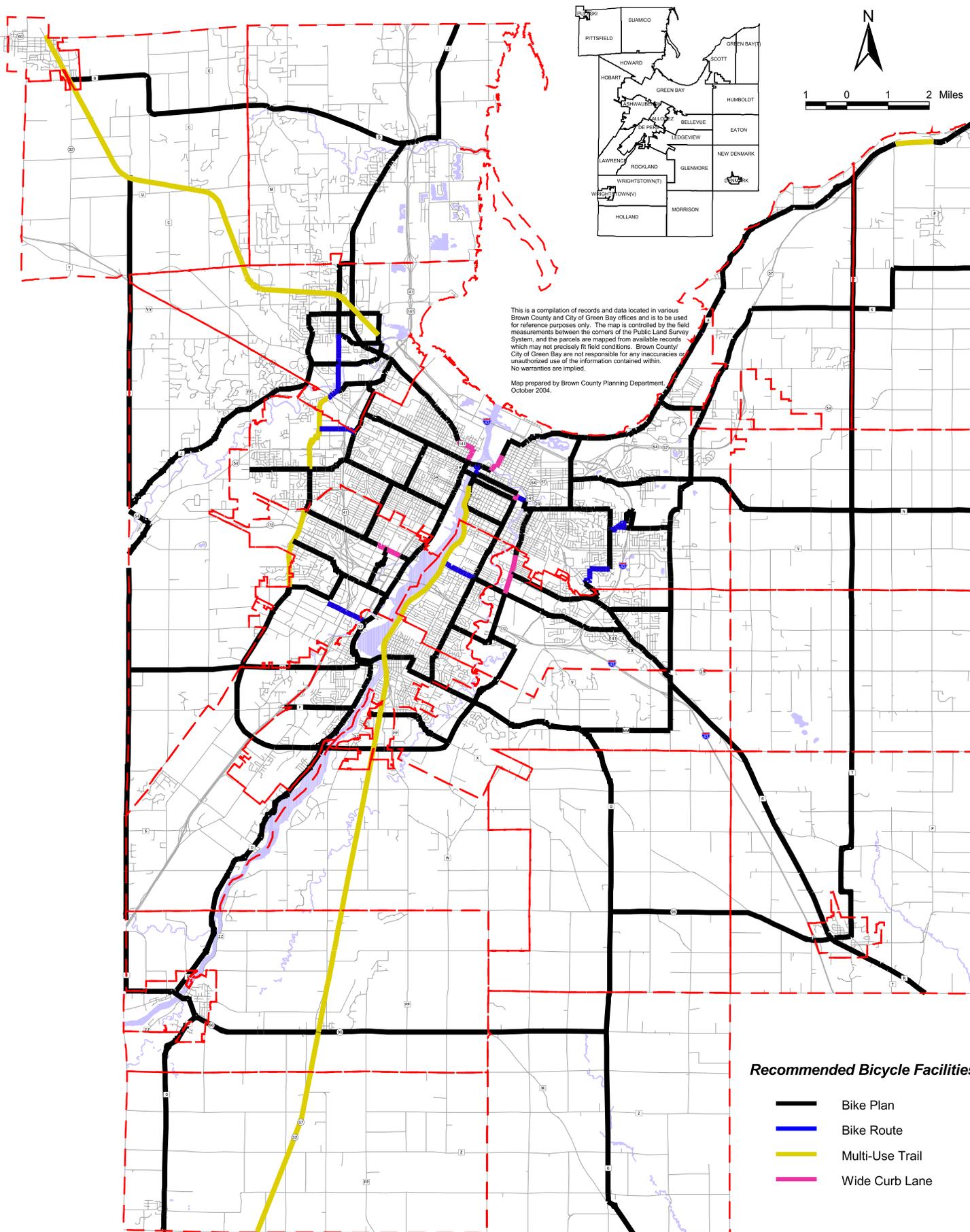
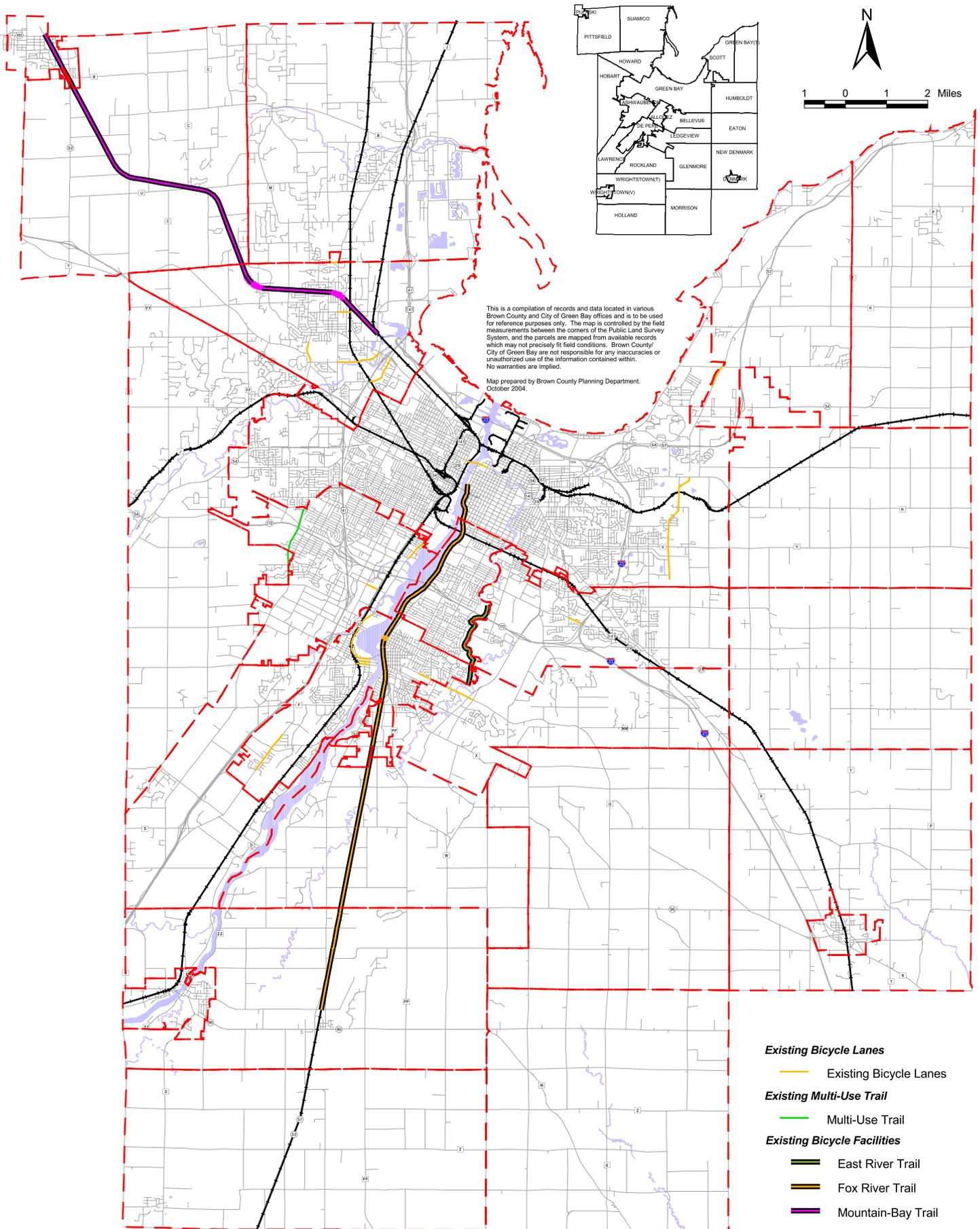


Figure 3 - 4
Existing Bicycle Facilities in Brown County
 Brown County, WI



Transit

Urban Transit

The urbanized portion of Brown County is served by two public transit agencies (Green Bay Metro and the Oneida Transit System) and several private transit providers that primarily offer services to elderly and disabled residents of the area. Green Bay Metro operates 15 fixed routes and several limited service routes in the Cities of Green Bay and De Pere and the Villages of Allouez, Ashwaubenon, and Bellevue (see Figure 3-5 for Metro's fixed route system). Metro also connects with the Oneida Transit System on the west side of Green Bay to enable people to transfer between the two systems.

Green Bay Metro is currently a radial pulse system, which means it has a hub (which is located on University Avenue in downtown Green Bay) and several routes that radiate outward from the hub. The "pulse" aspect of the system comes from the arrival of all of the buses at the hub at regular intervals, which allows people to make transfers with little or no waiting time. The radial pulse system has been used in Green Bay since 1937 because it is viewed as the most efficient method of providing service in places that have a limited number of river crossings or other physical constraints.

The Brown County Planning Commission recently completed a Transit Development Plan (TDP) for Green Bay Metro that addresses the system's operating and capital needs between 2004 and 2008. However, unlike previous TDPs, the 2004-2008 document includes an extensive long-range element that addresses many of the barriers Metro faces to attract people to the system and strategies aimed to increase ridership. These barriers and strategies are also discussed later in this chapter.

Rural Transit

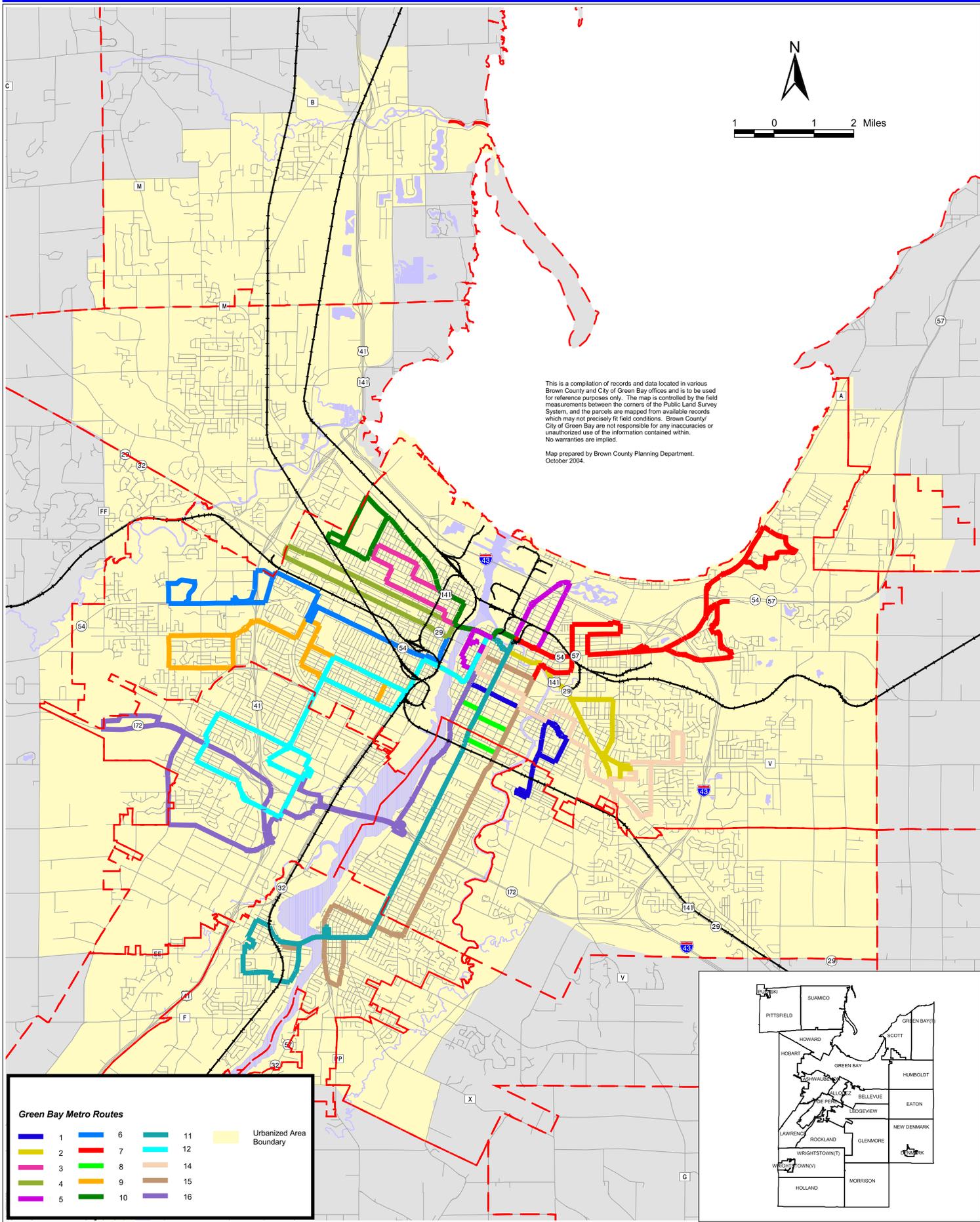
The rural sections of Brown County are currently served by the area's private transportation providers and Red Cross, but the Red Cross service does not extend very far outside of the urbanized area.

Specialized Transportation Services for the Elderly and Disabled (Paratransit)

As a federally funded public transit system, Green Bay Metro is required by the Americans with Disabilities Act (ADA) to provide service to people with disabilities using lift-equipped fixed route buses and/or specially designed (paratransit) vehicles. Since paratransit is designed to complement the fixed route service, eligible patrons are able to use it during the same hours as Metro's regular service to travel to and from any destination within the communities served by Metro.

Metro currently provides paratransit service through a contractual arrangement with a private company, and this arrangement is working well. However, the cost of providing paratransit service has escalated every year since 1994, and Metro will be examining other methods of providing reliable service at a lower cost after the current contract expires.

Figure 3 - 5
Green Bay Metro Routes in Brown County
 Brown County, WI



Rail Transportation

Although Brown County has several rail lines in place, most of these lines do not carry many trains each day. These lines, which are currently operated by the Canadian National Railroad (CN) and the Escanaba and Lake Superior Railroad Company (ELS), carry goods to and from various industries in the County. However, the CN line that runs along the west side of the Fox River into the City of Green Bay carries several trains each day and provides service to the Village of Wrightstown Industrial Park, City of De Pere Business Park, and the industrial area immediately south of downtown Green Bay. Until recently, the Green Bay industrial area contained three very important intermodal freight facilities. These were:

- The Schneider National intermodal facility, which was used to transfer truck trailers to and from rail cars.
- The Canadian National rail yard, which was used to transfer truck trailers to and from rail cars.
- The Leicht Transfer and Storage facility, which is a truck/rail transfer facility that uses a lift system like the one used at the CN rail yard.

In October of 2003, the Schneider National and CN rail yard transfer facilities were closed, but the Leicht facility continues to operate. This and other future rail activities are discussed later in the chapter.

Air Transportation

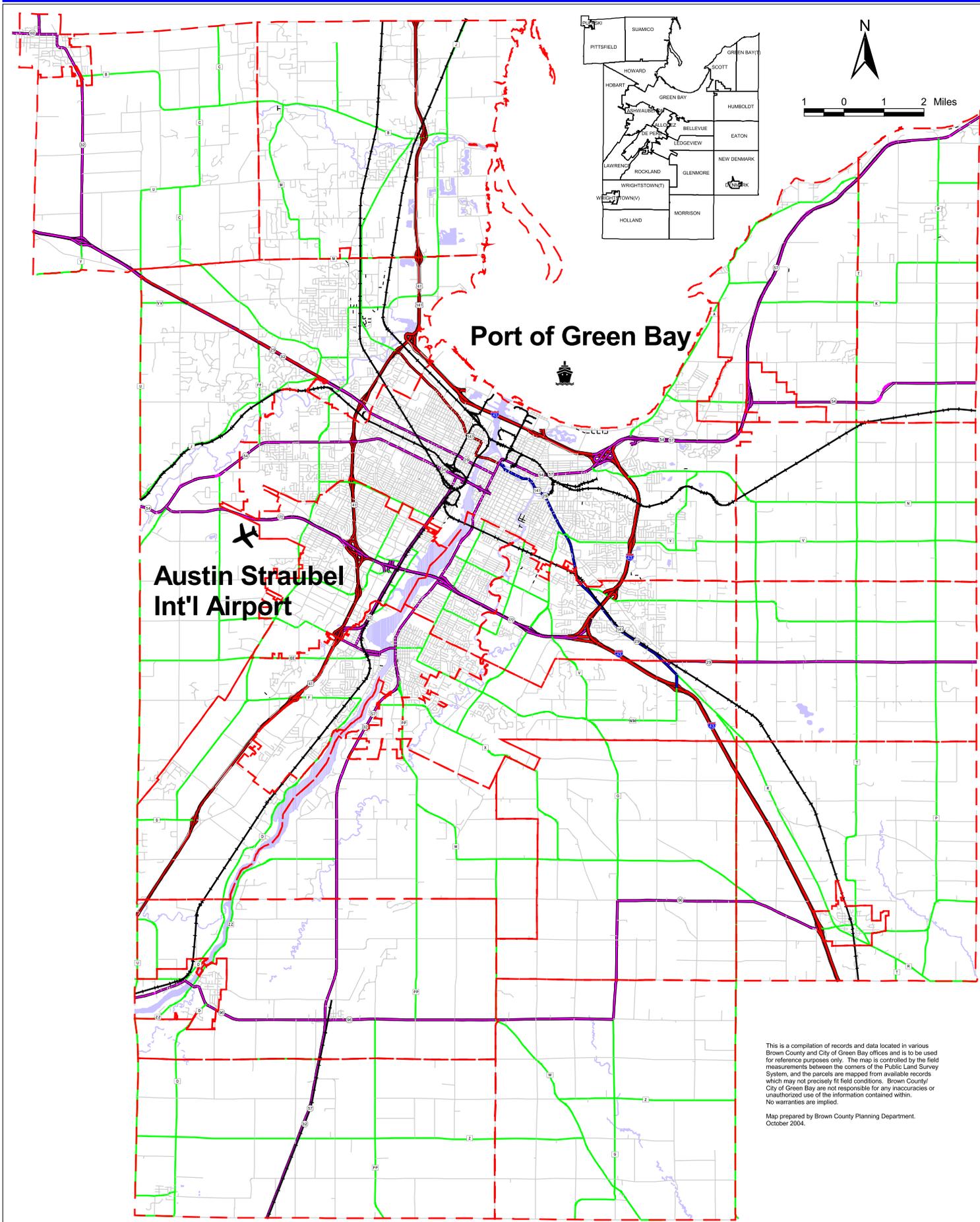
According to Austin Straubel International Airport's 1999 master plan update, the airport handled approximately 344,000 passengers in 1998, and the airport expects this number to grow to approximately 635,000 passengers in 2017 (see Figure 3-6 for the airport's location). The airport's master plan update also estimates that the amount of air cargo that will be transported from the airport will increase from approximately 589,000 pounds to about 698,000 during the same period. Commercial service at the airport is currently provided by Northwest Airlines and Northwest Airlink, American Eagle, United Express, Skyway/Midwest Express Airlines, and ComAir Delta. Charter service is provided by Executive Air and TitleCounty Jet Center. Air cargo service is provided by Northwest Cargo.

In 2003, the airport began constructing a new concourse to accommodate projected passenger growth, and a second concourse is planned to be built in the future for the same purpose. This and other airport issues are discussed later in this chapter.

Trucking

Brown County contains several large and small trucking companies that serve the immediate area, region, and nation. The County is also home to Schneider National Inc., which operates in the United States, Canada, and Mexico and is one of the largest transportation companies in North America.

Figure 3 - 6
Port and Airport Facilities
Brown County, WI



This is a compilation of records and data located in various Brown County and City of Green Bay offices and is to be used for reference purposes only. The map is controlled by the field measurements between the corners of the Public Land Survey System, and the parcels are mapped from available records which may not precisely fit field conditions. Brown County/ City of Green Bay are not responsible for any inaccuracies or unauthorized use of the information contained within. No warranties are implied.

Map prepared by Brown County Planning Department.
October 2004.

For several years, Schneider National worked with various railroad companies to provide truck-on-railcar (“piggyback”) services at the intermodal depot south of downtown Green Bay, but this operation no longer exists. Schneider and the rest of the trucking firms in Brown County also import and export a variety of goods to and from the area and enable area businesses to avoid having to warehouse large quantities of materials through the provision of “just in time” delivery services.

Over the long-range planning period, it is important that the area’s truck routes be maintained and easily identified to minimize travel time delays and impacts on neighborhoods. It is also important to maintain the intermodal connections with the area’s railroads and attempt to enhance connections with the Port of Green Bay. These issues are addressed later in this chapter.

Water Transportation

The Port of Green Bay is a very important part of Brown County’s economic structure (see Figure 3-6 for the port’s location in Brown County). During the 2000 shipping season, the port handled a total of 1,671,274 metric tons of coal, cement, limestone, and other commodities,¹ and this total increased to 1,962,157 metric tons during the 2001 season.² According to the port’s 2001 economic impact study, the vast majority of the port’s activities were devoted to domestic imports (80.18 percent) and foreign imports (19.6 percent), and the imported materials were transported throughout northeast Wisconsin to support the area’s paper mills and other industries. The economic impact study also indicated that the port was responsible for approximately \$60,023,900 in economic output and that 580.6 jobs were directly or indirectly associated with the port in 2001.

Since domestic and foreign exports represented only 0.26 percent of the port’s activities in 2001, methods of increasing exports during the long-range planning period should be investigated. It is also important to determine if some of the commodities that are currently imported and exported from the area by train or truck could and should be shipped through the port instead. These and other issues are addressed later in this chapter.

Future Transportation System

This section of the Transportation chapter identifies the major aspects of Brown County’s transportation system and recommends methods of developing them over the next 20 years to create a more comprehensive intermodal transportation system. The chapter also discusses the land use patterns that communities are encouraged to promote during this period to help create this system.

¹ According to the 2000 Modal Shift and Environmental Impacts Study for the Green Bay Harbor by the Bay-Lake Regional Planning Commission.

² According to the 2001 Economic Impact Study of the Port of Green Bay by the Bay-Lake Regional Planning Commission.

County Highways and Community Streets

Brown County's communities currently have relatively few multi-lane streets, but some of the two-lane streets are still at least 40 feet wide. The communities also contain cul-de-sacs and long blocks that provide infrequent connections to intersecting streets. In addition to being expensive to construct and maintain, the wide streets encourage people to drive rapidly through neighborhoods, school zones, and other areas where high speeds are not appropriate. The long blocks, cul-de-sacs, and separation of land uses in the newer portions of the communities also do more than encourage people to drive from place to place – they often force them to drive because other transportation modes are not practical.

To enhance everyone's ability to safely and efficiently navigate the County's transportation system with and without personal vehicles, the County's communities are encouraged to:

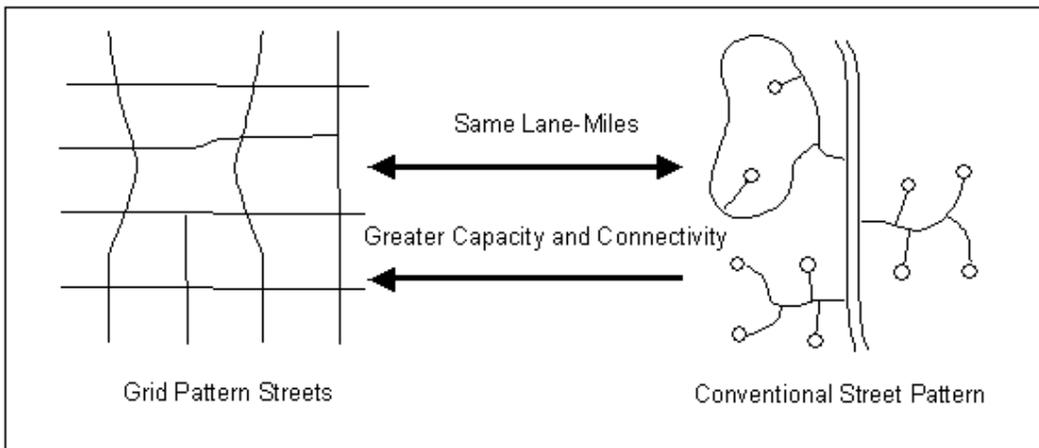
- Increase street connectivity and intersection frequency.
- Minimize barriers to pedestrian and bicycle travel and encourage people to drive at appropriate speeds.
- Improve accessibility and safety at intersections and other potential conflict points.

Methods of achieving these aims are addressed in this section.

Develop Well-Connected Street Patterns

To enable and encourage people to walk and bicycle throughout the County's communities, the communities are encouraged to require the development of well-connected street networks within new developments that have frequent connections to the existing street system. These kinds of street patterns also provide motorists several route options and avoid concentrating traffic on relatively few streets. A comparison of well-connected and conventional street patterns is shown in Figure 3-7.

Figure 3-7: Comparison of Well-Connected and Conventional Street Patterns



Although well-connected street patterns enable traffic to be distributed evenly, are very accessible to a variety of transportation system users, are easy for public works departments to plow and maintain, enable communities to create efficient sewer and water systems (that do not have several stubs), and provide efficient routes to incidents for fire departments and other emergency responders, situations will arise where streets cannot be connected due to physical or environmental constraints. If constraints prohibit street connections, the County's communities are encouraged to allow the development of cul-de-sacs near the constraints. However, to maximize connectivity in these neighborhoods, the cul-de-sacs should have public rights-of-way or easements reserved at the bulbs to enable pedestrians and bicyclists to travel throughout the area easily. This connectivity concept is further discussed later in this chapter.

Allow the Construction of Narrow Streets

Many incorporated Brown County communities currently require streets to be at least 36 feet wide and rights-of-way to be at least 70 feet wide. Street and right-of-way widths are typically narrower for town roads, but rural subdivisions also contain relatively wide streets and rights-of-way. Although the construction of wide streets has been standard practice for many years, these widths are typically not necessary (especially within residential neighborhoods) and force communities to maintain a significant amount of land that could instead be taxable property. To address this issue, the street width requirements in the communities' subdivision ordinances are encouraged to be amended to allow the construction of narrower streets. The ordinances should also be amended to establish right-of-way width standards that do not require the acquisition of more right-of-way than necessary. A summary of street and right-of-way standards that should be considered by the communities is included in Figure 3-8. These standards are based on recommendations in Residential Streets (third edition), which was developed by the Urban Land Institute in conjunction with the Institute of Transportation Engineers, National Association of Homebuilders, and American Society of Civil Engineers.

Figure 3-8: Street and Right-of-Way Width Standards Summary

Street Type	Right-of-Way Width *	Pavement Width (curb face to curb face)	Driving Lane Width	On-Street Parking	Parking Areas Defined by Curbs?
Collectors	60 feet	34 feet	9 - 10 feet	Both Sides	Yes
Local Streets					
No parking allowed	40 feet	18 feet	9 feet	None	No
Parking on one side	46 - 48 feet	22 - 24 feet	14 - 16 feet travel lane	One Side	If Needed
Parking on both sides	50 - 52 feet	26 - 28 feet	10 - 12 feet travel lane	Both Sides	If Needed
Alleys	16 feet	12 feet	---	---	---

* The right-of-way width includes the widths of the driving area, parking area, curbs, terraces (between the sidewalk and street), and sidewalks.

The implementation of these standards will enable communities to reserve only the land they need to accommodate their streets, sidewalks, and terraces and to construct streets that conform to the development concepts addressed in the comprehensive plan.

Define the Parking Areas of Streets That Have Curbs

The parking areas of streets should be defined by curb extensions at many intersections throughout the County when the streets have curbs and other urban characteristics. If a block is relatively long, extensions should also be placed at other points along the street. The curb extensions will prohibit drivers from using the parking lanes as passing or turning lanes at intersections and encourage people to drive slowly when parked vehicles are not present. The curb extensions will also minimize pedestrian crossing distances at intersections. Examples of curb extensions that were recently built along Fourth Street and Grant Street in De Pere are shown in this section.



Curb extension on Fourth Street in De Pere



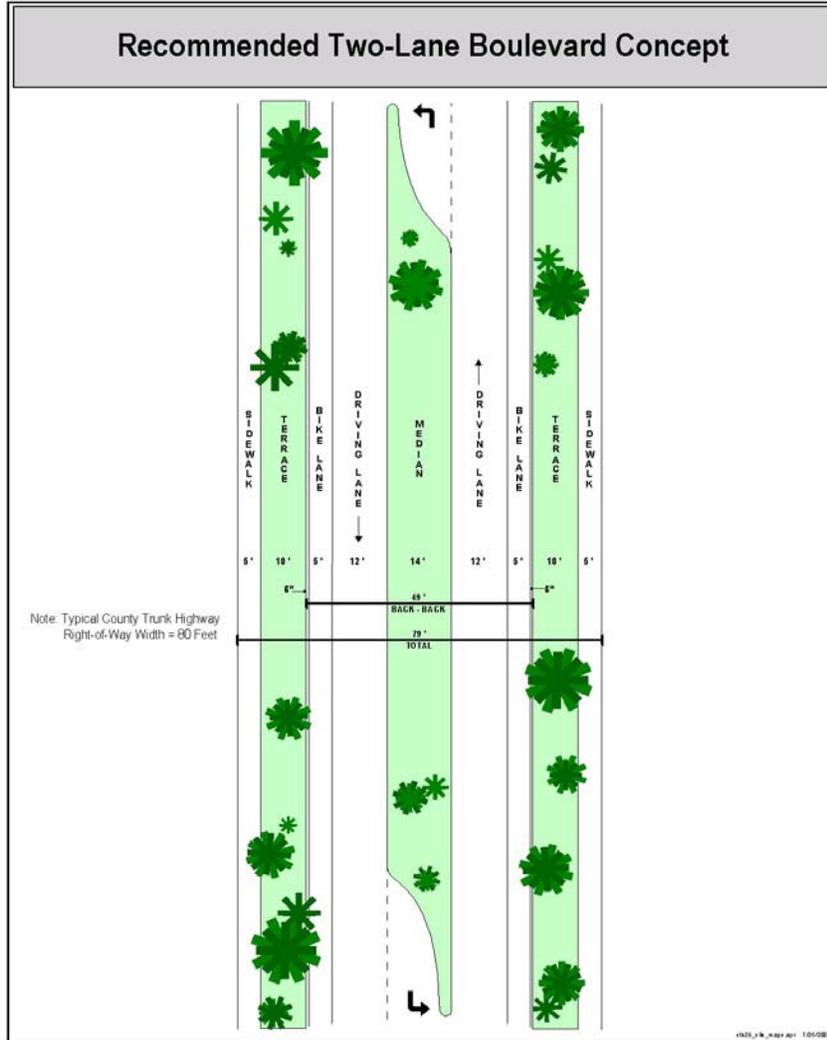
Curb extension on Grant Street in De Pere

Avoid Expanding Streets to Four or More Lanes

The typical response to traffic congestion throughout the United States is to widen streets to accommodate the traffic. However, the additional capacity offered by a widened street almost always attracts additional vehicle trips (both necessary and discretionary), and the result is that the widened streets become congested again. Since street widening has proven to not be an effective long-term method of relieving traffic congestion, Brown County and the communities within the County should save the millions of dollars that would be necessary to expand the streets to four or more lanes and examine other approaches to reducing traffic congestion.

One way to move traffic efficiently while minimizing barriers to pedestrian and bicycle travel and encouraging people to drive at appropriate speeds is through the construction of a system of two-lane arterial boulevards that are complemented by an interconnected collector and local street system, mixed land uses, and efficient traffic control techniques at intersections. The street interconnectivity and mixing of land uses make walking and bicycling viable transportation options and help to avoid forcing traffic onto a system of relatively few large arterial streets. Building narrower arterial boulevards instead of the standard wide arterial streets will also make thoroughfares more attractive throughout the County.

This and similar design techniques have been used in De Pere and are recommended in several comprehensive plans to create efficient and attractive arterial streets that promote neighborhood compatibility and accessibility for everyone.



Source: Brown County Planning Commission

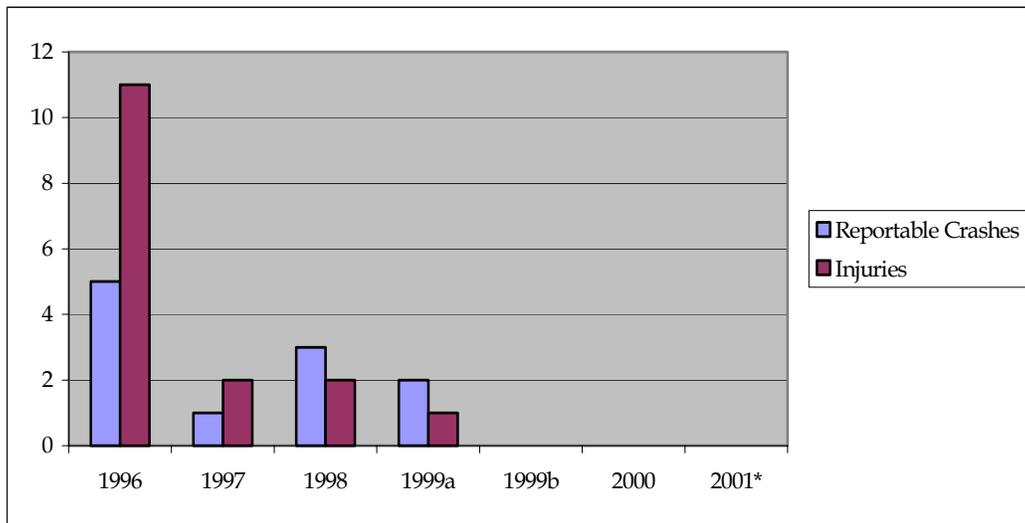
Continue to Design Intersections to Maximize Safety and Accessibility

Brown County and the County's communities should continue to utilize street design techniques that reduce vehicle speeds, minimize the possibility of conflicts, and enhance traveler awareness to maximize pedestrian, bicyclist, and motorist safety and accessibility at intersections. Techniques that the County and communities should continue to use include roundabouts, curb extensions at intersections, and other similar street design features. The narrower street widths recommended in this chapter can also help make intersections safer by controlling the speed of vehicles as they approach the intersections.

Roundabouts in Brown County

There are currently five single-lane roundabouts in De Pere, four single-lane roundabouts in the Village of Howard, and one single-lane roundabout in the Town of Ledgeview. The two roundabouts on Lineville Road in Howard were recently featured in a Brown County Planning Commission study that examined their safety, efficiency, and other impacts between 1999 and 2001. This study found that the Lineville roundabouts have made the intersections more accessible to pedestrians and bicyclists and safer for everyone. An example of this safety improvement is shown in the study and in Figure 3-9, which identifies the number of reportable crashes and injuries at the Lineville/Cardinal intersection before and after the roundabout.

Figure 3-9: Reportable Crashes and Injuries at the Lineville Road/Cardinal Lane Intersection (1996-2001)



Source: Brown County Sheriff's Department crash records: 1996 - 2001

1999a: January 1, 1999 - July 31, 1999 (before roundabout - still a two-way stop)

1999b: August 1, 1999 - December 31, 1999 (during and after roundabout construction)

2001*: Through October 1, 2001

The De Pere and Ledgeview roundabouts have not been studied because they were completed more recently than the Lineville Road roundabouts. However, representatives of the De Pere Police Department, De Pere Department of Public Works, and De Pere School District have indicated that the roundabouts are operating very efficiently and that they are unaware of any reportable crashes at the intersections. Observations by the Brown County Planning Commission and Highway Department have also found that pedestrians, bicyclists, and motorists interact well at the roundabouts.

Potential Roundabout Locations in Brown County

Because the existing roundabouts have proven to be very successful in Brown County's urban and rural areas, the County's communities should continue to work with the Brown County Planning Commission, Brown County Highway Department, and Wisconsin Department of Transportation to study the possibility of installing roundabouts at other intersections throughout Brown County.



Lineville/Cardinal roundabout in Howard



Chicago/Swan roundabout in De Pere

The County's communities should also investigate the installation of smaller neighborhood roundabouts at minor intersections to calm traffic and enhance the appearance of neighborhoods.

Speed Limits in Rural Areas

Over the last several years, the Brown County Planning Commission has been asked by some of the County's unincorporated communities to address the establishment of speed limits on their roads. The findings of staff's research into this issue are summarized in this section.

According to Chapter 349.11(1) of the Wisconsin Statutes, local authorities are allowed to establish speed limits for any road under their jurisdiction if they determine that the speed of vehicles on any part of a road is inappropriate. However, Chapter 349.11(3) of the statutes restricts this power in the following ways:

- Local authorities may not declare a speed limit that exceeds 55 miles per hour, which is the limit identified in Chapter 346.57(4)(h) of the Wisconsin Statutes.
- Local authorities may not modify the limits that are stated in Chapter 346.57(4)(c) or Chapter 346.58(1), which are 15 mph designations for:
 - Safety zones occupied by pedestrians.
 - Areas where people are being picked up or dropped off by a public passenger vehicle.
 - Any vehicle equipped with metal or solid rubber tires.
- Local authorities may not modify existing speed limits without the consent of the Wisconsin Department of Transportation except in the following situations:

- To reduce the speed limit during road projects (Chapter 349.11(10)).
- To increase the speed limit within the corporate limits of a city or village (Chapter 346.57(4)(e) and (f)).
- To increase the speed limit above 35 mph in a semi-urban district outside the corporate limits of a city or village (Chapter 346.57(4)(g)).
- To reduce by 10 mph or less the 15 mph speed limits designated for school zones where children are present, properly marked school crossings where children are present, and alleys (Chapter 346.57(4)(a), (b), and (d)).
- To reduce by 10 mph or less the 35 mph speed limit that is imposed on town roads under Chapter 346.57(4)(j), which states that the speed limit is:

Thirty-five miles per hour on any town road where on either side of the highway within any 1,000 feet along such highway the buildings in use for business, industrial, or residential purposes fronting thereon average less than 150 feet apart, provided the town board has adopted an ordinance determining such speed limit and has posted signs at such points as the town board deems necessary to give adequate warning to users of the town road.

It is possible that a town can establish and modify speed limits on its roads under Chapter 346.57(4)(g) and (j). Assuming this is the case, a town could establish speed limits as low as 25 miles per hour on roads that qualify under Chapter 346.57(4)(j) and as low as 5 miles per hour in school zones, school crossings, and alleys. However, roads that do not have the development densities identified in subsections (g) and (j) of Chapter 346.57(4) will likely have to be assigned speed limits of 45 or 55 miles per hour.

Establishment of Speed Limits

The County's towns are encouraged to study their roads to determine the appropriate speed limit for each road based on the standards in Chapters 346.57(4) and 349.11(3) of the Wisconsin Statutes. Once a study is completed, the community should establish the speed limits by adopting an ordinance for each town road and posting signs at appropriate locations.

Pedestrian and Bicycle Facilities

Brown County and many of the County's communities have been implementing the bicycle facility recommendations in the Brown County Bicycle and Pedestrian Plan Update since the update was completed in 1998, and trail systems are being built throughout the County to serve regional and local purposes. Most communities and the County continue to not require sidewalks along their streets and highways, but a few communities have recently adopted or are nearly finished with plans that call for the installation of sidewalks in all new developments and in other areas. However, much of the recent development in Brown County's communities is also characterized by cul-de-sacs, horseshoe streets, long blocks, and other design features that make walking and bicycling difficult and undesirable.

To enable people of all ages and physical abilities to travel from place to place on foot and by bicycle, Brown County and the County's communities should:

- Develop land use patterns that enable and encourage walking and bicycling.
- Continue to create safe and continuous pedestrian and bicycle systems.
- Enable people to easily reach developments on foot or by bicycle.

Although many transportation trips in the rural areas will not be able to be made on foot or by bicycle, the town centers that are being recommended in some of the rural Smart Growth plans (such as the Town of Eaton’s plan) are designed to be walkable and bikeable areas. Methods of enabling and encouraging urban and rural residents to walk and bike are addressed in this section.

Mixing Land Uses

To enable and encourage people to make additional walking and bicycling trips in Brown County, the County’s communities are encouraged to implement the Land Use chapter’s recommendations for mixing land uses to create destinations that can be easily reached by pedestrians and bicyclists. The additional mixing of residential, commercial, institutional, and recreational uses will enable people of all ages and physical abilities to travel from place to place without motorized vehicles, which will significantly improve mobility for all County residents and minimize traffic on the existing street and highway system. Examples of neighborhood commercial uses already exist throughout Brown County...



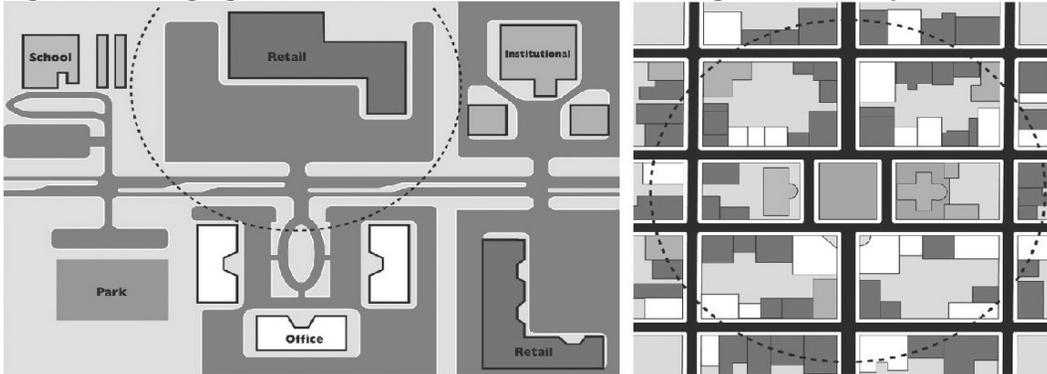
Dentist’s office in a De Pere neighborhood



Bakery in a Green Bay neighborhood

Figure 3-10 compares a conventional land use and street pattern with a mixed land use and well-connected street pattern. The dotted circle on the diagram represents a 500-foot radius, which is a distance that most people feel comfortable walking. This diagram demonstrates that a greater number and variety of destinations are easily reachable on foot (and by bicycle) when land uses are mixed and streets are frequently interconnected. The benefits of street connectivity in neighborhoods are also illustrated in Figure 3-11, which demonstrates that a well-connected street system requires people to travel much shorter distances to reach their destinations than a system with few connections.

Figure 3-10: Segregated Land Uses vs. Mixed Uses with High Connectivity



The older neighborhoods in Green Bay, De Pere, and other Brown County communities have many of the characteristics of the high connectivity diagram on the right, but newer developments in most of the County's communities tend to resemble the diagram on the left. To enable and encourage people of all ages and physical abilities to travel from place to place safely and easily, the County's communities are encouraged to implement the Land Use chapter's recommendations and require the creation of well-connected and diverse neighborhoods that contain pedestrian and bicycle facilities (sidewalks, trails, bicycle lanes, and other facilities).

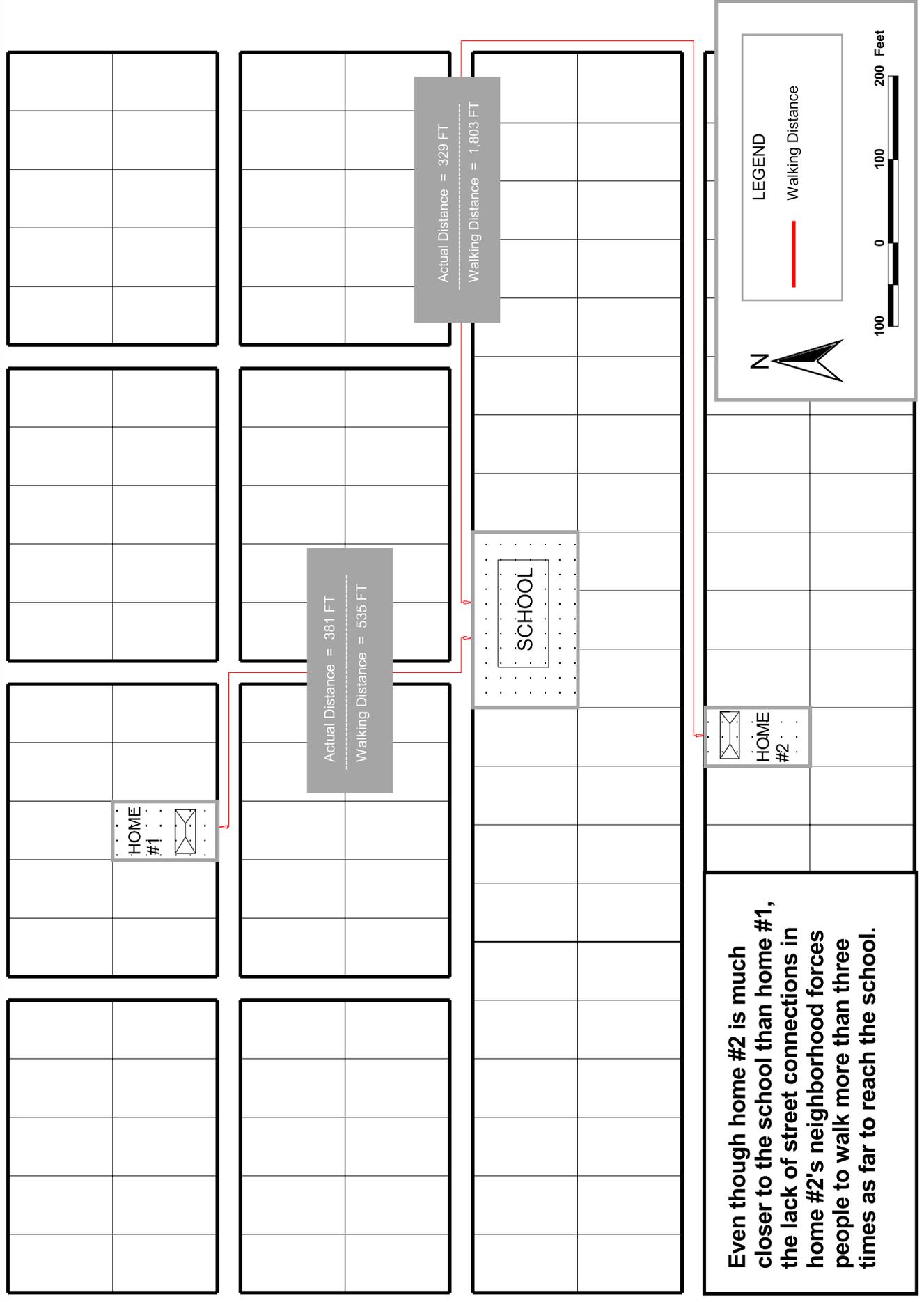
Developing Comprehensive Sidewalk Systems in Urban Portions of Communities

The installation of sidewalks has been discussed during Smart Growth plan development processes in many Brown County communities, and this issue has often been the most controversial element of these plans. Since September of 2002, only one community (Howard) has joined the City of De Pere in requiring the installation of sidewalks in all new developments, but the Town of Eaton will require sidewalks to be installed in its Poland town center as the center develops. Other communities that are nearly finished with their Smart Growth plans have draft documents that recommend sidewalks in all new developments, but most of the communities in Brown County (including the City of Green Bay) do not currently require sidewalks in new developments.

Although sidewalks have been a contentious issue in Brown County for many years, the installation of sidewalks in new developments does not appear to be as controversial in other parts of the state.

Figure 3-12 shows that eight of the state's ten largest cities require sidewalks to be installed in all new developments, and the population growth that occurred between 1990 and 2000 in six of the eight large cities that require sidewalks (as well as in De Pere, Kaukauna, and other smaller communities that also require them) demonstrates that sidewalks do not discourage development.

Figure 3 - 11
 Example of Neighborhoods With and Without Street Connectivity
 Brown County, WI



Even though home #2 is much closer to the school than home #1, the lack of street connections in home #2's neighborhood forces people to walk more than three times as far to reach the school.

Figure 3-12: Sidewalk Requirements in Wisconsin's Ten Largest Cities as of February 2003

City	Sidewalks Required in All New Developments?	2000 Population	1990 Population	Percent Growth 1990 - 2000
Milwaukee	Yes	596,974	628,088	-4.95%
Madison	Yes	208,054	191,262	8.78%
Green Bay	No	102,313	96,466	6.06%
Kenosha	Yes	90,352	80,352	12.45%
Racine	No	81,855	84,298	-2.90%
Appleton	Yes	70,087	65,695	6.69%
Waukesha	Yes	64,825	56,958	13.81%
Oshkosh	Yes	62,916	55,006	14.38%
Eau Claire	Yes	61,704	56,856	8.53%
West Allis	Yes	61,254	63,221	-3.11%

Sidewalk Policy Sources: Milwaukee Department of Public Works, Madison Department of Public Works, Green Bay Planning Department, Kenosha Subdivision Ordinance, Racine Department of Public Works, Appleton Planning Department, Waukesha Subdivision Ordinance, Oshkosh Planning Department, Eau Claire Department of Public Works, and West Allis Department of Development. Population Data Source: 1990 and 2000 United States Census of the Population.

An indication of how some people feel about sidewalk installation in and around Brown County comes from an online survey conducted by the Green Bay Press-Gazette between December 9 and December 15, 2002. This survey asked if residential neighborhoods should be required to have sidewalks, and the 1,442 responses were distributed as follows:

Yes, to ensure pedestrian safety and to promote walking over driving.	55.8%
No, it adds too much to the cost of a home and it's extra work for homeowners to shovel sidewalks in winter.	17.3%
The decision to add sidewalks should be up to homeowners, not the local government.	26.8%

Although this survey was not statistically significant or random, the results suggest that sidewalks are more popular in Brown County than many people have been led to believe.

Methods of Creating a Sidewalk System

In addition to providing a place for people of all ages and physical abilities to travel safely, sidewalks are a place for friends and neighbors to interact with each other, for children to play, and for commerce to occur. Sidewalks also provide the "street life" that helps to enhance neighborhood security. For these and other reasons, Brown County should install sidewalks along its highways within incorporated communities and in portions of unincorporated communities that have urban characteristics (such as the Poland town center in Eaton). The county's incorporated and unincorporated

communities are also encouraged to create sidewalk systems in their areas of urbanization. A process for accomplishing this is summarized in this section.

Step 1: Require sidewalks in all new subdivisions. The County's communities could begin the process of creating their comprehensive sidewalk systems by requiring developers to install sidewalks on both sides of all streets in new subdivisions and by not approving new subdivisions that do not include sidewalks. The only situation where sidewalks should not be required on both sides of a street is when physical or environmental constraints exist. In these situations, sidewalks should be required on at least one side of the street.

Step 2: Install sidewalks along major streets and walk routes. Next, communities could install sidewalks along both sides of all existing home-to-school walking routes and all existing collector and arterial streets. These sidewalks will enable children to walk outside of the driving area and provide people a safe place to walk along the streets that carry high volumes of traffic.

Step 3: Construct sidewalks along the rest of the streets by identifying demand and consulting residents prior to street reconstruction projects. After requiring sidewalks along all new subdivision streets and installing sidewalks along all home-to-school walking routes and collector and arterial streets, the communities could work toward constructing sidewalks along the rest of their existing streets by identifying neighborhoods where people want sidewalks and meeting with residents prior to street reconstruction projects to determine if street narrowing and sidewalks should be elements of the projects.

Walkways Along Streets with Reverse Frontage Lots

One of the reasons that sidewalks are not installed along major streets is that many of these streets do not have homes or other developments that directly face or access them. This lack of direct access prevents governmental (state, county, and local) entities from assessing for the costs of the sidewalks and makes it difficult to justify requiring property owners to maintain them, and these entities often do not want to make the equipment and labor investments needed to maintain the sidewalks themselves. Unfortunately, this results in minimal or no pedestrian access along streets where traffic is very heavy and many commercial and other destinations are located. It also restricts the ability of non-drivers to travel in the newly developed parts of Brown County because the arterial street system must be used at some point to make many trips in these areas.

If sidewalks cannot (or will not) be installed, the state, county, and local governments should consider enhancing pedestrian access along major streets that have reverse frontage lots and little or no driveway access by constructing multi-use trails that are 10 or 12 feet wide. Once the trails are installed (the cost of which can likely be covered with grant and local funds), they can be plowed and maintained using equipment that governments at all levels already have.

Developing Pedestrian and Bicycle Trail Systems in Urban and Rural Communities

The number of trails in Brown County has steadily grown for several years, and studies have shown that facilities like the Fox River Trail are heavily used and contribute to the economic health of the areas they serve. In addition to the County-operated Fox River and Mountain-Bay Trails, local trail systems exist or are being developed in many of the County's urban and rural communities. The Oneida Nation is also in the process of developing a trail along the former Wisconsin Central rail line between Howard and New London.

Over the next 20 years, it is important to continue developing trails throughout Brown County and to link as many of the trails as possible to create a continuous system that serves the urban and rural areas and connects Brown County to the surrounding counties. Some examples of trail connections that should be pursued include:

- Extending the East River Trail through the Town of Ledgeview to connect to the Fox River Trail on the north or south side of Rockland Road. This link and the estimated costs of creating it are identified in the East River Trail Extension Plan that was prepared by the Brown County Planning Commission in 2000.
- Extending the Fox River Trail from its current end point in Greenleaf to Hilbert in Calumet County. This extension should be pursued if the railroad tracks south of Greenleaf are proposed for abandonment in the future.
- Developing a trail along the former Wisconsin Central rail line on the west side of Green Bay (near Helen Keller Elementary School) and extending the trail north to the Mountain-Bay Trail if the tracks between the school and Mountain-Bay Trail are proposed for abandonment in the future.
- Working with the Oneida Nation and Wisconsin DNR to develop access and trailhead facilities for the proposed trail along the former Wisconsin Central rail line between Howard and New London.
- Extending the Denrock Trail between the Village of Denmark and Town of Rockwood in Manitowoc County.

Trails should also be developed along other rail rights-of-way as they are proposed for abandonment throughout Brown County over the next 20 years, and unpaved trails should be considered for paving if they are located in densely developed areas.

Designing Developments That Provide Direct Access to Sidewalks and Streets

Many buildings in downtown Green Bay, downtown De Pere, and in other heavily developed parts of the County can be easily reached by pedestrians, bicyclists, and motorists because they have minimal or no setbacks. However, many developments throughout the County are more difficult to reach on foot or by bicycle because they were built a significant distance from the street and are fronted by large parking lots that are difficult for walkers and bikers to cross. Examples of these types of developments include most large discount stores, large grocery stores, and strip developments along arterial streets.



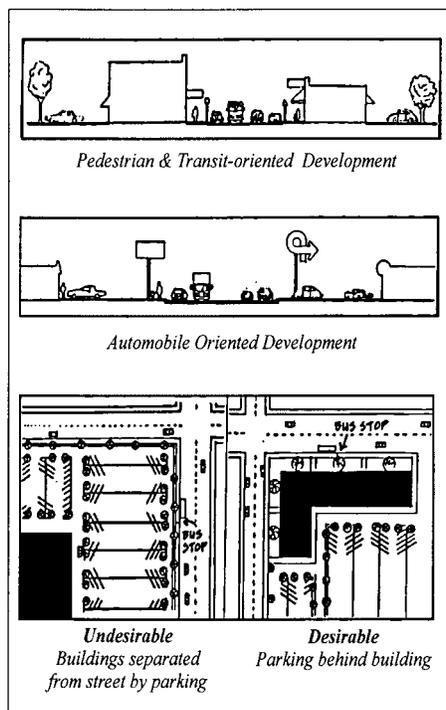
Parking lots between sidewalks and buildings discourage walking and bicycling,...



...but buildings that provide direct access to sidewalks and streets encourage walking and biking.

To enable and encourage people to travel to destinations in the County with and without motorized vehicles, the County's communities should encourage the development and redevelopment of buildings that have zero or minimal setbacks, parking along the side or in the rear, and other features similar to those recommended in the plan's Land Use chapter. Figure 3-13 shows examples of auto-oriented vs. pedestrian- and transit-oriented development patterns. People will still be able to reach their destinations with motorized vehicles, but these design features will also enable and encourage people to travel to them using other transportation modes.

Figure 3-13: Pedestrian- and Transit-Oriented Development vs. Automobile-Oriented Development



Ensuring That All Transportation Structures Have Pedestrian and Bicycle Facilities

The County should continue to work with the Wisconsin Department of Transportation and the County's communities to ensure that all of the bridges, interchange overpasses, and other transportation structures within the County have adequate pedestrian and bicycle facilities when they are constructed or reconstructed. The new Claude Allouez Bridge, Southern Bridge, and new US 41 interchange at Southbridge Road are examples of facilities that will need to be equipped with adequate pedestrian and bicycle facilities when they are built to avoid the cost and inconvenience of retrofitting the structures in the future.

Enabling People to Travel Easily Between Subdivisions and Other Developments When Cul-de-sacs Are Necessary

In some parts of the County, the well-connected street networks recommended earlier in this chapter will not be feasible due to the presence of existing development or environmental/physical constraints. When cul-de-sacs must be built and development and physical barriers are not insurmountable, the County's communities should require the designation of public rights-of-way at or near the end of the cul-de-sacs for multi-use paths that connect to neighboring subdivisions, schools, parks, and other destinations. These paths should be between 10 and 12 feet wide and paved to accommodate pedestrians, bicyclists, skaters, and other non-motorized uses. This width and surface will also be able to handle authorized vehicles, such as park and public works trucks.

Developing land use patterns that enable and encourage walking and bicycling, expanding the County's pedestrian system, and enabling people to easily reach developments from the streets and walkways will enhance accessibility and mobility for everyone in Brown County. This enhanced mobility and choice of viable transportation modes will also help attract new residents of all ages to the County, improve access to businesses, and allow the existing and future street and highway systems to handle traffic efficiently.

Transit

There are many reasons for the Green Bay Metropolitan Area to promote the use of mass transit over the next several decades. Transit uses require far less land than vehicle-oriented land uses (such as parking lots and structures), it is a form of transportation that is available to anyone who wants to use it, a bus is a far more efficient use of the metropolitan area's street system than an individual vehicle (especially a vehicle carrying only one occupant), a bus's impact on the environment is much lower than the number of cars it would take to equal a bus's carrying capacity, and transit enhances the livability of an area because it reduces people's reliance on cars and minimizes the negative impacts of driving (noise, traffic congestion, etc.). But despite these positive attributes, Green Bay Metro's ridership primarily serves area residents who do not have access to cars. There are many reasons that the bus system appeals to these "captive" riders and does not appeal to most people who have other transportation options. Some of these reasons include:

Travel time. Since the Metro buses have to share the same streets (and the same delays) as personal vehicles, the buses do not provide travel time incentives for people who have the option to use their own vehicles. In most cases, buses actually take longer to travel from place to place than cars because the buses have to stop to pick up passengers. This time deterrent is especially significant for trips where people have to transfer to another route to reach their destinations.

Direct costs. The cost per mile to operate a personal vehicle is often higher than the per-mile cost of riding a bus when indirect costs, such as vehicle depreciation, insurance, vehicle registration, vehicle maintenance, and parking subsidy, are added to direct vehicle operating costs, such as fuel and parking. However, people tend to only consider direct (or out-of-pocket) travel costs when they choose a transportation mode, and these costs are often very low for drivers because fuel is relatively cheap and parking is often free or very inexpensive. These personal considerations and pricing conditions make paying \$1.25 for a one-way transit trip much less appealing than spending about \$.06 per mile for gas and little or nothing for parking.³

Frequency, convenience, and reliability. Compared to many other transit systems, Green Bay Metro provides relatively frequent service to many destinations in the metropolitan area. However, the most frequent Metro routes only provide access to many destinations every half hour, and the rest of the routes serve their areas once an hour. Although this service frequency is pretty good by transit standards, it cannot compete with the current level of convenience offered by personal vehicles that can be accessed quickly and driven to any destination without having to continually stop. The missed transfers that occasionally occur also make it difficult for people to rely on the system for work and other trips.

Urban design. Over the last several decades, the communities in the Green Bay Metropolitan Area have stopped developing in a transit-friendly manner. For instance, all of the communities in the area have stopped building interconnected street networks and are instead building systems that contain cul-de-sacs or long uninterrupted streets that provide minimal access. Only two metropolitan area communities (De Pere and Howard) currently require sidewalks along most of their streets, and many land development projects in the metro communities contain minimal density and little, if any, mixture of uses (residential with commercial, etc.). These types of street and sidewalk patterns make it very difficult for a bus to serve an area within a specified schedule and make it very inconvenient (and possibly unsafe) for potential riders to walk to and from bus stops. Low-density and homogenous development patterns also make transit service very inefficient because the number of potential riders in these areas is low.

Another element of urban design that has made transit less appealing is the decentralization of the metropolitan area. When Green Bay was the area's clearly defined economic center, taking a bus from the outlying areas to downtown Green Bay for work, shopping, or other purposes was more convenient than it is today because transfers often weren't necessary and several destinations were within easy walking distance of the downtown transit center. But today, many large employers, educational

³ Based on a per gallon cost of \$1.60 and a vehicle fuel efficiency of 25 mpg.

institutions, commercial developments, and other destinations are located on the edge of the transit service area or outside the service area altogether. This situation makes taking the bus to these places inconvenient or impossible, and it is certainly one of many deterrents to transit use by those who have other transportation options.

Green Bay Metro clearly provides a very important service to the metropolitan area, and it is important to enhance its attractiveness to non-captive riders as the area grows in the future. But to significantly increase ridership over the next several years, Metro will have to overcome many well-established local, state, and federal policies, procedures, and preferences. This challenge will be very difficult, but it will not be impossible. Some methods of addressing these issues are discussed in the rest of this section.

Meeting the Challenge

To maximize its chances of significantly improving ridership over the next several years, Green Bay Metro will need to work with state and local government representatives, elected officials at every level, private companies, and the public to create a viable set of coordinated transit incentives and automobile disincentives. Some examples of these measures that pertain to the issues discussed in the previous section are discussed below.

Improved transit travel time. The best method of improving transit travel time is through the creation of busways or railways that have very few or no conflicts with other vehicles. These conflict-free rights-of-way enable transit vehicles to avoid traffic congestion and other impediments that would ordinarily slow them down, which makes transit travel more appealing to people. Being able to avoid the traffic congestion that drivers cannot avoid is also a very powerful method of encouraging people to choose transit over their cars.

Some examples of facilities that enable transit to operate on dedicated rights-of-way include rapid rail lines (such as those that currently exist in Atlanta, San Francisco, and other large American cities), electric trolley lines, street and highway lanes that are devoted strictly to buses (busways), and high occupant vehicle (HOV) lanes that can be shared by transit vehicles and personal vehicles that contain more than one person.⁴ These transit options are attractive to potential riders because they are not subject to many of the delays that the Green Bay Metro buses and other similar vehicles face by traveling on the same streets as everyone else. In many cases, these dedicated right-of-way transit modes are more attractive than driving because people actually save time during their work commutes and other trips. Of course, the main obstacle to implementing a dedicated right-of-way transit system is the high cost of starting the system, and it is very unlikely that the Green Bay Metropolitan Area will build a rapid rail or electric trolley system within the next 20 years because of the cost and other constraints. It would be physically possible to convert some existing street and highway lanes in the Green Bay area to HOV lanes (especially during events such as Packers games), and this might encourage people to choose the bus over their cars if the service is also frequent, reliable, and competitively priced.

⁴ The number of required occupants varies from place to place. Some cities require four or more people to be in the vehicle, but many only require two or more people.

Cost savings. As transit operating costs escalate, Metro and systems like it are often pressured to raise fares to cover the additional expenses. However, the amount of money generated by fares is relatively small for many transit systems (fares represented only 13.9 percent of Metro’s overall revenues in 2002) and fare increases make it more difficult to attract riders to the systems, so these increases often do more harm to transit systems than good. An example of these negative impacts is summarized in this section.

Figure 3-14: Fare Increases Implemented by Green Bay Metro in 1998

Fare Category	Previous Cash Fare	New Cash Fare	Previous Pass Fare	New Pass Fare
Adult	\$.75/trip	\$1.00/trip	\$22.00/mo.	\$21.50/mo.
Student	\$.65/trip	\$1.00/trip	\$11.00/mo.	\$16.00/mo.*
Elderly/Disabled	\$.35/trip	\$.50/trip	\$11.00/mo.	\$10.75/mo.

Source: Green Bay Metro, Brown County Planning Commission

*The student fare increased to \$13.00 per month in the spring of 1998 and to \$16.00 per month in the fall of 1998.

These fare increases were expected to steadily increase Metro’s overall revenue stream for several years. However, the following table summarizes what actually happened after the increases went into effect.

Figure 3-15: Farebox Revenue Before and After Metro’s 1998 Fare Increases

Year	Farebox Revenue	Total Operating Expenses	Percentage of Operating Expenses Covered by Farebox
1997	\$810,000	\$4,748,000	17.1%
1998	\$931,000	\$4,849,000	19.2%
1999	\$942,000	\$5,219,000	18.0%
2000	\$905,000	\$5,438,000	16.6%
2001	\$865,000	\$5,785,000	14.9%
2002	\$863,000	\$6,190,000	13.9%

Source: Green Bay Metro, Brown County Planning Commission

Although Metro’s farebox revenue increased immediately after the fare increases went into effect, the system’s farebox revenue has steadily decreased since 1999. Figure 3-15 also shows that the percentage of operating expenses covered by farebox revenue has steadily declined since 1998.

Figure 3-16: Ridership Before and After Metro’s 1998 Fare Increases

Year	Ridership	Percent Change
1997	1,965,649	
1998	1,744,323	-11.3%
1999	1,660,679	-4.8%
2000	1,624,501	-2.2%
2001	1,624,932	0.03%
2002	1,648,584	1.5%

Source: Green Bay Metro, Brown County Planning Commission

Figure 3-17: Ridership By Fare Category: 1997-2002

	1997	1998	1999	2000	2001	2002	1997-2002 Change
Adult							
Cash	251,954	223,486	210,838	198,973	167,109	158,494	-37.1%
Pass	301,147	323,581	326,444	353,462	402,076	428,579	42.3%
Total**	553,101	547,067	537,282	552,435	569,185	587,073	6.1%
Student							
Cash	125,544	102,172	89,827	75,303	64,620	54,331	-56.7%
Pass	414,607	372,237	345,298	323,962	318,523	333,522	-19.6%
Total**	540,151	474,409	435,125	399,265	383,143	387,853	-28.2%
E&D							
Cash	68,478	67,741	67,049	52,443	42,413	36,556	-46.6%
Pass	411,703	409,683	399,909	413,410	425,270	459,280	11.6%
Total**	480,181	477,424	466,958	465,853	467,683	495,836	3.3%

Source: Green Bay Metro.

**These ridership totals do not include riders who used tickets and tokens.

Although there could be many factors that contributed to the significant decline in ridership following the 1998 fare increases, the information in Figures 3-14 through 3-17 strongly suggests that:

- The fare increases did not result in a significant long-term increase in farebox revenue. Instead, the system's farebox revenue has steadily declined, and the system's operating deficit has consistently grown since 1999.
- The fare increases likely played a significant role in reducing the annual number of transit trips. This occurred even though the Adult and E&D pass costs were reduced in 1998 in an attempt to encourage riders to shift from the cash to pass categories.
- The shifts that were expected to occur within the Adult and E&D categories appear to have occurred, but people within the Student category could not shift to a lower cost fare option because the cash and pass categories experienced significant increases. The decision to increase the Student cash and pass fares was largely based on the assumption that the Green Bay School District purchased nearly all of the Student passes and that the district would continue to purchase the same number of the more expensive passes. However, Metro later discovered that many Student passes were purchased by the students themselves, and it is very likely that many of the students decided to stop riding the bus because of the significant fare increases.

A transit system has a very difficult time competing with cars for the reasons discussed at the beginning of this section, so it is important for Green Bay Metro to make itself as attractive as possible to potential riders. One method of doing this would be to reduce fares for the Adult, Student, and Elderly/Disabled categories. The amount of the reduction should vary by category, but Metro should reduce the Student cash and pass fares to levels at or below what existed before 1998 (possibly \$.50 for a one-way trip and \$10.00 for a monthly pass). In addition to these fare reductions, Metro should consider developing semester and summer passes for K-12 and college students that could be

purchased for slightly less than the cost of four monthly passes (or three monthly passes in the summer). Metro should also make sure that the cost of the semester pass is less than the cost of a semester parking pass at UWGB, and Metro and Brown County Planning Commission staff should contact UWGB, NWTC, and area high schools to determine the feasibility of establishing or raising parking fees (an automobile disincentive) to encourage students to ride the bus. These fare adjustments should be accompanied by an aggressive marketing campaign that clearly informs students and other potential riders that the system wants them back.

Other Transit Cost Incentives

In addition to modifying the system's fare structure, Metro should work with the area's large retail centers, hospitals, businesses, and other significant trip generators to establish programs that encourage transit use and discourage driving. Some examples of these programs include:

Travel allowance programs. Travel allowance programs can be established by employers to provide employees incentives to give up their cars in favor of the bus or another mode of transportation. The travel allowance is determined by the market value of a parking space used by an employee, and this amount is given to the employee to use for the parking space or a bus pass. The employee can also keep the allowance and find a non-motorized means of reaching work (walking, bicycling, etc.).

Free bus passes for employees. Since the Internal Revenue Service (IRS) allows employers to deduct the cost of transit passes (up to \$100 per employee per month) from their gross incomes,⁵ employers within the Green Bay Metro service area would be able to deduct the entire cost of bus passes that they purchase for their employees. This incentive would be even more effective if employers restricted the number of parking spaces available to employees and/or charged the employees a substantial monthly fee for using the spaces.

Transit trip validation programs. Many malls and other retail centers attempt to attract people to them by offering to pay for a portion of their customers' parking costs, but very few (if any) retail outlets offer validation programs for people who ride the bus. This program could be as simple as selling or donating bus tokens to interested businesses and having the businesses "validate" a shopper's bus trip by giving him or her a token following a purchase. The Metro service area contains several retail centers that might be interested in participating in a transit trip validation program, and the program would be relatively inexpensive to start and administer.

Frequency, convenience, and reliability improvements. Metro's current and projected budget situation will make it difficult to increase service frequency to a point where the bus can compete with private vehicles, and it is currently much less convenient to take a bus than to drive a car because free or low cost parking is almost always available next to or near most destinations. However, there are ways to encourage people to choose the bus over their private vehicles. For example, the communities in the Metro service area could increase the cost of parking in community-owned ramps and lots and use the extra

⁵ According to the American Payroll Association (2002).

revenue to increase the frequency of transit service throughout the area. This policy could be beneficial in many ways. First, the additional revenue would help to make transit service more frequent and convenient, which would improve its appeal to people who can choose from a variety of transportation modes. Second, it would provide an incentive for people who do not have to drive to choose the bus (or another transportation mode), which could relieve traffic on the street system and extend the life of the existing infrastructure. Third, it would force drivers to recognize and absorb a larger portion of the cost of providing parking by increasing their direct (out-of-pocket) costs.

This parking pricing strategy could be implemented as a flat hourly increase or as a graduated fee. With a graduated fee system, people who park for long periods of time would pay a fee that increases every hour (e.g., \$0.50 the first hour, \$0.70 the second hour, \$0.90 the third hour, etc.). This approach would encourage people who park for long periods of time and typically do not need their cars during the day (commuters, etc.) to use the bus while accommodating people who make trips for business meetings and other time-sensitive trips where cars might be necessary.

Other Frequency, Convenience, and Reliability Strategies

Study the establishment of a two-hub system. Another approach to improving convenience and reliability for many people could be to establish transit hubs on the east and west sides of the Fox River and to create a system of routes that extends outward from each hub. These hubs would be connected by a single route that crosses the river using a bridge that experiences few or no delays. A two-hub system could attract new riders to the system by reducing travel times and distances for many riders, providing east-west and north-south service much more efficiently on each side of the river, and serving portions of the metropolitan area that cannot be served within the current Metro schedule. However, this type of system could discourage existing and potential cross-town riders from using the bus by forcing them to transfer twice instead of once. A two-hub system would also likely cost much more to operate than the current system, so additional funding would need to be obtained to implement this strategy. To determine if this is a strategy that Metro should pursue in the future, the benefits and costs of a two-hub system should be studied in the near future.

Install bicycle racks on Metro's buses. Installing bicycle racks on all of Metro's buses would make the bus a viable option for bicyclists who want to reach the Fox River Trail and other area recreational attractions, for people who do not live within walking distance of a bus stop, and for many others who want to ride in certain locations but are unable to reach their destinations on their bikes. These racks will also help to create the integrated and balanced transportation system that is an essential component of any sustainable area. Metro would likely be able to cover most of the equipment cost through its federal capital assistance grant, and local bicycle clubs might be willing to pay for a portion of the project's local share. For this program to be successful, however, racks would have to be installed on all of the system's buses to guarantee that the bus that accommodates a person's bike on the outbound trip can also handle the bike on the return trip.

Modified fixed route service for Green Bay Packers games. The most severe traffic congestion in the Green Bay Metropolitan Area is typically experienced during Packers home games. Most of the 70,000+ fans and stadium workers who attend each game reach Lambeau Field by car or van, and many of these people choose to park on neighborhood streets, at nearby businesses, or in yards because stadium parking is limited. Traffic congestion near the stadium tends to worsen as game time nears, for the streets become narrower as the number of people traveling to the stadium in vehicles and on foot increases. Congestion is even worse after the game, for most people leave the stadium area simultaneously.

The traffic congestion that is experienced before and after each game causes increased accident probability, street deterioration, fuel consumption, and traveler irritability (particularly after a Packers home loss). However, the negative effects of congestion could possibly be reduced if a service could be offered that would be convenient and inexpensive enough to persuade people to ride a bus to the game. In 1998, Brown County Planning Commission staff developed a proposal for a limited Sunday Packers game service that would consist of nine routes that run between the stadium and the metropolitan area periphery. These routes were designed to enable people to get on and off the buses at 15 park-and-ride lots throughout the metropolitan area, several hotels, and all signed stops along the routes. This program was not implemented because the Planning Commission and transit system did not receive the necessary grant funding from the state, but it should be considered again in the future. The program should not, however, be implemented at the expense of existing fixed or limited route service.

Urban design improvements. At the beginning of this section, some of the urban design characteristics that discourage or prevent many people from riding the bus were summarized. Although some of these characteristics will be very difficult to change, others are actually changing in some service area communities at this time. Some transit-friendly urban design characteristics are briefly discussed in this section.

Well-connected street patterns. Well-connected street systems minimize walking distances and enable people to reach bus stops much easier than if they have to walk the equivalent of several blocks to reach a stop.

Sidewalks. An interconnected street network should be complemented by an extensive sidewalk system to allow people to safely travel to and from bus stops and to provide a place to wait for the bus. Sidewalks are especially important to children, the elderly, people who use mobility aids, and others who face a particularly high risk walking within the driving areas of streets.

Mixed land uses. The mixing of residential, commercial, institutional, and recreational uses provides several different trip generators for transit systems to serve.

Developments that provide direct access to sidewalks and streets. To encourage people to travel to destinations on a bus, communities should ensure that new and redevelopment projects have buildings with direct access to sidewalks and streets and other features illustrated in Figure 3-13.

Developing land use and street patterns that enable and encourage transit use, creating a safe and continuous sidewalk system, and enabling people to easily reach developments from the streets and sidewalks will increase the attractiveness and viability of transit in the Green Bay Metro service area. The pricing incentives and other recommendations in this section of the Transportation chapter will also help make transit more competitive with cars and other private vehicles, but the strategies identified in this chapter must be accompanied by complementary policies that force people to realize the high financial, environmental, and social costs of excessive driving. The Green Bay Metropolitan Area is not currently facing the severe traffic congestion and other vehicle-related issues that Milwaukee, Minneapolis, Atlanta, and other large automobile-dependent communities are experiencing, but the metropolitan area's future could be similar to these communities' situations if a strong effort is not made to develop a more balanced transportation system that contains a transit system that people with and without other mode options are willing and able to use.

Specialized Transportation Services for the Elderly and Disabled

The elderly and disabled residents of communities that are included in Metro's fixed route service area will continue to have access to the service offered by Metro's paratransit provider. Although there are other companies in Brown County that offer the same service, Metro's paratransit provider is able to offer clients a very low per-trip rate that is largely subsidized by Metro. The Metro paratransit provider is also obligated to pick up and drop off clients within time limits specified in a contract with Metro (which is based on standards in the Americans with Disabilities Act), so the service is very reliable. Retaining access to this service will be very important in the future as Brown County's population continues to age, and many agencies, such as Syble Hopp School, Curative Rehabilitation Center, and the County's hospitals and clinics, will continue to rely on Metro's paratransit provider to transport clients to and from their facilities.

Highways

Although several highway projects of various sizes will occur in Brown County during the long-range planning period, the following studies and projects will likely be the most significant.

Southern Bridge and Connecting Arterial Streets

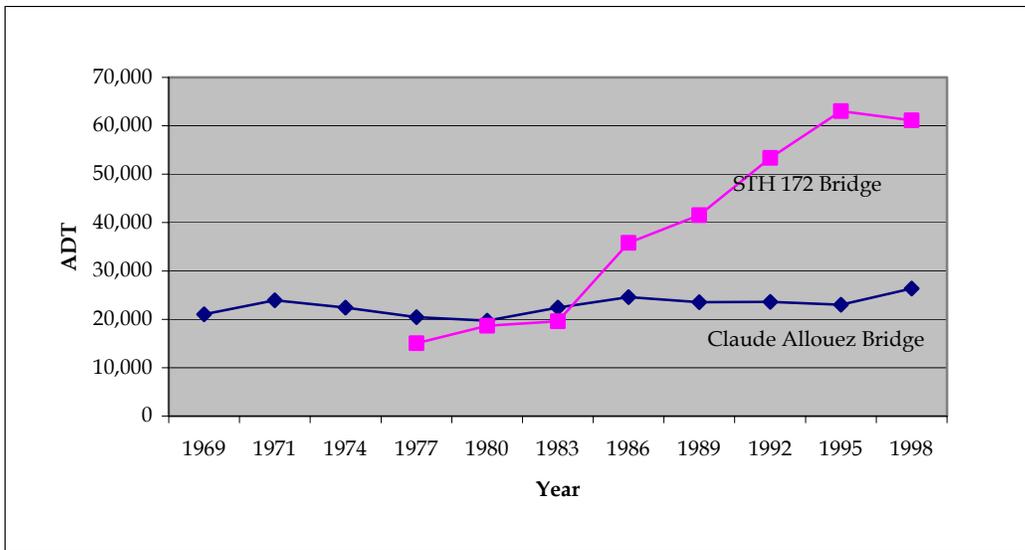
The recommendation for a bridge south of De Pere first appeared in the 1968 Brown County Comprehensive Plan. This bridge was envisioned to cross the Fox River in the vicinity of Rockland Road well after the plan's horizon year of 1985. However, the southern bridge issue was not extensively addressed again until a 1991 study by the Brown County Planning Commission compared the Rockland Road crossing location to a possible crossing at Heritage and Scheuring Roads. The results of this study were used by the Planning Commission and the consulting firm HNTB during the development of the Brown County Year 2020 Land Use and Transportation Plan to determine the plan's river crossing recommendation. In June of 1996, the 2020 plan was adopted with the recommendation for a crossing within a half-mile corridor surrounding Rockland and Red Maple Roads.

Following the adoption of the 2020 plan, Planning Commission staff immediately began working to identify and reserve right-of-way for the Southern Bridge and connecting arterial streets. Between 1996 and 2000, staff worked with several communities, state and federal agencies, landowners, and a Planning Commission subcommittee to identify and reserve right-of-way so it would be available when the efficient growth pattern recommended in the 2020 plan reached the Rockland Road/Red Maple Road area.

The development north of the Southern Bridge corridor has occurred relatively efficiently since 1996. This efficiency was demonstrated in the Planning Commission’s Southern Bridge Population Analysis (May 2001) and Employment, Population, and Large Truck Volume Analysis for the Claude Allouez and Southern Bridge Areas (January 2002), which found that most of the population and employment growth in this area between 1990 and 2000 occurred within and next to the already developed portions of De Pere, Ledgeview, and Lawrence. These findings led Planning Commission staff to recommend not accelerating the Southern Bridge's construction schedule in order to avoid disrupting the area’s efficient development pattern, harming the economic competitiveness of De Pere’s downtown, and spending millions of dollars for a facility that was not yet needed.

During these studies, the Planning Commission also cited evidence as to why traffic volumes on the Claude Allouez Bridge will not decrease significantly after the Southern Bridge is built. An example of this evidence is shown in Figure 3-18, which compares traffic volumes on the Claude Allouez Bridge and STH 172 Bridge between 1969 and 1998.

Figure 3-18: Traffic Volumes on the Claude Allouez and STH 172 Bridges: 1969-1998



Source: Wisconsin DOT Average Daily Traffic Counts: 1969 - 1998

Instead of significantly decreasing after the construction of the STH 172 Bridge, traffic volumes on the Claude Allouez Bridge stabilized and then increased after the new bridge was built. Although some vehicle trips were likely diverted to STH 172 from the Claude Allouez Bridge when the 172 bridge opened, the diverted trips were soon replaced by

new trips on the Claude Allouez Bridge that were attracted there because of the newly created capacity. The consistency of the traffic volumes on the Claude Allouez Bridge suggests that drivers will still choose to use it even when average daily traffic volumes are around or above 24,000 vehicles per day because they perceive this route to be more convenient than the STH 172 Bridge, but it appears that people will seek alternatives to or make fewer trips across the Claude Allouez Bridge when volumes approach 27,000 vehicles per day.

While a new bridge two miles south of the Claude Allouez Bridge will probably divert some truck and other trips from the downtown bridge, traffic volumes on the downtown bridge will likely return to previous levels in a few years as the diverted trips are once again replaced by new discretionary and essential trips. Basically, as long as vehicle capacity is available on the Claude Allouez Bridge (or any other bridge or highway), it will be used. This condition is also one of the reasons that the expansion of the Claude Allouez Bridge and connecting approaches and streets will likely result in a significant increase in traffic volumes on these facilities.

Current Conditions

Since the beginning of 2002, the conditions in the Southern Bridge corridor have changed. Some of these changes include:

- Planning Commission staff stated in the Employment, Population, and Large Truck Volume Analysis for the Claude Allouez and Southern Bridge Areas report that the population within the Southern Bridge's urban and rural study areas grew by approximately 2,270 people between January of 1990 and October of 2001. However, assuming that each housing unit that received a building permit between January of 2002 and September of 2003 is built and occupied by an average of 2.6 people (which is the same methodology used for the previous studies), the total number of residents in the study areas has grown by approximately 1,500 people over the last 1.5 years.⁶
- The land immediately north of the corridor on both sides of the Fox River in Brown County is developed or developing, several new single-family and multifamily projects have occurred south of Red Maple Road in Brown County, new subdivisions that contain relatively high residential densities are planned for the area south of Rockland Road on land that was recently annexed by De Pere, and Ledgeview is in the process of extending development toward the arterial corridor.
- Employment within the Southern Bridge study area has not changed significantly since the last analysis. For instance, a comparison of information from July of 1999 and August of 2002 found that the estimated number of employees within De Pere's West Business Park and East Industrial Park increased from 5,158 to 5,269, which is an increase of only 2.2 percent.⁷ This comparison also found that most of the employment gains and losses in the De Pere parks occurred immediately north and south of Heritage Road and Scheuring Road.

⁶ This estimate is also based on apartment unit counts and plat reviews by the Brown County Planning Commission. The estimate of an average of 2.6 people per household is based on the same methodology shown in Appendix 2 of the January 9, 2002, Southern Bridge study.

⁷ Based on business and industrial park employment information from the City of De Pere for 1999 and 2002 (the most recent employment count period).

- The Brown County Highway Department has built a portion of the southern arterial between American Boulevard and US 41, and the department plans to complete nearly all of the remaining arterial segments on the east and west sides of the river by 2009⁸.
- Brown County, the City of De Pere, and the Towns of Rockland and Lawrence are currently preparing comprehensive plans that will conform to Wisconsin's Comprehensive Planning (Smart Growth) Law, and the Town of Ledgeview adopted a plan that conforms to this law in July of 2004. These plans will identify 5-year growth increment areas and recommend several other strategies for promoting efficient development, creating mixed land use patterns, and establishing balanced transportation systems.

Although these current conditions will not improve the Southern Bridge's ability to divert traffic from the Claude Allouez Bridge (especially after the downtown bridge is expanded), the potential problems with inefficient development in the area should be addressed through the development and implementation of the Brown County, De Pere, Ledgeview, Rockland, and Lawrence Smart Growth plans. The concern about the possible negative impacts on De Pere's downtown is still valid, but the arterial street projects (which will probably have the greatest effect on the downtown) are already occurring. Therefore, after the Smart Growth plans for Brown County and the Southern Bridge corridor communities are finished and approved, the communities should work with the county and state to develop an implementation schedule for the Southern Bridge. In doing this, the participants should consider WisDOT's construction schedule for the new US 41 interchange, the availability and prioritization of funding for the bridge project, and the effectiveness of the Smart Growth plans in establishing a dense and efficient growth pattern adjacent to and south of the bridge corridor. Although this implementation schedule (which should include environmental analysis, Federal Highway Administration interchange criteria analysis, right-of-way acquisition, engineering, and construction elements) could move the construction phase forward from the current target year of 2020, the bridge should not be built until the new US 41 interchange is in place, the arterial street connections are completed, and a dense and efficient development pattern is present next to and south of the corridor on both sides of the Fox River.

Implementation of the STH 29 Corridor Study

In 2001, the Wisconsin Department of Transportation (WisDOT) asked Brown County Planning Commission staff to determine if the Brown County Year 2020 Land Use and Transportation Plan's recommendation for an interchange at CTH U was still valid. WisDOT also asked Planning Commission staff to expand on the 2020 plan's recommendations for STH 29 by recommending when a new interchange should be built and if additional access to the highway would be necessary in the future.

Between November of 2001 and August of 2002, Planning Commission staff worked with representatives of the Village of Howard, Village of Hobart, Town of Pittsfield, Oneida Nation, Brown County Highway Department, Outagamie County Planning Department,

⁸ According to the Brown County Highway Department 6 Year Highway Improvement Plan - 2004 to 2009 (issued in August of 2003).

and WisDOT to develop recommendations for the STH 29 corridor between CTH FF and Shawano County. This process involved several committee/stakeholder meetings, two public open house meetings, interviews with business owners along the corridor and representatives of the Pulaski School District, presentations to citizens groups and WisDOT managers, and three presentations to the Brown County Planning Commission Board of Directors.

The study that was adopted by the BCPC Board of Directors in August of 2002 contained the following recommendations for the corridor:

Physical Characteristics of the Corridor and Surrounding Area

- A grade-separated interchange should be built slightly west of where CTH VV currently meets STH 29 to complement the interchange planned for CTH FF. This interchange should be located slightly west of the existing CTH VV/STH 29 intersection to make the spacing between CTH FF and STH 32 as even as possible and allow for an efficient connection to Marley Street in Howard.
- The Village of Howard should transfer Marley Street between the CTH VV interchange and CTH C to Brown County. Following this jurisdictional transfer, CTH VV will extend from CTH U in Hobart to CTH C in Pittsfield.
- A grade-separated overpass should be built at CTH U to provide a means for people to conveniently travel between the north and south sides of STH 29.
- Direct access to STH 29 from Sunlite Drive in Hobart and Woodland Road in Howard should be removed when the CTH FF interchange is built. However, direct access to STH 29 should be maintained at CTH VV and CTH U until the new CTH VV interchange and CTH U overpass are built.
- Hobart and Howard should retain control of their portions of the Sunlite Drive and Woodland Road rights-of-way after direct access to STH 29 is eliminated. This will provide a clear path for the construction of a pedestrian or full-service overpass if it is warranted in the future.
- A single-lane roundabout should be built at the intersection of CTH U and CTH VV to maximize traffic flow, safety, and multi-modal accessibility. Roundabouts and other traffic calming techniques should also be considered elsewhere near the interchange to minimize the impact of traffic on the surrounding areas.
- Direct access to STH 29 from South St. Augustine Drive and STH 156 in Pittsfield should be eliminated, and STH 156 should be continued along Old 29 Drive to the STH 32 interchange. These changes should occur as soon as possible to prevent additional crashes at the existing intersection.
- The streets that connect to the interchange in Howard and Hobart should be two-lane boulevards that include bicycle lanes, left-turn bays at minor intersections, and roundabouts at major intersections. These features will allow the streets to carry traffic to and from the interchange efficiently while maximizing bicycle and pedestrian accessibility. The relatively narrow streets and roundabouts will also minimize noise and other negative impacts that are typically associated with arterial streets.

- The Villages of Howard and Hobart and Town of Pittsfield should develop local street networks that maximize connectivity and offer several route options for motorists, bicyclists, and pedestrians.

Estimated Construction Schedule

- The CTH FF interchange should be built after 2015. As previously mentioned, direct access to STH 29 from Sunlite Drive should be eliminated on the north and south sides of the highway when the CTH FF interchange project is finished. Hobart and Howard should, however, maintain control of the Sunlite Drive and Woodland Road rights-of-way adjacent to STH 29 in case an overpass is warranted in the future.
- The CTH VV interchange should be built after 2022. The STH 29/CTH U intersection should remain open until the CTH VV interchange project is finished.
- Once the CTH VV interchange is completed, the CTH U overpass project should begin.

Now that the study is adopted, WisDOT should proceed with the engineering and right-of-way acquisition phases of the project to enable the study's recommendations to be implemented as the urban area expands to the west. The study's recommendations should also be recognized when Hobart, Pittsfield, and the Oneida Nation develop comprehensive plans over the next several years.

US 41 Expansion Project

The expansion of US 41 between CTH F and I-43 in Brown County has been discussed for several years. WisDOT currently plans to expand the highway before 2012 if funds are available for the project, but it is possible that the project will be postponed due to limited highway funding. Some people believe that expanding the highway will make it safer and relieve the traffic congestion that is projected to exist in the future, while others are concerned that the project will be very expensive and that it is not a long-term solution to congestion. Some people are also concerned that the additional highway capacity will spur residential and business/industrial sprawl by encouraging people and employers to locate even farther away from the urban core than they do now.

Although expanding the highway will reduce traffic congestion after the project is completed and encourage additional economic development around the corridor, the additional capacity could be consumed by additional trips in a relatively short period of time.

The actual and perceived driving time reductions could also encourage people and businesses to locate farther away from the Green Bay Metropolitan Area, and locating in Little Suamico or other communities in Oconto County could become much more appealing than it is today. These and other highway-related issues must be considered as the communities along the US 41 corridor prepare their Smart Growth plans over the next six years.

STH 54/172 Corridor Study

WisDOT began a study of the STH 54/172 corridor between US 41 and the City of Seymour in 2004, and the study is expected to be finished at the beginning of 2005. This study, which will recommend future treatments to the urban and rural segments of the highways, will be based on existing and future land use along and near the corridor and the need to maximize safety and accessibility for motorized and non-motorized transportation modes.

Context Sensitivity

Example of context sensitivity: Street connections to the new Claude Allouez Bridge in De Pere

Highways are typically seen as facilities that are designed to move traffic efficiently, but it is very important to consider the area the highway serves when deciding how it should be designed. Since 1997, De Pere, Brown County, WisDOT, and various consultants have been considering several options for replacing the deteriorating Claude Allouez Bridge (State Trunk Highway 32) in downtown De Pere. Several months before the De Pere Common Council chose the single four-lane bridge alternative, the City was informed by WisDOT and the Federal Highway Administration (FHWA) that a four-lane bridge must replace the existing two-lane structure if federal funds are to be used for the project due to existing and projected traffic volumes. While the bridge project (and the widening of the bridge approaches and connecting street driving areas) will increase the traffic-carrying capacity of the bridge and surrounding highway segments, the project could make it more difficult to travel throughout the downtown in anything but a car because street crossings will be wider and vehicle volumes and speeds will steadily increase after the project is finished. Essentially, this project is intended to move motorists through downtown De Pere quickly, but the project could make trips to downtown more difficult and less appealing unless something is done to bring the transportation system into better balance.

Achieving Better Balance West of the Fox River

In 2001, the Brown County Planning Commission prepared a paper (based on the FHWA's 1999 Flexibility in Highway Design guide) that emphasized the need to consider the context of a highway project when it is planned, designed, and built. In this case, the context was a downtown area that contains recently renovated historic buildings, St. Norbert College, and several other attractions that are faced with being penetrated by a widened state highway that will attract many more vehicles each day and further limit accessibility for non-motorists. To achieve greater balance and enable the highway project to fit better within the context of De Pere's downtown, the Brown County Planning Commission developed design proposals in 2001 for Main Avenue and Reid Street between Third Street and Fifth Streets (see Figures 3-19 and 3-20 for the proposals). These proposals were designed to:

- Calm traffic on Main Avenue, Reid Street, and Third Street.

Figure 3 - 19
Proposed Downtown De Pere (West) Street Design For Four Lane Claude Allouez Bridge
Brown County, WI

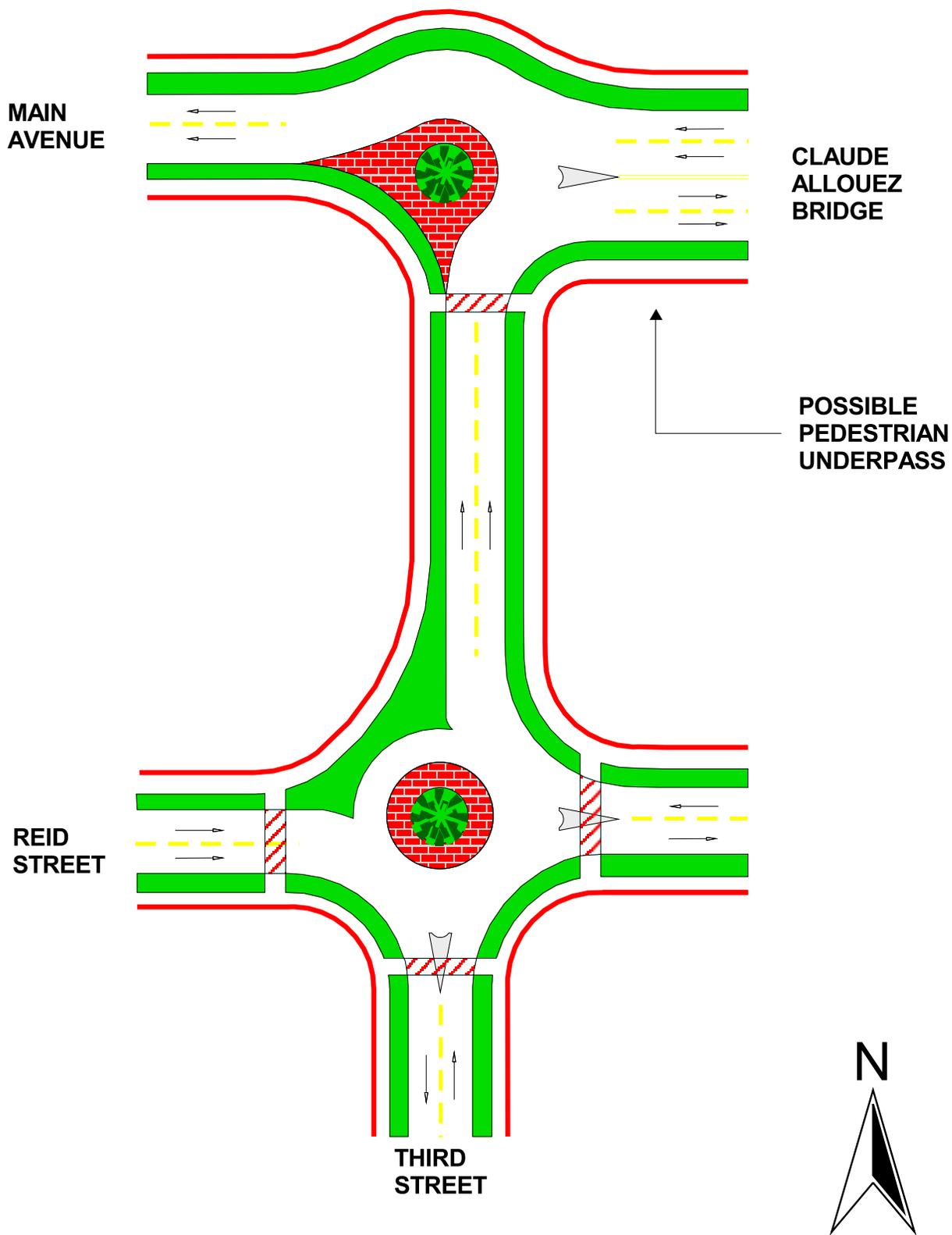


Figure 3 - 20
Possible Improvements to Main Avenue and Reid Street Between Third and Fifth Streets in De Pere if a Four-Lane Bridge is Constructed
Brown County, WI



- Force vehicles to approach the west end of the bridge at reasonable speeds.
- Make pedestrian crossings safer and more convenient by converting Main, Reid, and Third to two-lane streets and installing curb extensions and crosswalks at intersections and in the middle of blocks. The curb extensions and lane reductions are designed to create crossing areas that are highly visible, relatively short, and frequent enough to enable people to cross the streets easily.
- Significantly reduce vehicle merging and lane changes (weaving) on Third Street between Reid and Main.
- Create well-defined and easily recognizable bicycle lanes that can connect to the bicycle lanes planned for the new bridge.
- Retain full access between Third Street and Reid Street's east leg (the street that serves St. Norbert College).
- Retain parking along all of the area streets.

These features will help to maximize safety and accessibility for motorists and non-motorists on the downtown's west side while enabling the street to operate efficiently with the new bridge. The improvements will also make it easier and more pleasant to stop and spend some time (and money) in the City's downtown. Although these recommendations were specifically designed for De Pere's downtown, similar context considerations should be made during the long-range planning period when highway projects occur throughout Brown County.

Rail Transportation

Freight Rail

Although the intermodal transportation of freight has many advantages from a system standpoint, it can be very expensive for rail companies to participate in these arrangements because the companies must be able to transport high volume loads over long distances to make a profit. Since the railroads in Brown County tend to carry relatively small intermodal loads over relatively short distances, it is very difficult for a regional railroad like the Canadian National (CN) to realize profits from these arrangements. If this eventually leads to the CN reducing or abandoning its intermodal operation in Green Bay, one of the results will likely be a much higher number of trucks on the area's highways that are pulling trailers that were previously hauled by trains. In addition to increasing the amount of fuel consumed to transport these loads throughout the area, this increase in truck traffic will lead to a higher volume of exhaust emissions and will contribute to traffic congestion on the area's highways.

Because the Escanaba and Lake Superior Railroad (ELS) is a short line railroad (that specializes in short distance hauls), it might be able to step in and replace the Canadian National now that the CN has abandoned its Green Bay intermodal operation. Although the ELS currently only serves northern Wisconsin and the Upper Peninsula of Michigan, the company should investigate participating in an intermodal arrangement with local trucking firms and determine if one or more of the firms would hire the railroad as an intermodal subcontractor. If the ELS finds that a subcontracting arrangement is feasible,

the railroad should also attempt to gain access to the CN rail line that runs along the west side of the Fox River. Without access to this rail line, the ELS will not be able to transport intermodal freight to areas west and south of Green Bay.

Passenger Rail

Brown County does not currently have access to passenger rail service, but a high speed passenger rail line is expected to be extended to Brown County in the future through the Midwest Regional Rail Initiative (MRRRI). If this service is implemented, it will provide another means for Brown County residents to travel throughout the Midwest without using their personal vehicles. The implementation of this service will also enhance the attractiveness of public transit to metropolitan area residents by enabling them to use the bus to reach what will likely be the area's primary MRRRI terminal in Green Bay.

Austin Straubel International Airport can also benefit from this service if the airport can cooperate with Green Bay Metro or another local transportation provider to transport passengers between the MRRRI terminal and the airport. For this to succeed, the airport will have to also market the service to people who live outside the area and offer incentives (in addition to avoiding long-term parking charges) to use the train. The airport should also prepare a strategy to reclaim some of its passengers if people who would ordinarily fly through Green Bay choose to use the train to travel to General Mitchell Field in Milwaukee.

Air Transportation

Austin Straubel International Airport will continue to provide air service to people traveling to and from Brown County, and the expansion of Brown County's commercial and industrial base over the life of the plan will likely increase the demand for air freight service at the airport. The airport is currently building a new concourse to accommodate this growth, and a second new concourse is planned to be built in the future. In addition to this project, the airport should address the following issues during the long-range planning period:

- The airport should extend runway 18/36 from its current length of 8,200 feet to 10,000 feet to enable the runway to accommodate larger carriers. The cost of extending the runway will be covered by the Federal Aviation Administration (FAA) and by funds from landing and other fees collected by the airport. The land for the project is already owned by the County, as well.
- The airport will need to expand its ticketing and luggage operations to conform to security requirements imposed by the FAA. The new facilities will be designed to enable airport staff to scan for illegal items more efficiently than they can using the current facilities. Although these improvements are expected to cost between \$6 and \$8 million, the airport will be able to use funds from the FAA and airport fees to cover all of the costs.
- The airport terminal will need to be modified to create office space for FAA staff because the FAA representatives are currently housed in the airport's control tower. The cost of this project will be covered by FAA funds and airport fees.

- The airport should study its long- and short-term parking needs to determine if a ramp should be built. This study should include an estimate of how many trips to and from the airport can be made by modes other than private vehicles (such as transit and taxi cabs), and the airport should monitor the progress of the Midwest Regional Rail Initiative (MRRI) to determine if air passengers can use the high speed trains to reach the airport from outside the metropolitan area. Promoting the use of other transportation modes (as well as carpooling) can help to minimize the investment needed for airport parking in the future.
- The airport should continue to work with the City of Green Bay, Village of Ashwaubenon, Village of Hobart, and Town of Lawrence to address development near the airport and the airport's crash zones. Development near the crash zones in Green Bay has been an issue in the recent past, but most of the City's land near the zones is now occupied. However, much of the Hobart, Ashwaubenon, and Lawrence land near the airport and the crash zones is currently unoccupied, so it is very important that airport staff be consulted before development occurs near the zones. Airport staff should also be involved in the development of the Hobart and Lawrence Smart Growth plans and implementation of Ashwaubenon's plan to ensure that these issues are addressed.
- Airport staff should work with WisDOT, the Brown County Planning Commission, the consulting firm chosen by WisDOT, and the affected communities on the STH 172 Corridor Study. Although the Brown County Year 2020 Land Use and Transportation Plan recommends the construction of an interchange at the intersection of STH 172 and Airport Drive, a facility of this magnitude will be very expensive to build and might not be necessary to efficiently move traffic into and out of the airport.

Trucking

Brown County's truck routes are mainly the state and county highways that run through the County's communities. However, as commercial and other truck-generating land uses are mixed into various parts of the communities over the next 20 years, the communities should consider formally identifying streets where heavy trucks are allowed to travel. These truck routes should be designed to minimize impacts on residential areas and to inform truck drivers of the most efficient routes into and out of the communities.

Once this system is identified, the County's communities should mark the truck routes with street signs that distinguish them from the other streets. One method of doing this is to paint the truck route street signs a different color so they can be easily identified by truck drivers. This approach has been used by the Village of Ashwaubenon for several years to enable truckers to determine if they can drive on certain streets before they unknowingly enter them illegally.

In addition to clearly identifying truck routes, Schneider National and other local trucking firms should continue to work with the Port of Green Bay and the rail companies that serve Brown County to continue transporting raw and finished goods to and from the County.

Water Transportation

Channel Depth and Width

Perhaps the most significant issue facing the Port of Green Bay at this time is the depth and width of the shipping channel. Although Green Bay's port is considered to be an international facility, its 24-foot-deep and 100-foot-wide channel is unable to accommodate international shipping traffic because these ships require a deeper and wider channel to avoid scraping the riverbed. The limited depth and width of Green Bay's channel forces international ships carrying steel and other raw products destined for the Green Bay area to unload in Milwaukee and other larger ports, and the materials are then transported to Brown County and elsewhere by truck (or occasionally by train). The Port of Green Bay's channel depth and width also deters industries that rely on the international shipping companies from locating in Green Bay.

The deepening and widening of the Port of Green Bay's channel and the attraction of international shipping traffic to the port would be beneficial in the following ways:

- The number of trucks on (and the damage to) the highways between Milwaukee and Green Bay will be reduced, which will help to reduce fuel consumption and emissions and extend the life of the highways.
- The potential for increasing exports from the port could improve as the international ships seek "backhauls" after unloading their materials here. These backhauls (which are loads that are carried from a port after unloading the original cargo) will also allow the ships to avoid having to travel long distances empty, which will save shipping companies a significant amount of money.
- The ability to accommodate international shipping traffic will enable Green Bay and the surrounding area to compete for industries that will not consider Brown County at this time because of the insufficient channel depth and width.
- The ability to handle international shipping traffic will add to the prestige of the Port of Green Bay, which can also help to attract additional industries to the area.

For these and other reasons, Brown County and the communities directly affected by the Port of Green Bay should work with the U.S. Army Corps of Engineers to change the port's federally-authorized dredging depth to 26 feet and width to at least 250 feet. Once this is done, the County and affected communities should work with the federal government to ensure that the Corps of Engineers has enough money to complete and maintain the dredging project. Brown County should also identify sites to dispose of the additional dredge spoils to enable the channel to maintain its adequate depth and width.

Other Issues

In addition to increasing the depth and width of the Fox River channel, the Port of Green Bay should address the following issues during the long-range planning period:

- Once the channel is deepened and widened, the port should seek additional products to export from the area. Examples of possible exports include finished products from area foundries, paper converting machines from local and regional paper mills, and

- wood pulp. The port should also investigate the possibility of exporting grain from producers in northeast Wisconsin.
- To receive additional exportable goods and continue to enable imported materials to be transported throughout the region, the port should attempt to expand its relationship with the area's rail and trucking companies. This could include making arrangements with local trucking companies to carry truck trailers on ships (like trains currently do) in addition to various finished and/or raw products from the region.
 - The port should continue to accumulate funds (through docking fees and other charges) to purchase land that can be leased to port-related industries in the future.
 - The port should coordinate land use activities with the City of Green Bay as the City implements its recently adopted comprehensive plan. According to the plan, the City would prefer that most port activities occur north of Main Street on the west side of the Fox River and north of the East River on the Fox River's east side. However, the port should work with the City to determine if some activities also could and should occur south of Mason Street on the west side of the Fox River. To determine the most appropriate uses for the land along the river in Green Bay and the rest of the metropolitan area communities adjacent to the river, the Brown County Planning Commission should work with the Cities of Green Bay and De Pere, Villages of Allouez and Ashwaubenon, Port of Green Bay, Bay-Lake Regional Planning Commission, and other entities to develop a land use plan for the Fox River shoreline in the metropolitan area.
 - The port should continue to pursue federal and state grants to expand port activities. The port should also initiate an aggressive marketing campaign after the channel's depth and width are increased to inform industries of the area's new shipping opportunities.

Funding to Help Develop the County's Transportation System

To help Brown County and the County's communities fund the development of an intermodal transportation system, they should continue to apply for transportation grants from various sources over the next several years. Some examples of these programs are summarized in this section.

SMIP and Stewardship Program

Brown County and the County's communities should continue to apply for grants from Wisconsin's Statewide Multi-Modal Improvement Program (SMIP) to help fund the development of the County's bicycle and pedestrian system. The County and communities should also continue to apply for funds from Wisconsin's Stewardship Program to assist in funding the construction of off-street trail systems.

Since 1994, the SMIP has enabled several bicycle, pedestrian, beautification, and historic preservation projects to be completed throughout Brown County. A summary of the Brown County projects that were funded through the SMIP between 1994 and 2002 is shown in Figure 3-21.

Figure 3-21: SMIP Funds Awarded in Brown County Between 1994 and 2002

Funding Cycle	Project	SMIP Funds Awarded
1994	Mountain-Bay Trail	\$292,800
1994	Chicago & Northwestern Passenger Depot Project	\$350,000
1994	East River Trail	\$163,000
1994	Fox River East Bank Parkway	\$100,000
1998	Fox River Trail	\$395,600
1998	Packerland Drive Trail	\$140,000
1998	East River Trail (Phase II)	\$81,760
1998	Broadway Street Reconstruction/Beautification Project	\$223,052
2000	Grant Street Bicycle/Pedestrian Project	\$413,500
2000	National Railroad Museum Library/ Archive Facility	\$290,250
2000	Cardinal Lane Trail	\$206,400
2000	Broadway Street Reconstruction/Beautification Proj. (Phase III)	\$273,830
2002	South Broadway Street Bicycle Lanes	\$315,000
2002	Baird Creek Parkway Trail	\$427,000
	Total SMIP Funding, 1994 - 2002	\$3,672,192

Source: Brown County Planning Commission.

Information about the SMIP can be obtained from the Brown County Planning Commission or Wisconsin DOT, and the County and communities can contact the Wisconsin Department of Natural Resources for information about the Stewardship Program.

Statewide Enhancement Program

The Wisconsin DOT also offers enhancement funds for transportation-related projects that are within the right-of-way of highways controlled by the state. These funds can be used to implement the Main Avenue/Reid Street pedestrian circulation improvements that were identified in this chapter, as well as other enhancement projects on state-controlled highway rights-of-way throughout the County.

Hazard Elimination and Safety (HES) Program

In 2002, Brown County and De Pere obtained a Hazard Elimination and Safety (HES) Program grant to fund 90 percent of the cost of installing a roundabout at the intersection of Ninth Street and Grant Street, and the County recently obtained an HES grant to improve intersection safety along Main Avenue west of Seventh Street in De Pere. HES funds are also being used to install negative-offset left turn lanes on Ashland Avenue and STH 172 in Ashwaubenon.

The County and the County's communities should continue to apply for HES grants to correct existing and potential transportation safety problems, and other grant programs through WisDOT's Bureau of Transportation Safety should also be investigated to address safety issues.

CMAQ Program

If Brown County is designated as an air quality non-attainment area in the future, the County and the County's communities should seek funds from the Congestion Mitigation and Air Quality (CMAQ) Program administered by WisDOT to implement projects that will improve the area's air quality.

Brown County and the County's communities should also investigate other grant opportunities as they arise in the future.

Consistency With State and Regional Transportation Plans

State and Regional Bicycle and Pedestrian Plans

The bicycle and pedestrian system recommendations in the Brown County plan are consistent with the goals of the Wisconsin and Brown County bicycle and pedestrian plans. Like the state and regional bicycle and pedestrian plans, many of the recommendations in the Brown County plan are designed to increase the number of people using these transportation modes and to ensure that walkers and bikers are able to travel safely throughout the area.

State and Regional Highway Plans

Several aspects of the state and regional highway systems in this area were addressed throughout the chapter.

State and Regional Rail Plans

The state railroad plan is currently being developed by WisDOT, and the Brown County plan addresses freight rail service in the County. The Brown County plan also acknowledges the Midwest Regional Rail Initiative (MRRI) and recommends that County residents use the passenger rail service as an alternative to their personal vehicles if the service is extended to the County in the future.

State Airport Plan and Austin Straubel International Airport Master Plan Update

The Wisconsin State Airport System Plan 2020 recognizes Austin Straubel International Airport as an important component of the state's airport system, and the Brown County plan recommends that the airport continue to work to retain and expand the current number of air carriers that offer passenger and freight service.

Regional Waterway Plans

The current status and future plans of the Port of Green Bay are addressed in this chapter.

Summary of Recommendations

This chapter recommends the following policies:

County Highways and Community Streets

- To enable and encourage people to walk and bicycle throughout the County's communities, the communities are encouraged to require well-connected street patterns within new developments that have frequent connections to the existing street system. However, if physical or environmental constraints prohibit street connections, the County's communities are encouraged to allow the development of cul-de-sacs near the constraints.
- Brown County's communities are encouraged to amend their subdivision ordinances to allow the construction of narrower streets and to establish right-of-way width standards that do not require the acquisition of more right-of-way than necessary.
- The parking areas of streets should be defined by curb extensions at many intersections throughout the County when the streets have curbs and other urban characteristics. If a block is relatively long, extensions should also be placed at other points along the street.
- To move traffic efficiently while minimizing barriers to pedestrian and bicycle travel, Brown County should construct and the County's communities are encouraged to construct a system of two-lane arterial boulevards that are complemented by an interconnected collector and local street system, mixed land uses, and efficient traffic control techniques at intersections.
- Brown County and the County's communities should continue to consider street design techniques that reduce vehicle speeds, minimize the possibility of conflicts, and enhance traveler awareness to maximize pedestrian, bicyclist, and motorist safety and accessibility at intersections. Techniques that the County and communities should continue to use include roundabouts, curb extensions at intersections, and other similar street design features.
- If vehicle speed is an issue at the local level, the County's towns are encouraged to consider a study of their roads to determine the appropriate speed limit for each road based on the standards in Chapters 346.57(4) and 349.11(3) of the Wisconsin Statutes. Once a study is completed, the community should establish the speed limits by adopting an ordinance for each town road and posting signs at appropriate locations.

Pedestrian and Bicycle Facilities

- To enable and encourage people to make additional walking and bicycling trips in Brown County, the County's communities are encouraged to implement the Land Use chapter's recommendations for mixing land uses to create destinations that can be easily reached by pedestrians and bicyclists.
- Brown County should install sidewalks along its highways within incorporated communities and in portions of unincorporated communities that have urban characteristics (such as the Poland town center in Eaton). The County's incorporated

and unincorporated communities are also encouraged to create sidewalk systems in their areas of urbanization.

- If sidewalks cannot (or will not) be installed along streets with reverse frontage lots that have little or no direct driveway access, the state, county, and local governments should consider enhancing pedestrian access along these streets by constructing multi-use trails that are 10 or 12 feet wide.
- Over the next 20 years, it is important to continue developing trails throughout Brown County and linking as many of the trails as possible to create a continuous system that serves the urban and rural areas and connects Brown County to the surrounding counties.
- To enable and encourage people to travel to destinations in the County with and without motorized vehicles, the County's communities should encourage the development and redevelopment of buildings that have zero or minimal setbacks, parking along the side or in the rear, and other features similar to those recommended in the plan's Land Use chapter.
- The County should continue to work with the Wisconsin Department of Transportation and the County's communities to ensure that all of the bridges, interchange overpasses, and other transportation structures within the County have adequate pedestrian and bicycle facilities when they are constructed or reconstructed.
- When cul-de-sacs must be built and development and physical barriers are not insurmountable, the County's communities should consider the designation of public rights-of-way at or near the end of the cul-de-sacs for multi-use paths that connect to neighboring subdivisions, schools, parks, and other destinations.

Transit

- The communities within the Green Bay Metro service area are encouraged to work with Metro, employers within the service area, retail centers, the Brown County Planning Commission, and other groups and individuals to implement programs that could increase transit ridership.
- The communities within the Green Bay Metro service area should continue to utilize Metro's paratransit service to provide another transportation option for the area's elderly and disabled residents.

Highways

- After the Smart Growth plans for Brown County and the Southern Bridge corridor communities are finished and approved, the communities should work with the county and state to develop an implementation schedule for the Southern Bridge. In doing this, the participants should consider WisDOT's construction schedule for the new US 41 interchange, the availability and prioritization of funding for the bridge project, and the effectiveness of the Smart Growth plans in establishing a dense and efficient growth pattern adjacent to and south of the bridge corridor.

- Now that the STH 29 Corridor Study is finished and adopted, the Wisconsin Department of Transportation should proceed with the engineering and right-of-way acquisition phases of the project to enable the study's recommendations to be implemented as the urban area expands to the west. The study's recommendations should also be recognized when Hobart, Pittsfield, and the Oneida Nation develop comprehensive plans over the next several years.
- The probable impacts of the US 41 expansion project must be considered as the communities along the US 41 corridor prepare their Smart Growth plans over the next six years.
- The recommendations in the STH 54/172 Corridor Study should be implemented after the study is completed in 2005.

Context Sensitivity

- The Wisconsin DOT, Brown County, and the County's communities should consider the context of highway projects when they are planned, designed, and built to enable the highways to fit with the surrounding areas.

Rail Transportation

Freight Rail

- Now that the Canadian National Railroad (CN) has eliminated its intermodal activities, the Escanaba and Lake Superior Railroad (ELS) should investigate participating in an intermodal arrangement with local trucking firms and determine if one or more of the trucking firms would hire the railroad as an intermodal subcontractor. If the ELS finds that a subcontracting arrangement is feasible, the railroad should also attempt to gain access to the CN rail line that runs along the west side of the Fox River. Without access to this rail line, the ELS will not be able to reach the Green Bay intermodal facility or transport intermodal freight to areas west and south of Green Bay.

Passenger Rail

- Brown County and the County's communities should monitor the progress of the Midwest Regional Rail Initiative (MRRI) and encourage residents to use it to travel throughout the Midwest.

Air Transportation

In addition to the two concourse projects, Austin Straubel International Airport should address the following issues during the long-range planning period:

- The airport should extend runway 18/36 from its current length of 8,200 feet to 10,000 feet to enable the runway to accommodate larger carriers.
- The airport will need to expand its ticketing and luggage operations to conform to security requirements imposed by the Federal Aviation Administration (FAA).

- The airport terminal should be modified to create office space for FAA staff.
- The airport should study its long- and short-term parking needs to determine if a ramp should be built. This study should include an estimate of how many trips to and from the airport can be made by modes other than private vehicles (such as transit and taxi cabs), and the airport should monitor the progress of the Midwest Regional Rail Initiative (MRRI) to determine if air passengers can use the high speed trains to reach the airport from outside the metropolitan area.
- The airport should continue to work with the City of Green Bay, Village of Ashwaubenon, Village of Hobart, and Town of Lawrence to address development near the airport and the airport's crash zones. Airport staff should also be involved in the development of Hobart's Smart Growth plan and implementation of Ashwaubenon's plan to ensure that these issues are addressed.
- Airport staff should work with WisDOT, the Brown County Planning Commission, the consulting firm chosen by WisDOT, and the affected communities on the STH 172 Corridor Study.

Trucking

- As commercial and other truck-generating land uses are mixed into various parts of the communities over the next 20 years, the communities should consider formally identifying streets where heavy trucks are allowed to travel. Once this system is identified, the County's communities should mark the truck routes with street signs that distinguish them from the other streets.
- Schneider National and other local trucking firms should continue to work with the Port of Green Bay and other companies that serve Brown County to continue transporting raw and finished goods to and from the County.

Water Transportation

In addition to increasing the depth of the Fox River channel from 24 to 26 feet and the width from 100 to at least 250 feet, the Port of Green Bay should address the following issues during the long-range planning period:

- Once the channel is deepened and widened, the port should seek additional products to export from the area. Examples of possible exports include finished products from area foundries, paper converting machines from local and regional paper mills, and wood pulp. The port should also investigate the possibility of exporting grain from producers in northeast Wisconsin.
- To receive additional exportable goods and continue to enable imported materials to be transported throughout the region, the port should attempt to expand its relationship with the area's rail and trucking companies. This could include making arrangements with local trucking companies to carry truck trailers on ships (like trains currently do) in addition to various finished and/or raw products from the region.
- The port should continue to accumulate funds (through docking fees and other charges) to purchase land that can be leased to port-related industries in the future.

- The port should coordinate land use activities with the City of Green Bay as the City implements its recently adopted comprehensive plan. According to the plan, the City would prefer that most port activities occur north of Main Street on the west side of the Fox River and north of the East River on the Fox River's east side. However, the port should work with the City to determine if some activities also could and should occur south of Mason Street on the west side of the Fox River. To determine the most appropriate uses for the land along the river in Green Bay and the rest of the metropolitan area communities adjacent to the river, the Brown County Planning Commission should work with the Cities of Green Bay and De Pere, Villages of Allouez and Ashwaubenon, Port of Green Bay, Bay-Lake Regional Planning Commission, and other entities to develop a land use plan for the Fox River shoreline in the metropolitan area.
- The port should continue to pursue federal and state grants to expand port activities. The port should also initiate an aggressive marketing campaign after the channel's depth and width are increased to inform industries of the area's new shipping opportunities

Funding to Help Develop the County's Transportation System

- To help fund the development of Brown County's intermodal transportation system, the County and the County's communities should continue to apply for transportation grants from various sources during the long-range planning period.

CHAPTER 4

Economic Development

Local governments play an increasingly critical role in promoting private sector economic development because economic strength is critical to the vitality of a community. Economic development is the process by which a community organizes and then applies its energies to the task of creating the type of business climate that will foster the retention and expansion of existing businesses, attract new businesses, develop new business ventures, and revitalize underutilized assets.

Economic development efforts to create jobs are important beyond generating additional income for the county residents. These efforts can help to generate additional tax base for the provisions of local services and may assist in establishing an environment for long-term economic vitality.

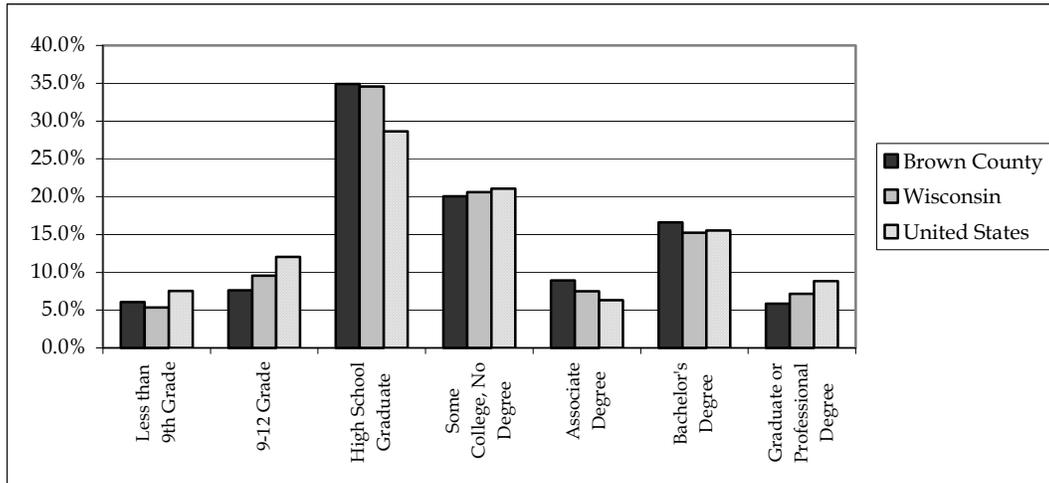
Success in economic development today requires a significant change in how economic development is done. It is important to think more broadly than was done in the past. In the past, it was believed that it was only important to attract factories and companies. Today, communities have come to realize that it is equally important to retain and attract smart, talented, entrepreneurial people who can create employment opportunities. It was felt that economic development was all about being the cheapest place to do business. Today, it is realized that physical and cultural amenities are critical to attracting and retaining entrepreneurs. In the past, it was believed that economic development was the government's job. However, change will come only through partnerships between government, businesses, and nonprofit organizations.

The key to an economic development strategy is having a quality product/community to market. The entire Brown County Comprehensive Plan is geared toward promoting future development in Brown County in a manner that is attractive to people and new and existing businesses. Economic development does not end at business recruitment. It also may mean promoting the Weidner Center for the Performing Arts, new waterfront development, efforts to preserve open space, and unprecedented partnerships with local universities and institutions of learning, youth, and business leaders.

Labor Force Analysis

Figure 4-1 addresses educational attainment information for Brown County. The education level of people 25 years and older in Brown County is very similar to that of the State of Wisconsin. Brown County leads in the high school graduate, associate degree, and bachelor's degree categories. Brown County's high education attainment levels can be attributed to the quality public school districts and fine private schools within the County. Brown County's positive educational attainment rates are a product of the strong commitment to education in the area. Brown County residents do lag behind the state and the nation in regards to the attainment of graduate or professional degrees. One of the challenges facing educational facilities will be providing assistance to businesses in planning for a diverse and aging workforce.

Figure 4-1: Educational Attainment - People 25 Years and Older



Source: U.S. Bureau of the Census, Census 2000 Table DP-2 Profile of Selected Social Characteristics: 2000

Figure 4-2 shows that the percentage of County residents 16 years of age and above who are in the labor force is higher than the percentage of people in the labor force in the State of Wisconsin. Brown County's 2000 unemployment rate of 2.7 percent is also lower than the state's 3.2 percent. The data indicates that there is a very active workforce in Brown County.

Figure 4-2: Employment Status by Percentage of Population 16 Years and Above

Status	Wisconsin	Brown County
In labor force	69.1%	72.0%
Civilian labor force	69.0%	71.9%
Employed	65.8%	69.1%
Unemployed	3.2%	2.7%
Armed Forces	0.1%	0.1%
Not in labor force	30.9%	28.0%

Source: 2000 Census Data, U.S. Census Bureau

When compared to the State of Wisconsin, Brown County has a higher percentage of people employed within the areas of sales and office occupations; finance, insurance, real estate, and rental and leasing; retail trade; and transportation and warehousing and utilities.

Figure 4-3 identifies the employment categories for people 16 years and older in Brown County and Wisconsin. As for individual industries, the largest industrial sector is manufacturing, which is slightly lower than the state, while those employed in the retail trade industry are slightly higher, reflecting Brown County's role as a retail center. Brown County also serves as a center for finance, insurance, real estate, and rental and leasing, reflecting growth in the areas of insurance and finance. Brown County is home to 17 municipally developed business and industry parks, totaling over 4,672 acres of land. Of these business and industrial park lands, approximately 1,475 acres of land are vacant and available for development. Business parks in Brown County have been

successful in generating employment opportunities, community tax base, and business profitability for the area. Employment opportunities are not limited to people residing in Brown County. The labor force serving Brown County businesses extends throughout Northeast Wisconsin, as evidenced by the commuting statistics gathered in the 2000 census. Conversely, skilled workers in Brown County also commute to other nearby counties to employ their skills.

Figure 4-3: Employed Civilian Population as a Percentage of People 16 Years and Above

	Wisconsin	Brown County
OCCUPATION		
Management, professional, and related occupations	31.3	30.6
Sales and office occupations	25.2	28.5
Production, transportation, and material moving occupations	19.8	18.7
Service occupations	14.0	12.6
Construction, extraction, and maintenance occupations	8.7	9.2
Farming, fishing, and forestry occupations	0.9	0.5
INDUSTRY		
Manufacturing	22.2	21.1
Educational, health, and social services	20.0	17.6
Retail trade	11.6	12.6
Finance, insurance, real estate, and rental and leasing	6.1	8.1
Arts, entertainment, recreation, accommodation, and food services	7.3	7.3
Professional, scientific, management, administrative, and waste management services	6.6	6.3
Construction	5.9	6.2
Transportation and warehousing and utilities	4.5	6.2
Other services (except public administration)	4.1	4.5
Wholesale trade	3.2	4.0
Public administration	3.5	2.9
Information	2.2	2.0
Agriculture, forestry, fishing and hunting, and mining	2.8	1.2

Source: U.S. Bureau of the Census: Table DP-3 Profile of Selected Economic Characteristics: 2000.

Increases in workers in the service occupations or retail trade industries are likely a result of Brown County recently exceeding threshold market populations that warrant multiple retail outlets under the same “brand” name. Examples of this are recent duplications of retail outlets, such as the home improvement centers for Menards and Home Depot, as well as department stores, including Kohl’s and Target. This trend may support continued growth in these occupation areas.

Economic Base Analysis

The vast majority of Brown County residents work within the Green Bay Metropolitan Area and, therefore, depend on a sound local economy for their financial well-being. Key industry groups in Brown County include healthcare; paper and related products; insurance, financial services, and government offices; hospitality; food processing; and logistics (trucking, warehousing, and related services). Figure 4-4 identifies the 30 largest employers in Brown County.

Figure 4-4: 30 Largest Employers in Brown County

Company	Type of Business	# of Employees
Georgia-Pacific 500 Day St., Green Bay, WI 54302-1055 1919 S. Broadway, Green Bay, WI 54304	Multinational manufacturer of paper, plastic and foam disposable products for consumer and commercial markets.	3,837
Schneider National, Inc.* 3101 Packerland Drive Green Bay, WI 54304	One of the nation's largest truck load carrier organizations.	3,249
Oneida Tribe of Indians of Wisconsin* N7210 Seminary Road. P.O. Box 365, Oneida, WI 54155-0365	Tribal enterprises and government of the Oneida Tribe of Indians.	2,751
Humana 1100 Employers Blvd Green Bay, WI 54344	Group health insurance.	2,700
Green Bay Public Schools 200 S. Broadway Street Green Bay, WI 54303	Public school system.	2,619
St. Vincent Hospital 835 Van Buren Green Bay, WI 54301-3526	Acute care hospital and regional center for trauma, cancer treatment, physical rehabilitation, prenatal care, dialysis, and specialty surgery.	1,827
Shopko Stores, Inc.* 700 Pilgrim Way, Green Bay, WI 54304	Discount mass-merchandise retail.	1,814
Bellin Health 744 S. Webster Avenue Green Bay, WI 54301	Acute care hospital specializing in cardiac, neuro, and critical care.	1,744

Figure 4-4 continued: 30 Largest Employers in Brown County

Company	Type of Business	# of Employees
American Foods Group* 544 Acme St., Green Bay, WI 54302	Meat distributors- wholesale/retail.	1,518
Packerland Packing Co.* 2580 University Avenue P.O. Box 23000 Green Bay, WI 54305-3000	Beef slaughterer and processor.	1,515
WPS Resources 700 N. Adams Street Green Bay, WI 54301	An energy holding company with regulated gas and electric utility subsidiaries and non-regulated operations. Subsidiaries include Wisconsin Public Service Corp., Upper Peninsula Power Co., WPS Energy Services, Inc., and WPS Power Development, Inc.	1,511
Brown County 305 E. Walnut Street P.O. Box 23600, Green Bay, WI 54305	County government services.	1,481
American Medical Security* 3100 AMS Blvd Green Bay, WI 54313-9700	Markets and administers health and life insurance plans designed especially for small businesses.	1,310
Procter & Gamble Paper Products 800 University Ave., Green Bay, WI 54302	Paper products manufacturer.	1,200
Aurora BayCare Medical Center 2845 Greenbrier Road Green Bay, WI 54311	Full service medical care facility with a 126-bed capacity	1,188
Paper Converting Machine Co.* 2300 S. Ashland Ave., Green Bay, WI 54304	Manufacturer of custom-built machinery for paper, film, foil, and disposable industries.	1,121
Green Bay Packaging, Inc.* 1700 N. Webster Ct., Green Bay, WI 54301	Manufacturer of non-durable products.	1,038
Prevea Clinic 760 Pilgrim Way Green Bay, WI 54304	Over 122 physicians trained in 33 primary and specialty care areas with 14 locations throughout NE Wisconsin.	1,000
City of Green Bay 100 N. Jefferson St., Green Bay, WI 54301	City government services.	999

Figure 4-4 continued: 30 Largest Employers in Brown County

Company	Type of Business	# of Employees
KI* 1330 Bellevue St., Green Bay, WI 54302	Manufacturer of contract furniture.	971
St. Mary's Hospital Medical Center 1726 Shawano Avenue Green Bay, WI 54303-3216	Acute care hospital with 158 private rooms.	940
Associated Banc-Corp 1200 Hansen Road Green Bay, WI 54304	Diversified multi-bank holding company offering a full range of traditional banking services and a variety of other financial products and services.	904
Schreiber Foods, Inc.* 425 Pine Street Green Bay, WI 54301-5137	Manufactures natural, process, and substitute cheese products, as well as pre-cooked sliced bacon and bacon bits.	839
Carver Boat Corporation LLC* 790 Markham Dr., Pulaski, WI 54162	Boat dealers.	829
APAC Customer Services 3200 Riverside Drive Green Bay WI 54301	Leading provider of customer interactive solutions for market leaders in financial services, insurance, healthcare and logistics.	695
American Express Property & Casualty Company 3500 Packerland Dr., Green Bay, WI 54304	Personal lines property casualty company (auto & home insurance) servicing 38 states.	667
Moore Wallace Response Marketing Services 1333 Scheuring Rd., De Pere, WI 54115	Printing, mailing, and direct mailing services.	662
Wal-Mart Stores, Inc 2292 Main St., Green Bay WI 54311-5307	Retail shopping store chain.	632
University of Wisconsin-Green Bay* 2420 Nicolet Dr., Green Bay, WI 54311-7001	Part of the statewide university system with an enrollment of over 5,000.	589
MEGTEC Systems 830 Prosper St., De Pere, WI 54115-3104	Manufacturer of industrial air flotation drying and pollution control systems.	427

Source: County Business Patterns, U.S. Dept. of Commerce, June 2003

*Corporations headquartered in Brown County.

Figure 4-5 identifies the top ten industry groups in Brown County. Of the ten largest industry groups in Brown County, health services remains the largest with 3,409 more workers than the next largest industry. Eight of the ten largest industries are from the service sector and two are from manufacturing. The two manufacturing industries are paper and the food and kindred products industry. While the ten largest employers in the County make up 18 percent of non-farm employment and nearly 25,000 workers, the top ten industries comprise 48 percent of the jobs with over 71,100 employees.

Figure 4-5: Top 10 Industry Groups in Brown County

Industry Group	March Employers	2001 Employees	Numeric 1 Year	Change 5 Year
Health Services	273	12,806	634	2,411
Eating and Drinking Places	380	9,397	245	1,224
Educational Services	33	8,220	-138	772
Paper and Allied Products	31	7,880	-109	-105
Business Services	295	6,339	-17	1,319
Food and Kindred Products	40	6,092	209	551
Trucking and Warehousing	185	5,986	-170	535
Special Trade Contractors	472	5,006	-13	1,009
Wholesale Trade - Durable Goods	354	4,856	72	343
General Merchandise Stores	17	4,521	217	299

Source: Wisconsin Department of Workforce Development

Figure 4-6: Annual Average Wage By Industry Division

	Brown County Annual Average Wage	Wisconsin Annual Average Wage	Percent of State Average	1-Year Percent Change	5-Year Percent Change
All Industries*	\$32,551	\$30,922	105.3%	3.2%	20.1%
Agriculture, Forestry, and Fishing	\$21,274	\$22,565	94.3%	0.0%	15.0%
Construction	\$37,747	\$39,011	96.8%	1.8%	19.2%
Manufacturing	\$39,276	\$39,739	98.8%	0.1%	11.9%
Transportation, Communications, and Utilities	\$42,876	\$36,639	117.0%	7.4%	27.4%
Wholesale Trade	\$39,562	\$40,521	97.6%	3.0%	22.7%
Retail Trade	\$16,939	\$14,596	116.1%	0.1%	18.6%
Finance, Insurance, and Real Estate	\$34,548	\$40,933	84.4%	6.9%	29.8%
Services	\$31,171	\$28,775	108.3%	8.6%	27.4%
Total Government	\$34,101	\$33,785	100.9%	-1.0%	12.3%

Source: Wisconsin Department of Workforce Development, 2001.

* Mining excluded from table since wages were suppressed to maintain confidentiality in every county.

As identified in Figure 4-6, the overall average wage for the area was 105.3 percent of the state's average annual wage during 2001. The average annual wage in Brown County is

above the state average in five of the ten industry sectors. Wages in the retail sector were at 116.1 percent of the state average. However, this sector had the lowest annual wage of the ten industries. The transportation, communications, and utilities had the highest wages in the area. This is most likely led by the high concentration of the trucking industry in Brown County. Manufacturing had the third highest average at \$39,276. Wages in the manufacturing sector are influenced by the paper industry. The wages in finance, insurance, and real estate at 84.6 percent of the state average compares the least favorably with the state average.

Wages from manufacturing make up the largest percent of the area's wages. Nearly 25 percent of the area's annual wages come from manufacturing while providing 21 percent of the area's employment.

While Brown County has historically had strong manufacturing and agricultural bases, the County has also experienced significant economic changes that have strongly impacted jobs and the economic futures of residents in the area. Many of the farmers in Brown County are having an increasingly difficult time succeeding. This is an area of concern because farming is the center of a large cluster of local activities. Farmers spend roughly \$.75 in the local economy for every \$1.00 they earn, and as a result, as farms disappear, many local businesses may follow. It is important to recognize farming as an economic activity and promote steps to enhance its long-term economic viability. Less and less land in Brown County is being used for farming, and the sizes of individual farms are getting larger. Farmers continue to be pressured by low commodity prices and land development pressures.

Location Quotient Analysis

A Location Quotient Analysis to determine basic and non-basic sector employment was performed utilizing Brown County as the local level for analysis as compared to the United States.

Basic sector employment typically produces goods or services that are exported out of the local economy and into the larger national economy. These goods and services and, therefore, employment are thus less likely to be affected by a downturn in the local economy. Non-basic sector employment includes those industries that produce goods or services that are consumed at the local level or are not produced at a sufficient level to be exported out of the local market.

The Location Quotient Analysis compares the local economy to the United States. This allows for identifying basic and non-basic sectors of the local economy. If the location quotient (LQ) is less than 1.0, all employment is considered non-basic, which means that local industry is not meeting local demand for certain goods or services and may be more subject to downturns in the local economy. An LQ equal to 1.0 suggests that the local economy is exactly sufficient to meet the local demand for given goods or services. However, the employment is still considered to be non-basic. An LQ of greater than 1.0 suggests that the local employment industry produces more goods and services than the local economy can consume, and therefore, these goods and services are exported to non-local areas and are considered to be basic sector employment. The Location Quotient Analysis for Brown County is displayed in Figure 4-7.

Figure 4-7: Employment by Industry Group, 2000; Brown County and the United States Location Quotient Analysis

Employment by Industry	Brown County	United States	Location Quotient
Agriculture, Forestry, Fishing	1,503	2,426,053	0.67
Construction and Mining	7,436	8,801,507	0.91
Manufacturing	25,449	18,286,005	1.50
Wholesale Trade	4,808	4,666,757	1.11
Retail Trade	15,245	15,221,716	1.08
Transportation, Warehousing, Utilities	7,455	6,740,102	1.19
Information	2,425	3,996,564	0.65
Finance, Insurance, and Real Estate	9,805	8,934,972	1.18
Professional, Scientific, Management, etc.	7,546	12,061,865	0.67
Educational, Health, and Social Services	21,228	25,843,029	0.88
Arts, Entertainment, Recreation, etc.	8,789	10,210,295	0.93
Other Services	5,377	6,320,632	0.92
Public Administration	3,464	6,212,015	0.60
Total Employees	120,530	129,721,512	

Source: U.S. Bureau of the Census, 2000; Brown County Planning Commission, 2003.

According to the LQ analysis, there are five industries in Brown County that can be considered to be basic employment sectors: manufacturing; wholesale trade; retail trade; transportation, warehousing, and utilities; and finance, insurance, and real estate. Therefore, these industries are most likely exporting goods and services to other parts of the country and contributing to a more stable local economy. Those industries that are below 1.0, such as information and professional fields, indicate that there may be demand within Brown County's local economy to support increases in these industry sectors.

Although there is ample room for growth in some of the industry fields, overall, the Brown County economy is rather diversified and provides a variety of employment opportunities and a generally stable economy for Brown County residents.

Economic Development Assessment and Recommendations

Economic Activity Locations

There are six primary economic activity location areas within Brown County. These include traditional industrial areas, business parks, central business districts, commercial shopping centers, community centers, and neighborhood centers.

Traditional Industrial Areas

Traditional industrial areas include historical industrial areas that were located in relationship to natural resource features associated with their production process.

Examples of this are the paper industry and its relationship with the Fox River or the location of trucking facilities near transportation facilities, such as highways, rail, and port. These traditional industrial areas were the locations for many of the larger and older manufacturing facilities, such as the paper mills of Georgia Pacific, Procter and Gamble Paper Company, and International Paper. In addition to being some of the oldest employers in Brown County, they also are some of the largest.

Business Parks

Business parks are an assembly of land subdivided and developed according to a comprehensive plan for the use of industry and business and with streets, rail lead tracks, and utilities installed before sites are sold. The development of business parks emphasizes the importance of physical land use planning details to achieve efficiency and compatibility and stresses the responsibility to operate the park by standards that protect the occupants of the development. These facilities are often sited with convenient access to the highway network.

Figure 4-8: Brown County Business Parks

MUNICIPALITY	INDUSTRIAL PARK
City of Green Bay 920-448-3397	<i>I-43 Business Center*</i> 820 total acres; 150 available; \$38,900 to 99,900/acre (Includes space set aside for office development)
	<i>Packerland Industrial Park</i> - 20 acres available
	<i>Tower East Industrial Park</i> - 5 acres available
	<i>Lime Kiln Industrial Area</i> - 40 acres available
City of De Pere 920-339-4043	<i>Nicolet Industrial Park</i> - 40 acres available
	<i>De Pere Business Park</i> 920 total acres; 130 available; negotiable
	<i>De Pere Industrial Park</i> 400 total acres; 130 available; \$25,000/acre
Village of Ashwaubenon 920-492-2327	<i>Ashwaubenon Industrial Park</i> 700 total acres; 110 available; \$25,000+/acre
	<i>Ashwaubenon Business Park</i> 285 total acres; 230 available; \$25,000+/acre
Village of Howard 920-434-4640	<i>Howard Industrial Park</i> 380 total acres; 73 available; \$28,000/acre
	<i>Lancaster Creek Business Park</i> 60 total acres; 13 acres available; negotiable
Town of Lawrence (Vander Zanden Real Estate) 920-437-9797	<i>Lawrence Industrial Park</i> 60 acres available; \$30,000/acre
Village of Denmark 920-863-6400	4 acres available throughout community; negotiable
Village of Pulaski 920-865-4200	232 total acres available throughout community; 9 fully improved available; \$17,500/acre
Village of Wrightstown 920-532-5567	20 acres available; special pricing provisions apply

Source: Advance, Green Bay Area Chamber of Commerce

*Note: Availability and pricing subject to change.

In Brown County, a few business parks have been developed privately; however, municipalities have developed the majority of them. Examples of these business parks include the I-43 Business Center on Green Bay's east side, the West De Pere Business Park located in southwest De Pere, the Ashwaubenon Business Park, and the Howard Industrial Park.

Excellent business and industrial park space is available throughout Brown County. Figure 4-8 provides a summary of the existing business parks and information regarding available acres, and Figure 4-9 provides a map of locations for industrial and business parks in Brown County.

As these areas become filled, it is important that communities plan for and pursue the expansion of existing parks and the development of lands for future industrial and business sites. It is also important that communities evaluate the potential for infill development on vacant land that has infrastructure in place, including utilities and services. These properties may be available for redevelopment, and in some cases, reclamation work can be done to make brownfield sites available for development. Recently completed comprehensive plans have identified locations for future business park development in the City of Green Bay, City of De Pere, Village of Howard, Village of Wrightstown, and Village of Suamico. These communities alone have identified over 2000 acres of land for future business park development.

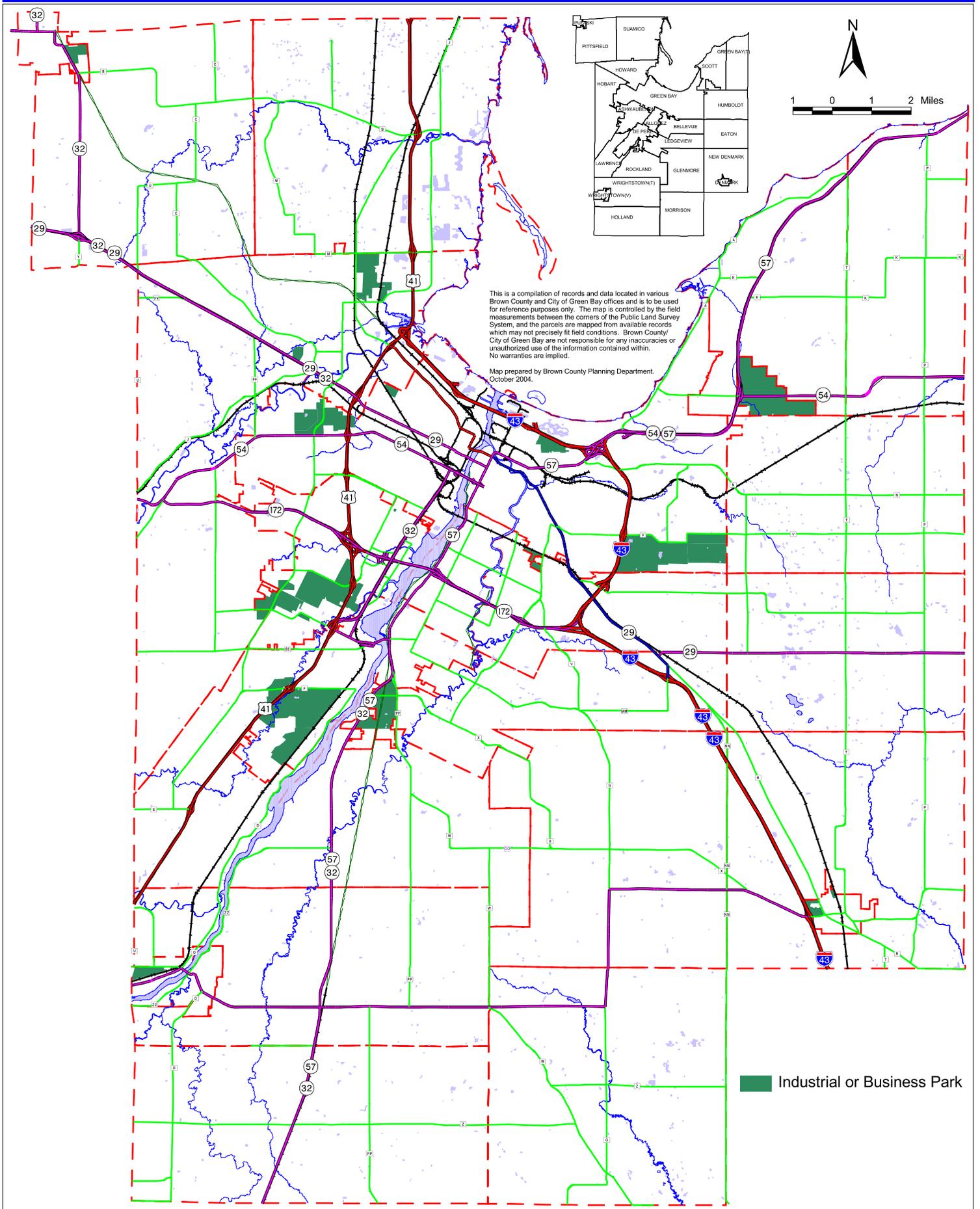
Central Business Districts

Central business districts in Brown County include the traditional "downtowns" of the City of Green Bay and the City of De Pere. These downtowns are home to industry, commercial trade, government, and residential neighborhoods. They serve as the economic and social hearts of the communities and are evidence of the communities' hard work, entrepreneurialism, and great pride. The Brown County Courthouse building serves as a symbol of this historical pride and as an identifier of the uniqueness of the downtown.

Downtowns serve as a place where people can come together. They are the locations for public facilities, such as the public libraries and the Neville Public Museum, which are operated by Brown County. Downtowns provide the backdrop for many outdoor events, such as weekly farmers' markets, the Green Bay marathon, the Tall Ship event, annual parades, and festivals, such as the Celebrate Americafest and Art Street in downtown Green Bay and Celebrate De Pere in downtown De Pere. Many older places of worship, which contribute to the cultural and social fabric of Brown County, are also located downtown.

Both Green Bay and De Pere have committed to significant revitalization efforts for their downtowns. The result has been a reinvestment of both public and private dollars for improvements. Main Street programs have been established in De Pere by the De Pere Main Street, Inc. and on Green Bay's near west side by On Broadway, Inc. These organizations are grassroots, community-based, nonprofit redevelopment groups that promote economic revitalization, historic preservation, and revitalization of their

Figure 4-9
Industrial and Business Parks
Brown County, WI



respective areas. Downtown Green Bay, Inc. was established as a not-for-profit organization funded by a Business Improvement District (BID) to preserve and improve the social and economic conditions in downtown Green Bay by bringing together appropriate partnerships of people, organizations, and funds needed to evaluate, facilitate, or implement downtown development projects.

It is important that we plan for and work toward the retention and creation of jobs in the central cities. Business clusters that should be focused on include healthcare, construction, manufacturing, and business process centers. A key element for success is a collaborative effort of community leaders. Leaders must focus on the assets that a central city location has to offer.

Downtowns enjoy a strategic location that can lower transportation costs for business and industry. Costly infrastructure is already in place to serve the growth potential in the downtowns. Downtown Green Bay, for example, is home to the Port of Green Bay, which serves as a Great Lakes port with access to the world through the St. Lawrence Seaway.

There is available land for redevelopment and expansion of the downtowns. It is important that local government continue to make land available through environmental remediation. An example of this is the west side Green Bay remediation project, which is the site of a former shipping slip on the Fox River. This site has been cleaned and is available through the City of Green Bay for waterfront development. Brown County should partner with local communities to enhance or redevelop commercial and industrial waterfront uses along the Bay of Green Bay and the Fox River.

The downtowns in Brown County are centrally located and in close proximity to a large potential work force. Near downtown neighborhoods enjoy “Smart Growth” traits since they already have high density, mixed land use, and multi-modal transportation facilities that are pedestrian-friendly.

Additionally, these areas are an under-served market for consumers. Many of the area’s office employees are located in the downtown area. Government offices located in downtown Green Bay include the City of Green Bay, Green Bay School District, Brown County, State of Wisconsin, and the federal courthouse. Downtown Green Bay is also the home office of WPS Resources, which is the electric and gas utility for much of Northeast Wisconsin and the northern Upper Peninsula of Michigan. Many ancillary legal, financial, and real estate offices are also located here. The medical center for St. Vincent Hospital and Bellin Hospital represent two of the area’s four medical centers. The employees for these businesses represent customers for downtown Green Bay.

Downtown De Pere has also enjoyed a renaissance as a result of redevelopment activities that have preserved this community’s central place. De Pere takes great advantage of the Fox River as an amenity. Downtown De Pere also serves as the home of the beautiful St. Norbert College campus.

Communities that invest in their downtowns through infrastructure improvements, streetscaping amenities, and the promotion of downtowns that are exciting, diverse, and pedestrian-friendly are the ones that see existing businesses reinvest and new businesses

added. Communities should focus on encouraging existing and new downtown businesses that provide local goods and services. This would include a variety of establishments with a unique atmosphere or small shops and restaurants that would serve the area population, as well as attract nearby office workers.

Commercial Shopping Centers

Commercial shopping centers are a grouping of retail stores or service businesses planned and designed for the site on which they are built, are located away from the central business district, and serve the shopping needs of new suburban and fringe growth. They have grown in size and number since their arrival on the urban landscape in the 1950s. These centers are a result of suburbanization and the increased role that the automobile has taken in our society. Significant growth outside or on the fringe of our urban centers has reduced the public's dependence on our central business districts and has increased the convenience of shopping centers. Shopping centers offer a large amount of surface parking space and are usually oriented toward highways or major arterials.

Examples of commercial shopping centers in Brown County include the Bay Park Square Mall on Oneida Street in Ashwaubenon, which is one of the largest shopping centers in Northeast Wisconsin, the Green Bay Plaza Shopping Center on West Mason Street, and the East Town Mall on East Mason Street in Green Bay. These malls are typically anchored by one or several large retailers, commonly referred to as "big box" retailers. For example, the Bay Park Square Mall has over 200 shops and is anchored by Shopko, Kohl's, Elder Beerman, and a recently added Younkers Department Store.

Brown County also has many smaller yet relatively new shopping centers, such as the Woodman's Shopping Center at US 41/141 and Dousman Street in the Village of Howard and countless shopping centers commonly referred to as strip centers. Many older shopping centers in Brown County have suffered from vacant stores, oftentimes smaller grocery stores. These centers remain a challenge for communities to adaptively reuse them for pedestrian-friendly neighborhood commercial centers.

Community Centers

In addition to the central business districts of Green Bay and De Pere, there are community centers that serve as the downtowns for satellite communities throughout Brown County. Community centers include mixed uses and pedestrian-friendly characteristics. Examples of these are the downtown areas of Pulaski, Denmark, and Wrightstown. These community centers share many of the challenges of the bigger downtowns but with an even more limited market. Communities should be encouraged to invest in these unique places as they serve as a focal point for their identity. The Villages of Allouez, Wrightstown, and Howard, the Town of Ledgeview, as well as the rural Town of Eaton, have emphasized the need for and have initiated plans to develop community centers replicating the atmosphere and design of existing traditional community centers. The Brown County Planning Commission should continue to identify tools and techniques for local communities to preserve or redevelop their downtowns as they develop their comprehensive plans.

Neighborhood Centers

Neighborhood centers are nodes of commercial activity at the edges of residential neighborhoods. While neighborhood centers have evolved into what has commonly been identified as commercial strip development with an automobile orientation and surface parking lots, they had traditionally been located at the intersection of major streets and featured design characteristics that were more pedestrian- and bicycle-friendly. These commercial areas are relatively small, typically less than 10 acres in size, and contain a mixture of retail, services, and institutional uses geared to serve the immediate area rather than the entire community. They serve as a focal point for the residential neighborhoods that they serve by providing some of the goods and services of a neighborhood that is within walking distance.

Transportation Facilities

Brown County businesses benefit from excellent transportation facilities for the movement of goods through a well-maintained highway system, railroads, an international port, and an international airport. The area is directly connected to the Interstate Highway System via I-43 and is well served by Wisconsin's newly expanded system of freeways, including State Highway 29 and US Highway 41/141. The area also benefits from a freeway beltway that surrounds the Green Bay Metropolitan Area. Brown County is home to numerous trucking companies, including one of the world's largest: Schneider National, Inc. Figure 4-10 identifies the road distances from Brown County to select cities.

Figure 4-10: Road Distances from Brown County to Select Cities

City	Miles
Chicago, IL	210
Cincinnati, OH	507
Cleveland, OH	550
Des Moines, IA	438
Detroit, MI	485
Duluth, MN	325
Indianapolis, IN	315
Kansas City, MO	622
Milwaukee, WI	115
Minneapolis/St. Paul, MN	259
Pittsburgh, PA	665
Sault Ste. Marie, Ontario	285
St. Louis, MO	486

During the 2000 shipping season, the Port of Green Bay handled a total of 1,962,155 metric tons of cargo in all commodity categories. Inbound shipments of cement, coal, limestone, liquid asphalt, salt, fuel oil, and outbound shipments of steel and tallow make up the majority of cargo handled through the port. While the Transportation chapter of the Brown County Comprehensive Plan will go into more detail regarding the Port of Green Bay, it is important to recognize the contribution that the port makes to the

County's local and regional economy. The Bay-Lake Regional Planning Commission report entitled *2001 Economic Impact of the Port of Green Bay* states that in 2001 there were 580 jobs associated either directly or indirectly with port activities.

- Port activities produced an estimated \$60,023,900 in economic output.
- Port activities produced an estimated \$18,636,000 in income.
- Port activities produced an estimated \$1,415, 800 in state taxes and \$1,037,600 in local taxes.
- The Port of Green Bay produced an estimated \$28,658,500 in "gross regional product."

It is important to recognize that the Port of Green Bay contributes significantly to the Brown County economy and that efforts should be made to plan for and support development and improvements to the port.

Strengths and Weaknesses for Attracting/Retaining Business and Industry

Advance

Advance, the economic development branch of the Green Bay Area Chamber of Commerce, is a public-private partnership for economic development to create jobs, increase the local tax base, improve family incomes, and diversify the local economy. Advance promotes new business startups, helps existing firms continue to grow, and recruits businesses interested in relocating or expanding in the community.

Advance promotes development of international trade and investment throughout the Greater Green Bay Area by providing the business community with a broad and comprehensive range of programs, services, and information from both private and public sources to enable them to successfully enter or to enhance their position in the global marketplace.

Economic development prospects can help themselves to information regarding available buildings and sites through the Green Bay Area Buildings & Sites database on the Internet. Advance also provides one-on-one assistance to businesses considering locating in Brown County.

Through Advance, Brown County is able to provide one-stop service that provides information to businesses on demographic data, government and utility services, community resources, business incentive programs, major employers, and workforce data.

Advance has been particularly effective in business incubation and coordinating business assistance resources. The business incubator program has enjoyed significant success. Taxpayers approved a bond referendum for Northeast Wisconsin Technical College (NWTC) that includes up to \$2.5 million for a business incubator on the NWTC campus.

Federal Economic Development Administration (EDA) funds have also been approved for the needed matching funds. The new incubator will open in 2005.

Although Advance is a branch of the Green Bay Area Chamber of Commerce, it has its own board of directors and is formed as a not-for-profit agency. Advance has two groups that meet on a regular basis: the Business Assistance Center and the Economic Development Professionals in Brown County. One of the functions of the Economic Development Professionals group is to identify processes to encourage cooperation and coordination rather than competition among Brown County communities when locating large economic development projects. While it is a lofty goal, efforts should be made to explore the potential for intercommunity revenue sharing as a way to encourage economic development cooperation between units of government. This group also can assist in developing partnerships with agencies, such as Bay-Lake Regional Planning Commission and the Wisconsin Department of Commerce.

Funding is provided to Advance from local governments, Brown County, and the private sector. This financial participation has been inconsistent for many years. A primary reason for this is the fact that the Green Bay Area Chamber of Commerce participates in the endorsement of political candidates. Advance's relationship with the Chamber of Commerce has resulted in an unwillingness to provide funding to Advance by some elected officials. Since the economic development services of Advance can provide significant benefits for Brown County and local communities, it is important that a remedy be found for the inconsistent funding that has been made available to Advance.

Paper Industry

Wisconsin is the #1 papermaking state in the nation and has been the leader for over 50 years. The value of shipments from Wisconsin's paper companies exceeds \$12.4 billion annually. Labor statistics show papermakers to be some of the highest paid manufacturing workers in the state. Brown County and the Fox River Valley have the highest concentration of paper companies in Wisconsin and the world. The average paper mill worker earns approximately \$49,000 annually. The paper industry has been and continues to be one of the cornerstones of the Brown County economy.

The Wisconsin Paper Council, in its report entitled *The State of Wisconsin's Paper Industry: Recommendations for Action*, states that "A number of challenges face the paper industry, including stagnant demand, over-capacity, depressed prices, industry consolidation, globalization and foreign competition, a slow and burdensome regulatory environment, and aging assets. The results have been mill closures, machine shutdowns, employment reductions, falling profits, and limited capital spending." Brown County and Northeast Wisconsin have witnessed all of this in the last several years. The Wisconsin Paper Council report identifies three priority issues critical to the future of the paper industry in Wisconsin: reforming the tax structure, streamlining the environmental regulatory system, and creating a low-cost, reliable energy system. Because the paper industry is such a large player in the local economy, it is critically important that the paper industry and its cluster partners, including the state and local government, work together to maintain the positive aspects of the business environment and work to find solutions to improve those aspects that hamper the ability of paper manufacturers to be competitive and to attract new investment.

While many of the issues identified relate to state government, local government and Brown County can play a role in advocating for solutions to the challenges that the paper industry faces. Local government can assist in becoming aware of and promoting Wisconsin business development and incentives programs. From an infrastructure perspective, local government also plays a significant role in ensuring that utility services, as well as transportation facilities, are available for existing and future expansion needs.

A local, regional, and statewide network of interested stakeholders has been developed to support the paper industry. This network includes local officials to assist in enhancing the image of the paper industry and to help in promoting the many contributions that the industry has provided to the local economy. Increased emphasis must be placed on the success of the environmental efforts of the paper industry to reduce air and water emissions, as well as reductions of the need to landfill solid waste due to recycling efforts.

It is also important that research and development efforts in Wisconsin, particularly the University of Wisconsin-Madison, the University of Wisconsin-Green Bay, the University of Wisconsin-Stevens Point College of Natural Resources, and the Vocational Technical Colleges, continue to focus on the needs of the paper industry. In addition to research and development, it is important that education systems continue to provide the educated talent necessary to meet the employment needs of this very important industry.

The New Information Based Economy

Just as the world economy made a transition from an agricultural to an industrial economy in the early 1900s, we are in the process of seeing another change. The economy is in the process of transitioning from a goods-based industrial economy to an information-based economy. As this transition and advances in communications technologies continue, businesses will begin to be more influenced to locate in places where their existing employees will be comfortable living, where there is a high-quality potential employee pool, and where there are good transportation connections rather than a proximity to raw materials for production. Brown County must continue to strive to maintain or improve those quality of life amenities that potential businesses and their employees are looking for when deciding where to locate.

One phenomenon of the information-based economy has been the reduction of the importance of geographical location as a selling point to new businesses. To remain competitive in the new economy by promoting high-tech industries, Brown County must not only boost economic development but also – and just as important – create a more attractive living environment. Richard Florida, a nationally known researcher, professor, and author on regional economic development, claims “successful regions must have a global market presence, base their economies on high-tech industries, and create a high quality of life to attract and maintain talented workers to the area.” Florida suggests a high quality of life is attractive to creative people and young professionals. He breaks quality of life indicators into leisure activities and sustainability measures. In other words, people are looking for a diverse, healthy environment with a variety of entertainment and recreational opportunities.

Brown County's track record in the area of maintaining a healthy environment is mixed. As has been the case in many manufacturing centers around the nation, water quality has been significantly damaged by historical practices. Levels of contamination to the waters of the Fox River and the Bay of Green Bay have impacted the ability of residents to enjoy these resources. However, through investment into water treatment and the prevention of water pollution, startling improvements have been made to water quality. Water related recreation activities, such as boating and fishing, have increased as a result of improved water quality. While the area can boast of some of the best trophy walleye and small mouth bass fishing in the nation, Brown County is still saddled with fish consumption advisories.

To succeed in the new economy, Brown County must improve the quality of life for its citizens, avoid the negative consequences associated with loss of efficiencies from urban sprawl, and create interesting places that attract an educated workforce.

The people of Brown County do enjoy some very extensive park and wildlife land holdings. The Fox River Trail adjacent to the Fox River is one of the state's most used and successful trails. The county-owned Barkhausen Nature Preserve, state-owned Sensiba Wildlife area, and the City of Green Bay's Bay Beach Amusement Park are examples of publicly-owned areas that draw many residents and visitors to the area and provide access to the outdoors. The Niagara Escarpment, which is one of Brown County's most prominent natural features, has potential for nature-based tourism for sightseeing, hiking, biking, and other activities.

The entertainment scene in Brown County has been improved significantly with the addition of the Weidner Center for the Performing Arts, the new 10,000-plus-seat Resch Center, restoration of the historic Meyer Theater in downtown Green Bay, and the \$295 million renovation of Lambeau Field.

Another important factor in business location decisions is proximity to educational systems. The University of Wisconsin - Green Bay, Bellin College of Nursing, St. Norbert College in De Pere, and Northeast Wisconsin Technical College are all located in Brown County. Although not located in Brown County, the University of Wisconsin-Madison leads the nation in many high-tech-related research efforts and is ranked as one of the five best research universities in the world.

In September of 2003, almost 400 area business, education, government, and community leaders participated in a conference titled Creative Transformation - Strengthening the Economy of Northeast Wisconsin. Richard Florida informed the participants about "The Rise of the Creative Class." Using a wide range of statistical and census data, Florida compiled data using the same factors for 149 regions in the country with populations of less than 250,000, including the Brown County area. He also used that data to determine a combined creativity index. Brown County ranks at the 32nd percentile among those 149 regions. Participants in the forum ranked the top issues that need to be addressed if Brown County is going to succeed in the creative economy. The top issue was "Fully engage and involve young people/professionals in all aspects of the community and civic engagement." Other issues that ranked high included the need to engage colleges, universities, and local schools into the community and the local economy and the need

for tolerance by embracing, empowering, recruiting, welcoming, and retaining a diverse community.

A high quality of life not only attracts workers to Brown County, but they are the same amenities that attract businesses to the area. The Smart Growth Network, a national coalition of planners, developers, government officials, and others, suggests that it is “important that communities capitalize on their quality of life assets, and recommends that quality of life be thought of as a commodity that can be cultivated and managed.” It is critically important to create a sense of community and diversity in Brown County. This includes incorporating a variety of housing styles, mixed use buildings, public parks and community facilities, and neighborhood commercial centers which can be reached by alternative modes of transportation.

Brown County must accommodate and encourage a wide variety of industries for economic growth. Many of the high-tech jobs are located in or affiliated with traditional industries. These businesses are one of the strongest segments of the Brown County economy. These technologies can be applied to make manufacturing operations more efficient and possibly more environmentally friendly. One area that Brown County businesses have succeeded in applying technology to has been that of moving products from point A to point B or the logistics industry. Businesses, such as Schneider Logistics, a subsidiary of Schneider Transport, Inc., and smaller new businesses, such as logistics, are examples of the application of technology to the transportation industry. Because of the complexity of the information available, it is impossible to process it all manually to make the best decisions. According to Larry Chaplin, President of Logistics, “the logistics industry has developed computerized transportation management systems to help analyze the vast array of data on shipping schedules, routes, and tariffs with the idea being that better information will help shippers make better decisions” and ultimately save money.

Northeast Wisconsin (NEW) Economic Opportunity Study

In order to address the areas economic development challenges, the Workforce Development Boards of Northeast Wisconsin, local elected officials, as well as regional and local economic development agencies, have partnered to conduct the Northeast Wisconsin (NEW) Economic Opportunity Study. The premise of the study has been that workforce development and economic development are interrelated and interdependent for a strong creative economy. To that end, this study provides an opportunity to:

- Build partnerships by cooperation and coordination between area business organizations, municipalities, and metropolitan areas, recognize each other’s skills, and appreciate how each contributes to the whole.
- Raise awareness about the new economy and the means to attract people and the businesses necessary to develop it in this region.
- Create stronger linkages between companies for doing business within this region.
- Develop sound future economic and workforce strategies, creating jobs that pay well and have bright futures.
- Incorporate results of the study into future strategic planning.

As part of the study, NorthStar Economics, Inc. completed an analysis of the local economy and concluded that Northeast Wisconsin has a slow growing local economy that is falling behind other regions and states. It is clear that the area needs a strategy to create a high growth economy and a shared vision to focus efforts on building the “New Economy.” Similar to the findings of Richard Florida, this study identifies the new economic drivers as being brainpower, research and development, technology and innovation, capital and high-tech startups, and quality of life. While the report identified quality of life and workforce as the highest rated attraction tools, diversity and government collaboration were identified as the lowest rated attraction tools.

The study identifies the following six strategies to address the long-term economic challenges for Northeast Wisconsin:

1. Move to a new economy construct.
2. Move to a collaborative economic development construct.
3. Create a regional development plan.
4. Change social and cultural mindset.
5. Change regional image.
6. Promote industry clusters.

The study is in the process of being completed. The final report will include a Northeast Wisconsin economic development strategy, an impetus to develop policies geared toward a strong economy, and a strategy to match workforce development programs with regional economic needs. The Northeast Wisconsin (NEW) Economic Opportunity Study recommendations should be evaluated to determine how they could best be implemented.

Utilities, Infrastructure, and Services

As discussed in the Utility and Community Facilities chapter, Brown County currently has adequate capacity within its sanitary sewage system for additional industrial development. These abilities vary from community to community, but, in general, sufficient facilities are in place to serve the projected growth. Future water system needs for communities within Brown County are in the process of being addressed. Currently, only the City of Green Bay is served by a system with a Lake Michigan water source. The Village of Ashwaubenon has agreed to purchase water from the City of Green Bay. The Central Brown County Water Authority is currently working on a long-term source of water from Lake Michigan to serve the communities of De Pere, Allouez, Howard, Bellevue, Lawrence, and Ledgeview. The possibility exists that other Brown County municipalities may join the Central Brown County Water Authority in the future. The Villages of Wrightstown, Pulaski, Suamico, and Denmark have municipal public wells with no plans of developing a pipeline to Lake Michigan. The remaining communities are served by private wells.

Recently, comprehensive plans for the City of Green Bay, City of De Pere, Village of Howard, Village of Suamico, and the Village of Wrightstown have identified areas for future business park development. As plans for the rest of the communities are completed, they should identify locations for future industrial and business development. These areas should have the necessary infrastructure available. It is

important to encourage compact development and promote the redevelopment of underutilized, vacant, blighted, or brownfield commercial and industrial sites and buildings to efficiently utilize existing public utilities and services.

Adequate police protection is provided through the Brown County Sheriff's Department, as well as individual Police Departments or Departments of Public Safety. All communities have Fire Departments, and they have mutual aid agreements for assistance in fighting fires.

Economic development services to assist businesses with location or relocation are provided throughout Brown County by Advance. Training services for businesses are provided from UW-Green Bay, Lawrence University, St. Norbert College, the UW-Extension services, and Northeastern Wisconsin Technical College (NWTC). It is important to continue to identify growing and weakening business sectors of the Brown County economy in order to target local economic development programs and recruitment and promote the diversification of the local economy.

Industrial and Commercial Design Standards

Presently, site plan review procedures and standards vary significantly from community to community within Brown County. Design standards can be used to improve the quality of design and can be used to promote individual identity for a community. The Brown County Planning Commission can serve as a source for the development of standards and procedures for design requirements. Specific standards regarding commercial building design, lot layout, and building materials should be created so that developers have a clear understanding of the requirements they need to meet in order for their project to receive approval. Communities should consider applying site plan review to all commercial buildings. This would ensure that downtowns and planned neighborhood development areas are redeveloped or developed in a manner consistent with the vision of the local community comprehensive plans.

Industrial and business parks should apply restrictive covenants and design guidelines for building design, lot layout, and overall site design. The enforcement of the restrictive covenants will enable communities to develop business parks with high quality buildings and businesses and protect the investments of the businesses that choose to locate in these parks.

Sensitivity to Parkways and Other Natural Areas

Business development should be designed with consideration of the parkways that this plan identifies along the County's primary drainage corridors. These parkways would allow the corridors to remain mostly undeveloped as wildlife corridors, contribute to preserving the County's natural atmosphere, provide stormwater management areas, and provide potential trail linkages. Where appropriate, communities should require the dedication of land for trails or parkways before approving commercial development proposals.

Natural areas and other greenspace should be incorporated into newly developed areas. Communities should consider a policy of requiring landscaping and the planting of street trees for commercial properties. Communities should also seek to preserve existing trees by either working with developers to design around the trees or through a tree preservation ordinance. Planting and landscaping entranceways and street medians is a technique of identifying to the public that you are in a unique community with high standards for beautification and a strong sense of community pride.

Special care should also be taken to ensure that commercial and industrial activities are not located within environmentally sensitive areas (ESAs) by placing the ESAs in a conservancy zoning district. These features should be included in the design of business developments as integral amenities and, if possible, maintained in common ownership.

Site Plan Review

Business site plans should include sidewalks and/or trails (where appropriate), parking (preferably behind the building), and parking lot landscaping standards, including landscaped islands within large parking lots that break up the expanse of asphalt. In the downtowns, buildings should also have minimal or no setbacks with parking in the rear or on the street to provide for more direct pedestrian access to structures.

Brownfield Redevelopment

For commercial and industrial uses, Brown County should complete and maintain an inventory of existing vacant buildings and land identified as potentially contaminated (brownfield) with industrial or petroleum-based pollutants. This information can be used to encourage infill development and redevelopment opportunities to take advantage of existing infrastructure and services and to prevent blight created by vacant and dilapidated buildings and parcels. Once identified, brownfields should be cleaned and promoted for redevelopment through the use of state and federal brownfield cleansing funds.

Town, Village, City, County, Regional, and State Economic Development Programs

This section contains a brief explanation of local economic development actions and a description of various agencies and programs that could potentially help communities in Brown County and Brown County's businesses achieve their stated economic development goals and objectives. The Implementation chapter contains a comprehensive listing and description of programs that Brown County and communities within Brown County may wish to utilize in achieving its economic development objectives.

Towns, Villages, and Cities

Communities can continue to make positive planning and financial management decisions that can result in the community being an attractive place for people and businesses. The most important economic activity that communities can pursue is the

creation of an environment that encourages entrepreneurs to engage in business activities. Encouraging entrepreneurs involves attracting new businesses and assisting existing businesses. The three types of programs most relevant to communities in Brown County are business attraction, business retention, and commercial development.

Business Attraction

Business attraction involves letting businesses know what a community has to offer. For example, some of the activities that are involved in a business attraction program include:

- Providing information on available sites.
- Identifying labor and community characteristics.
- Marketing sites to businesses that would be complementary to existing businesses or would provide diversity to the local economy.
- Offering low-cost land, state or federal grants, or other incentives to encourage businesses to locate in the community.

Business Retention

Since a good portion of the economic growth that occurs is from businesses already in a community, business retention is essential. Activities associated with business retention programs include:

- Helping businesses learn about potential sites for expansion, offering low-cost loans, and identifying state and federal grant funds to finance business expansions.
- Providing business areas with efficient, reliable public services, such as snow removal, road repair, and sewer/water utilities.
- Providing a contact person to answer business questions and solicit information from business leaders regarding local development problems.
- Maintaining an adequate, qualified, and trained workforce for employers.

Commercial Development

Commercial development activities allow communities to identify market needs and seek prospective businesses to fill the needs. Cities and villages may be able to assist in this process by creating or modifying Tax Increment Finance (TIF) districts to encourage development by offering publicly-owned and improved land for sale to commercial developers. Communities can also encourage the redevelopment of existing structures and the development of new structures and can ensure that the designs meet the standards established for the community. In addition, economic development incentive revolving loan fund programs can be established to assist in financing commercial projects that meet community economic development goals.

Many communities are presently members of Advance. Advance acts in part as an informational and referral service for potential businesses and industries looking to

locate in Brown County, which enables a potential business or industry looking to locate in Brown County to hear about all communities within Brown County with “one stop” convenience.

County

Businesses can use economic development loan programs, such as the Brown County Economic Development Revolving Loan Fund, through the Brown County Planning Department to provide low interest loans to businesses that will generate new employment opportunities and expansion of tax base. Brown County should develop a “Smart Growth” component to the Brown County Revolving Loan Program to provide incentives to businesses that make location decisions that are consistent with the goals and objectives of the Brown County Comprehensive Plan.

In light of the Port of Green Bay, Brown County should encourage and, where possible, partner with local communities to enhance or redevelop commercial, industrial, and recreational waterfront uses along the Bay of Green Bay and the Fox River.

Through Brown County’s partnership with Advance, communities have access to development and grant information, as well as to economic development marketing services.

Regional

Comprehensive Economic Development Strategy

The Bay-Lake Regional Planning Commission annually creates a Comprehensive Economic Development Strategy (CEDS) report, which evaluates local and regional population and economic activity. Economic development trends, opportunities, and needs are identified within the CEDS report. All Brown County communities, which are served by the Commission, are invited to identify future projects for economic development that the community would like to undertake. Those projects are included within the CEDS and may become eligible for federal funding through the Economic Development Administration (EDA) Public Works grant program.

Northeast Wisconsin Regional Economic Partnership

The combined Bay-Lake and East Central Wisconsin Regional Planning Commission areas were recently named as a Technology Zone by the Wisconsin Department of Commerce. The Northeast Wisconsin Regional Economic Partnership (NEWREP) Technology Zone provides \$5 million in tax credits to businesses certified by Commerce, based on a company’s ability to create jobs and investment and to attract related businesses. The Technology Zone Program focuses primarily on businesses engaged in research, development, or manufacture of advanced products or those that are part of an economic cluster and knowledge-based businesses that utilize advanced technology production processes in more traditional manufacturing operations. Additional information can be found at <http://www.eastcentralrpc.org/planning/economic.htm>.

Wisconsin Public Service

Wisconsin Public Service Corporation (WPS) also contributes a number of economic development services that Brown County communities should be aware of for their businesses. WPS maintains an online database of available industrial buildings with information provided by the communities. The WPS economic development page can be a useful resource for Brown County communities, and can be accessed at <http://www.wisconsinpublicservice.com/business/bcd.asp>.

State

There are many state programs that communities can consider utilizing to meet their stated goals and objectives. While not an all inclusive list, there are several programs that communities should strongly consider and are addressed below. The Department of Commerce Area District 3 Area Development Manager is also a good contact for these programs.

Wisconsin Main Street Program

The Main Street Program is a comprehensive revitalization program designed to promote the historic and economic redevelopment of traditional business districts in Wisconsin and is administered by the Wisconsin Department of Commerce – Bureau of Downtown Development. Communities are selected to participate on an annual basis and are judged on a submitted application. These communities receive technical support and training needed to restore their Main Streets to centers of community activity and commerce. Details regarding the Wisconsin Main Street Program can be found at <http://commerce.state.wi.us/CD/CD-bdd-overview.html>.

Community Based Economic Development (CBED) Program

The Community-Based Economic Development (CBED) Program provides financing assistance to local governments and community-based organizations that undertake planning or development projects, or that provide technical assistance services that are in support of business (including technology-based businesses) and community development. The program provides grants for planning, development, and assistance projects; Business Incubator/Technology-Based Incubator; a Venture Capital Fair; and Regional Economic Development Grants. Additional information regarding the CBED program can be found at <http://www.commerce.state.wi.us/CD/CD-bcf-cbed.html>.

Community Development Block Grant for Economic Development (CDBG-ED)

The CDBG-ED program is designed to assist businesses that will invest private funds and create jobs as they expand or relocate to Wisconsin. The Wisconsin Department of Commerce would award the funds to the community, which then loans the funds to a business. When the business repays the loan, the community may retain the funds to capitalize a local revolving loan fund. This fund can then be utilized to finance additional economic development projects within the community. Communities may also utilize the existing Brown County Economic Revolving Loan Fund, administered by the Brown County Planning Commission, to provide loans to community businesses.

Additional information regarding the CDBG-ED program can be found at the following website: <http://www.commerce.state.wi.us/MT/MT-FAX-0806.html>.

Milk Volume Production (MVP) Program

The Milk Volume Production (MVP) program is designed to assist dairy producers that are undertaking capital improvement projects that will result in a significant increase in Wisconsin's milk production. This program was created to aggressively support Wisconsin's \$20 billion dairy industry. The goal of the MVP program is to provide qualifying dairy producers with the type of financing necessary to fill the "equity gap" and to partner with local communities to increase dairy production in Wisconsin. It is important to note that the MVP application process is competitive, and not all applications will be funded. Only those projects that have a comprehensive business plan and can demonstrate that they will have a long-term sustainable impact upon Wisconsin's milk production will be successful. Information regarding the Milk Volume Production (MVP) Program can be found at <http://www.commerce.wi.gov/MT/MT-FAX-0810.html>.

Transportation Economic Assistance (TEA) program

The state-funded Transportation Economic Assistance (TEA) program provides fast track financing to construct rail spurs and port improvements for new or expanding industries. The program is available through the Wisconsin Department of Transportation. Additional information regarding the TEA program can be found at the following website: <http://www.dot.wisconsin.gov/localgov/aid/tea.htm>.

Harbor Assistance Program

The Harbor Assistance Program (HAP) assists harbor communities along the Great Lakes and Mississippi River in maintaining and improving waterborne commerce. [Port projects](#) typically include dock reconstruction, mooring structure replacement, dredging, and the construction of facilities to hold dredged material.

To be eligible for funding, the port facility must be publicly-owned; the project must benefit facilities that are used for cargo transfer, ship building, commercial fishing, or regular ferry service; the applicant must be a local unit of government; the project must pass a rigorous benefit-cost analysis; and the project must have been identified in a current 3-year harbor development plan. Additional information regarding the HAP program can be found at <http://www.dot.wisconsin.gov/localgov/aid/hap/htm>.

Federal

Many communities in Brown County outside of the Green Bay Metropolitan Areas meet the requirements of the US Department of Agriculture-Rural Development. Therefore, communities may be eligible for Rural Development Economic Assistance Programs. However, there are typically strict income limits associated with some of the programs so the Wisconsin Division of USDA-Rural Development should be contacted regarding eligibility for certain programs. A complete listing of USDA-Rural Development Programs can be found at <http://www.rurdev.usda.gov/wi/programs/index.htm>.

Foreign Trade Zone

The Port of Green Bay is home to the Foreign Trade Zone (FTZ) #167. The FTZ program allows firms conducting international trade in the zone to delay, reduce, or eliminate customs costs.

Recommendations

The following is a summary of economic development recommendations for Brown County and communities within Brown County:

Economic Development Administration

- Identify processes to encourage cooperation and coordination rather than competition among Brown County communities when locating large economic development projects.
- Develop and improve economic development partnerships with agencies, such as Advance, Bay-Lake Regional Planning Commission, Wisconsin Department of Commerce, and Wisconsin Public Service Corporation.
- Develop a plan to fully engage and involve young people/professionals in all aspects of the community and in civic matters.
- Engage colleges, universities, and local schools into the community.
- Promote the need for tolerance by embracing, empowering, recruiting, welcoming, and retaining a diverse community.
- Explore the possibility of intercommunity revenue sharing as a way to encourage economic development cooperation between units of government.
- Recognize farming as an economic activity and promote steps to enhance its long-term economic viability.
- Assist retail and service businesses to identify and market to the customer base of existing office employees in the downtowns.
- Continue Brown County's participation as a significant player in the government, legal, professional, service, and cultural center of downtown Green Bay.
- Recognize that the Port of Green Bay contributes significantly to the Brown County economy and plan for and support development and improvements to the port.
- Work to find a solution to concerns regarding political endorsements by the Green Bay Area Chamber of Commerce and public funding for the economic development programs of Advance.
- Develop Smart Growth criteria for the Brown County Revolving Loan Fund Program to assist businesses looking to locate or expand in Brown County consistent with the recommendations of the Brown County Comprehensive Plan.
- Maintain a local, regional, and statewide network of interested stakeholders to provide political support to the paper industry.

- Encourage the development of business associations and obtain their input into downtown redevelopment opportunities and the potential creation of Business Improvement Districts (BIDs).
- Encourage communities to consider applying for Wisconsin Main Street designation to fund outside expertise related to redevelopment of downtowns and community centers.
- Encourage local government to continue involvement with Advance, which is the economic development branch of the Green Bay Area Chamber of Commerce.
- Develop a comprehensive list of potential economic development funding mechanisms through the state and federal government.
- Encourage the Port of Green Bay to acquire property to recruit prospective port users.
- The Northeast Wisconsin (NEW) Economic Opportunity Study recommendations should be evaluated to determine how they could best be implemented.

Land Use and Design

- Recognize that physical and cultural amenities are critical to attracting and retaining creative people and businesses.
- Work to improve the quality of life for the citizens of Brown County, avoid the negative consequences associated with loss of efficiencies from urban sprawl, and create interesting places that attract an educated workforce.
- Brown County should encourage and, where possible, partner with local communities to enhance or redevelop commercial and industrial waterfront uses along the Bay of Green Bay and the Fox River.
- Identify tools and techniques for local communities to preserve or redevelop their downtowns.
- Continue to work toward providing a long-term solution to providing safe and sufficient potable water.
- Encourage compact development and promote the redevelopment of underutilized, vacant, blighted, or brownfield commercial and industrial sites and buildings to efficiently utilize existing public utilities and services.
- Work to ensure that adequate infrastructure is in place, including utility services and transportation facilities for existing and future business expansion needs.
- Assist local communities to ensure quality commercial and industrial building designs and site layouts by developing model design guidelines and a site plan review process to steer development to the design standards of the community. This process should be streamlined to efficiently meet the design goals of the communities in an expeditious manner.
- Encourage commercial development in smaller neighborhood nodes and larger downtowns rather than in long strips along main thoroughfares.

- Promote the inclusion of a mix of small commercial ventures and residential uses within and in close proximity to business park developments.
- Encourage commercial and industrial development to promote alternative modes of transportation.
- Focus redevelopment efforts (particularly in the downtown, community centers, and in neighborhood centers) by making the streets and business facades more pedestrian-friendly for shoppers by encouraging buildings with minimal setbacks and with commercial uses on the first floor and residential uses above.
- Encourage communities to identify and expand industrial land and to provide sufficient acreage for future needs in appropriate locations.
- Development should be designed with consideration of the environmental sensitivity of the parkways that this plan identifies along the County's primary drainage corridors.
- Complete and maintain an inventory of existing vacant buildings and land identified as potentially contaminated (brownfield) with industrial or petroleum-based pollutants. Brownfields should be cleaned and promoted for redevelopment through the use of state and federal brownfield cleansing funds.
- Communities should be encouraged to require that business site plans include sidewalks and/or trails (where appropriate), parking (preferably behind the building), and parking lot landscaping standards, including landscaped islands within large parking lots that break up the expanse of pavement.
- Promote infill development and redevelopment opportunities to take advantage of existing infrastructure and services and to prevent blight created by vacant and dilapidated buildings and parcels.

Education and Training

- Coordinate with local educational institutions, as well as institutions of higher learning, to engage them into the community and to develop a qualified workforce.
- Assist businesses in planning for a diverse and aging workforce.
- Promote research and development to meet the needs of the paper industry at the University of Wisconsin-Madison, the University of Wisconsin-Green Bay, the University of Wisconsin-Stevens Point College of Natural Resources, and the Vocational Technical Colleges to focus on the needs of the paper industry and to provide the educated talent to be employed in the mills.

Recruitment and Retention

- As a recruitment tool, promote the existing educational facilities, including the University of Wisconsin-Green Bay, Bellin College of Nursing, St. Norbert College in De Pere, and Northeast Wisconsin Technical College, all located in Brown County, as well as access to the University of Wisconsin, which is ranked as one of the five best research universities in the world.

- Identify growing and weakening business sectors of the Brown County economy in order to target local economic development programs and recruitment and promote the diversification of the local economy.
- Promote businesses and industries that are good stewards of land, air, and water resources.
- Promote businesses downtown that incorporate public access or views of the Fox River.
- Promote the entertainment and cultural facility improvements in Brown County as a recruitment tool.
- Encourage the development of small retail shops or services in the downtown, community centers, and neighborhood centers to meet local demand.
- Develop a yearly forum with Brown County businesses to discuss future needs or potential problems.
- Continue to develop business attraction and business retention programs to ensure retention of existing industries while encouraging new businesses within the information or professional, scientific, and management industries.
- Recruit, retain, and encourage the development of businesses that utilize advanced technologies within regional cluster industries to locate in Brown County.
- Encourage the development of safe and affordable housing for employees in order to keep and attract businesses.

CHAPTER 5

Housing

Introduction

Housing a growing and ever-changing population presents both challenges and opportunities to Brown County and its local units of government. As presented in the Issues and Opportunities chapter, the Brown County population is rapidly growing and changing as new families continue to move into Brown County, “baby-boomers” approach retirement age, and the population becomes more diverse. Providing a range of housing choices for these and all other population segments is very important in order to keep the local communities and Brown County growing and vibrant.

In order to provide affordable and varied housing options to all income levels, Brown County is encouraging local communities to utilize the concept of traditional neighborhoods in new and infill developments within the urbanized area, as well as the rural villages. Traditional neighborhood developments typically have the sense of place found in older, pre-World War II neighborhoods where the homes are closer to the street, have front porches, and have garages that are set back from the street. In addition to these architectural differences, housing types (including duplexes, townhouses, apartment homes, single-family homes, and retirement homes) are mixed within the neighborhood. This allows for a person or family to remain in a neighborhood as their housing needs change instead of having to move into completely new surroundings.

These types of developments can also provide quality affordable housing for first-time homebuyers, growing families, empty nesters, retirees, the elderly, and others who do not desire to live in a standard suburban subdivision. The Recommended Programs and Policies section of this chapter details how traditional neighborhood developments function and the rationale for recommending and promoting this concept in Brown County.

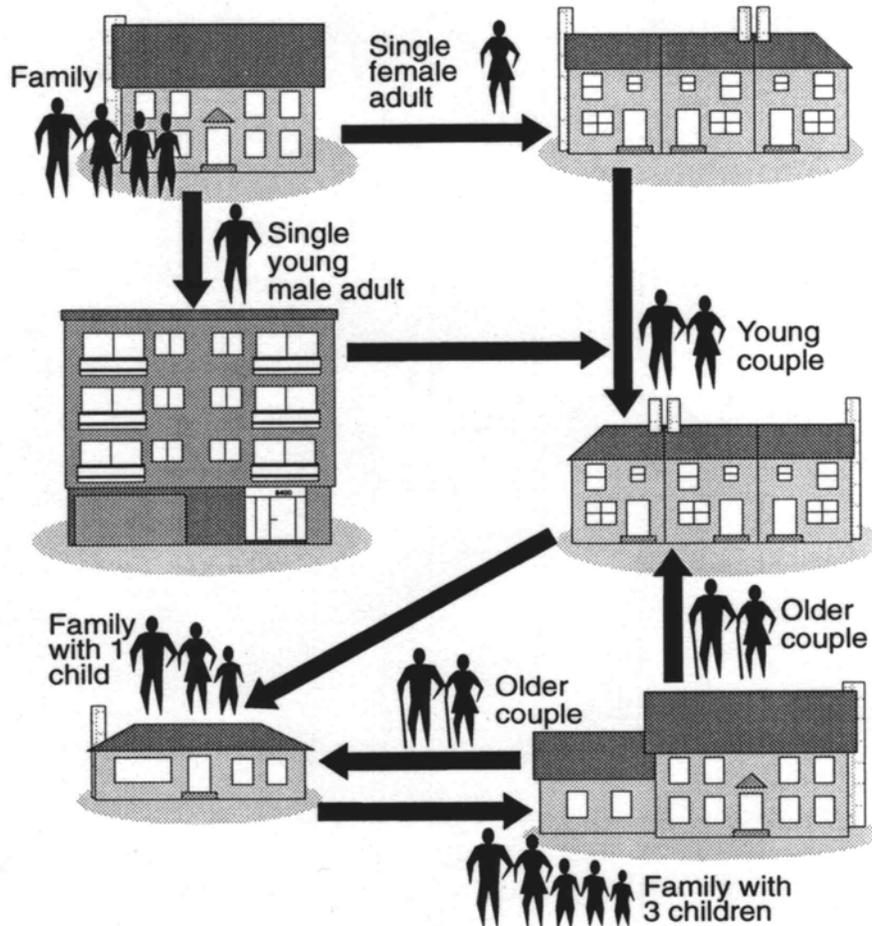
In the rural parts of the County, residential development has been typified by a home located on a large (5 to 10) acre lot or as a home within a rural subdivision where the lots tend to be in the range of 1.5 to 5 acres. As an alternative to large lots, Brown County is encouraging the local rural communities to identify either a maximum lot size or develop conservation subdivisions for those residents who desire a more rural setting. These options are recommended in the plan to provide the local communities with alternatives to the standard single-use rural subdivision or large lot split, as well as a means to try to protect larger tracts of productive farmland in Brown County for as long a period as possible.

The Issues and Opportunities chapter of the plan contains the forecasts for new housing units within Brown County over the next 20 years. The Housing chapter will build on these forecasts by identifying existing trends and characteristics of the housing market and providing recommendations on how to improve the existing housing stock and provide for the development of new and innovative housing practices.

Range of Housing

Figure 5-1 provides a representation of how a person's housing preferences might change over time.

Figure 5-1: Change in Housing Preferences Over Time



Source: Local Government Commission, 2003.

Brown County currently has a wide range of housing choices, primarily due to the wide range of urban, suburban, and rural communities that the County is comprised of. However, within each of these individual communities there may not be as wide a variety of housing types as in the County as a whole. Residential subdivisions that have been developed since the 1950s tend to be very uniform and consist almost exclusively of single-family homes. These subdivisions are primarily separated from other uses (commercial, institutional, recreational, etc.) and housing types, resulting in “pods” of single-use developments and creating an environment where every trip out of the house to run errands must be by vehicle because the land uses are separated and spread out. In order to create an environment where walking and bicycling are viable transportation

options, a mixing of land uses, including a variety of housing types, should be integrated into new developments and included in redevelopment efforts, as well.

Providing a wide range of housing choices is necessary for each community to maintain a stable housing stock and population base. Therefore, it is necessary for each community to provide as wide a selection of housing choices as their utilities and other services can supply. Different housing choices might include single-family homes, townhouses, duplexes, apartments, and group homes. It is necessary to keep in mind that a person's housing preference changes over time. A young person out of school might elect to rent, while an elderly person who might not wish to maintain a yard could also rent or purchase a condominium where the yard work is taken care of. A young couple, just married, might not have the purchasing power to buy a large home. Instead, they might opt to invest in a starter home until they decide to have a family, at which point they might need the additional space a larger home could provide.

Age Characteristics

Figure 5-2 shows that 55.4 percent of the housing units in Brown County are less than 30 years old, as compared to 44.5 percent for the State of Wisconsin. The largest single percentage of homes in Brown County was built within the past ten years, whereas the largest percentage of housing units for the State of Wisconsin was 23.4 percent for the time-period of 1939 or earlier. This suggests that much of the housing stock within the County is very new and, therefore, in good condition. However, there are a number of older homes located primarily within the near downtown areas of the City of Green Bay, City of De Pere, the northeastern part of the Village of Allouez, and within the Villages of Denmark, Pulaski, and Wrightstown. There are also a number of older farm homes in the more rural parts of the County.

Figure 5-2: Age of Housing, Brown County and State of Wisconsin

Year Structure Was Built	Brown County	%	Wisconsin	%
1990-March 2000	19,322	21.4%	389,792	16.8%
1980-1989	13,292	14.7%	249,789	10.8%
1970-1979	17,449	19.3%	391,349	16.9%
1960-1969	11,400	12.6%	276,188	11.9%
1940-1959	16,686	18.5%	470,862	20.3%
1939 or Earlier	12,050	13.4%	543,164	23.4%
Total	90,199	100.0%	2,321,144	100.0%

Source: U.S. Bureau of the Census, 2000 Census of Population and Housing, Table DP-4 Profile of Selected Housing Characteristics, Brown County and State of Wisconsin.

As homes age, increased maintenance and upkeep become an issue. The City of Green Bay has been very proactive in addressing the maintenance and rehabilitation of its older homes through the utilization of Community Development Block Grant entitlement funds, City staff, nonprofit organizations, neighborhood associations, and overall citizen involvement. The other communities with aging residential housing stock should utilize the City of Green Bay as a source of information and technical expertise when considering a housing rehabilitation program.

Structural Characteristics

Brown County has a slightly lower percentage of one-unit detached structures than the State of Wisconsin, at 63.2 percent and 66.0 percent respectively. Brown County, however, has a larger percentage of one-unit attached structures (4.9 percent) than the state (3.4 percent), as well as a much larger percentage of 5- to 9-unit structures at 6.9 percent for Brown County and 4.6 percent for the state. Although there is some variability in the categories, Brown County and the State of Wisconsin are generally comparable in terms of percentages of units in structure. Figure 5-3 details the units in structure for Brown County and the State of Wisconsin.

Figure 5-3: Units in Structure for Brown County and the State of Wisconsin

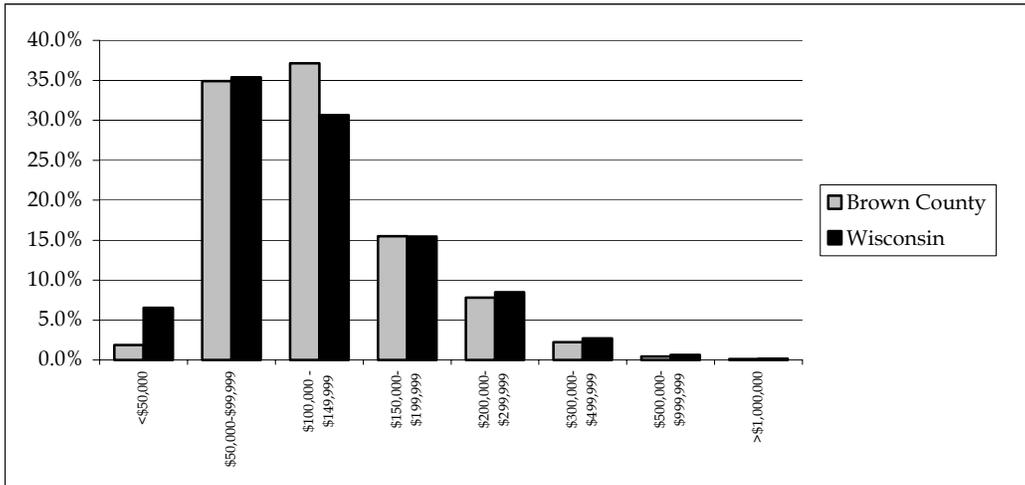
Units in Structure	Brown County	%	Wisconsin	%
1-Unit Detached	57,000	63.2%	1,531,612	66.0%
1-Unit Attached	4,428	4.9%	77,795	3.4%
2 Units	8,143	9.0%	190,889	8.2%
3 or 4 Units	3,554	3.9%	91,047	3.9%
5 to 9 Units	6,214	6.9%	106,680	4.6%
10 to 19 Units	4,032	4.5%	75,456	3.3%
20 or More Units	5,172	5.7%	143,497	6.2%
Mobile Home	1,649	1.8%	101,465	4.4%
Boat, RV, Van, Etc.	7	0.0%	2,703	0.1%
Total	90,199	100.0%	2,321,144	100.0%

Source: U.S. Bureau of the Census, 2000 Census of Population and Housing, Table DP-4 Profile of Selected Housing Characteristics, Brown County and State of Wisconsin.

Value Characteristics

According to the year 2000 census, the largest percentage of homes in Brown County is valued between \$100,000 and \$149,999, with a median home value of \$116,100. This is in comparison to the State of Wisconsin where the largest percentage of homes is valued between \$50,000 and \$99,999, with a median home value of \$112,200. Another notable statistic is that Brown County has significantly fewer homes valued at less than \$50,000 than does the state as a whole. These two trends are likely the result of Brown County containing a large metropolitan area that has a variety of housing choices and a rather stable local economy. Figure 5-4 displays the range of home values in Brown County as compared to the State of Wisconsin.

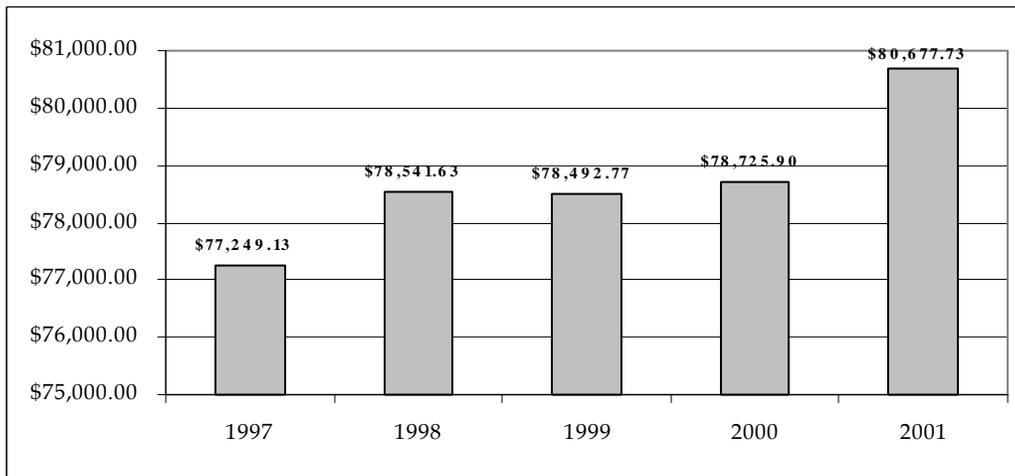
Figure 5-4: Range of Home Values, Brown County and State of Wisconsin, 2000



Source: U.S. Bureau of the Census, Profile of General Characteristics, 2000; Table DP-4.

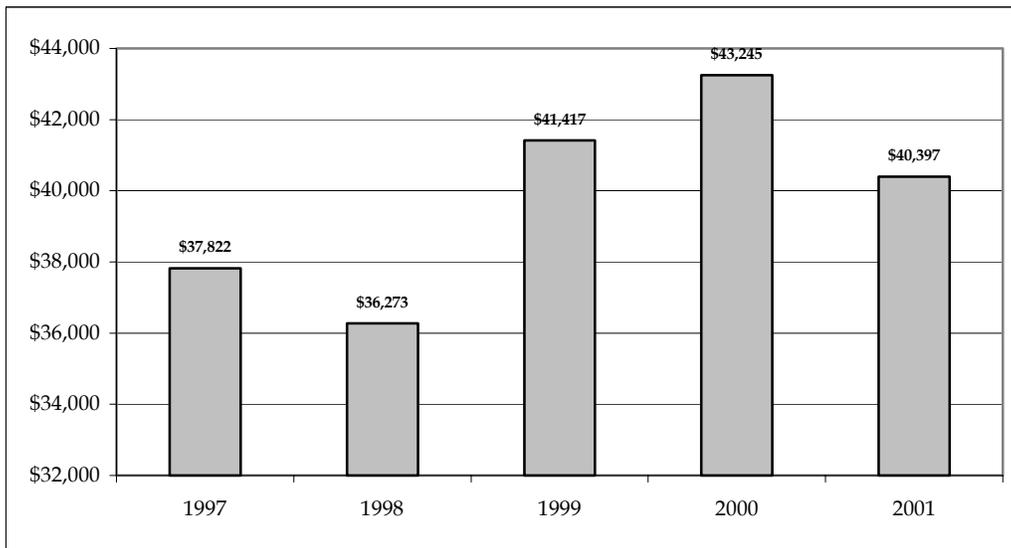
The average selling price of a single-family home from the REALTORS® Multiple Listing Service (MLS) in Brown County has increased from \$77,249.13 to \$80,677.73 over the years of 1997 to 2001. An average of 96.5 percent of the homes sold from the MLS over these five years was served by both public water and sewer systems. This is in comparison to the vacant parcels of land that were sold from the MLS over the same period where only an average of 71.5 percent of the parcels were served by both public water and sewer. As is evident from Figure 5-5, the average selling price of an MLS-listed single-family home has fluctuated over the past five years, but there is a general trend upward with the 2001 average cost exceeding \$80,000. Figure 5-5 displays the average selling price for an MLS-listed single-family home, and Figure 5-6 displays the average selling price for an MLS-listed vacant parcel of land.

Figure 5-5: Average Selling Price for an MLS-Listed Single-Family Home in Brown County, 1997-2001



Source: REALTORS® Association of Northeastern Wisconsin, 2002

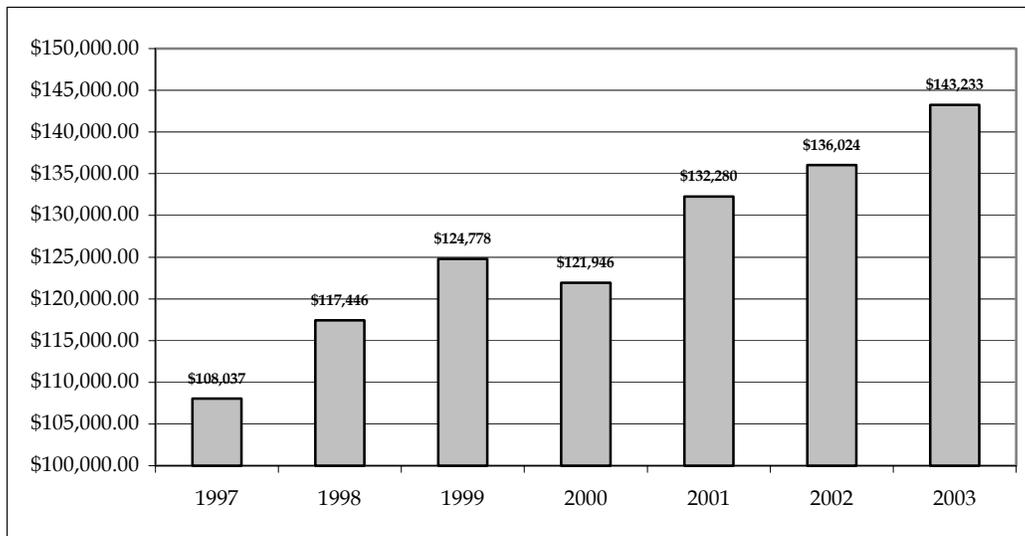
Figure 5-6: Average Selling Price for an MLS-Listed Vacant Parcel in Brown County, 1997-2001



Source: REALTORS® Association of Northeastern Wisconsin, 2002

In order to better analyze the current cost for a single-family home in Brown County, a second analysis was completed utilizing Brown County Property Listing data from the years 1997-2003. Based on this information, the average home price has risen from \$108,037 in 1997 to \$143,233 in 2003, which is an increase of 32.6 percent in just seven years. Further analysis reveals that this is an average increase of 4.7 percent per year in the selling prices of single-family homes. Figure 5-7 charts the average selling prices from 1997-2003.

Figure 5-7: Average Selling Price for Single-Family Home in Brown County, 1997-2003



Source: Brown County Property Listing, Brown County Planning Commission, 2003.

Occupancy

According to the 1990 U.S. Census, there were a total of 74,740 housing units within Brown County. This compares with 90,199 units in 2000, which is an increase of 15,459 units (20.7 percent) over the 10-year period. The breakdown of occupied housing units into owner-occupied and renter-occupied reveals that owners occupied 65.6 percent of the County's housing units in 1990, as compared to 65.4 percent in 2000, indicating a very slight increase in the number of residents who rent as compared to those who own. Figure 5-8 summarizes the changes that occurred between 1990 and 2000.

Figure 5-8: Change in Housing Occupancy Characteristics, Brown County, 1990-2000.

	1990 Census	%	2000 Census	%	Increase or Decrease	% Change 1990- 2000
Housing Units	74,740	100.0%	90,199	100.0%	15,459	20.7%
Occupied Housing Units	72,280	96.7%	87,295	96.8%	15,015	20.8%
Vacant Housing Units	2,460	3.3%	2,904	3.2%	444	18.0%
Owner Occupied	47,423	65.6%	57,098	65.4%	9,675	20.4%
Renter Occupied	24,857	34.4%	30,197	34.6%	5,340	21.5%

Source: U.S. Census Bureau Table DP-1 Profile of General Demographic Characteristics, 1990 and 2000.

In order to determine the relative demand for owner-occupied homes as compared to rental units, a comparison of the vacancy rates was completed from the 2000 census. The census identifies that 0.9 percent of the owner-occupied housing units were vacant, as compared to 3.8 percent of the rental units, indicating a rather strong demand for owner-occupied housing.

Housing Affordability Analysis

Why do we need affordable housing? This is a question that many communities ask as they develop their comprehensive plans. Affordable housing is a necessary and integral part of any healthy community. As discussed in the Range of Housing section of this chapter, as people's lives change, so do their housing preferences and their ability to pay more or less for housing. For instance, many communities identify large areas in their comprehensive plans for commercial or industrial activities. It is important to understand that the people who would work in these businesses would also need a place to call home.

Affordable Housing and Homelessness in Brown County

A recently published report entitled *Affordable Housing and Homelessness in Brown County*, sponsored by the Affordable Housing Institute and prepared by Planning & Evaluation, Inc., identifies shortcomings in Brown County's housing market with regard to affordable units. The primary planning shortcomings include the lack of addressing the

need for low-income rental housing in local comprehensive plans and the shortage of larger rental dwellings (3 or more bedrooms) for low-income families. The report identifies only 20 rental units with three or more bedrooms at fair-market rent levels (\$572/month in 2003) available in March 2003. In order to afford to live in one of these units, a family would have to earn at least \$33,000 per year, which is out of reach for approximately one-third of households in the County without housing assistance vouchers.

In addition to addressing affordable rental units, the report also discussed and analyzed affordable owner-occupied units. The report identified three primary areas of concern:

- In 2000, 6,808 Brown County homeowners paid more for housing than is considered affordable (greater than 30 percent of household income), a rise of 60 percent since 1990.
- Few systems are in place to ensure that new homeowners, especially with low incomes, succeed as owners.
- There are a number of barriers to home ownership, including lack of knowledge of funding options, language, poor or no credit records, and the lack of coordination among agencies in working a client through the steps of a home purchase.

The *Affordable Housing and Homelessness in Brown County* report identified ten specific recommendations:

1. Increase the amount of formal joint planning and collaboration among community housing stakeholders and providers.
2. Increase transitional supportive programs and/or space in the Green Bay area modeled after the Forward Service Corporation transitional housing program.
3. Reduce the number of “street homeless” chronic alcohol users by identifying a community-wide solution to provide safe living situations for such people.
4. Increase shelter space for families, including families with youth.
5. Increase the collaborative planning and ongoing support for people who experience housing crises with the goal of stabilizing housing situations.
6. Develop a better understanding of the scope and nature of housing problems facing minority residents in the Green Bay area.
7. Increase public awareness of the concerns about local housing supply and advocate for change in local land use plans.
8. Further clarify the nature of these challenges and then develop a community-wide approach to addressing the needs of each subpopulation.
9. Increase the number of first time homebuyers who complete the process to purchase a home.
10. Reduce the number of low-income homeowners who have “unaffordable” mortgage costs by supporting homeowners after purchase and reducing risky mortgage lending.

As the local communities develop their comprehensive plans, they should identify those issues and recommendations from the report that are relevant to their community and address those issues within their plans.

Housing Affordability by Community

As a means to further determine housing affordability in Brown County as a whole, as well as within its individual communities, additional analysis was completed utilizing year 2000 census data.

The Housing Affordability Analysis is based on the recommended process contained in *Housing Wisconsin: A Guide to Preparing the Housing Element of a Comprehensive Plan*, developed by the University of Wisconsin-Extension. This process is being used to estimate if there is an adequate supply of affordable housing in Brown County for residents with limited means. The analysis for Brown County is based on a median family income of \$57,892 per year, which is defined in the 2000 U.S. Census.

The analysis determined that a family of four within the 50th percentile bracket of median family income (\$28,946) looking for housing in the County could spend up to \$702 per month in rent or mortgage/interest/property tax escrow if they allocate the maximum recommended payment of 30 percent of their income to housing. According to the 2000 U.S. Census, of the homes that are mortgaged, there are 5,494 homes in Brown County that had mortgage payments of \$700 or less and 24,061 rental units that rented for less than \$700.

As a means for comparison, the Wisconsin Housing and Economic Development Authority (WHEDA) estimates that a family with a gross income of \$28,946 per year, monthly debt of \$100, and an interest rate of 6.5 percent for a 30-year fixed loan could afford up to a home priced at approximately \$82,000.

This means that the County contained 29,555 total affordable housing units for a family within the 50th percentile bracket of median family income in 2000, representing 32.7 percent of Brown County's 90,199 total housing units. According to the year 2000 census, this compares with the approximately 20,256 households that make less than \$24,999. However, as noted in the previous section, the majority of the rental units are 1- and 2-bedroom units when there are a number of families looking for affordable 3- or more bedroom units. Over just the past ten years, the median home value in Brown County has almost doubled from \$62,600 in 1990 to \$116,100 in 2000. Therefore, a home that was purchased in 1990 may have a mortgage that would appear affordable, but if the same home were sold today, the selling price and, therefore, the mortgage would increase and would likely be taken out of the affordable range. Figure 5-9 provides an analysis of each Brown County community and the amount of affordable housing available.

As is evident from the table, the City of Green Bay provides a majority of the affordable owner-occupied and rental housing units in Brown County with 52.95 percent and 64.34 percent, respectively, of the total affordable units for a family in the 50th percentile of median income in the County. The Village of Allouez provides the next highest percentage of affordable owner-occupied units with 10.21 percent, while the Village of Ashwaubenon provides the second highest percentage of affordable rental units with 9.45 percent.

When analyzing these numbers, it is necessary to refer back to the percentages of Brown County housing units each community contains to provide a frame of reference. In order

Figure 5-9: Housing Affordability Analysis for Brown County Communities

Local Community	Housing Units	% of Total Brown County Housing Units	# of Owner-Occupied Housing Units Available Below \$700/ Month	% of Total Brown County Owner-Occupied Housing Units Available Below \$700/ Month	# of Rental Housing Units Available Below \$700/ Month	% of Total Brown County Rental Housing Units Available Below \$700/ Month	Difference Between % of Total Brown County Owner-Occupied Housing Units Available Below \$700/ Month and % of Total Brown County Housing Units	Difference Between % of Total Brown County Rental Housing Units Available Below \$700/ Month and % of Total Brown County Housing Units
C. De Pere	7,993	8.86%	390	7.10%	1843	7.66%	-1.76%	-1.20%
C. Green Bay	43,123	47.80%	2,909	52.95%	15,480	64.34%	5.15%	16.54%
V. Allouez	5,512	6.11%	561	10.21%	551	2.29%	4.10%	-3.82%
V. Ashwaubenon	7,260	8.05%	366	6.66%	2,273	9.45%	-1.39%	1.40%
V. Bellevue	4,759	5.28%	105	1.91%	1,104	4.59%	-3.36%	-0.69%
V. Denmark	833	0.92%	50	0.91%	262	1.09%	-0.01%	0.17%
V. Hobart	1,758	1.95%	128	2.33%	110	0.46%	0.38%	-1.49%
V. Howard	5,350	5.93%	222	4.04%	1,370	5.69%	-1.89%	-0.24%
V. Pulaski	1,254	1.39%	87	1.58%	415	1.72%	0.19%	0.33%
V. Suamico	3,078	3.41%	247	4.50%	99	0.41%	1.08%	-3.00%
V. Wrightstown	729	0.81%	22	0.40%	104	0.43%	-0.41%	-0.38%
T. Eaton	480	0.53%	18	0.33%	24	0.10%	-0.20%	-0.43%
T. Glenmore	382	0.42%	20	0.36%	20	0.08%	-0.06%	-0.34%
T. Green Bay	685	0.76%	23	0.42%	41	0.17%	-0.34%	-0.59%
T. Holland	444	0.49%	29	0.53%	24	0.10%	0.04%	-0.39%
T. Humboldt	460	0.51%	29	0.53%	31	0.13%	0.02%	-0.38%
T. Lawrence	546	0.61%	29	0.53%	6	0.02%	-0.08%	-0.58%
T. Ledgeview	1,214	1.35%	59	1.07%	142	0.59%	-0.27%	-0.76%
T. Morrison	579	0.64%	43	0.78%	22	0.09%	0.14%	-0.55%
T. New Denmark	528	0.59%	30	0.55%	26	0.11%	-0.04%	-0.48%
T. Pittsfield	838	0.93%	44	0.80%	14	0.06%	-0.13%	-0.87%
T. Rockland	495	0.55%	12	0.22%	7	0.03%	-0.33%	-0.52%
T. Scott	1,234	1.37%	48	0.87%	32	0.13%	-0.49%	-1.23%
T. Wrightstown	681	0.75%	23	0.42%	61	0.25%	-0.34%	-0.50%
Totals	90,215	100.00%	5,494	100.00%	24,061	100.00%	0.00%	0.00%

Source: U.S. Census Bureau Table DP-1 Profile of General Demographic Characteristics, 2000; Table DP-3 Profile of Selected Economic Characteristics, 2000; and Brown County Planning Commission, 2003.

to provide a better picture of which communities are providing adequate amounts of affordable housing, a second analysis was completed. The last two columns of Figure 5-9 are the differences between each local community's percentage of affordable owner-occupied and rental units and the overall percentage of Brown County housing units the community contains. The percentage of total Brown County housing units that a local community contains should be approximately proportional to the percentages of total Brown County affordable rental and owner-occupied units each community contains.

Communities that have a positive percentage in the last two columns are providing a higher percentage of rental and/or owner-occupied affordable housing than their percentage of total Brown County housing units. From this analysis, it is evident that the City of Green Bay provides much more than its proportional share of affordable rental units, and in terms of affordable owner-occupied housing, the City of Green Bay also provides more than its proportional share of affordable housing, albeit a much lower percentage. Out of all of the Brown County communities, only the City of Green Bay and Village of Pulaski are providing more than their proportional share of both rental and owner-occupied affordable housing units, while the Village of Denmark is very close.

Negative percentages in either of the last two columns are indicative of a shortage of rental and/or owner-occupied affordable housing in those communities. The lack of affordable housing is particularly noticeable in the suburban communities where the public services, jobs, and transportation alternatives necessary for the people who need affordable housing to succeed are in place. As these communities develop their comprehensive plans and review plans for new development, it is important for them to recognize their relative shortage of affordable housing and ensure it is addressed.

Many of the rural towns do not provide high percentages of affordable housing, particularly rental units. This is likely due to the lack of available public utilities and services, which are typically required for higher-density apartments or other rental units. A second limiting factor is their relative distance from the greater Green Bay Urbanized Area and unavailability of public transportation to transport them to and from their jobs, which are most likely within the urban communities. However, as development reaches farther outward from the urbanized area, it is necessary for all communities to ensure that there is an adequate supply and variety of affordable housing, as well as the public services and utilities to support them. The Recommended Programs and Policies provides a range of techniques that the local communities can evaluate and utilize to promote the provision of affordable housing.

Recommended Programs and Policies

As the Brown County population continues to grow, age, and become more diverse, there will be an increasing need for a wider range of housing choices. There are a number of techniques that local communities can utilize to encourage a range of housing choices. Although the list of programs is not comprehensive and a certain development pattern or technique may not apply directly to each community in Brown County, it is important for the local communities to review the programs and policies for inclusion within their more detailed local comprehensive plan.

Permit Smaller Residential Lot Sizes

One of the first and easiest ways for a community to increase the amount of affordable housing is to encourage the use of smaller lots. In newer developments in Brown County with public sewer and water, the typical residential lot is approximately 1/4- to 1/3-acre (10,800 to 14,520 square feet), with even larger lots becoming more the norm. In areas without public sewer or water, most communities require a minimum of 1.5 acres (65,340 square feet) to build a home even though the Brown County Subdivision Ordinance requires a minimum of only 7,500 feet for a publicly-sewered lot and 40,000 square feet for a lot served by an onsite system.

In addition to helping to keep the housing costs down, smaller lots provide for greater efficiencies in the delivery of such services as postal delivery and garbage and school bus pickup. Also in terms of cost savings, the more homes that front on a street, the less the impact on the individual homeowner when paying assessments for sewer main, water main, sidewalk, or street repairs.

Within the rural parts of Brown County where public sewer service may not be available, it is common for very large lots to be required. However, many of these communities are also intent upon protecting farmland and preserving rural character. Oftentimes the required acreage for a large minimum residential lot takes land out of agricultural production that is not necessarily required for the home site. In communities where this is an issue, the utilization of smaller maximum lot size for new residential development would bring the cost of the home down, as well as take less land out of agricultural production.

A second technique to protect farmland or the rural character of the community is to utilize conservation designed subdivisions. These types of developments also have smaller residential lots, which can keep housing costs down. However, the housing costs are typically more because of the greenspace requirements that are a required part of the development.

Encourage Traditional Neighborhood Development in Local Comprehensive Plans

Forms of housing within a traditional neighborhood development (TND) are mixed, so people of different ages and income levels have opportunities to live in various areas of a community. The concept of mixed housing types is very important because many people prefer to remain in their neighborhoods as their incomes increase or decrease. This housing mix allows a young family to rent, purchase a starter home, move into a larger home as their family grows, move to a smaller home when they retire, and move to an assisted living facility all within the same neighborhood.

Homes within a TND typically resemble those found in older, pre-1950 neighborhoods like those found near downtown De Pere or Green Bay or within the older portions of the rural villages. The homes in these areas are located on smaller lots, typically have a front porch, include a range of housing types, styles, and costs, and are located within walking distance of recreational, commercial, and institutional amenities.

A nearby example of a new traditional neighborhood development is located in Middleton, Wisconsin, on the northwest side of Madison. A series of photos taken in March of 2001 is included on the following pages to illustrate the concepts of traditional neighborhood developments, mixed uses, and the architecture that supports these concepts. When viewing these pictures, please note that:

- The garage is either recessed on the side or behind the house.
- The front of the house is dominated by the presence of a front porch rather than the garage.
- The homes have minimal or zero setbacks from the right-of-way.
- Neighborhood streets are very narrow (approximately 18 to 24 feet between the curbs) to slow traffic.
- Duplex and multifamily units are architecturally similar to the single-family homes and, therefore, blend into the overall neighborhood character.
- Although the architectural styles of the homes range from smaller bungalows to larger 2-story homes, they blend together to provide an architecturally pleasing neighborhood.
- Alleyways are used behind some of the homes to limit direct street access and further enhance the home as the primary architectural feature rather than the garage and driveway.
- Narrower lots promote more of a neighborhood feel as opposed to an isolated home in the middle of a large lot.
- Sidewalks are available throughout the development on both sides of the street to promote walking and interaction with neighbors.
- Small commercial uses are located at the entrance of the development to serve the neighborhood residents.
- Larger apartment homes and live/work units are also located within this area in easy walking distance to the commercial uses and bus line.
- Commercial buildings have second floor residential uses.

Traditional neighborhood developments are particularly appropriate for large infill or redevelopment projects. By promoting TND in these areas, existing public services and utilities could be used more efficiently, and it would create a mixture of housing types and land uses in areas where there might not be much variety. As the local communities develop their local comprehensive plans, identifying locations for potential TND projects in infill or redevelopment areas would be an efficient way to better utilize the existing public services and utilities and create a wider variation in housing choices.

In some communities, there might not be any suitable infill or redevelopment sites for a traditional neighborhood development. In these situations, TNDs should be considered in areas adjacent to existing development with the logical extension of public services.



Single-family home with rear attached garage



Duplex on a corner lot



Single-family homes on a narrow street with garages attached to the sides of the homes



TND homes fronting a narrow street (the garages face the alleys behind the homes)



Alleys and garages behind homes



Apartment building across from a commercial use



Neighborhood deli and convenience store



First floor commercial & second floor residential uses

Make People Aware of “Visitability” Concepts

As is evident from the Issues and Opportunities chapter, the overall population of Brown County is continuing to age. As people age, their ability to move around their own home can become increasingly difficult. For a number of elderly and mobility-impaired Brown County residents, the simple presence of a single stair to enter a home can cause a great deal of difficulty. According to Green Bay-based Options for Independent Living, “visitability” applies to the construction of new single-family homes to make them “visit-able” by people with any type of physical or mobility disability. Typically visitable homes have:

- One entrance with no steps.
- A minimum 32-inch clear passage through all the main floor doors and hallways.
- A useable bathroom on the main floor.

Although these improvements do not allow full accessibility, such as is promoted in universal design, they do allow (at a minimum) elderly and people with a mobility limitation the ability to visit a home or remain living in their home for a longer period of time.

Permit Secondary Principal Structure on a Residential Parcel

As residents continue to age, there often comes a time when they might not wish to maintain a separate home but do not want to be placed in a retirement or elderly care home. An alternative would be to allow small, secondary living quarters on one residential parcel. These “granny flats,” as they are sometimes called, allow the elderly to maintain their own independent living quarters for sleeping and washing while being able to easily interact with their family for meals and socializing in the principal residence.

Utilize Housing Rehabilitation Programs

Although the majority of the housing in Brown County is less than 35 years old, approximately 45 percent of the housing is older than 35 years. Housing rehabilitation and maintenance is often thought of as an urban community issue. However, there are a large number of older farmhouses in the rural towns that were built prior to 1939. Maintaining and rehabilitating these older farmhouses also preserves a link to Brown County’s agricultural history and heritage.

Of the mature communities, only the City of Green Bay has an active housing rehabilitation program, which is funded primarily through its Community Development Block Grant (CDBG) entitlement funds. Other local communities in Brown County, particularly those with high numbers of older homes, such as the City of De Pere, Village of Allouez, and rural Villages of Denmark, Pulaski, and Wrightstown, should investigate their eligibility for the various home rehabilitation programs available through nonprofit, local, state, and federal agencies. The Implementation chapter details many of the housing programs that are available to Brown County communities.

In addition to rehabilitating deteriorating housing, the local communities could adopt minimum housing maintenance standards to ensure that the housing stock is properly maintained. The housing maintenance standard is used most often when there are no structural or safety issues that could be addressed through Uniform Dwelling Code (UDC) enforcement but when the appearance of the property is having an adverse effect on neighboring property values.

Permit Mixed Uses in Residential Developments

The majority of residential subdivisions developed over the past 50 years consists almost exclusively of single-family detached homes separated from any other commercial, institutional, or even recreational uses. This results in residents of these subdivisions having to utilize a vehicle to travel to a store, school, or park instead of having the opportunity to walk or bike a relatively short distance to these land uses. The segregation of uses and reliance on a vehicle is especially difficult for the elderly, mobility-impaired, children, and others who may not want to or cannot drive.

The intent of this recommendation is to develop neighborhoods rather than simply subdivisions. In order to encourage people to walk or bike, uses other than only single-family residential uses should be encouraged within these new neighborhoods. For example, corner lots are very good locations for small neighborhood commercial uses and higher density residential developments, while recreational and institutional uses should be located in places that provide a focus point, gathering place, and identity for the neighborhood and its residents.

In order for uses other than single-family detached homes to be palatable to surrounding property owners, the neighborhood commercial, higher density residential, and institutional uses all need to be of a scale and design that blends in with the residential character of the neighborhood. In order to achieve the desired seamless integration of these uses into the neighborhoods, strict commercial design standards should be employed. The design standards would let the developer know ahead of time what standards the neighbors expect for the building, and the neighbors would know that the development meets their expectations, as well.

Summary of Recommendations

Brown County and its local communities must continue to monitor their progress in meeting the goal and objectives contained within the Issues and Opportunities chapter. The programs and policies listed in this chapter, if followed, would lead the County toward the overall stated housing goal. The following recommendations were developed based on the input received from the Brown County VisionFest, BCPC Board of Directors comments, discussion groups, State of Wisconsin Comprehensive Planning Law, and sound planning principles.

Land Use Recommendations

- Permit smaller residential lot sizes based on the standards contained in the Brown County Subdivision Ordinance of 7,500 square feet for lots with public sewer and

40,000 square feet for those with private septic systems in order to increase the number of affordable lots and homes on the market. Even smaller lot sizes should be considered in conservation subdivisions or traditional neighborhood developments.

- Encourage at least two (and preferably more) types of housing units (single-family, duplex, multifamily, elderly care/group homes, etc.) in all developments over 30 acres in size where at least one-half of the lots are intended for residential uses. Avoid the concentration of higher density housing types in any one location.
- Permit a small, secondary principal structure (“granny flat”) on residential parcels to allow the elderly a place to continue to live semi-independently.
- Encourage the local communities with the public services that are able to support a traditional neighborhood development (TND) to adopt a traditional neighborhood development district in their respective zoning ordinances. Traditional neighborhoods provide for a range of housing choices and styles, thereby creating more options for people looking to buy a home.
- In areas of the County where there are unique natural, cultural, or agricultural resources, conservation by design developments should be encouraged rather than larger lot rural subdivisions. The natural, cultural, or agricultural areas should be preserved with a permanent easement and the development built around these resources.
- Strategically mix commercial, institutional, and recreational uses within residential developments to ensure residents have the option to walk or bike to these uses. Buildings need to be held to a strict design guideline so that they are designed similar in scale and architecture to the residential surroundings.
- Support the creation of local neighborhood associations to foster neighborhood cohesion and provide a conduit to the elected officials.
- Develop smaller, accessible neighborhood parks within residential areas to create a sense of identity for the neighborhood and a gathering place for its residents.
- Brown County communities should review their ordinances to ensure they do not preclude the development of affordable housing.

Structural Recommendations

- Discuss the concept of visitability with local communities as they develop their comprehensive plans, so that mobility-impaired people are not precluded from visiting homes.
- Have the local communities adopt minimum housing maintenance standards to ensure that their older housing stock does not deteriorate.
- Work with the local communities to identify areas in Brown County that might be in need of a housing rehabilitation program.
- Identify homes that might be historic and/or architecturally significant and pursue funding sources that might be used to rehabilitate or renovate them in a historically sensitive manner.

Range of Housing Recommendations

- Incorporate the recommendations contained in the *Affordable Housing and Homelessness in Brown County* report listed earlier in this chapter.
- Challenge the local communities to provide a percentage of affordable housing proportional to their percentage of total housing units in Brown County.
- Recognize that the Housing Voucher Program (formerly Section 8) allows program participants to choose where they want to live.
- Increase the number of affordable 3- and 4-bedroom units available for rent in the more suburban areas of Brown County by providing incentives for developers.
- Foster the creation or designation of an umbrella organization to direct residents to the proper agency or program for housing resources.
- Utilize the governmental programs and nonprofit agencies listed in the Implementation chapter to assist Brown County and its local units of government in attaining the goal and objectives of this chapter.

CHAPTER 6

Utilities and Community Facilities

Introduction

The type and quality of services that communities provide are two of the most important reasons why people and businesses are attracted to and choose to remain within a community. Healthcare, childcare, and schools are examples of services that are often most important to the residents of a community, while utilities, power supply, and power transmission capabilities are examples of services that are often most important to businesses and industries. When desirable services are provided in a quality and cost-effective manner, the community's long-term prosperity is fostered.

However, many local communities are unable to provide the services or level of services their residents and businesses demand. Therefore, they have come to rely upon cooperative agreements with neighboring communities or upon other units of government, such as the county or the state, to meet such demands. Also, the state allows counties unique flexibility to deliver services.

As communities grow and mature, so does their need for services. Some basic services, such as law enforcement, municipal justice, public health and safety, education, roads, and public improvements, are provided in all communities to one extent or another regardless of the size or nature of the community. But over time, as the community grows and changes, so do the services it provides. The level of existing services changes, often becoming more comprehensive, complex, and expensive, and new services are added. These new services often include public sewage treatment, solid waste disposal, recycling, public drinking water, and public recreation.

Eventually, when enough communities begin to need or provide a similar service or level of service, it can become cost-effective for a regional approach to the delivery of those services, and sometimes it is the county that can fulfill that role. Existing examples in Brown County include police service, public safety communications, solid waste disposal, and recycling. In addition, federal and state regulations (such as the Clean Water Act) often govern various aspects of services or facilities, including how, when, and at what level such services must be provided. Examples of this include sanitary sewage treatment and disposal and stormwater management.

Of particular importance to this chapter of the Brown County Comprehensive Plan, as articulated at the visioning session, are the following:

- Ensure that there is and will always be an adequate supply of high quality public drinking water, such as through the construction of a new pipeline to Lake Michigan.
- Identify, propose, and consolidate government services to the greatest extent possible in an effort to maintain or improve quality, streamline services, and reduce costs.
- Encourage efficient, compact, and well-balanced land development to control sprawl (inefficient development).

- Reduce the number of governmental jurisdictions.

To provide high quality services, it is particularly important that a growing county like Brown County and its local communities maintain, upgrade, and regularly reevaluate their utilities, facilities, and services. This means that the County should continuously evaluate its existing facilities and services to ensure their continued provision in the most cost-effective manner possible, consistent with the county's and the local communities' long-term goals, trends, and projections, as well as consider the elimination of unnecessary services and the provision of new services when necessary. It is also important that the local communities work cooperatively whenever possible and feasible to ensure the safest and most cost-effective provision of utilities, facilities, and services possible. The analyses and recommendations within this chapter of the Brown County Comprehensive Plan are the first step in that process, and this plan should be used to guide and direct, but not replace, detailed engineering studies, facility plans, and capital improvement programs.

For all of these reasons, the continued provision of quality utilities, facilities, and services is vital to the health, welfare, and prosperity of Brown County and its local communities.

Background

The Wisconsin Constitution directly established certain elected county offices and, by inference, certain others for all counties in the state. Those specifically mentioned include the coroner (later amended to allow the coroner or a medical examiner), district attorney, register of deeds, and sheriff. Wisconsin Supreme Court decisions have expanded these administrative officers inferred by the constitution to include the county clerk, clerk of circuit court, surveyor, and treasurer. The Wisconsin Legislature also later established the office of county corporation counsel. Over time, the state has also allowed counties to provide other services on a generally case-by-case basis. These include an abstractor, an auditor, an assessor, various services related to health and human services, veterans affairs, public protection and safety, consumer protection, cultural/recreational/educational affairs, economic and industrial development, and transportation.

The duties that these offices fulfill form the backbone of services that all counties in Wisconsin, including Brown County, provide to their residents.

In addition, as the fourth largest county in the state in terms of population, Brown County and its local communities provide a full range of utilities, facilities, and services to address the needs and impact of their growing populations.

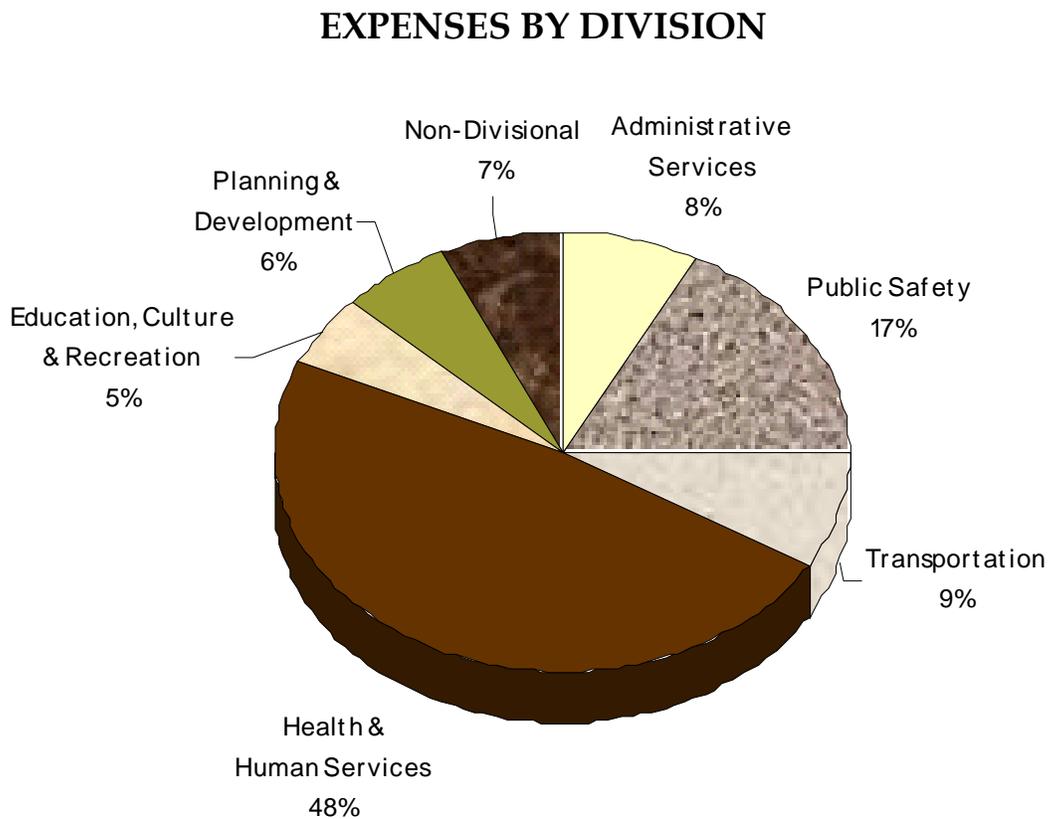
Brown County provides:

- Public safety services.
- An airport.
- A port.
- Road construction, repair, and maintenance.

- A comprehensive array of health and human services.
- A comprehensive park, open space, and outdoor recreation system, including a zoo, a golf course, and a fairgrounds.
- A public museum.
- A public library system.
- A comprehensive solid waste, hazardous waste, and recycling collection and disposal system.
- A courthouse.
- A jail.
- Numerous buildings housing the administrative functions of Brown County.

A chart identifying the county divisions that provide these services and their budget relationship to one another is shown in Figure 6-1.

Figure 6-1: 2004 Budget Expenses Chart



Brown County contracts with Outagamie and Winnebago Counties (through the Tri-County Solid Waste Disposal Agreement) to economically and efficiently consolidate their land filling operations. (Brown County will transfer its wastes to the Outagamie East Landfill until the end of 2004, to the Winnebago Sunnyview Landfill until 2011, and to the Outagamie Northeast Landfill until about 2020. The three counties would then use Brown County's planned landfill located in the Town of Holland until its capacity is reached around 2027.) Brown County also contracts with various providers for health and human services.

Other agencies or local units of government provide local police protection; fire and rescue services; local solid waste and recycling collection; wastewater collection and treatment; public water supply and transmission; stormwater management; local park, recreation, and forestry systems; and local street construction and maintenance programs.

Private providers arrange telecommunication, power, healthcare, care for the elderly, and childcare services within the County.

Opportunities and Challenges

Challenges associated with the County's utilities, facilities, and other services are related to the aging of the existing infrastructure, determining the proper timing and location for replacement of existing or construction of new infrastructure, anticipating and reacting to the changing needs of the county's residents, greater economic competition within the region and the metropolitan area, fiscal constraints, and new legislation and regulations. Opportunities include a healthy local population, economy, and business climate, efficiencies of scale, and possibilities for intergovernmental cooperation and shared services.

Inventory and Analysis

This section of the Utilities and Community Facilities chapter provides detailed information about Brown County's (Brown County government, local units of government, and other public and private agencies) utilities, facilities, and services and recommends actions to address identified concerns or issues. These recommendations are also summarized at the end of this chapter.

Emergency Services

Brown County provides a full range of emergency services, including its own sheriff's department, public safety communications department (including 911 service), a law enforcement center, a Huber facility, and a county jail.

Police

The Brown County Sheriff's Department is a full service law enforcement agency that serves all portions of Brown County that do not provide their own law enforcement and protection services. The purpose of the sheriff's department is to provide protection to

the citizens of Brown County, including the prevention, detection, apprehension, prosecution, and detention of those people who violate criminal or civil and state or local laws. Its two functions are to provide patrol services and to staff the jail. Its administrative functions are located within the law enforcement center in downtown Green Bay. The department is managed by the sheriff and is divided into five divisions. In addition to the patrol, investigative, jail, professional, and support services offered by the five divisions, the Brown County Sheriff's Department also provides the following services:

- Accident reconstruction.
- Bomb squad.
- Court services.
- Crime prevention.
- D.A.R.E.
- Teen court.
- VIP program.
- Arson task force.
- Drug task force.
- Emergency response unit (SWAT).
- K-9.
- Recreational enforcement unit.
- Salvage title inspection unit.
- School liaison officers.
- Community traffic team.

The Brown County Sheriff's Department provides these services to the communities of Allouez, Bellevue, Eaton, Glenmore, Green Bay (town), Holland, Howard, Humboldt, Ledgeview, Morrison, New Denmark, Pittsfield, Rockland, Scott, Suamico, and Wrightstown (town). The communities of Allouez, Bellevue, Howard, and Suamico also contract for additional police services from the sheriff's department.

The remaining communities within Brown County, which tend to be the largest communities, provide their own law enforcement, including the Cities of De Pere and Green Bay, the Village of Ashwaubenon, and the Oneida Nation. The communities of Denmark, Hobart, Lawrence, Pulaski, and the Village of Wrightstown also provide their own law enforcement but contract with the sheriff's department for backup service when necessary. These communities, in addition to funding their own police departments, also contribute toward the funding of the sheriff's department.

It is recommended that the Brown County Sheriff's Department study these arrangements and, where feasible and cost-effective, offer its services to other communities and other law enforcement agencies.

The Law Enforcement Center, the Work Release Center, the Brown County Jail, and the Denil Building are utilized to house the services and functions of the Brown County Sheriff's Department. Some of the department's major concerns regarding these facilities include:

- The Denil Building is located too far from the Law Enforcement Center and does not have adequate security for the parking and storage of vehicles.
- There is not enough parking or secure parking for employees of the downtown Green Bay facilities. This is particularly a concern with the judges and court commissioners.
- The Investigative Division offices over the Law Enforcement Center's sally port are subjected to excessive noise and distraction.
- The entire sheriff's department's facilities are fully utilized. There is not enough space to meet the future storage and handling of evidence needs of the department and the possible expansion of the Brown County Circuit Court system (and associated district attorneys).

It is envisioned that some or all of these facilities may need to be replaced, expanded, and/or remodeled within the next 20 years to address current and future needs. The study of these needs and the best means to address them are underway. A parking/garage/maintenance facility for the sheriff's department (and possibly other departments) is also under consideration.

Other changes that could affect the sheriff's department's facilities include the recent location of a Federal Court Building in Green Bay (would likely result in an increase of prisoners within the jail), possible relocation of the public safety communications facility, and possible relocation of the Huber facility.

As previously noted, some communities provide their own full service law enforcement and protection services. In addition, many towns within Brown County also provide constables, which are tasked with the duty to enforce local rules and regulations and assist the County sheriff's department with enforcing public safety. These towns include Eaton, Glenmore, Green Bay, Humboldt, Ledgeview, Morrison, New Denmark, and Scott.

Because of the vital importance of police protection to the welfare and safety of the citizens of Brown County, of possible savings and efficiencies, and of the growing demands placed upon many communities to provide a continually greater level of law enforcement, it is recommended that the comprehensive countywide study of the benefits and feasibility of a single countywide law enforcement agency be continued. If determined to be feasible, cost-effective, efficient, and responsive to local needs, the benefits of such an agency could be tremendous. It is further recommended that this study be a cooperative effort between all affected local units of government, local police departments, and the State of Wisconsin.

In the interim, it is recommended that cooperative ventures be considered, such as a joint photo ID/clearance area for the City of Green Bay and Brown County, a joint evidence storage facility for Brown County and other communities within Brown County, and

shared video conferencing capabilities between Brown County and other local, state, and federal agencies. It is also recommended that existing cooperative ventures continue, such as use of video conferencing, the Eagle 3 helicopter, and vehicle storage areas.

It is also recommended that studies of police services and programs be periodically undertaken to ensure that the appropriate level of service is provided as Brown County and the local communities continue to grow and change. This is particularly important as the elderly and minority populations continue to increase and as technology changes.

Last, it is recommended that the sheriff's department regularly review its contracts with local communities for the provision of additional services, housing of out-of-county prisoners, etc. to ensure that fair and equitable charges are assessed.

Fire and Rescue

As with most counties in Wisconsin, Brown County does not provide fire or rescue services, nor are such services provided in any countywide comprehensive manner.

Fire services in Brown County are provided on an individual community basis or are obtained through contracts with neighboring communities. Most communities within the County rely on volunteer fire departments. Of the 18 fire departments in Brown County, 13 are volunteer departments. They include Bellevue, Denmark (with service to Eaton, portions of Glenmore, and New Denmark in Brown County and Franklin in Manitowoc County), Hobart, Hollandtown, Pulaski (with service to Pittsfield), Suamico, Wayside, Wrightstown (village), Lawrence, New Franken (a joint department between the Towns of Green Bay, Humboldt, and Scott), Greenleaf (with service to the western half of Rockland and to the Town of Wrightstown), Morrison (with service to the eastern half of Rockland, portions of Glenmore, and to Morrison), and Ledgeview (with service to portions of Glenmore). Three fire departments, De Pere (with service to Lawrence), Allouez, and Howard, are part fulltime and part volunteer departments. The Village of Ashwaubenon Fire Department is a joint police/fire/rescue department staffed by both fulltime and volunteer staff. The City of Green Bay Fire Department is a fulltime department.

Rescue services are also provided on an individual community basis or are obtained through agreements/contracts with neighboring communities or private providers. Most communities in Brown County rely upon County Rescue Services, a private provider located in the Village of Bellevue that is supported by a joint partnership with Bellin and St. Vincent Hospitals. These communities include Eaton, Glenmore, Green Bay (town), Hobart, Holland, Howard, Humboldt, Morrison, Rockland, Scott, Suamico, and Wrightstown (both village and town). The communities of Pulaski and Pittsfield contract with Tri-County Rescue Squad. The communities of Denmark and New Denmark contract with Viking Community Rescue Squad Inc., a private provider located in Denmark. The communities of Allouez, Ashwaubenon, Bellevue, De Pere (with service to Lawrence and Ledgeview), and the City of Green Bay provide their own rescue services.

Mutual aid agreements between communities regarding fire service are common, but such agreements regarding rescue service are much less common. Mutual aid

agreements, where they exist, vary greatly and are reached on a case-by-case basis between the affected communities. Such agreements range from sharing of water supplies for fire fighting to comprehensive sharing of programs and services. These agreements are often only between two communities.

The level of fire and rescue services varies greatly from community to community. This variability can be seen in the fire insurance ratings issued for local communities by the Insurance Services Office (ISO). Based upon their countrywide Public Protection Classification Program, Brown County communities range from a Class 2 for the City of Green Bay to a Class 9 for most rural towns.⁹ This classification system is used to help establish fire insurance premiums for residential and commercial properties. Many but not all of these differences can be attributed to differing population levels, population densities, land uses, etc.

It is recommended that the various fire and rescue departments within Brown County continue to strive to provide the best and most appropriate level of service possible in a cooperative, cost-effective, and efficient manner and that studies of this issue be periodically undertaken so that an appropriate level of service is maintained.

Sanitary Sewer Service

Among the infrastructure most urban communities provide to ensure the health, welfare, and safety of its citizens, sanitary sewer service is one of the more important and traditional.

Several major federal laws have been enacted over the past 100 years to protect our nation's waters, and each of these laws imposed subsequently greater restrictions upon the discharge of pollution into lakes, rivers, and streams. With the passage of the 1972 Clean Water Act, all discharges of pollution required a permit, the use of best achievable pollution control technology was encouraged, and billions of dollars were provided for the construction of sewage treatment plants. This law also required comprehensive water quality planning for both point and nonpoint sources of pollution. For Brown County and its local communities, this planning is currently contained in the Lower Fox River Basin Integrated Management Plan prepared in August 2001, the Twin-Door-Kewaunee Water Quality Management Plan prepared in 1995, the Upper Green Bay Basin Water Quality Management Plan prepared in 1993, and the Manitowoc River Basin Water Quality Management Plan prepared in 1997, all by the Wisconsin Department of Natural Resources (WDNR), and the 2002 Brown County Sewage Plan approved by the Brown County Planning Commission and endorsed by the Wisconsin Department of Natural Resources in March of 2003.

⁹ This fire insurance rating classification system is based on a range from Class 1 (best) to Class 10 (worst) and is uniformly applied across the country based upon a number of factors, including the number of firefighters, the number of fire stations, the distance from fire hydrants, etc. In the United States, only 34 communities have received a Class 1 designation, none of which are located in Wisconsin. However, 14 communities within Wisconsin have received a Class 2 designation, one of which, the City of Green Bay, is located in Brown County. Most communities in Wisconsin, as well as in Brown County, have a designation between Class 5 and Class 7.

Both onsite (as defined in the next section of this chapter) and offsite (as defined in the next paragraph) wastewater collection, treatment, and disposal systems are utilized within the County. Offsite systems are typically located within the urban and urbanizing portions of the County, while onsite systems are generally located in the rural portions. In this regard, offsite wastewater collection, treatment, and disposal are provided to all or portions of both cities, all 9 villages, and 9 of the 13 towns within the County. Also, the cities and villages typically provide such service to their entire community, while the towns provide this service to only a portion of their community. Within these nine towns, two (the Towns of Lawrence and Ledgeview) have created town-wide sanitary districts. The remaining seven towns have created sanitary districts for only a portion of their community.

Offsite systems are generally comprised of a wastewater treatment plant and its associated interceptor sewers, forcemains, lift stations, and gravity sewers. The entire system may be owned and operated by one entity, such as in the case of the City of De Pere, Village of Denmark, Village of Wrightstown, Town of Holland Sanitary District, Town of Morrison Sanitary District, Town of Wrightstown Sanitary District No. 1, and Town of Wrightstown Sanitary District No. 2, or the wastewater treatment plant and the interceptor sewer system may be owned and operated by one entity, such as the Green Bay Metropolitan Sewerage District (GBMSD), and the local sewer system is owned and operated by the local units of government (City of Green Bay, Village of Allouez, Village of Ashwaubenon, Village of Bellevue, Village of Hobart, Village of Howard, Village of Pulaski, Village of Suamico, Bayshore Sanitary District, Dyckesville Sanitary District, New Franken Sanitary District, Royal Scot Sanitary District, Scott Sanitary District No. 1, and Town of Pittsfield Sanitary District).

There currently are eight sewage treatment plants within Brown County. Two of these, the City of De Pere and the GBMSD plants, provide service to multiple communities, while the rest provide service to only one community each. As shown in Figure 6-2, the largest offsite system is owned and operated by the Green Bay Metropolitan Sewerage District and extends into portions of 13 communities. The smallest is owned and operated by the Town of Wrightstown Sanitary District No. 2 and encompasses one residential subdivision. Detailed information about each sewage treatment plant is provided in the 2002 Brown County Sewage Plan.

As shown on Figure 6-3, Figure 6-4, and Figure 6-5, the County sewage plan envisions that the population to be provided public sanitary sewer service in Brown County would increase from about 200,500 people (about 89 percent of Brown County) in the year 2000 to about 243,000 people (about 91 percent of Brown County) in the year 2020. Of these amounts, the GBMSD provided public sanitary sewer service to about 154,900 people in 2000 (about 77 percent) and is envisioned to provide such service to about 189,601 people in 2020 (about 77 percent).

As shown in Figure 6-6, the County sewage plan envisions that the area of Brown County to be provided public sanitary sewer service would increase from about 78,500 acres (about 23 percent of the County) in the year 2000 to approximately 96,500 acres (about 28 percent of the County) by the year 2020. Of this amount, about 27,000 acres, or about 28 percent, would be vacant developable lands. The year 2020 sewer service areas within Brown County are shown on Figure 6-7.

Figure 6-2: Wastewater Treatment Plants in Brown County

Wastewater Treatment Plant	Date Constructed	Date of Last Major Upgrade	Design Flow (mgd)	Average Flow (mgd)	Population Served in 2000
Green Bay Metropolitan Sewerage District	Original 1935 Current mid-1970s	1990	49.2	27.53	154,900
City of De Pere	Original 1937 Current 1976	2000	14.2	7.24	36,900
Village of Denmark	Original 1917 Current 1980	1993	0.73	0.41	1,900
Village of Wrightstown	Original 1948 Current 1980	1998	0.36	0.15	1,800
Town of Holland Sanitary District	Original 1964 Current 1977	1994	0.46	0.32	400
Town of Morrison Sanitary District	1993	1993	0.06	0.04	400
Town of Wrightstown Sanitary District #1	Original 1962 Current 1995	1995	0.13	0.05	600
Town of Wrightstown Sanitary District #2	1970	1970	0.01	0.009	50

Source: Year 2000 Compliance Maintenance Annual Reports, facility plans, and 1995 Brown County Sewerage Plan.

Note: The Suamico WWTP was abandoned, and the Suamico Sanitary District dissolved in 2004. Sewerage began to be transported to the GBMSD in 2004.

Figure 6-3: Estimated Population Tributary to the Green Bay Metropolitan Sewerage District Wastewater Treatment Plant

Community	2000			2020		
	Sewered	Non-Sewered	Total	Sewered	Non-Sewered	Total
City of De Pere (portion)	500	0	500	500	0	500
City of Green Bay (all)	102,013	300	102,313	110,313	0	110,313
Village of Allouez (all)	15,443	0	15,443	16,107	0	16,107
Village of Ashwaubenon (portion) ¹	4,040	0	4,040	4,040	0	4,040
Village of Bellevue (all)	11,328	500	11,828	18,229	0	18,229
Village of Hobart (portion) ^{3,4}	1,971	2,269	4,240	2,939	2,646	5,585
Village of Howard (all)	12,889	657	13,546	19,005	0	19,005
Village of Pulaski (all)	3,013	0	3,013	4,068	0	4,068
Town of Green Bay (all) ²	362	1,410	1,772	509	1,900	2,409
Town of Humboldt (portion) ^{5,6}	90	230	320	110	240	350
Town of Pittsfield (all) ⁷	300	2,133	2,433	384	2,385	2,769
Town of Red River (portion) ⁸	265	320	585	285	335	620
Town of Scott (all) ⁹	2,712	1,000	3,712	4,360	1,246	5,606
Total	154,926	8,819	163,745	180,849	8,752	189,601

¹It is assumed that future growth within Ashwaubenon will be tributary to the De Pere WWTP.

²It is assumed that 23 percent of future growth within the Town of Green Bay will be sewered.

³It is assumed that 72 percent of future growth within the Village of Hobart will be sewered.

⁴It is assumed that future growth within the Village of Hobart will be tributary to the GBMSD WWTP.

⁵The Town of Humboldt includes the portions of the New Franken Sanitary District within the Towns of Green Bay and Scott.

⁶Future sewered and private onsite sewage disposal system growth in the Town of Humboldt was estimated by the BCPC.

⁷It is assumed that 25 percent of future growth within the Town of Pittsfield will be sewered.

⁸Future sewered and private onsite sewage disposal systems growth within the Town of Red River was estimated by the BCPC.

⁹It is assumed that 87 percent of future growth within the Town of Scott will be sewered.

Figure 6-4: Estimated Population Tributary to the City of De Pere Treatment Plant

Community	2000			2020		
	Sewered	Non-Sewered	Total	Sewered	Non-Sewered	Total
City of De Pere (portion)	20,059	0	20,059	25,095	0	25,095
Village of Ashwaubenon (portion)	13,594	0	13,594	16,217	0	16,217
Village of Hobart (portion) ¹	850	0	850	850	0	850
Town of Lawrence (all) ²	400	1,148	1,548	625	1,404	2,029
Town of Ledgeview (all) ³	2,006	1,357	3,363	3,644	1,539	5,183
Town of Oneida (portion) ⁴	543	0	543	543	0	543
Total	36,909	2,505	39,414	46,974	2,943	49,917

¹It is assumed that future growth within the Village of Hobart will be tributary to the GBMSD WWTP.

²It is assumed that 51 percent of future growth within the Town of Lawrence will be sewered.

³It is assumed that 90 percent of future growth within the Town of Ledgeview will be sewered.

⁴Sewered information for the Town of Oneida was not available.

Note: Existing and future sewered growth was assumed by BCPC to match the existing SSA, which was not envisioned to change.

Figure 6-5: Estimated Population Tributary to Other Publicly-Owned Wastewater Treatment Plants in Brown County

Community	2000			2020		
	Sewered	Non-Sewered	Total	Sewered	Non-Sewered	Total
Village of Denmark (all)	1,958	0	1,958	2,396	0	2,396
Village of Wrightstown (all) ¹	1,876	58	1,934	3,724	82	3,806
Town of Holland (portion) ²	400	0	400	450	0	450
Town of Morrison (portion) ³	400	0	400	426	0	426
Village of Suamico (portion) ⁴	3,373	452	3,825	7,351	0	7,351
Town of Wrightstown #1 & #2 (portion) ⁵	628	0	628	657	0	657
Total	8,635	510	9,145	15,004	82	15,086

¹It is assumed that 97 percent of future growth within the Village of Wrightstown will be sewerred.

²It is assumed that 72 percent of future growth within the Town of Holland will be sewerred.

³It is assumed that 23 percent of future growth within the Town of Morrison will be sewerred.

⁴It is assumed that 75 percent of future growth within the Village of Suamico will be sewerred.

⁵It is assumed that 9 percent of future growth within the Town of Wrightstown will be sewerred.

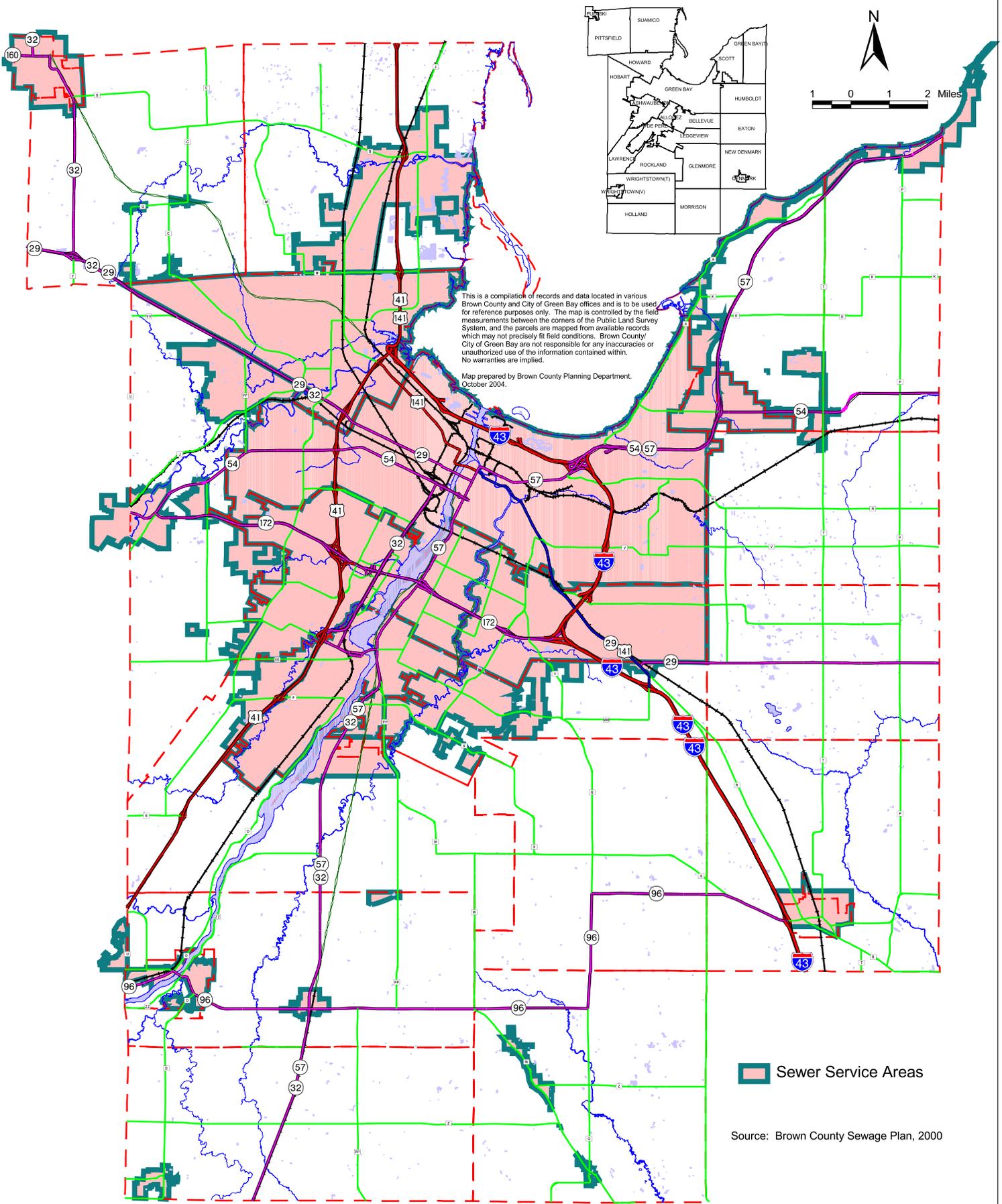
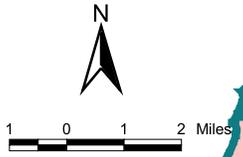
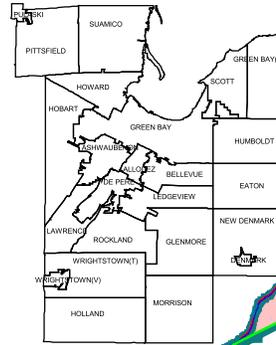
Figure 6-6: Sewer Service Area Acreage Comparison

Sewer Service Area	Sewer Service Area Acreage Comparison			Total Gross Sewer Service Area Acreage Comparison			Total Vacant Developable Sewer Service Area Acreage Comparison		
	Future Gross SSA Lands	Current Gross SSA Lands	Additional SSA Acreage	Percent Change	Future Gross SSA Lands	Current Gross SSA Lands	Additional SSA Acreage	Percent Change	
Allouez	3,314	3,314	0	0%	111	111	0	0%	
Ashwaubenon	8,441	7,931	510	6%	1,535	1,172	363	31%	
Bellevue	9,086	6,163	2,923	47%	4,247	2,897	1,350	47%	
Denmark	1,138	1,253	-115	-9%	481	564	-83	-15%	
De Pere	7,968	6,569	1,399	21%	2,500	1,534	966	63%	
Dyckesville	1,327	1,313	14	1%	520	512	8	2%	
Green Bay	28,784	28,536	248	1%	5,825*	5,285	540	10%	
Hobart	3,612	3,378	234	7%	721*	1,015	-294	-29%	
Holland	328	243	85	35%	117	99	18	18%	
Howard	13,905	7,168	6,737	94%	4,159	1,682	2,477	147%	
Lawrence	2,040**	1,004	1,036	103%	781**	268	513	191%	
Ledgeview	4,322	1,643	2,679	163%	1,037	525	512	98%	
Morrison	401	380	21	6%	162	144	18	13%	
New Franken (Humboldt)	447	486	-39	-8%	214	247	-33	-13%	
Pittsfield	273	265	8	3%	56	54	2	4%	
Pulaski	1,921	1,462	459	31%	802	487	315	65%	
Scott	2,437	2,315	122	5%	1,002	895	107	12%	
Suamico	5,193	3,281	1,912	58%	1,819	762	1,057	139%	
Wrightstown (Village)	1,209	1,209	0	0%	499	481	18	4%	
Wrightstown #1 & #2 (Town)	424	536	-112	-21%	139	224	-85	-40%	
TOTAL	16,627	78,449	18,121	23%	5,730	18,958	7,769	41%	

* Does not include vacant developable Oneida Trust lands.

** Approximately 240 acres of gross SSA lands were swapped from Ashwaubenon to Lawrence.

Figure 6-7
 Year 2020 Sewer Service Areas
 Brown County, WI



This is a compilation of records and data located in various Brown County and City of Green Bay offices and is to be used for reference purposes only. The map is controlled by the field measurements between the corners of the Public Land Survey System, and the parcels are mapped from available records which may not precisely fit field conditions. Brown County/ City of Green Bay are not responsible for any inaccuracies or unauthorized use of the information contained within. No warranties are implied.

Map prepared by Brown County Planning Department, October 2004.

 Sewer Service Areas

Source: Brown County Sewage Plan, 2000

The reasons for the rate of growth of sewer service areas are complex. While increases (in some cases, significant increases) in population levels are envisioned for all communities within Brown County from 2000 to 2020, that reason alone would not account for the projected amount of sewer growth. Other factors that encourage a larger sewer area include a continued reduction in household size, a continued trend toward larger average residential lot sizes, and less efficient utilization of land (leapfrog/sprawl development patterns). Factors that would encourage the sewer service areas to grow more slowly include a continuing trend of private onsite sewage disposal systems development in the rural and agricultural portions of the County, the relatively high cost to extend public sanitary sewer service across private onsite sewage disposal systems development to reach undeveloped areas, and the sometimes higher cost of public sanitary sewer service compared to onsite sewage disposal systems.

In general, planning, construction, and maintenance of sewerage facilities are properly undertaken within Brown County. The local communities, sanitary districts, and sewerage districts, with oversight provided by Brown County and the Wisconsin Department of Natural Resources, regularly review the condition of their sewerage systems to determine if maintenance, upgrades, or replacement of components are necessary. In addition, the DNR has a non-proliferation policy that is designed to limit the construction of new sewage treatment facilities to those that are most cost-effective and that will preserve and protect the quality of Wisconsin's waters most efficiently. It is envisioned that these practices will continue to be adequate within Brown County for the foreseeable future.

In general, planning for the expansion of sewer service areas is also properly undertaken through implementation of the 2002 Brown County Sewage Plan by the Brown County Planning Commission and the DNR. However, a growing trend in recent decades in Brown County is the extension of sanitary sewers by local communities to areas distant from existing development and other services. Experiences from around the state and the country have indicated that such practices result in inefficient development patterns (sprawl, leapfrog, and strip development patterns) and more expensive utilities and services (longer extensions of infrastructure with fewer users and more underutilized facilities). This results in land use conflicts, such as increases in traffic, noise, lights, pollution, and stormwater runoff, and the resultant friction between urban, rural, and agricultural landowners.

In Brown County, premature extension of sewer service (typically the extension of sanitary sewers to areas distant from existing development) also often occurs without other comparable and necessary services. The type of development that wants and needs public sanitary sewer service will also typically need a comparable level of drinking water, stormwater management, roads, and other utilities and services. If not provided at the same time as public sewers, efficiencies of scale and concurrency will not be achieved, and it will be much more expensive to provide additional utilities and services at a later date.

All of these issues are becoming increasingly more important as communities within Brown County continue to grow, as more communities begin to experience these common issues, and as a greater percentage of existing infrastructure reaches the end of

its design life. To ensure the most efficient and cost-effective sewerage and other service and utility systems possible, replacement, rehabilitation, and new construction should take place in a planned and coordinated manner. For instance, whenever possible, sanitary system modifications within a specific area should be undertaken at the same time as water, stormwater, and/or road construction or reconstruction so that construction impacts are minimized and efficiency and coordination between the projects is maximized. Also, the development/redevelopment of lands adjacent to and the use of underutilized infrastructure should be encouraged over the extension of new infrastructure. When the extension of infrastructure is warranted, it should be provided in such a manner that encourages compact and contiguous development patterns.

Based upon these concerns and issues, it is recommended that:

- The Brown County Planning Commission should encourage local communities and the GBMSD to establish concurrency requirements in regard to the extension of utilities and services in their review and approval of development proposals and to establish utility and service extension policies that prohibit the premature extension of sanitary sewer service and other similar services and utilities. It is also recommended that the Brown County Planning Commission establish similar policies within its own plans and programs, including the 2002 Brown County Sewage Plan.
- The Brown County Planning Commission should continue its efforts to encourage and support service, boundary, and other types of intergovernmental agreements between communities. Such agreements can also help attain efficient and cost-effective extension of sanitary sewer and other services and utilities.
- The GBMSD and the local communities within Brown County should expand their collection and treatment systems in conformance with the 5-year growth increments identified within their local comprehensive plans to promote compact, incremental, and infill development and efficient and cost-effective growth patterns.
- The City of De Pere should work with the GBMSD to ensure that similar growth patterns and sanitary sewer extension policies are established within the portions of the GBMSD area tributary to the De Pere treatment plant.
- The majority of future growth and development within Brown County should continue to occur with public sanitary sewer service. Therefore, it is important that local communities discourage private onsite sewage disposal systems development, particularly within areas to be provided public sanitary sewer service within the timeframe of this comprehensive plan and within the lifespan of the affected infrastructure components. Furthermore, local communities should identify future sewered areas as soon as possible and as accurately as possible, based not only upon the desires and needs of the local community but also upon market trends. However, the extension of public sanitary sewer service must be in conformance with the 2002 Brown County Sewage Plan, which bases the growth of sewer service areas upon population projections prepared by the Wisconsin Department of Administration. It is, therefore, recommended that the County sewage plan be periodically updated to reflect such state population projections and local growth and development trends.

- Brown County and the local communities should provide copies of these comprehensive plans to the GBMSD so that the agency can take into considerations the growth and development projections in these plans. It is also recommended that Brown County facilitate any needed discussions relating to this growth and development and its impacts upon the GBMSD's facilities.

Onsite Sewage Disposal Systems

Onsite sewage disposal systems are those that store, treat, or dispose of wastewater (or perform a combination of these functions) on the site at which the wastewater is generated. Onsite sewage disposal systems are used in those areas that are not served by offsite systems. Typical examples of onsite systems include holding tanks, conventional septic systems, or pressure systems used by individual homeowners and small businesses located in rural areas. Information provided in the Brown County Soil Survey indicates that most of the soils within Brown County have severe or very severe limitations for onsite sewage disposal systems. A high water table is the most common limiting factor, followed by slow permeability. In those areas, pressure systems or holding tanks are the only options available for onsite systems. Where soil and other limiting factors are not a factor, conventional systems are typically used.

In 1969, Brown County created Chapter 11 (the Brown County Private Sewage System Ordinance) of the Brown County Code pursuant to requirements of the Wisconsin State Statutes and the Wisconsin Administrative Code, which pertain to regulation of the construction, installation, and maintenance of plumbing in connection with all buildings in the state. Chapter 11 of the Brown County Code regulates the location, construction, installation, alteration, design, and use of all private onsite wastewater treatment systems (POWTS) within the County so as to protect the health of residents, to secure safety from disease and pestilence, to further the appropriate use and conservation of land and water resources, and to preserve and promote the beauty of Brown County and its communities.

In 2001, the Wisconsin Department of Commerce adopted revisions to Wisconsin Administrative Code COM 83 (private onsite wastewater treatment system) to recognize new technologies, provide consistent application of the code, incorporate new standards, provide more options to owners, improve treatment, revise outdated rules, address legislative intent, and define agency roles. These changes have been reflected in Chapter 11 of the Brown County Code. The effect of these changes has been to increase the options and opportunities for use of private onsite systems within the communities of Brown County.

The Brown County Zoning Department has been collecting detailed information on all POWTS within the County since 1977. Additional information pertaining to systems built prior to 1977 is being obtained as time allows. As shown in Figure 6-8, information indicates that there have been about 3,600 gravity flow onsite waste systems, about 3,100 pressure onsite waste systems, and about 1,500 holding tanks installed within the County. The Brown County Zoning Department has collected detailed holding tank pumping information since 1992. That information indicates that the total gallons pumped per year within the County has generally increased from about 28,700,000 gallons in 1992 to about 39,300,000 gallons in 2003, an average increase of about 3.0

percent per year. An average of about 301 new onsite systems have been constructed each year from 1996 to 2003. The majority of these have been pressure systems. In addition, an average of about 110 replacement systems have been constructed each year.

Figure 6-8: Onsite Waste Systems in Brown County

Municipality	# of Gravity Flow Onsite Waste Systems	# of Pressure Onsite Waste Systems	# of Holding Tanks
Allouez	0	0	1
Ashwaubenon	0	1	0
Bellevue	11	53	61
De Pere	0	1	14
Denmark	0	1	1
Eaton	72	258	97
Glenmore	37	166	95
City of Green Bay	39	29	40
Town of Green Bay	198	135	83
Hobart	531	235	110
Holland	56	138	34
Howard	156	27	78
Humboldt	23	143	142
Lawrence	42	312	115
Ledgeview	84	175	123
Morrison	176	109	41
New Denmark	140	207	64
Pittsfield	500	144	33
Rockland	59	315	74
Scott	60	88	43
Suamico	1,332	289	135
T. of Wrightstown	68	261	91
V. of Wrightstown	9	17	7
TOTAL	3,593	3,104	1,482

This information indicates that the number of new and replacement systems has remained fairly steady over the past few decades even though the areas within Brown County to which public sanitary sewer service is provided continues to grow. In conjunction with the fact that the (Department of Commerce) DOC recently expanded the permissible types and components of septic systems within Wisconsin, it appears that the number of septic systems constructed within Brown County may continue to be steady for the foreseeable future.

While it is recognized that the effectiveness of onsite sewage disposal systems is continually improving and enforcement of onsite sewage disposal regulations in Brown County is well established, it is also recognized that adverse environmental, land use, and utility impacts can be attributed to the development patterns that are often associated with onsite sewage disposal systems. Adverse impacts can include:

- Scattered development patterns that put a strain on the provision of existing basic services, such as police, fire, rescue, solid waste collection, and transportation systems, by forcing these services to be provided in a more dispersed and inefficient manner.
- Location of development in concentrations and/or locations that may adversely impact floodlands, wetlands, drainage patterns, etc. by intruding into and otherwise altering these natural resource features, thereby impacting water quality, water quantity, and wildlife habitat.
- The timing and/or location of development utilizing onsite sewage disposal systems often interferes with the expansion of such urban services as public sanitary sewer and public water, resulting in less efficient location, utilization, and extension of those services.
- The mere presence of onsite sewage disposal systems often exacerbates the conflicts and tensions between suburban, rural, and agricultural land uses because of the different densities and impacts (such as increased traffic, increased stormwater runoff, and changing character of the local community) associated with the new suburban and rural development. These conflicts and tensions occur more often and are typically more severe than those experienced with incremental growth of urban areas because the new suburban and rural development associated with onsite systems is located farther from existing development and is less anticipated by local leaders, citizens, and neighbors. These conflicts and tensions can also occur between suburban and rural land use, as well as between suburban and agricultural and rural and agricultural land uses.

It is, therefore, recommended that all affected units and agencies of government work closely with one another to jointly plan the extension of infrastructure, utilities, and services, including onsite sewage disposal systems, as well as possible decentralized sewer systems (small community collection and treatment systems) so that such services complement, rather than conflict with, one another. It is specifically recommended that the local units of government and Brown County work together on this issue as soon as possible in conjunction with similar efforts proposed in this plan for sewer, water, police, fire, rescue, park, school, and stormwater management services.

It is envisioned that this cooperative effort would involve all units and agencies of government and would provide the next step in determining a consistent policy for the timing, location, and character of development of the County. This policy or blueprint would also help determine the ultimate extension of infrastructure and utilities, their timing and extent, and would set forth a vision for the level of services to be provided by, between, and amongst the communities of Brown County. This blueprint would acknowledge the value and importance of individual community identities but would also identify the need for consolidation when justified by cost and/or efficiency reasons.

It is recommended that Brown County continue to ensure the long-term viability of onsite sewage disposal systems through continued support of its private sewage system ordinance that requires inspections of all existing onsite sanitary systems at the time of sale of the associated residence or property or land division, a mandatory 3-year

maintenance program, and enforcement of these regulations, including the issuance of fines for violations of the ordinance.

Water Supply

In conjunction with sanitary sewer service, potable water is one of the more important and traditional elements of urban infrastructure. In addition, where one is provided, the other is also often present. Water mains often share many of the same easements and are often extended concurrently with sanitary sewers.

Groundwater has long been the source of all drinking water and other water uses within Brown County, except for the City of Green Bay, which obtains its water by pipeline from Lake Michigan. This groundwater is located within two shallow aquifers, as well as two deeper aquifers. Most private wells in Brown County obtain water from the two shallow aquifers, while most public wells obtain water from the deeper St. Peter Sandstone aquifer.

Figure 6-9: Public Water Systems in Brown County, 2002

Community	Type	Population Served
Allouez	Municipal Community	14,882
Ashwaubenon	Municipal Community	17,777
Bellevue	Municipal Community	8,600
De Pere	Municipal Community	20,332
Denmark	Municipal Community	1,475
City of Green Bay	Municipal Community	103,018
Greenleaf	Municipal Community	550
Hobart #1	Municipal Community	510
Hobart #2	Municipal Community	350
Holland	Municipal Community	450
Howard	Municipal Community	9,800
Lawrence	Municipal Community	975
Ledgeview	Municipal Community	2,842
Pulaski	Municipal Community	2,524
Scott	Municipal Community	1,500
Suamico	Municipal Community	1,864
Village of Wrightstown	Municipal Community	2,026
-- -- --	Other than municipal community	153
-- -- --	Non-transient non-community	1,083
-- -- --	Transient non-community	-- -- --
TOTAL		190,711

Source: Wisconsin Department of Natural Resources; Brown County Planning Commission

Based upon data obtained from the Wisconsin Department of Natural Resources' drinking water website, there are 149 separate public water systems (systems which can be used by the general public and which are regulated by the DNR) within Brown

County. They include 17 municipal community systems (typically city, village, or sanitary district systems), 4 other than municipal community systems (subdivision, apartment complex, mobile home, etc.), 13 non-transient non-community systems (school, daycare, factory, etc.), and 115 transient non-community systems (gas station, golf course, restaurant, etc.). Based upon this information and as shown in Figure 6-9, approximately 190,711 people, or about 82 percent of the County, obtain drinking water from either a municipal community or other than municipal community public water system. These systems range in size from about 103,000 people on the City of Green Bay's system to about 30 people on a nursing home's system.

It is unknown how many miles of water transmission pipe there are in Brown County, but there are approximately 6,640 documented wells in the County. About 6,389, or about 96 percent of these wells, are private potable wells used for human consumption, sanitary use, or for the preparation of food. The remaining 251 wells are either municipal community wells, other than municipal community wells, non-transient non-community wells, transient non-community wells, or private non-potable wells. It is likely that many more undocumented wells (old, inactive, or otherwise unrecorded with the DNR) are located within Brown County.

As stated by the Wisconsin Department of Natural Resources, all drinking water, no matter the source, may reasonably be expected to contain at least small amounts of some contaminants. Contaminants may include microbes, such as viruses and bacteria; inorganics, such as salts and metals; pesticides or herbicides; organic chemicals, such as petroleum byproducts; and radioactive substances. The presence of such contaminants does not necessarily indicate that the water poses a health risk.

The federal Safe Drinking Water Act of 1974 charged the Environmental Protection Agency (EPA) with promulgating drinking water standards to protect public health. These standards, known as "maximum contaminant levels" (MCLs), now cover approximately 52 substances. Primary MCL standards are designed to protect public health and include standards for organic and inorganic chemicals, microorganisms and bacteria, and turbidity. Secondary MCL standards are designed to protect public welfare and include color, odor, and taste. The Wisconsin DNR has promulgated state MCLs based on the federal MCLs whether its source is groundwater or surface water. These standards apply to any public water supply system. However, they technically do not apply to individual or nonpublic water supply systems but rather serve as guidance in determining if a well may be contaminated.

In 1984, Wisconsin State Statutes 160 and Administrative Codes NR 809 and 811 were created to minimize the concentration of polluting substances in groundwater through the use of numerical standards to protect the public health and welfare. The numerical standards created under NR 809 and 811 consist of enforcement standards and preventive action limits.

Consumer Confidence Reports are required by the DNR for each municipal community system and other than municipal community system within the state. These reports provide information on water quality, contaminant and monitoring violations, and potential health effects created by any violations. Most systems monitor approximately 80 to 100 different contaminants as determined by the DNR. A review of the 2002

Consumer Confidence Reports for the 21 municipal community and other than municipal community systems within Brown County indicates that one system has a violation of the radium standard, seven systems have exceeded the MCL for gross alpha emitters, six systems have exceeded the MCL for radium, two systems have exceeded the MCL for lead, and one system has exceeded the MCL for copper. The high levels of gross alpha emitters and radium are likely due to the erosion of natural deposits within the bedrock from which the systems obtain their groundwater. Some people who drink this water over many years may have an increased risk of getting cancer.

Although arsenic has also been generally identified as a groundwater contaminant concern in northeastern Wisconsin, violations of the arsenic MCL have not been identified within any of the County's public water systems. However, the southern portion of the Village of Hobart has recently experienced elevated levels of arsenic in its groundwater. The northern portion of the Town of Green Bay is experiencing problems with bacteriological contamination in its groundwater. In all other regards, the County's public water systems are meeting state and federal water quality requirements.

The cost to obtain water from the shallower aquifers is usually cheaper because a well does not need to be drilled as deep and less energy is needed to pump the water to the surface. Shallow wells, however, are more prone to water quality concerns because of the greater potential for contamination from the sheer number of wells and the lesser distance between the groundwater and the sources of potential contamination which are usually at or near the surface of the land. Federal and state regulations do not require testing of private wells. Therefore, water quality problems can be present without the owner's knowledge. Even deep aquifers can have contamination problems that are usually associated with naturally occurring deposits within the bedrock, which typically become more aggravated when water levels drop and such naturally occurring deposits are exposed to air. Government regulations do require that public wells, which typically serve more people and more often utilize the deep aquifers, be tested often and meet strict drinking water standards.

In regard to water quantity issues, groundwater levels, particularly in the central portion of Brown County, have been dropping for many decades. As growth and development in the Green Bay Metropolitan Area occurred, groundwater levels began to drop significantly, and a cone of depression was created, whereby wells were withdrawing groundwater much faster than they could be replenished. Local groundwater levels began to drop to such an extent that groundwater was being drawn from other adjacent wells. Because of this situation, the City of Green Bay (back in the 1950s) turned to Lake Michigan for the majority of its potable water needs. Doing so allowed groundwater levels to rebound significantly. However, as growth continued within the communities adjacent to the City and as these communities withdrew even greater amounts of groundwater, groundwater levels once again began to drop. Today, groundwater levels are similar to those of the 1950s, and they are continuing to drop.

A United States Geologic Survey (USGS) study indicated that the water level within the Green Bay Metropolitan Area had been dropping at a rate of about five feet per year prior to 1990. It is now assumed that the rate of loss is even greater. The USGS also indicated that water levels in the cone of depression, which has once again formed, could drop another 200 feet by the year 2015.

Based upon this information, if the loss of groundwater is not soon reversed, communities within the Green Bay Metropolitan Area will no longer be able to obtain the amount of potable water they require. At that time, water use would likely be rationed and controlled, resulting in bans on lawn watering, car washing, etc. and the probable loss of businesses or business expansions, which were dependent upon large amounts of water.

The environmental impacts of continued loss of groundwater, primarily in the shallow aquifer, would also likely be significant and detrimental. Many streams and wetlands within Brown County depend upon groundwater in whole or in part to maintain their base flows during summer months, which in turn sustains the aquatic and terrestrial habitat within and adjacent to them. This, in turn, supports and encourages their use for recreational purposes. As groundwater levels continue to drop and the local hydrological balance changes, more of these streams and wetlands would be dry during the summer months, more streams and wetlands would be dryer longer, and some of the smallest streams and wetlands would possibly be permanently lost. The adverse environmental impacts would likely include the loss of some small streams and wetlands, the creation of more fragile local ecosystems, and a loss of diversity and quality of species, both aquatic and terrestrial, within these areas. It is possible that some of these changes have already begun.

The DNR also indicates that, in general, large dependable sources of surface water (such as Lake Michigan) are a more reliable source of potable water for large and growing metropolitan areas like Green Bay. The DNR also notes that water quality concerns associated with naturally occurring deposits within the bedrock, such as radium and arsenic, would become more aggravated as groundwater levels continue to drop. Furthermore, the DNR notes that the impacts associated with this rapid depletion of groundwater is continuing to expand beyond the Green Bay Metropolitan Area and is now beginning to impact the Town of Ledgeview

As far back as the 1960s, Brown County was concerned with this issue. In 1976, the engineering firm of Donohue & Associates Inc. completed a water study that was commissioned by Brown County. This study, the Brown County Water Plan, indicated that the St. Peter Sandstone aquifer, which provides water for all municipal wells in Brown County, would not be able to meet the long-term drinking water needs of the Green Bay Metropolitan Area. The Brown County Planning Commission Potable Water Study Committee was subsequently formed with representatives of all affected communities to identify and recommend a course of action. In the 1980s, the Green Bay Area Chamber of Commerce also undertook a study of this issue.

In 1992, Consoer Townsend & Associates, Inc. undertook a second water quality and water quantity study at the request of the affected communities and the Brown County Planning Commission. This study, Engineering Report on Green Bay Metropolitan Area Water Supply and Quality Study, also concluded that groundwater could not supply the long-term needs of the Green Bay area communities and advised that a Lake Michigan water source be pursued. It further concluded that the area would begin to experience major water quantity problems around the year 2010. In 1995, based upon these studies, the Brown County Planning Commission Potable Water Study Committee recommended that a Lake Michigan water supply option be pursued.

In 1999, the Central Brown County Water Commission became the Central Brown County Water Authority (CBCWA). It is currently comprised of representatives from the City of De Pere, the Villages of Allouez, Bellevue, and Howard, and the Towns of Lawrence and Ledgeview. Based upon a state law created in 1998 for this purpose, the members can act similar to a utility district to plan, tax its member communities, and construct infrastructure to address this problem. The CBCWA has also determined that the best solution to this problem is to obtain Lake Michigan water for the area's long-term potable water needs. The CBCWA would achieve this through construction of its own pipeline and treatment system or through an agreement with some other community, such as the City of Green Bay or the City of Manitowoc. In any event, local community infrastructure would continue to be used, and existing wells would be used for backup purposes only.

The long-term viability of the region's current public water supply systems could be affected by the outcome of the Central Brown County Water Authority's success in obtaining a long-term and cost-effective supply of water. Continued study and eventual selection of a long-term dependable source of water is critical not only to the water needs of the communities within the Green Bay Metropolitan Area but to much of the rest of the County, as well. Doing so would meet the current demands of the metropolitan communities, strengthen their existing systems to allow for future extensions, increase the reliability of their systems, and meet their future needs. This issue was of most importance to County residents at the visioning session held for this comprehensive plan.

Because of the significant growth and development envisioned within most of the communities of Brown County and because of the importance of securing a high quality, reliable, and cost-effective source of potable water, it is recommended that all communities located within the Green Bay Metropolitan Area that do not currently have community-wide public water systems undertake a cooperative study of the feasibility of creating such a system. It is further recommended that this study include consideration of the benefits and costs of cooperative sharing of water services. It is envisioned that doing so would likely provide immediate savings and other advantages to the region as a whole and would most likely be a benefit to all communities within the County.

Similar to the recommendations regarding the sewerage systems within the County, it is recommended that the local communities continue their long-range planning, maintenance, and funding activities to ensure that their water supply and transmission systems remain adequately sized for anticipated growth and development. In this regard, it is recommended that each community prepare and periodically update a water system evaluation study.

It is recommended that the local communities extend their water supply and transmission systems in conformance with the 5-year growth increments identified within their comprehensive plans and promote infill development and efficient and cost-effective growth patterns.

As noted in the Agricultural chapter and the Natural and Cultural Resources chapter of this plan, it is recommended that the local communities prepare a Vulnerability Assessment of their water supply systems. A Wellhead Protection Plan is also recommended for these communities. Preparation and implementation of these plans

should ensure the long-term safety and viability of their groundwater, which is the current source of their drinking water.

Solid Waste Collection and Disposal

Solid waste collection and disposal is another example of traditional infrastructure provided by many urban communities to protect the health, welfare, and safety of its citizens.

The Brown County Port and Solid Waste Department's purpose is to meet the solid waste disposal needs of local communities and businesses through economically- and environmentally-sound methods. These methods include waste reduction, material reuse, recycling, composting, land filling, and waste-to-energy to the extent that they are technically feasible, cost-effective, and desirable.

Prior to the 1970s, solid waste from Brown County's communities and businesses was put in unregulated garbage dumps or burned in unregulated incinerators. During the 1970s, the Wisconsin Department of Natural Resources filed lawsuits against numerous communities in the state, including some in Brown County, to halt unregulated incineration of solid waste. In response, local communities began to study the possibility of Brown County's involvement in centralized solid waste collection and disposal. In 1972, the Brown County Regional Planning Commission prepared a plan entitled Brown County Sewage and Solid Waste Plan-1972, which recommended that solid waste be collected by the individual communities in Brown County (or by contract haulers) for transfer to a landfill owned and administered by the County. At about this same time, the Brown County Solid Waste Department was established. In 1976, Brown County built the East Landfill in the Town of Ledgeview, the first engineered landfill in Wisconsin. Shortly thereafter, Brown County built the West Landfill in the Village of Hobart, the second engineered landfill in Wisconsin. These landfills were an environmentally- and economically-sound alternative to previous methods of solid waste disposal.

Immediately after 1976, most local communities within Brown County entered into contracts with Brown County and began to transfer their solid waste to the County landfills. The West Landfill remained active until 1996 when it reached its capacity and was closed. The East Landfill reached capacity in 2003 and was closed in 2004. About seven million cubic yards of waste is contained in the two landfills. The Brown County Port and Solid Waste Department maintains the two landfills. Beginning in 2003, all solid waste in Brown County was transported to the Brown County Solid Waste Transfer Station located at the West Landfill where it is, in turn, transported to the Outagamie County East Landfill. The transfer station is operated by the Brown County Port and Solid Waste Department.

The Tri-County Solid Waste Disposal Agreement has enabled the three counties (Brown, Outagamie, and Winnebago) to economically and efficiently consolidate their land filling operations. It stipulates that each of the three counties will transfer its wastes to the Outagamie County East Landfill until it reaches its capacity in 2004 and is closed. The three counties will then transfer their wastes to the Winnebago Sunnyview Landfill until it reaches its capacity, estimated to be in 2011. The three counties will then transfer their

wastes to the Outagamie Northeast Landfill until it reaches its capacity around 2020. The three counties would then use Brown County's planned landfill located in the Town of Holland. It is envisioned that that landfill would reach its capacity around 2027. The agreement would then expire. As landfill siting, planning, design, construction, and permitting take approximately 8 to 10 years, it is envisioned that consideration of a new landfill in one of the three counties and of a new agreement will need to be initiated during the timeframe of this comprehensive plan. As stipulated in the agreement, the two other counties would pay the host county a tipping fee based upon tonnage.

Preparation of the South Landfill in the Town of Holland is nearly complete. The site has been selected, purchased, and agreements completed with the Town of Holland, and planning and design is essentially complete. Permitting is still underway, and construction is not slated to begin until a few years before the landfill is needed. Part of the South Landfill is designed to be used as a municipal landfill, while another portion is designed to be used as an industrial landfill. The envisioned industrial users are no longer interested, and the industrial portion could, therefore, be used for other similar purposes. These landfill uses are envisioned to require approximately 300-400 acres of the total 1,500 acres acquired in this area by the County.

As its second choice for a future landfill, approximately 150 acres of land in the Town of Wrightstown was purchased by the County. However, efforts to obtain agreements with the Town for use of this land as a landfill have not been initiated because the Holland site is the preferred location for the next Brown County landfill.

Renard Isle is a Confined Disposal Facility (CDF) in the lower portion of the Bay of Green Bay, approximately 800 feet north of Bay Beach Park in the City of Green Bay. The CDF is a depository for polluted (but not hazardous) dredged materials from the Green Bay harbor entrance channel. Renard Isle is county-owned but is under Army Corps of Engineers' (ACOE) control until all work is completely finished by the Corps. It was constructed in 1978 and was closed in 1995. It is envisioned that Renard Isle will be finished sometime in the near future once issues regarding the closure of the site can be worked out between the County, the Wisconsin Department of Natural Resources, and the ACOE. By federal law, the future uses allowed for Renard Isle include public slips, basins, docks, wharves, structures, wildlife refuges, and recreation and park purposes. It was once envisioned that this site would be used for a proposed county marina project, but that proposal was defeated in a referendum.

Dredge materials from the harbor entrance are now disposed of at the Bay Port CDF located along the Bay of Green Bay west of the Fox River in the City of Green Bay. It was constructed in 1998 and is approximately 100 acres in size. It is comprised of drying cells and storage cells. It was once envisioned that beneficial uses of the dredge material could be found, but this has not yet been accomplished. One possibility includes redirecting some portion of this material to help re-establish the Cat Island chain of islands in the lower Bay of Green Bay. If this material is not redirected for some other use, the Bay Port CDF will reach its capacity by about 2020.

Brown County's solid waste operations are a self-supporting enterprise fund of the County. Most communities provide their own collection of solid waste or provide this service through a contract with a private hauler. A few rural communities do not

provide any such service to their residents, and therefore, each resident and/or business must address solid waste collection individually. All communities dispose of their solid waste at the Outagamie County landfill through the Brown County Solid Waste Transfer Station, although some private haulers may be using other landfills in northeastern Wisconsin.

A few local communities (typically the cities and villages) also pick up brush, metal, and rubbish (including old appliances, furniture, and electronics) at no charge if left at the curbside and if the community is notified. However, this service is typically not offered in suburban and rural communities.

Some urban communities also provide a spring and fall cleanup of leaves and garden wastes at no charge. These types of wastes, as well as brush, can also be deposited at the local community's compost facility.

It appears that the urban communities within Brown County currently provide high quality comprehensive solid waste collection and disposal programs and that maintenance of these programs will continue to meet the needs of the communities during the 20-year span of this plan. However, many growing communities, such as Suamico, may need to provide such services in the near future. It is, therefore, recommended that these communities study the feasibility of providing these services themselves, contracting these services to private firms, or entering into cooperative arrangements with neighboring communities or Brown County. Such choices should be determined not only upon cost-effectiveness for the individual community but also for the region as a whole.

It is also recommended that:

- Brown County update its solid waste plan to reflect current and projected trends in the needs of the County.
- Brown County continue its participation in the Tri-County Solid Waste Disposal Agreement and consider expansion of this program to other counties if feasible, cost-effective, and efficient.
- Brown County pursue renewal of its contracts with local communities for disposing of their solid wastes. It is also recommended that Brown County attempt to reach similar agreements with the remaining communities within the County if feasible and advantageous for Brown County.
- Issues regarding the closure of Renard Isle be worked out between the County, the Wisconsin Department of Natural Resources, and the ACOE as soon as possible.
- Brown County initiate planning for closure of the Bay Port CDF and begin the siting process for another CDF as soon as possible.
- If determined to be cost-effective, the Port and Solid Waste Department should continue to utilize the Brown County Highway Department for its construction projects as long as feasible and cost-effective.

Recycling

The benefits of recycling are numerous and include saving natural resources, saving energy, reducing the need for landfill space and incineration, reducing pollution, reducing local solid waste management costs, and creating jobs and businesses. In addition, an increasing number of communities are realizing that the slogan “reject, reduce, reuse, repair, recycle, and compost” is a significant factor in protecting the environment.

In the early 1990s, local communities requested Brown County’s participation in a countywide recycling effort. In response, Brown County constructed the Materials Recycling Facility (MRF) in 1993 in the Village of Ashwaubenon.

The Brown County Port and Solid Waste Department operates the MRF that processes commingled recyclable containers, such as steel cans, aluminum cans, glass bottles and jars, and certain plastic bottles, and sorts, processes, and markets the recyclable materials. Each weekday, the MRF receives an average of 23 tons of recyclable materials from Brown County residents and businesses. The facility also receives recyclable materials from Outagamie and Winnebago County residents, which adds another 60 tons each day. Recyclable paper collected in Brown County is sent directly to a local paper mill to be recycled into paper toweling and tissue.

The MRF was opened in 1994 pursuant to Wisconsin’s Recycling Law. It prepares the collected materials for shipment to mills and factories throughout the United States. It uses a combination of mechanical and manual sorting methods to produce high quality materials, while minimizing process residue and staffing expenses. It is currently operated by N.E.W. Curative Rehabilitation Inc., a nonprofit organization based in Green Bay.

Many local communities provide their own collection of recyclable wastes or contract with a private hauler. Most suburban and rural communities, including Ledgeview, do not provide any such service to their residents. For those communities providing the service, a limited number of recycling containers are usually provided to all single-family and certain multifamily residential developments. Recyclable waste collection or disposal needs in excess of this are typically the responsibility of the individual property owner. The collected recyclable materials are then transported to the Brown County MRF for disposal.

The Brown County Port and Solid Waste Department (in cooperation with the Green Bay Metropolitan Sewerage District) also operates a household hazardous waste (HHW) program that is intended to provide residents a safe and convenient means to properly dispose of hazardous waste. This is intended to reduce the amount of such wastes in landfills and sewer systems, thereby reducing the risk of environmental contamination. The HHW facility was constructed in 1996 adjacent to the MRF. Most communities and many private businesses, as well as the general public within Brown County, utilize this facility. Oconto, Shawano, and Waupaca Counties also utilize this facility.

A product exchange room is provided at the MRF to allow access to free items that are still usable, and other materials (such as cardboard, steel, antifreeze, and batteries) are also collected separately for recycling.

It is envisioned that as recyclable waste loads increase, it will eventually become necessary to have the MRF operate three shifts instead of the current two shifts. Otherwise, it is generally envisioned that the MRF and the HHW facilities will continue to meet the County's needs for the next 20 years.

Stormwater Management

In 1987, the federal government passed an amendment to the Clean Water Act that included several regulations relating to stormwater management and nonpoint source pollution control. The programs created by this legislation are administered by the U.S. Environmental Protection Agency and are targeted to control nonpoint source pollution from municipal, industrial, agricultural, and construction site runoff.

Due to revisions to the federal programs in 1999 and corresponding changes to Wisconsin Administrative Codes, the industrial, agricultural, and construction site runoff requirements apply to all communities within Brown County. The federal programs regarding municipal runoff apply to most communities within Brown County, including the Cities of De Pere and Green Bay, the Villages of Allouez, Ashwaubenon, Bellevue, Hobart, Howard, and Suamico, and the Towns of Lawrence, Ledgeview, Pittsfield, and Scott, as well as to those county operations located within the Green Bay urbanized area (as defined by the U.S. Census Bureau and as shown on Figure 6-10). These requirements will apply to many ongoing municipal activities, such as road and utility construction and reconstruction, grounds maintenance, and most construction activities one acre or larger in size.

Brown County has also implemented many stormwater management and nonpoint source pollution studies, programs, and regulations, including the preparation and implementation of four priority watershed projects, installation of erosion control and soil conservation practices through the Farmland Preservation Program, preparation and implementation of the land and water resource and County sewage plans, and five county ordinances (Streambank Protection; Agricultural Shoreland Management; Animal Waste Management; Shorelands, Floodplains, and Wetlands; and Subdivisions).

As stated in the Wisconsin Department of Natural Resources' model stormwater runoff ordinance, uncontrolled stormwater runoff from land development activity has a significant impact upon water resources and the health, safety, and general welfare of the community. Uncontrolled stormwater runoff can:

- Degrade physical stream habitat by increasing stream bank erosion, increasing streambed scour, diminishing groundwater recharge, and diminishing stream base flows.
- Diminish the capacity of lakes and streams to support fish, aquatic life, recreational, and water supply uses by increasing loadings of nutrients and other urban pollutants.

Green Bay, WI Urbanized Area Storm Water Entities as Defined by the 2000 Census

Figure 6-10

2000 Census Urbanized Areas

 Green Bay, WI

 Municipal Boundaries

 County Boundaries

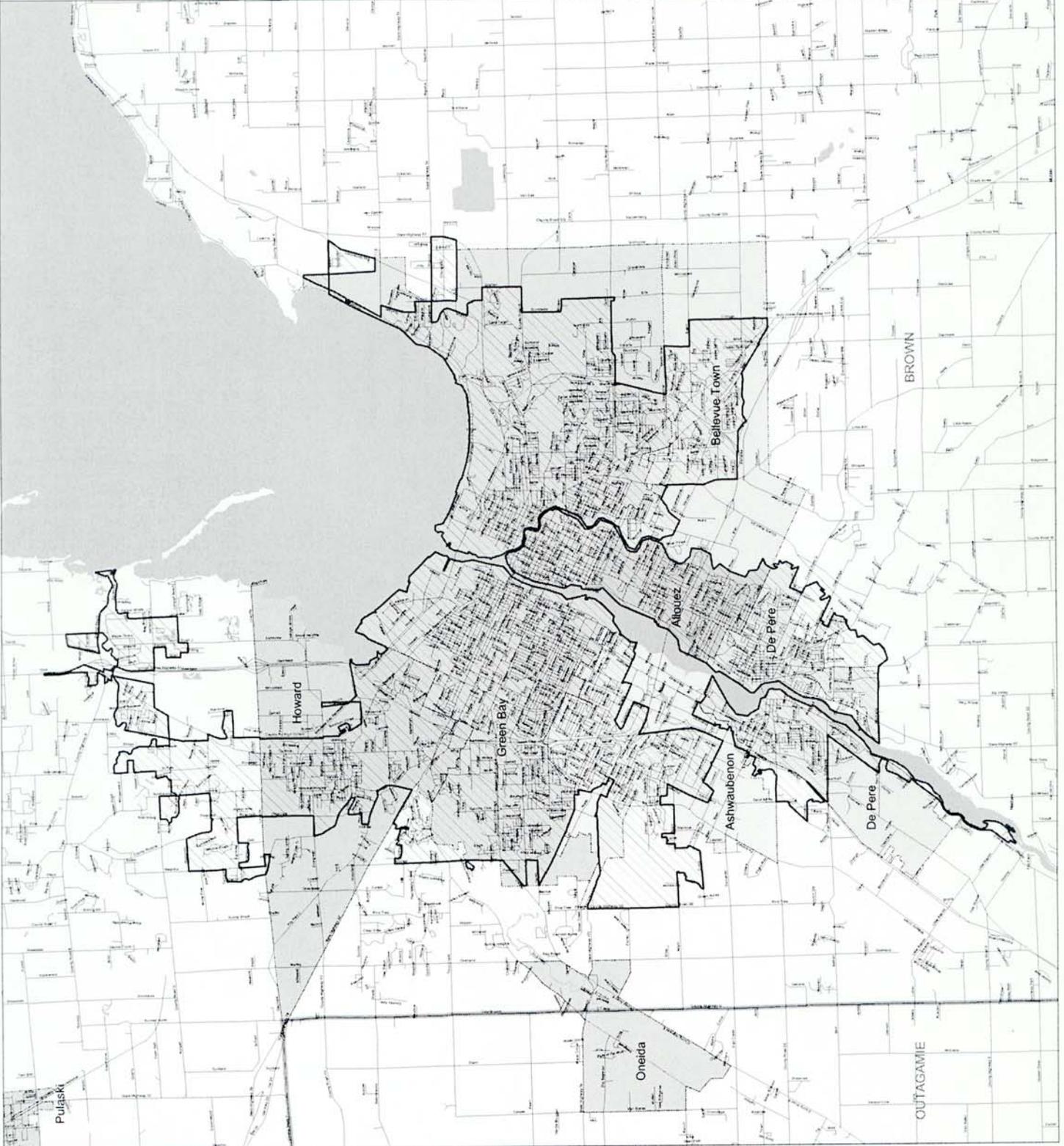
 Major Waterbodies

 Roads

SOURCE:
US Census Bureau TIGER data, 2000 Census

PROJECTION:
State Plane Coordinate System - Wisconsin Central
Horizontal datum - NAD83

MAP DESIGN:
November 4, 2002



- Alter wetland communities by changing wetland hydrology and by increasing pollutant loads.
- Reduce the quality of groundwater by increasing pollutant loads.
- Threaten public health, safety, property, and general welfare by overtaxing storm sewers, drainageways, and other minor drainage facilities.
- Threaten public health, safety, property, and general welfare by increasing major flood peaks and volumes.
- Undermine floodplain management efforts by increasing the incidence and levels of flooding.
- Diminish the public enjoyment of natural resources.

As urban development increases, so do these risks. Research indicates that many of these concerns become evident when impervious surfaces (rooftops, roads, parking lots, etc.) within a watershed reach 10 percent. A typical medium-density residential subdivision can contain about 35 to 45 percent impervious surfaces. Therefore, such adverse impacts can occur long before the majority of a watershed becomes developed.

As with most other areas of the country and the state, there is no organized or comprehensive stormwater system in place throughout Brown County. Stormwater management and stormwater facilities have evolved over time in Brown County and are addressed on an individual community basis. In those areas developed prior to the 20th century, management of stormwater runoff was accomplished indirectly through incidental use of streets and natural and man-made swales, ditches, and channels. Flooding was common and often severe in the urban areas and even occurred periodically in the rural areas as such increased runoff and its flooding and erosion impacts moved downstream from the more urbanized areas. Early in the 20th century, urban areas began to incorporate storm sewers and combined storm and sanitary sewers and roadside swales in the construction of streets and roads to convey stormwater runoff as quickly as possible from developed areas to the nearest lake, river, or stream. Eventually, the practice of storm sewers and roadside swales became incorporated into all road and street projects throughout the County. However, while this practice reduced the frequency and severity of flooding within the urban areas, it often only transferred these problems to downstream areas. Stormwater runoff from large areas of impervious surfaces, such as parking lots and buildings, was still not addressed at that time, nor were the pollutants carried within that runoff. In addition, the practice of conveying stormwater runoff as quickly as possible from the urban areas to lakes, rivers, and streams resulted in increased erosion, flooding, pollution, and other damages to these and associated natural resource features, such as wetlands and floodplains.

Beginning in the 1990s, a few communities within Brown County (most notably the Cities of De Pere and Green Bay) began to incorporate a more comprehensive consideration of stormwater management into their new developments. Storm sewers and swales for the conveyance of runoff were incorporated into many residential, commercial, and industrial developments, and the use of stormwater detention and/or retention facilities began.

Today, most new development employs stormwater management practices and facilities to address both conveyance and treatment concerns. In addition, previously developed areas are beginning to be retrofitted with stormwater management practices and facilities as time, funding, and opportunities allow. Furthermore, stormwater management is being considered on a larger basis than the individual development practices of the past. However, this regional approach rarely extends beyond individual community boundaries even when the drainage area extends beyond the municipality. Most stormwater management facilities today are still designed and sized for only the specific development rather than a larger watershed area.

The stormwater management system in Brown County today is comprised of individual community conveyance systems consisting of roadside ditches, storm sewers, culverts, natural and man-made channels, and storage systems consisting of wetlands, wetland remnants, and constructed stormwater detention facilities. All of these systems transport stormwater runoff from the community's developed lands to its nearest natural lake, river, or stream, usually irrespective of what the neighboring communities are doing. The newer portions of many of these systems, however, also provide stormwater detention and treatment in addition to the typical conveyance. The extent and complexity of these systems varies greatly from community to community but typically is more prevalent and comprehensive within the larger urban communities and less prevalent and less comprehensive in the smaller rural communities. The number of miles of storm sewers and detention facilities within Brown County is unknown, but it is known to be increasing rapidly.

A stormwater management plan is one means (and possibly the best means) for a community to begin to address these issues in a comprehensive and equitable fashion. Such plans identify the importance of proper stormwater management, the problem areas, and the means to resolve such problems. These plans also provide an opportunity to inform residents and others within the community of the benefits and costs of stormwater management and of the myriad options for best management practices. While most rural communities do not have a stormwater management plan, most urban communities do. The Cities of De Pere and Green Bay, the Villages of Allouez, Ashwaubenon, Bellevue, Hobart, Howard, Pulaski, and Suamico, and the Towns of Lawrence, Ledgeview, and Scott all have such plans for at least a portion of the community. The new federal and state nonpoint source pollution control regulations require the County to also have such a plan, at a minimum, for those facilities and operations located within the Green Bay urbanized area.

To implement and enforce the recommendations of stormwater management plans, many communities within the country and the state establish stormwater management ordinances. This approach is particularly appropriate should the community's stormwater management plan recommend a comprehensive approach, including ownership and responsibility for facilities. In Brown County, the Cities of De Pere and Green Bay, the Villages of Allouez, Ashwaubenon, Bellevue, Hobart, Howard, and Pulaski, and the Towns of Lawrence and Ledgeview have such ordinances. To fund the recommendations of the stormwater management plan and ordinance, most communities rely upon the individual developers to fund their portion of such projects. However, under this approach, regional solutions to stormwater management problems or solutions to stormwater management problems associated with previous development

are difficult to accomplish. Therefore, the Cities of De Pere and Green Bay and the Village of Bellevue are in the process of establishing stormwater utilities.

As existing federal and state rules and regulations require, it is recommended that Brown County prepare and adopt a stormwater management plan and ordinance and an erosion control ordinance. Such plans and ordinances must, at a minimum, encompass those county operations, sites, and activities located within the Green Bay urbanized area. It is recommended that these plans and ordinances be extended to include all such county activities. Because of the importance of proper erosion control and stormwater management to the health and safety of Brown County, to its residents, and to its natural resource features, it is recommended that all communities within Brown County adopt such plans and ordinances. The DNR has drafted model erosion control and stormwater management ordinances for just this purpose.

It is recommended that all communities located within the Green Bay urbanized area implement a stormwater utility in order to obtain a consistent and adequate source of funds to install and maintain its stormwater management system.

Last, it is recommended that a study be undertaken to determine the feasibility of a cooperative and coordinated approach to stormwater management in Brown County. This study should specifically review the advantages and disadvantages of such an approach not only for the placement, construction, and maintenance of stormwater facilities but also for education and enforcement. It is recommended that Brown County participate in the cooperative and regional approach to public education, outreach, involvement, and participation currently under consideration by various communities within the greater Fox Valley area.

Open Space, Parks, and Outdoor Recreation

The presence of open space, parks, and outdoor recreation adds to a community's quality of life. It enhances the attractiveness of the community and fosters a sense of civic pride. Furthermore, the provision of an adequate supply of areas, facilities, and activities to accommodate the public's open space and recreational needs has been demonstrated to promote the general health, welfare, and safety of the community and its citizens.

Brown County has long recognized the importance of outdoor recreation and open space. It first acquired land for a park back in 1918, which eventually became part of the Brown County Fairgrounds. Brown County has been planning for the park and open space needs of the County for more than 30 years. From intensive recreational activities at Pamperin Park to passive recreational pursuits at the Barkhausen Waterfowl Preserve to educational opportunities provided at the NEW Zoo, Barkhausen, and the Fairgrounds, Brown County provides a wide range of recreational opportunities for both residents and visitors alike.

County Parks

As shown in Figure 6-11 and Figure 6-12, there are currently 31 state and county park sites encompassing a total of 5,982 acres within Brown County.

Figure 6-11: State and County Park and Open Space Sites

Site Name	Location	Ownership	Acreage
Baird Creek Conservancy Area	C. of Green Bay		154
Barkhausen Waterfowl Preserve	V. of Suamico		474
Bay Shore Park	T. of Green Bay		91
Brown County Fairgrounds	C. of De Pere		36
Brown County Golf Course	V. of Hobart		229
Brown County Land	T. of Green Bay		-- ¹
Brown County Park	V. of Hobart		33
Cofrin Arboretum	C. of Green Bay	UW-GB	265
Fonferek's Glen	T. of Ledgeview		74
Fort Howard Paper Foundation Wildlife Area	V. of Howard		339
Green Bay West Shore Lands	V. of Howard	DNR	376
Heritage Hill State Park	V. of Allouez	DNR	48
Holland Public Hunting Grounds	T. of Holland	DNR	538
Lily Lake Park	T. of Eaton		126
Little Tail Management Unit	V. of Suamico	DNR	229
Long Tail Point	V. of Suamico	DNR	431
Neshota Park	T. of New Denmark		257
Pamperin Park	V. of Howard, V. of Hobart, C. of Green Bay		73
Reforestation Camp ²	V. of Suamico		1,489
Sensiba Wildlife Area	V. of Suamico	DNR	607
Small Craft Boat Launch	V. of Suamico	DNR	2
STH 57 Scenic Overlook (M)	T. of Scott	DOT	-- ¹
STH 57 Scenic Overlook (N)	T. of Scott	DOT	-- ¹
STH 57 Wayside & Historical Marker	T. of Scott	DOT	2
Suamico Boat Landing	V. of Suamico		3
USH 41 Wayside 9	T. of Lawrence	DOT	5
USH 41 Wayside 10	T. of Lawrence	DOT	5
Vande Hei Acquisition/West Side Landfill Pet Exercise Area	V. of Hobart		61
Way-Morr Park	T. of Morrison		28
Wequiock Falls	T. of Scott		4
Wrightstown Park	V. of Wrightstown		3
TOTAL			

¹ Less than one acre in size.

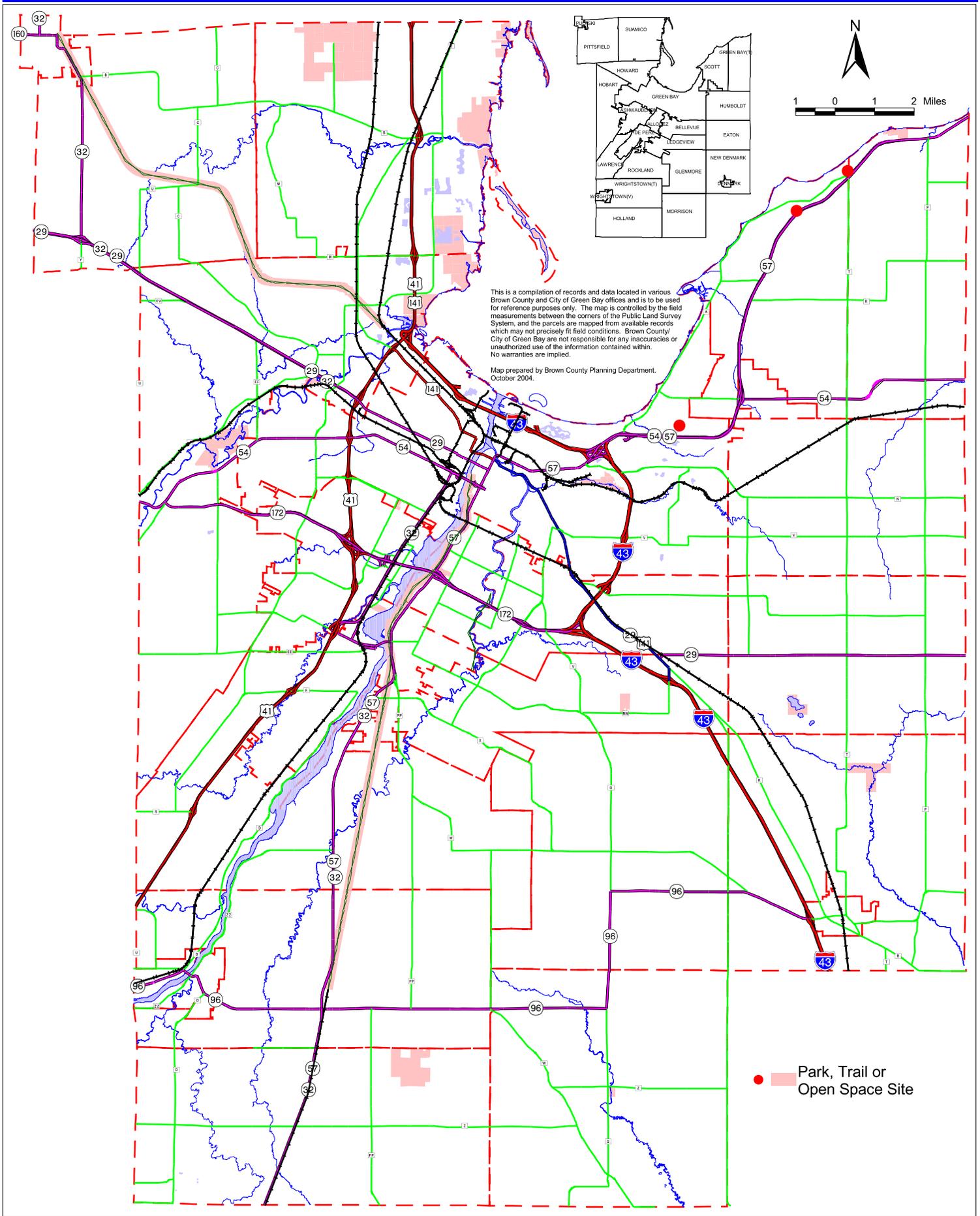
² Includes the NEW Zoo and the Brown County Rifle Range.

The County classifies its parks into three types. As explained in the Brown County Open Space and Outdoor Recreation Plan, they include park reserves, recreational parks, and special use areas.

A brief summary of the facilities at each County park and open space site follows (further detail is found in the 2001 Brown County Open Space and Outdoor Recreation Plan).

- Baird Creek Conservancy Area provides a toboggan hill, a heated shelter, a parking lot, and open space.
- Barkhausen Waterfowl Preserve provides group camping, an interpretive center, indoor and outdoor study areas, a picnic area, restrooms, a parking lot, nine miles of hiking/ski trails, and open space.
- Bay Shore Park provides a campground, restrooms, showers, a softball diamond, a boat landing with six docks, two shelters, a picnic area, a parking lot, hiking trails, and open space.
- Brown County Fairgrounds provides exhibit buildings, restrooms, showers, and an area for the Brown County Fair and other events.
- Brown County Golf Course provides an 18-hole golf course, a pro shop, a cafeteria, restrooms, a parking lot, and open space. Additional information on this facility is provided later in this section.
- Brown County Land provides open space.
- Brown County Park provides a fenced pet exercise area, picnic area, restrooms, parking, and open space.
- Fonferek's Glen provides a parking lot and open space.
- Fort Howard Paper Foundation Wildlife Area provides open space.
- Lily Lake Park provides a boat launch, two fishing piers, an open shelter, a picnic area, restrooms, a parking lot, and open space.
- Neshota Park provides a playground, a sledding hill, a shelter, a picnic area, restrooms, a parking lot, hiking/ski trails, horseback riding trails, and open space.
- Pamperin Park provides a softball diamond, a playground, a fishing pier, two exhibition buildings, picnic areas, restrooms, a parking lot, and open space.
- Reforestation Camp provides a softball diamond, a playground, four fishing ponds, picnic areas, a visitor's center, an education center, an observation tower, two shelters, restrooms, a parking lot, an interpretive trail, hiking/ski trails, and open space.
- Suamico Boat Landing provides a boat launch with four piers, restrooms, a parking lot, and open space.
- Vande Hei Acquisition/West Side Landfill.
- Way-Morr Park provides two softball diamonds, two tennis courts, playgrounds, a volleyball court, horseshoe pits, picnic areas, two shelters, restrooms, a parking lot, and open space.
- Wequiock Falls provides a picnic area, restrooms, a parking lot, and open space.
- Wrightstown Park provides one boat landing, a parking lot, and open space.

Figure 6-12
 State and County Owned Parks and Open Space Sites
 Brown County, WI



As shown in Figure 6-13, there are approximately 278 other public and private park and open space sites encompassing about 7,514 acres within Brown County.

Figure 6-13: Local Public and Private Park and Open Space Sites

SITE #	NAME	LOCATION	ACREAGE
1	Bicentennial Park	City of De Pere	1
2	Braisher Park	City of De Pere	3
3	Carney Park	City of De Pere	1
4	Dickinson School/East De Pere High School	City of De Pere	101
5	East River Parkway	City of De Pere	39
6	East Side Boat Ramp	City of De Pere	1
7	Fairgrounds Property	City of De Pere	16
8	Fox Point Boat Launch	City of De Pere	4
9	The Greenway	City of De Pere	9
10	George Street Park	City of De Pere	A
11	Jim Martin Park	City of De Pere	17
12	Kelly Danen Park	City of De Pere	6
13	Kiwanis Park	City of De Pere	4
14	Lawton Park	City of De Pere	A
15	Legion Park	City of De Pere	16
16	Lincoln Park	City of De Pere	2
17	Mel Nicks Field	City of De Pere	11
18	Optimist Park	City of De Pere	12
19	Patriot Park	City of De Pere	5
20	The Preserve	City of De Pere	72
21	Rainbow Park	City of De Pere	1
22	Rapide Des Peres Nature Centre	City of De Pere	1
23	Rotary Park	City of De Pere	3
24	Rusk Park	City of De Pere	1
25	Saint Boniface School	City of De Pere	1
26	St. Norbert's Soccer Field	City of De Pere	2
27	Unnamed Park	City of De Pere	92
28	Wells Park	City of De Pere	1
29	West De Pere High School	City of De Pere	29
30	Westwood Park	City of De Pere	30
31	Wilcox Park	City of De Pere	2
32	Willems Park	City of De Pere	1
33	Wilson Park	City of De Pere	1
34	Veterans of Foreign Wars Park	City of De Pere	16
35	Voyager Park	City of De Pere	21
Subtotal	35 Sites		522 Acres
36	Admiral Flately Park and Parkway	City of Green Bay	2
37	Aldo Leopold Elementary School	City of Green Bay	3
38	Astor Park	City of Green Bay	8
39	Astor Place	City of Green Bay	A
40	Badger Park	City of Green Bay	5
41	Baird Creek Parkway and Triangle Hill	City of Green Bay	196

Figure 6-13 continued: Local Public and Private Park and Open Space Sites

SITE #	NAME	LOCATION	ACREAGE
42	Baird Park/School	City of Green Bay	18
43	Baird Place Park	City of Green Bay	4
44	Barina Conservancy	City of Green Bay	6
45	Bay Beach Amusement Park	City of Green Bay	54
46	Bay Beach Wildlife Sanctuary	City of Green Bay	595
47	Bayport Wetlands	City of Green Bay	13
48	Bay View Park	City of Green Bay	3
49	Beaumont Park/School	City of Green Bay	8
50	Beaver Dam Creek	City of Green Bay	42
51	Beaver Dam Park/School and Parkway	City of Green Bay	28
52	Bentwood Place	City of Green Bay	1
53	Brisk Park	City of Green Bay	A
54	Chappell Park/School	City of Green Bay	12
55	Christa McAulliffe Park	City of Green Bay	40
56	Danz East	City of Green Bay	9
57	Danz Park/School	City of Green Bay	19
58	Eagles Nest Marina	City of Green Bay	3
59	East Bank Fox River Parkway	City of Green Bay	3
60	Eastman Park	City of Green Bay	2
61	East River Parkway-Emilie Street	City of Green Bay	17
62	East River Parkway-Lawe Street	City of Green Bay	9
63	East River Parkway-Meyer	City of Green Bay	4
64	East River Parkway-Remainder	City of Green Bay	24
65	East River Van Beaver Park	City of Green Bay	29
66	Edison Park/School	City of Green Bay	28
67	Eighth Street Park	City of Green Bay	2
68	Eisenhower Park/School	City of Green Bay	10
69	Elmore Elementary School	City of Green Bay	2
70	Enos Colburn Park	City of Green Bay	60
71	Farlin Park	City of Green Bay	8
72	Fireman's Park and Parkway	City of Green Bay	21
73	Fisk Park/West High School	City of Green Bay	27
74	Fort Fun Amusement	City of Green Bay	2
75	Fort Howard Park/Jefferson School	City of Green Bay	10
76	Fort Howard Park/School	City of Green Bay	2
77	Fox River Parkway (East Bank)	City of Green Bay	2
78	Franklin Middle High School	City of Green Bay	6
79	Fritsch Park	City of Green Bay	29
80	Green Bay Botanical Garden	City of Green Bay	60
81	Green Bay Yachting Club, Inc.	City of Green Bay	5
82	Helen Keller Park/School	City of Green Bay	9
83	He-Nis-Ra Park/Lombardi and King School	City of Green Bay	85
84	Howe Elementary School	City of Green Bay	1
85	Imperial Lane Park	City of Green Bay	1
86	Jackson Elementary School	City of Green Bay	5

Figure 6-13 continued: Local Public and Private Park and Open Space Sites

SITE #	NAME	LOCATION	ACREAGE
87	Jackson Square Park	City of Green Bay	1
88	Joanne's Park/East High School	City of Green Bay	45
89	Joliet Park	City of Green Bay	6
90	Kastle Karts	City of Green Bay	4
91	Ken Euers Nature Area	City of Green Bay	69
92	Kennedy Park	City of Green Bay	7
93	Kennedy Park/School and Parkway	City of Green Bay	32
94	Kueler Park	City of Green Bay	A
95	Lakeside Place Park	City of Green Bay	3
96	Laycount Parkway	City of Green Bay	3
97	Lincoln Park/School	City of Green Bay	3
98	Mahon Creek/Parkway	City of Green Bay	36
99	Marquette Park	City of Green Bay	8
100	Martin Elementary School	City of Green Bay	7
101	Mather Heights Park	City of Green Bay	6
102	Metro Boat Launch	City of Green Bay	9
103	Muir Park	City of Green Bay	22
104	Murphy Park	City of Green Bay	14
105	N15 Park/School	City of Green Bay	40
106	N16 Park/School	City of Green Bay	69
107	Newberry Conservancy	City of Green Bay	13
108	Nicolet Park/School	City of Green Bay	2
109	Nicolson Creek	City of Green Bay	6
110	North Branch Willow Creek	City of Green Bay	61
111	Northeast WI Technical College/Open Space	City of Green Bay	34
112	Oakdale Park	City of Green Bay	5
113	Oneida Golf and Riding Club	City of Green Bay	302
114	Oneida Park	City of Green Bay	11
115	Perkins Park	City of Green Bay	58
116	Preble High School	City of Green Bay	12
117	Preble Park	City of Green Bay	14
118	River View Place	City of Green Bay	1
119	St. James Park	City of Green Bay	2
120	St. John Park	City of Green Bay	1
121	Saint Phillip Park	City of Green Bay	9
122	Seymour Park	City of Green Bay	9
123	Shorewood Golf Course	City of Green Bay	66
124	South Branch Ellis Creek	City of Green Bay	18
125	Southwest High School	City of Green Bay	17
126	Sullivan Park/School	City of Green Bay	15
127	Tank Park	City of Green Bay	12
128	Tower Park	City of Green Bay	1
129	Veterans Memorial Parkway	City of Green Bay	3
130	Walnut Street Urban Parkway	City of Green Bay	A
131	Washington Middle School	City of Green Bay	4

Figure 6-13 continued: Local Public and Private Park and Open Space Sites

SITE #	NAME	LOCATION	ACREAGE
132	Washington Street Plaza	City of Green Bay	A
133	Whitney Park	City of Green Bay	3
134	Wilder Park and Parkway	City of Green Bay	37
135	Woodside Country Club	City of Green Bay	123
Subtotal	100 Sites		2755 Acres
136	Broadview Soccer Complex	Village of Allouez	15
137	Doty Elementary School	Village of Allouez	7
138	East Lawn Park	Village of Allouez	6
139	East River Parkway	Village of Allouez	116
140	Green Isle Park	Village of Allouez	51
141	Kiwanis Park	Village of Allouez	25
142	Langlade Elementary School	Village of Allouez	2
143	Langlade Park	Village of Allouez	6
144	Optimist Park	Village of Allouez	7
145	Patrick Henry Martin Webster Park Sports Complex	Village of Allouez	15
146	Resurrection Catholic School	Village of Allouez	5
147	Riverview Park	Village of Allouez	7
148	Saint Matthew's School	Village of Allouez	1
149	Sunlight Park	Village of Allouez	3
150	Sunset Park	Village of Allouez	3
151	Webster Elementary School	Village of Allouez	2
152	Zellers Marine Mart	Village of Allouez	10
Subtotal	17 Sites		3036 Acres
153	Argonne Park	Village of Ashwaubenon	8
154	Ashwaubenon Sports Complex	Village of Ashwaubenon	42
155	Ashwaubomay Park	Village of Ashwaubenon	84
156	Ball Diamond Fields	Village of Ashwaubenon	6
157	Canterbury Park	Village of Ashwaubenon	1
158	Cooke Park	Village of Ashwaubenon - owned by C. of Green Bay	25
159	Cormier School	Village of Ashwaubenon	3
160	Fort Howard Park	Village of Ashwaubenon	13
161	Gillis Park	Village of Ashwaubenon	2
162	Hidden Valley	Village of Ashwaubenon	19
163	Lakeside Marina	Village of Ashwaubenon	14
164	Klipstine Park	Village of Ashwaubenon	15
165	Mike Vann Park	Village of Ashwaubenon	3
166	Morris Avenue Park	Village of Ashwaubenon	A
167	Pioneer Park	Village of Ashwaubenon	17
168	Sherwood Forest	Village of Ashwaubenon	46
169	Skyline Park	Village of Ashwaubenon	1
170	Smith Park	Village of Ashwaubenon	4
171	Tower Park	Village of Ashwaubenon	1
172	Valley View Park	Village of Ashwaubenon	8
173	Veterans Park	Village of Ashwaubenon	1

Figure 6-13 continued: Local Public and Private Park and Open Space Sites

SITE #	NAME	LOCATION	ACREAGE
174	Waterford Park	Village of Ashwaubenon	4
Subtotal	22 Sites		317 Acres
175	Bell Meadow Playlot	Village of Bellevue	3
176	DeBroux Park	Village of Bellevue	13
177	East Park	Village of Bellevue	33
178	East River Parkway	Village of Bellevue	62
179	Green Bay Country Club	Village of Bellevue	238
180	Izaak Walton League Property	Village of Bellevue	80
181	Josten Park	Village of Bellevue	36
182	Moonrise Park	Village of Bellevue	1
183	Parkview Mobile Home Park	Village of Bellevue	1
184	Perrot Village Mobile Home Park Property	Village of Bellevue	17
185	Veterans of Foreign Wars Park	Village of Bellevue	5
186	Willow Creek Park	Village of Bellevue	10
Subtotal	12 Sites		499 Acres
187	Denmark Elementary School	Village of Denmark	4
188	Denmark High School	Village of Denmark	14
189	Denmark Middle School	Village of Denmark	2
190	Nature Center	Village of Denmark	4
191	Village Memorial Park	Village of Denmark	30
Subtotal	5 Sites		54 Acres
192	Four Season's Park	Village of Hobart	43
193	Hillcrest Elementary School	Village of Hobart	2
194	Indian Trails Park	Village of Hobart	11
195	Oneida Ball Fields Complex	Village of Hobart	10
196	Pine Tree Park	Village of Hobart	5
197	Thornberry Creek Country Club	Village of Hobart	406
Subtotal	6 Sites		477 Acres
198	Barney Williams Park	Village of Howard	6
199	Bay Port High School	Village of Howard	37
200	Bay View Middle School	Village of Howard	31
201	Brown County Sportsman's Club	Village of Howard	101
202	Deerfield Docks	Village of Howard	3
203	Forest Glen Elementary School	Village of Howard	9
204	Greenfield Farms Riding Stables	Village of Howard	40
205	Howard Elementary School	Village of Howard	22
206	Howard Memorial Park	Village of Howard	14
207	Legends Bar and Grill	Village of Howard	5
208	Lehner Park	Village of Howard	3
209	Meadowbrook Elementary School	Village of Howard	4
210	Meadowbrook Park	Village of Howard	91
211	Memorial Drive Golf Range	Village of Howard	10
212	Packerland Parkway	Village of Howard	1
213	Pinecrest Park	Village of Howard	93
214	Pinewood Park	Village of Howard	8

Figure 6-13 continued: Local Public and Private Park and Open Space Sites

SITE #	NAME	LOCATION	ACREAGE
215	Quarry	Village of Howard	39
216	Saint John the Baptist School	Village of Howard	4
217	Spring Green Park	Village of Howard	39
218	Village Green Golf Course	Village of Howard	67
219	Watering Hole Bar	Village of Howard	13
220	Wietor Wharf	Village of Howard	3
Subtotal	23 Sites		643 Acres
221	Assumption B.V.M.	Village of Pulaski	10
222	Behrendt Park	Village of Pulaski	2
223	Dr. V.J. Skippy Park	Village of Pulaski	2
224	Glenbrook Acres Park	Village of Pulaski	2
225	Glenbrook School	Village of Pulaski	3
226	Kazimierz Park	Village of Pulaski	1
227	New Undeveloped Park	Village of Pulaski	100
228	Pulaski High School	Village of Pulaski	39
229	Pulaski Memorial Park	Village of Pulaski	26
Subtotal	7 Sites		185 Acres
230	Calvera Springs Community Park	Village of Suamico	69
231	Doctor Vickery Park	Village of Suamico	4
232	Fireman's Park	Village of Suamico	1
233	Golden Arrow Archery Club	Village of Suamico	40
234	Idlewild Community Park	Village of Suamico	56
235	Izaak Walton League	Village of Suamico	40
236	Knight Riders Snowmobile Club	Village of Suamico	10
237	Nicolet Rifle Range	Village of Suamico	9
238	Shipyard Marine	Village of Suamico	5
239	Suamico Elementary School	Village of Suamico	26
240	Wied Mill Park	Village of Suamico	9
241	Whales Tale Marina	Village of Suamico	1
242	Windjammers Sailing Club	Village of Suamico	3
243	Wouters Front Tavern	Village of Suamico	3
Subtotal	14 Sites		276 Acres
244	Mueller Park	Village of Wrightstown	3
245	Plum Creek Trail	Village of Wrightstown	--
246	Royal St. Patrick Golf Course	Village of Wrightstown	210
247	St. John's Lutheran School	Village of Wrightstown	1
248	St. Paul's Catholic School	Village of Wrightstown	1
249	Shamrock Park	Village of Wrightstown	4
250	Shamrock Conservancy	Village of Wrightstown	5
251	Van Dyke Park	Village of Wrightstown	2
252	Whispering Woods Park	Village of Wrightstown	2
253	Wrightstown Elementary/Middle/High School	Village of Wrightstown	26
254	Wrightstown High School	Village of Wrightstown	30
Subtotal	10 Sites		284 Acres
255	Bisbee Doug Driving Range and Golf Center	Town of Eaton	20

Figure 6-13 continued: Local Public and Private Park and Open Space Sites

SITE #	NAME	LOCATION	ACREAGE
256	Polish Legion of American Veterans Memorial Park	Town of Eaton	15
Subtotal	2 Sites		35 Acres
257	Elmwood Lane Shore Access	Town of Green Bay	A
Subtotal	1 Site		A Acres
258	New Franken Sportsman's Club	Town of Humboldt	100
Subtotal	1 Site		100 Acres
259	Highland Ridge Golf Club	Town of Lawrence	147
260	Lost Dauphin Park	Town of Lawrence	10
261	Mid-Vallee Golf Course	Town of Lawrence	165
262	Town Hall/Fire Station/Recreation Site	Town of Lawrence	5
Subtotal	4 Sites		427Acres
263	Heritage Elementary School	Town of Ledgeview	7
264	Ledgeview Park	Town of Ledgeview	A
265	Mystery Hills Golf Course	Town of Ledgeview	139
266	Town Land	Town of Ledgeview	40
Subtotal	4 Sites		186 Acres
267	Fireman's Park	Town of Morrison	1
268	Wandering Springs Golf Course	Town of Morrison	160
Subtotal	2 Sites		161 Acres
269	Twin Oaks Country Club	Town of New Denmark	169
Subtotal	1 Site		169 Acres
270	Former Landfill Property	Town of Pittsfield	19
271	Lannoye School	Town of Pittsfield	14
272	Northeastern Wisconsin Beagle Club	Town of Pittsfield	120
Subtotal	3 Sites		153 Acres
273	De Pere Sportsman's Club	Town of Rockland	32
Subtotal	1 Site		32 Acres
274	Holy Cross School	Town of Scott	2
275	Point Comfort Boat Landing	Town of Scott	A
276	Royal Scot Country Club	Town of Scott	137
277	St. Kilion's School	Town of Scott	2
278	Volks Landing	Town of Scott	A
279	Wequiock School	Town of Scott	5
Subtotal	6 Sites		146 Acres
280	Happy Hollow Camping Resort	Town of Wrightstown	11
281	Hilly Haven Recreational Area	Town of Wrightstown	58
Subtotal	2 Sites		69 Acres
Total	281 Sites		7,670 Acres
Source: Local comprehensive plans, park plans, and the Brown County Planning Commission			
A: These sites are less than 1 acre in size			

NEW Zoo

Brown County owns and operates the North Eastern Wisconsin Zoo (NEW Zoo) in the Village of Suamico adjacent to the Reforestation Camp. The NEW Zoo is a 38-acre

outdoor zoo with approximately 62 exhibits, 80 species, and over 200 specimens. It is operated as an enterprise fund and, prior to 2004, was part of the Brown County Park Department. It is now operated as its own department. Its mission is to demonstrate the value and beauty, as well as the behavior and physical adaptations, of animal life and to enhance visitors' understanding of the history of animal life and its relationship to ecological systems. It is 1 of only 216 accredited zoos in the country and is 1 of only 6 that are self-supported. Even with recent increases in admission fees, annual attendance levels have remained above 200,000 people.

A North Eastern Wisconsin Zoo Master Plan was prepared in 2000 to address the needs of the zoo for the next 10 to 15 years. The plan recommended additional investments of \$6 to \$12 million over this time to develop the best zoo possible for its market area. These recommendations included numerous new and/or improved exhibits, additional parking, and service buildings. The NEW Zoo has implemented some of these recommendations, and it plans to continue to do so as funding allows.

County Golf Course

The Brown County Golf Course, also owned and operated by Brown County, is located in the Village of Hobart. It is operated as an enterprise fund. It consists of a 164-acre 18-hole public golf course, an 8,000-square-foot clubhouse constructed in 2003, numerous maintenance and storage buildings, and an additional 80 acres of land west of the golf course. The clubhouse contains a pro shop, a restaurant, and parking. An additional 80 acres was purchased in the 1970s for a possible 9-hole expansion of the course that is no longer envisioned. It is envisioned that this land may be used for park purposes in the future.

The Brown County Golf Course is a destination for golfers throughout the state. A popular golf magazine rated the Brown County Golf Course the 9th best municipal course in the nation, and it is widely considered among the 25 best golf courses in the state. Demands for continued high levels of customer service and course conditioning place the greatest burdens upon and provide the greatest opportunities to the golf course. With completion of the new clubhouse, the golf course is now well situated to meet the needs of golfers in the future. With the new clubhouse and its restaurant and activities, such as cross-country skiing in the winter, the County Golf Course is also situated to be a year-round facility.

County Trails

As shown on Figure 6-12, the County also maintains (and the DNR owns) the Fox River State Recreation Trail and the Mountain-Bay State Recreation Trail. The Fox River Trail is a 14-mile trail located on an abandoned rail corridor in the central portion of the County that extends from the City of Green Bay to the unincorporated community of Greenleaf. It provides a walking, hiking, and biking trail. The Mountain-Bay Trail is an 84-mile trail also located on an abandoned rail corridor that extends from the Village of Howard in Brown County to the Village of Westfield in Marathon County. The 13-mile portion in Brown County is located in the northwestern portion of the County and extends from the Village of Howard to the Village of Pulaski. It provides a walking, hiking, and biking trail.

Other smaller community trails within Brown County include the 7-mile UW-Green Bay Cofrin Arboretum Trail, the 5-mile East River Parkway Trail, the 3-mile Wildlife Sanctuary Trail, the 2.5-mile Baird Creek Trail, the 2-mile Ken Euers Trail, and the 2-mile De Pere Business Park Trail. These trails are typically used for hiking, biking, and walking.

State Parks

There are 13 state-owned park and open space sites encompassing a total of about 2,508 acres within Brown County. Of these 13 sites, seven are owned by the Wisconsin Department of Natural Resources, five are owned by the Wisconsin Department of Transportation, and one is owned by the University of Wisconsin system.

The Department of Natural Resources has acquired approximately 2,231 acres of land within Brown County, primarily for natural resource preservation purposes. Sites acquired for natural resource preservation purposes include Little Tail Management Unit, Long Tail Point, Sensiba Wildlife Area, the Green Bay West Shore Lands (all located on the west shore of the Bay of Green Bay) and the Holland Public Hunting Ground located southeast of Greenleaf in the Town of Holland. These five sites together encompass approximately 2,181 acres.

The department also owns a special regional recreation site: the 48-acre Heritage Hill State Park located along the Fox River in the Village of Allouez. This site provides a living history museum, which recreates the early life of settlers of northeastern Wisconsin. In addition, the department owns one boat-access site on the west shore of the Bay of Green Bay (the small craft boat launch located in the Town of Suamico), which encompasses about two acres of land.

The Department of Transportation owns approximately 5 acres of land within a wayside and two scenic overlooks within Brown County. The wayside (with a historical marker) and two scenic overlooks are located along STH 57 in the Town of Scott.

The University of Wisconsin owns and operates the 265-acre Cofrin Arboretum located on the University of Wisconsin-Green Bay campus. The Cofrin Arboretum provides walking and biking trails, an observation tower, and an observation deck to view natural and re-vegetated native landscapes comprised of a prairie, woodlands, and meadows. The arboretum also provides education and study opportunities to students of the university and local area schools.

School Sites

Public schools and, to a lesser extent, private schools often provide recreational facilities and activities at their sites that are available to the general public. While these recreational opportunities vary from school to school, they are usually determined through some arrangement with the local community. A year 2000 inventory of public and private recreational sites, as shown in Figure 6-13, indicates that there are approximately 52 public and 12 private school recreational sites in Brown County. Facilities provided at these sites typically include ballfields and playgrounds.

Other Sites

Other significant public and/or nonprofit recreational/entertainment and cultural facilities include:

- Resch Center/Shopko Hall/arena complex.
- Green Bay Symphony Orchestra.
- National Railroad Museum.
- Weidner Center for the Performing Arts.
- Green Bay Botanical Garden.
- Lambeau Field.
- Local and regional sports teams, such as the UWGB-Phoenix and the Green Bay Gamblers.
- Meyer Theater.
- Numerous local and regional historic sites, festivals, and fairs.

Many more such facilities exist within Brown County, some of which are noted in Chapter 4. The importance of these sites, facilities, and activities are also described in Chapter 4. It cannot be stressed enough how important such facilities are to the quality of life within Brown County and to the civic pride and community spirit that they create and sustain.

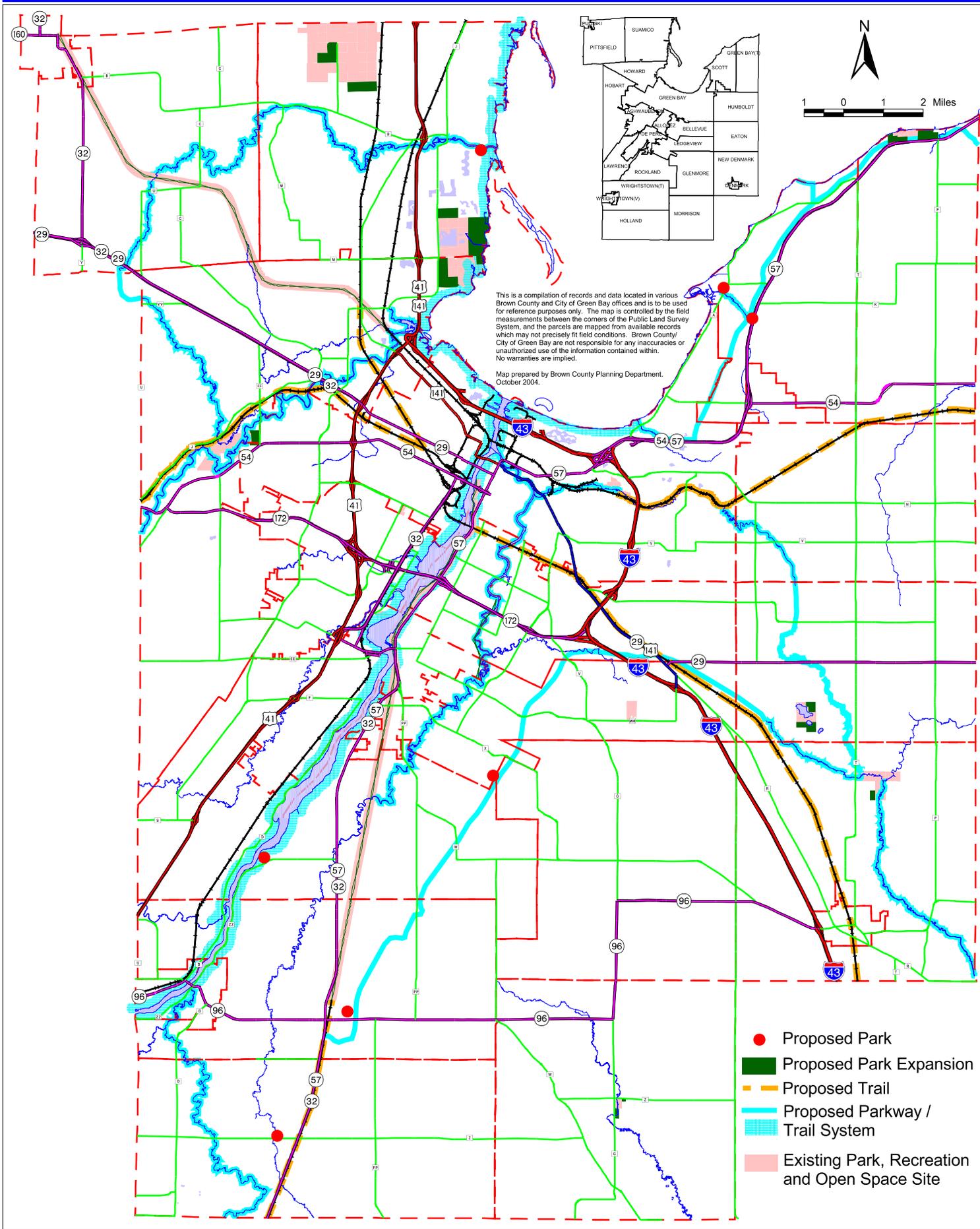
It is, therefore, recommended that Brown County and its local communities continue their support of these many fine institutions.

Open Space and Outdoor Recreation Planning

Brown County has prepared four comprehensive open space and outdoor recreation plans since its first one in 1971. The current plan, dated August 2001, is entitled Brown County Open Space and Outdoor Recreation Plan. The plan addresses the current status of open space and outdoor recreation in Brown County, identifies the current and anticipated future open space and outdoor recreation needs of the residents of Brown County, and sets forth and prioritizes the actions which should be undertaken to fulfill those needs. A summary of the plan's major recommendations is provided and is shown in Figure 6-14.

- Acquire and develop three new county parks (encompassing a total of about 280 acres) for natural resource preservation and public recreation.
- Develop two new county parks (for natural resource preservation, public recreation, and public education) on land within or associated with county landfills.
- Acquire and develop a countywide parkway system for natural resource preservation and public recreation purposes.
- Develop a countywide trail system (primarily on abandoned railroad corridors) for recreation and transportation purposes.

Figure 6-14
Outdoor Recreation Facilities
 Brown County, WI



- Provide additional acquisition and/or development at 13 existing county parks.
- Focus its park, open space, and outdoor recreation efforts on those sites, facilities, and activities that are of multi-community and countywide importance.

The County open space and outdoor recreation plan recognizes that all of these recommendations will take much more than the plan's 5-year timeframe to implement. The plan envisions that some of the recommendations may not occur until that particular portion of the County develops, which could be decades or even longer into the future. The plan also recognizes that implementation of these recommendations hinges upon the cooperation and support of state, local community, and nonprofit and volunteer organizations. With such assistance, the County can accomplish more than it could otherwise. Last, the plan recognizes that many of these recommendations will require sustained efforts by all affected parties in order to be accomplished.

The recommendations of the Brown County Open Space and Outdoor Recreation Plan are included by reference within this Brown County Comprehensive Plan.

To provide recreational services in an efficient and effective manner and to maintain eligibility for state and federal recreational grants, most communities identify planning principles and guidelines as an integral element of recreation and open space programs. That process is typically formalized in a park and open space plan. The County's park plan was last updated in 2001. To maintain eligibility for state and federal park, open space, and outdoor recreation grants, such plans must be updated and adopted by the community every five years. To adequately determine the park and recreation needs of the community and to meet such needs in as efficient and cost-effective a manner as possible, such plans should also be updated whenever population or growth trends change. Such plans should be coordinated with the natural and cultural resource protection and preservation efforts of the community. It is recommended that the plan be updated around 2006 and the comprehensive plan revised accordingly.

Because of the importance of the County's park, open space, and outdoor recreation system to the health, welfare, and quality of life to all citizens of Brown County, the provision of adequate funding for this service is vital. Therefore, it is recommended that a study of a park impact fee to ensure an equitable system for the acquisition, development, maintenance, and replacement of its parks and outdoor recreation sites and facilities be considered by the County. Wisconsin State Statutes 66.0617 sets forth the guidelines for cities, villages, towns, and counties to establish impact fees for such purposes as transportation facilities; sewage collection and treatment facilities; stormwater collection and treatment facilities; water pumping, storing, and distribution facilities; playgrounds, parks, and other recreational facilities; emergency medical facilities; and libraries. As stated in that statute, a public facilities needs assessment must be prepared, a public hearing held, and an ordinance enacted before an impact fee can be established. The statute also states that the impact fee shall bear a rational relationship to the need for new, expanded, or improved public facilities that are required to serve land to be developed.

It is recommended that the North Eastern Wisconsin Zoo Master Plan be reviewed and revised as necessary and implemented as funding opportunities allow.

It is recommended that the Brown County Fairgrounds Master Plan be revised and updated. It is intended that doing so would resolve the issues regarding this site, would result in greater cooperation between Brown County and the City of De Pere, and would help ensure the long-term viability of the fairgrounds.

It is recommended that the Brown County Golf Course continue its efforts to make the golf course a year-round facility by including such activities as cross-country skiing and hosting special events at its site during the off-season whenever feasible and cost-effective.

Telecommunication

As shown in Figure 6-15, telecommunication services are provided to Brown County communities through five different private providers. SBC/Ameritech provides this service to the central portion, or about 42 percent, of Brown County. CenturyTel Inc. provides similar service to the eastern portion, or about 38 percent, of the County. Northeast Communications Inc. provides service to the northwestern portion, or about 10 percent, of the County. Wrightstown Exchange provides service to the southwestern portion, or about 9 percent, of the County. Telephone and Data Services Inc. provides service to the far southwestern portion, or about 0.5 percent, of the County, and about 0.5 percent of the County is in unassigned or open territory areas. These telecommunication companies typically provide landline phone service, Internet access by cable modem and/or DSL, and satellite access.

Current trends in the telecommunications industry point to a greater demand for high-speed Internet access and cellular communications in the future. In response, many communities across the country, as well as a few in Wisconsin, are beginning to take a proactive approach to this issue to maintain their economic competitiveness and to ensure this service is provided as efficiently and economically as possible. For these same reasons, it is recommended that Brown County undertake a countywide study of this service, its current status in the County, its trends locally and nationwide, and the needs of communities and businesses to obtain the best broadband, wireless, and other related services possible.

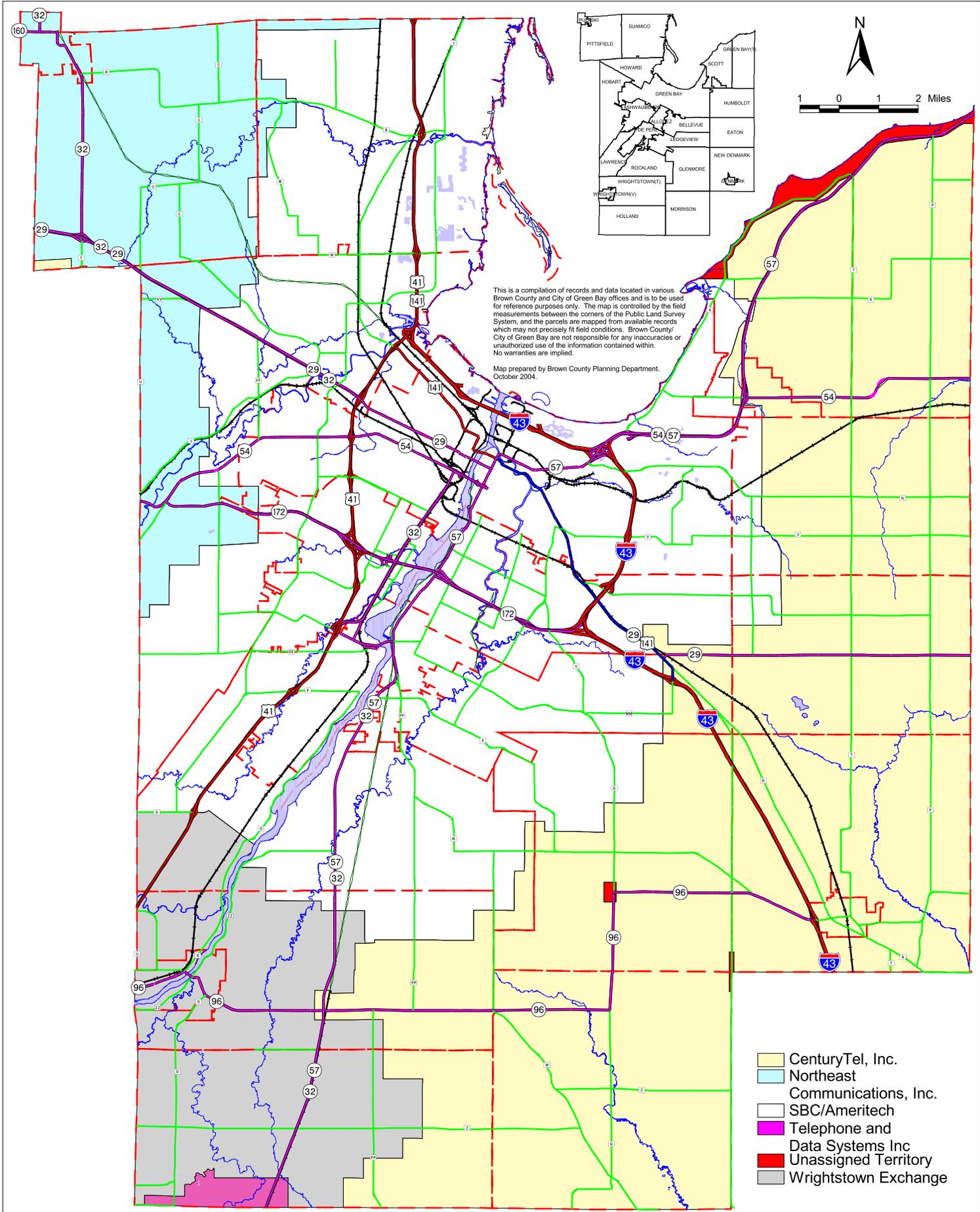
It is also recommended that before any cellular communications facilities are approved, attempts should be made to collocate them and to ensure that adequate easements or other necessary rights-of-way are available, as well as adequate design standards for the associated infrastructure.

In all other aspects, it is anticipated that this service will continue to be provided by the private sector and will continue to meet the demands of the County.

Power Generation

As noted at the beginning of this chapter, utilities, power supply, and power transmission capabilities are examples of services that are often most important to businesses and industries. Therefore, it is very important that these factors are considered in any long-range comprehensive planning endeavor. Wisconsin Public Service Corporation (WPS) provides electricity and natural gas to all of Brown County, as

Figure 6-15
Telecommunication Providers
 Brown County, WI



- CenturyTel, Inc.
- Northeast Communications, Inc.
- SBC/Ameritech
- Telephone and Data Systems Inc
- Unassigned Territory
- Wrightstown Exchange

well as to most of northeastern Wisconsin and portions of central Wisconsin and Upper Michigan, including all or portions of 24 counties. This service area encompasses about 11,000 square miles and approximately 400,000 customers. WPS operates a combination of fossil, nuclear, and hydroelectric generating plants to produce the majority of its electricity. A small amount is generated by wind energy facilities (wind turbines). All of WPS's natural gas is purchased directly from gas producers and marketing companies. WPS contracts with ANR Pipeline Company for transmission of this gas to WPS customers.

The majority of WPS's electricity is generated by coal-fired power plants. This includes the J.P. Pulliam plant located in Green Bay adjacent to the Bay of Green Bay at the mouth of the Fox River. The J.P. Pulliam plant was constructed in 1927, and its last major expansion occurred in 1964. It generates about 372.5 megawatts (MW) of electric power, about 29 percent of all WPS's coal-fired power plant electricity, and about 17 percent of all electric power generated by WPS.

The Glenmore Wind Energy Facility is located in the southwestern portion of the Town of Glenmore adjacent to the Town of Rockland. The two wind turbines were constructed in 1998. They generate approximately 1.2 MW of energy, about 12 percent of all WPS's wind-powered electricity, and about 0.06 percent of all electric power generated by WPS.

The Oneida Peaking Plant is located immediately west of Brown County in the Town of Oneida, Outagamie County. This plant utilizes diesel fuel to generate about 4 MW of energy for those times when WPS's customer needs exceed its conventional generating facilities' ability to supply.

WPS has announced its intentions to design, license, construct, and operate a 500-MW electric generating power plant at its Weston Peaking Plant site south of Wausau. WPS believes the project is necessary to meet the future growth in electricity demands within its service area.

WPS is in the process of converting all electric and gas meters to new automated meters. This project will result in better accuracy, fewer estimated readings, and a quicker response to outages.

Major pipeline expansion projects within Brown County include construction of about 3.5 miles of 8-inch diameter pipeline between the Villages of Denmark and Wrightstown, creating a loop between the two villages and the Green Bay area.

It is anticipated that this service will continue to be provided by the private sector. However, to ensure that the growth and development rates envisioned within this County comprehensive plan, as well as in local comprehensive plans, are taken into consideration by WPS in its energy planning endeavors, it is recommended that Brown County share this information with WPS and also keep them informed of any changes to these projections. Furthermore, it is recommended that Brown County facilitate discussions with local communities and WPS to ensure the appropriate timing and siting of energy generation and transmission facilities.

Cemeteries

In addition to the traditional, commonly understood service to the community, cemeteries, particularly older cemeteries, are often sites of historic significance. Tombstones, inscriptions, and memorials often provide glimpses of past times, in addition to providing a source of information on former residents and families residing within the community. Old historic cemeteries often encompass or are associated with historic structures or locations, such as churches, crossroads, and the founding site of a community.

There are approximately 81 cemeteries within the County. These cemeteries (many of them small, old, and no longer active) are scattered throughout Brown County but are generally located within the cities, villages, and unincorporated communities of the County.

Additional demands for this service in the future should continue to be addressed by the private sector, and local communities should encourage such uses within their own community when properly designed and located.

Healthcare

Brown County provides wide ranging healthcare services to County residents through its health department. While many services are state-mandated by state statute or contract, others are provided by the County and funded through grants and fees. These services are provided to encourage and promote individual and community health and well-being through programs and activities that prevent disease and injury, foster healthy lifestyles, and reduce environmental risks and hazards for people who live, work, or visit in Brown County. The department is comprised of two sections: public health nursing and environmental health services. The health department also advocates for sound public health policy to promote optimal health and well-being of individuals and the environment. Programs, education, and services offered by the health department cover such topics as:

- Indoor air quality.
- Lead issues.
- Noise/odor.
- Rabies.
- Lab testing.
- Foodservice licensing and inspections.
- Well water testing.
- Immunization clinics.
- School services.
- Adult health.
- Maternal and child health.

- Communicable disease.
- Tobacco control.
- General health information.
- A periodic Brown County Community Health Status report.

The offices of the Brown County Health Department Bioterrorism Consortium of Lake Michigan are located within the Ag and Extension Service Center building located on the City of Green Bay's southeast side. The consortium's purpose is to develop and administer a comprehensive plan to ensure a prompt and adequate regional response to acts of bioterrorism, other infectious disease outbreaks, and other public health threats and emergencies.

Four major private healthcare providers are located within the City of Green Bay. They include Aurora Baycare Medical Center, Bellin Health, St. Mary's Hospital Medical Center, and St. Vincent Hospital. In addition to numerous chiropractors and dentists, over 50 medical clinics are located throughout the County.

While additional future demands should continue to be addressed primarily by the private sector, local communities should encourage such uses within their own community when properly designed and located.

Elderly Care

Brown County provides a wide range of elderly care services to Brown County senior citizens through its Aging Resource Center. The center seeks to secure the well being of older people over age 60 by promoting access to community life, advocating for opportunities, rights, and resources, and building and reinforcing networks of long-term care in the community and its institutions. Funding for the center is obtained from a variety of sources, including federal, state, and county government, as well as public and private donations. The Aging Resource Center operates four permanent senior centers, one each in Green Bay, De Pere, Pulaski, and Denmark, as well as other centers in a number of rural locations. All of these centers serve as focal points for the delivery of the educational programs, social activities, and support services that the Aging Resource Center provides. These programs and activities include:

- Nutritional program, hot noon meals at nine locations, and home-delivered meals, as well as nutrition screening, education, and counseling.
- Transportation services (contracts with others to operate a rural driver escort program and volunteer medical transportation system).
- Alzheimer's respite services and daycare.
- Public benefits education, assistance, and advocacy.
- Information and assistance to assess, identify, and connect people to appropriate community services.
- Volunteer and caregiver services.

The Aging Resource Center building in downtown Green Bay is owned by Brown County and is leased to the Aging Resource Center. It houses a senior center, adult daycare, and the administrative offices for aging programs. It was remodeled in 1993 and is in good condition. This building will not be adequate, however, if additional programs are added or consolidation of other agencies, programs, or services occurs at this site. This agency supports many other sites throughout the County to provide its services, such as the local senior centers in De Pere, Pulaski, and Denmark.

Population projections prepared by state agencies indicate that the largest portion of Brown County's population growth will be the elderly. It is estimated that the number of people over 65 years in age will increase by 75 percent by 2030. It is also anticipated that the elderly will live longer and that their needs will change as they age. The accumulative growth in the 85 and over population from 1995 to 2050 is anticipated to be more than 400 percent. It is envisioned that this will place greater demands on the services and programs offered by the Aging Resource Center.

It is recommended that the Aging Resource Center maintain its collaborative relationships with community entities that provide health and wellness, long-term care, educational, and other life enrichment programs. It is also recommended that it work more closely with those agencies, as well as local communities, state and federal agencies, and the private sector, to establish a coordinated approach to the anticipated increased demands for elderly care services. Furthermore, information regarding all of these and other related programs and services should be provided in one centralized, easily accessible location for both clients and service providers. In addition, the feasibility of providing many of these programs and services from one location and/or agency should be studied and should be implemented if determined to be possible and cost-effective. Presently, the Aging Resources Center maintains a close working relationship with the human services department. There may be future opportunities to collaborate and integrate information, referral, and access services between the Aging Resource Center and the human services department. The human services department is currently reviewing the potential for future service consolidation.

Expansion of the home-delivered-meals program is anticipated. When this occurs, an additional site on the far east side for packaging and distribution of these meals will be necessary because the current site (Resurrection Church) is too small and inefficient. Consideration should be given to outsourcing this service should it be determined to be cost-effective.

In addition to the County facilities and services noted, there are approximately 50 privately-operated elderly care facilities located within the County. These include nursing homes, assisted living projects, and residential care facilities.

Additional future demands will require partnerships between the public and private sectors.

Childcare

There are approximately 70 childcare/preschool facilities located within the County.

Additional future demands should continue to be addressed by the private sector, and local communities should encourage such uses within their own community when properly designed and located.

Libraries

Brown County provides a public library system for all residents of the County. The Brown County Library System, the first countywide system in Wisconsin, was created in 1968 when the Kellogg Public Library in Green Bay and the De Pere Public Library combined. The Brown County Library System is currently comprised of a central library, eight branch libraries, and a bookmobile. It circulates over 2.3 million items annually. About 80 percent of the households in the County have at least one library card. The library system supports lifelong education, cultural enrichment, leisure activities, and economic development by providing access to informational and educational resources. The library system also contributes to this storehouse of knowledge by maintaining information unique to the area and its residents.

The Central Library is located in downtown Green Bay, was constructed in the 1970s, and contains a 300-seat auditorium, an 80-seat meeting room, a local history and genealogy department, and the offices of the Nicolet Library System. The eight branches include:

- The Ashwaubenon Library.
- The Denmark Library (located in the Denmark High School).
- The East Library (located in the east side of Green Bay).
- The Kress Family Library (located in De Pere).
- The Pulaski Library.
- The Southwest Library (located in the southwest side of Green Bay).
- The Weyers-Hilliard Library (located in Howard).
- The Wrightstown Library.

Brown County has a branch library system that has the ability to rapidly share and transfer materials from location to location. To a degree, each of the branch locations has a unique collection of materials. This system has not diminished the value of the Central Library to downtown Green Bay and has resulted in greater, more effective, and more efficient service to all of the communities in Brown County. With the existing branch system, no resident in Brown County is located more than a 20-minute drive from a Brown County library. Additionally, as a member of the Nicolet Federated Library System, library cardholders have access to materials throughout the state system.

The location of the Central Library serves as one of the focal points of downtown Green Bay. As the number of businesses within the downtown area has declined over the past few decades, so has the use of the library. However, the City of Green Bay is undertaking many redevelopment and renovation projects in a prolonged effort to revitalize its downtown. Should these projects be successful, use of the library is anticipated to grow. It is recommended that Brown County study the use of the library for additional programs, services, and uses in order to assist the City of Green Bay in its

efforts to revitalize downtown. This may include the need for renovation of the library, as well.

In addition to these nine libraries, Brown County also operates a bookmobile. The bookmobile offers reading material and other similar opportunities to people and areas within the County that do not have easy access to any of the branch libraries. The bookmobile's stops include nursing homes, Syble Hopp School, and rural communities, including Dyckesville, Greenleaf, Hollandtown, Morrison, New Franken, Poland, Shirley, Suamico, and Wayside. It is recommended that the service provided by the bookmobile continue to be evaluated.

The Local History and Genealogy Department of the Central Library was created in 1974 when the current library was constructed. It contains over 9,500 volumes, books, atlases, maps, and periodicals. The microfilm collection includes over 3,700 reels of census, newspapers, county history, etc.

The newest branch library, the Kress Family Branch Library, was completed and opened to the public in July 2003. It is 24,000 square feet in size and includes special reading rooms, community fireplace, view of the Fox River, children's area, and outdoor reading porch and terraced garden.

There has recently been discussion regarding the possibility of a new library on the east side of the metropolitan area, as well as one on the west side in Ashwaubenon and a new library in the Village of Wrightstown. In Wrightstown, in particular, much local support exists in favor of a new library.

Museums

Brown County provides a public museum. The current Neville Public Museum in downtown Green Bay was constructed in 1983, but its history goes back much further in time. In 1915, a small display was opened at the Green Bay Public Library. Over the course of many years, the number and size of exhibits increased, so that by 1927, the first separate museum building was opened. It, too, became too small, and in 1983 the current museum was opened.

The Neville Public Museum is an accredited general museum of art, history, and science. It is dedicated to the collection and preservation of significant objects relevant to northeast Wisconsin and, to a lesser extent, the upper peninsula of Michigan. Its mission is to interpret its collections and to provide educational insight through exhibits, informational programming, and publications.

The museum has a collections department that manages and preserves the collections and artifacts. The museum has over two million items in its collections, encompassing historic artifacts, original artwork, archeological objects, still photographs, and film. The museum also has two floors of galleries offering public viewing of numerous exhibits. While some exhibits are long-term, many are regularly changed. The museum also offers many educational programs, such as tours, lectures, presentations, panel discussions, workshops, classes, and demonstrations. The museum's collections are also available for

viewing by various researchers. Admission fees are charged, as are fees for use of the museum's collections, facilities, and personnel.

The museum houses the Region 5 Office of the State Regional Archeology Program, which is not currently funded. This program was initiated in 1989 to promote an understanding of Wisconsin's past. The office holds archeological records and reports for six counties and the various records, maps, and reports are made accessible to scholars, agencies, and planners.

It is recommended that the museum's facility needs continue to be studied and addressed in as timely and cost-effective manner as possible. It is envisioned that renovation and maintenance will be necessary over the next 20 years.

It is recommended that the museum's 5-year plan, last prepared in 1988, be updated. Previous studies, for example, identified a need for additional space for storage of collections.

It is recommended that the museum continue its efforts to provide exhibits, programs, and activities that are relevant to Brown County's citizens.

Schools and Education

Schools and the education they provide are two of the most significant elements of a community's quality of life. Schools and education not only establish a baseline level of knowledge and understanding for the community's children, they also provide countless similar opportunities for all residents of all ages. Brown County contains an abundance and variety of public schools and approximately 25 private and parochial schools. The public educational system includes:

- University of Wisconsin-Green Bay.
- Northeast Wisconsin Technical College.
- St. Norbert College.
- Bellin College of Nursing.
- Local campuses or outreach centers for such schools as Cardinal Stritch University, Concordia University, and ITT Technical Institute.
- Brown County University of Wisconsin-Extension Office.
- Portions of 12 public school districts.
- Syble Hopp School.

The University of Wisconsin-Green Bay (UWGB), located in the City of Green Bay, is the second youngest and third smallest of the 13 four-year campuses that make up the UW system. With a student enrollment of about 5,400 students, it is a mid-sized public university and is 1 of 11 comprehensive campuses within the UW system. Its academic plan is characterized by a strong interdisciplinary, problem-focused liberal education that integrates disciplinary and professional programs appropriate to a comprehensive institution. UWGB offers 2-year associate degrees, bachelor degrees in 35 different

majors, and master degrees in 3 different majors. It is a 700-acre campus that contains 12 major buildings, a student housing complex comprised of 21 apartment and residence hall buildings, an arboretum, a golf course, waterfront recreation, a university union, and a sports center.

It is recommended that Brown County and the local communities further expand and strengthen their ties with the university. UWGB contains a wealth of knowledge, experience, and resources that could assist local communities on a variety of issues. This should include solicitation of input from university personnel (students, professors, and/or administrators) by communities regarding their local affairs where the experience and knowledge of the university personnel could be of particular benefit, such as in issues dealing with local government, education, and environmental protection. This could occur through inclusion of university personnel in the membership of various boards and committees, volunteerism, or even contract work.

The Northeast Wisconsin Technical College (NWTC), located in the City of Green Bay, is part of the Wisconsin Technical College System that is comprised of 16 colleges with 47 campuses and numerous outreach centers. The Wisconsin Technical College System offers over 300 programs, many concluding with a 2-year associate degree. NWTC is a 2-year technical college and serves all of northeast Wisconsin. It provides education, training, and life-long learning opportunities to approximately 9,800 program students and approximately 32,700 continuing education students. Like all other Wisconsin technical colleges, it works closely with individuals and businesses to develop a skilled workforce responsive to their needs.

It is recommended that Brown County and the local communities further expand and strengthen their ties with NWTC in a manner similar to that recommended with UWGB.

The Brown County University of Wisconsin-Extension Office located in the City of Green Bay's south side is part of the University of Wisconsin-Extension System. The UW-Extension System offers credit and noncredit programs through Wisconsin Public Television, Wisconsin Public Radio, 4-H/Youth Development, Learning Innovations, and the Pyle Center in Madison. The UW-Extension System is part of the University of Wisconsin System and has offices on all 26 UW system campuses, as well as in all 72 counties. It was founded in 1891. As with all other extension offices, the Brown County University of Wisconsin-Extension Office develops practical educational programs tailored to local needs and based on university knowledge and research. Its programs focus on horticulture, agriculture, family living, 4-H youth development, nutrition education, UW-Extension publications, and community gardens. The Brown County University of Wisconsin-Extension Office is also an information clearinghouse on more than 600 topics. County-based UW-Extension educators are University of Wisconsin faculty and staff who are experts in agriculture, agribusiness, community development, economic development, government, natural resources, family living, or youth development. The Brown County University of Wisconsin-Extension Office, like other county-based extension offices, most often partners with local, county, state, and/or federal government to address public issues. Faculty and staff also plan and carry out programs with a wide array of community partners, such as volunteers, business groups, and educational groups.

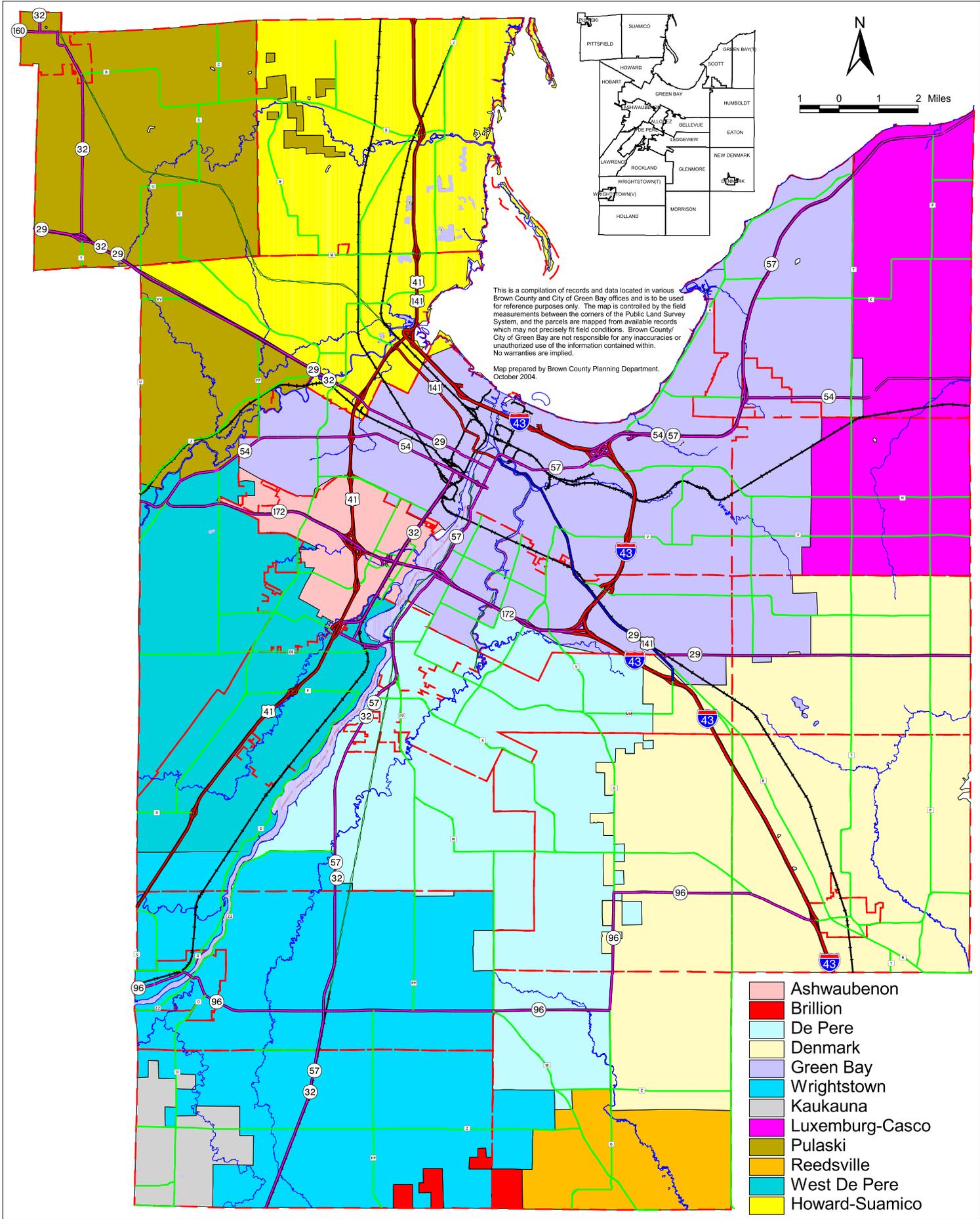
The Brown County University of Wisconsin-Extension Office facility was constructed in the 1950s and currently houses the Brown County Land Conservation Department and the Brown County Health Department Bioterrorism Consortium of Lake Michigan, as well as the UW-Extension Office. In addition to offices, it contains four meeting rooms that will seat up to 300 people and a kitchen. The building was recently remodeled but may require routine maintenance, such as the replacement of the roof. The facility is also set up for satellite and video conferencing. The property serves as an outdoor classroom for the UW-Extension horticultural program, with numerous planting and research projects underway.

It is recommended that Brown County and the local communities further expand and strengthen their ties with the Brown County University of Wisconsin-Extension Office and the services it offers. This includes the landscaping and gardening assistance it already offers at many Brown County facilities.

As shown on Figure 6-16, there are portions of 12 different public school districts located within Brown County. They include:

- Ashwaubenon—the Ashwaubenon School District is located entirely within Brown County and consists of most of the Village of Ashwaubenon. It is about 10.6 square miles in size, is comprised of five schools (one kindergarten/early learning center, two elementary schools, one middle school, and one high school), and has an enrollment of about 3,100 students. The district recently remodeled its high school and its two elementary schools.
- Brillion—only a very small portion of the Brillion School District, about 2.8 square miles, is located within Brown County within the far southern portions of the Towns of Holland and Morrison. There are no Brillion schools within Brown County.
- Denmark—the majority of the Denmark School District is located within Brown County and encompasses all of the Village of Denmark and the Town of New Denmark and portions of the Towns of Eaton, Glenmore, Ledgeview, and Morrison. It is about 88.7 square miles in size in Brown County, is comprised of three schools (one elementary school, one middle school, and one high school all located within the Village of Denmark), and has an enrollment of about 1,500 students.
- De Pere—the Unified School District of De Pere is located entirely within Brown County and consists of the eastern half of the City of De Pere and portions of the Village of Bellevue and the Towns of Glenmore, Ledgeview, Morrison, and Rockland. It is about 60 square miles in size, is comprised of five schools (two elementary schools, one intermediate school, one middle school, and one high school), and has an enrollment of about 3,250 students. The district recently expanded its high school, and its intermediate school was recently remodeled.
- Green Bay—the Green Bay School District is located entirely within Brown County and consists of the City of Green Bay, the Village of Allouez, the Town of Scott, and portions of the Village of Bellevue and the Towns of Eaton, Humboldt, and Ledgeview. It is about 94.2 square miles in size, is comprised of 36 schools (2 special schools, 25 elementary schools, 5 middle schools, and 4 high schools), and has an enrollment of about 20,100 students. The district recently renovated its four high schools and recently completed construction of a new elementary school.

Figure 6-16
School Districts
 Brown County, WI



- Howard-Suamico—the Howard-Suamico School District is located entirely within Brown County and consists of the Villages of Howard and Suamico. It is about 53.6 square miles in size, is comprised of seven schools (four elementary schools, one intermediate school, one middle school, and one high school), and has an enrollment of about 4,750 students. The district recently constructed a new high school.
- Kaukauna—only a very small portion of the Kaukauna School District, about 6.9 square miles, is located within Brown County within the southwestern portion of the Town of Holland. There are no Kaukauna schools within Brown County.
- Luxemburg-Casco—only a small portion of the Luxemburg-Casco School District, about 38 square miles, is located within Brown County within the Towns of Green Bay and Humboldt. There are no Luxemburg-Casco schools within Brown County.
- Pulaski—only a small portion of the Pulaski School District, about 34.7 square miles, is located within Brown County (all of the Village of Pulaski and the Town of Pittsfield). It is comprised of seven schools (five elementary schools, one middle school, and one high school), all of which are located within Brown County. Its enrollment is about 3,000 students.
- Reedsville—only a very small portion of the Reedsville School District, about 13.1 square miles, is located within Brown County within the southern half of the Town of Morrison. There are no Reedsville schools within Brown County.
- West De Pere—the West De Pere School District is located primarily within Brown County within the western half of the City of De Pere and portions of the Villages of Ashwaubenon and Hobart and the Town of Lawrence. It is about 42.7 square miles in size in Brown County, is comprised of three schools (one elementary school, one middle school, and one high school), and has an enrollment of about 2,000 students.
- Wrightstown—the Wrightstown School District is located primarily within Brown County within the Village of Wrightstown and the Town of Wrightstown and portions of the Towns of Holland, Lawrence, and Rockland. It is about 71.6 square miles, is comprised of three schools (one elementary school, one middle school, and one high school), and has an enrollment of about 1,000 students. The district recently constructed a new high school and remodeled the elementary and middle schools.

The Syble Hopp School, located in the City of De Pere, is operated by Brown County. Its objective is to provide an educational setting and to deliver an exceptional educational service to students with developmental (cognitive and early childhood) disabilities who are 3 to 21 years of age residing within participating school districts (all Brown County school districts except Green Bay). This service is provided through programs offered at Syble Hopp, at local schools, and through an early childhood program.

In 2004, Syble Hopp School educated 160 children and provided numerous educational opportunities for its faculty, as well as for other teachers, medical practitioners, social workers, and social advocates. The school also maintains close partnerships with St. Norbert College, Silver Lake College, and local hospitals.

It is envisioned that as Brown County's population continues to grow, as medical technology continues to improve, and as the number of children with handicaps correspondingly increases, demands for this service will increase. Changes due to these

factors are already occurring. Renovations of Syble Hopp School occur relatively frequently to keep pace with enrollment increases, changes in technology, and changes in the services provided to the students. For instance, the Syble Hopp School is currently undertaking an effort to solicit contributions to fund the construction of a therapy pool with four additional sensory rooms and a large sensory space.

It is, therefore, recommended that a detailed study of these trends, as well as possible funding sources, linkages with other institutions, and appropriate levels of service, be undertaken to determine the needs of the Syble Hopp School and the means to address those needs in the most equitable, cost-efficient, and socially responsible way possible.

As previously mentioned in this comprehensive plan, Brown County's population is anticipated to increase by about 43,000 people, or about 19 percent, between 2000 and 2020. It can be assumed that a similar proportional increase will occur in school age children. It is, therefore, recommended that Brown County assist the school districts in planning for the changes necessitated by this growing population. To respond to these anticipated needs, it is likely that additional school sites and facilities will be needed within the next 20 years.

In keeping with the goal and objectives for this chapter, it is recommended that the 12 school districts work with one another, with the County, and with the local communities within their districts to ensure that future school sites are identified and acquired as soon as appropriate. This would include close cooperation with the local communities to ensure that adequate and cost-effective infrastructure, including sanitary sewer, public water, and roads, will be available to these sites when it is appropriate for the area to develop.

In keeping with the results of the Brown County Comprehensive Plan visioning session, particularly regarding consolidation of government services and the encouragement of compact, efficient, and well-balanced development, a joint study of the opportunities and feasibility of consolidation of school districts, sites, facilities, and programs should immediately be undertaken by the school districts.

The schools located within the County serve many functions, only one of which is the provision of education. For instance, these schools also provide opportunities for consolidation and cooperation of recreational and community activities and contribute to the sustainability of neighborhoods (bringing together many aspects of the community that might not otherwise meet). Because the County encompasses portions of 12 separate school districts and the potential for inefficiency, duplication, and conflict is correspondingly greater, reinforcement of the benefits previously noted and additional opportunities could be lost. Opportunities to address these issues could arise and should be taken advantage of when redistricting is considered, when the natural progression of children through the school system results in additional classroom space, or when new school construction or additions are undertaken by either district.

It is further recommended that these schools continue to allow access to their facilities (most notably the recreational facilities) to the residents within their districts and to coordinate this cooperation with the local communities.

County Government

In addition to the services and programs noted earlier in this chapter, such as the Brown County Sheriff's Department, sewer service area planning, countywide onsite sewage disposal system program, countywide park system, countywide library system, museum, Brown County Health Department, handicapped school, and elderly care programs, Brown County also provides many more services as described in this section. This section of the Utilities and Community Facilities chapter also describes those facilities and structures that are owned and operated by Brown County.

Public Safety Communications

The Brown County Public Safety Communications Department provides emergency communication services and emergency management services, including communication, coordination, and planning, to all communities within the County. It is also responsible for the Public Safety Answering Points (911 service) to all communities within Brown County and works with and assists local communities and other governmental agencies with homeland security issues.

The department is responsible for the coordination of personnel, equipment, and networks to provide countywide disaster planning and emergency command operations. This includes the Brown County Local Emergency Planning Committee, the planning arm of the County's hazardous materials efforts. The committee's responsibility is to develop offsite emergency response plans for facilities that manufacture, store, or use hazardous materials. This information is intended to provide emergency responders with an understanding of a site's specific chemical hazards and its location and relationships to nearby special facilities, such as schools and homes, during an emergency. The committee is also responsible for conducting emergency response exercises and providing public education and information to the community on chemical and emergency preparedness.

The Brown County Public Safety Communications Department is located in the City of Green Bay Police Department. It is currently crowded, and its facilities are aging. In addition, the volume of calls handled by the department increases each year by about 6 to 7 percent. Furthermore, improvements in technology, such as the number of cell phones, and greater cooperation between various police, fire, rescue, and public works departments (among others) is also envisioned to increase the number of calls handled by the department. Relocation of this department is under consideration by the County.

Should the Public Safety Communications Department be relocated, it is recommended that such relocation occur at the same time as its computer, telephone, and radio systems reach the end of their useful lives. Doing so will promote a more cost-effective and efficient relocation and upgrade of the department's facilities.

Criminal Justice

Brown County's Criminal Justice System includes the district attorney, corporation counsel, medical examiner, and the circuit court system, each of which is required by state law and is provided by Brown County.

The district attorney, as specified in the Wisconsin Constitution, is tasked with the duty of prosecuting people for crimes committed in the county. This includes prosecution, investigation, extradition, victim/witness services, education/advice, and representation of county and state agencies in various proceedings.

The corporation counsel acts as the legal adviser of the county, its committees and departments, and represents it in all litigation that is not handled by the district attorney. This includes advice to and representation of the county in all civil, administrative, and regulatory matters, including labor relations. Additionally, the corporation counsel represents the public in mental commitments, protective service matters, guardianships for county hospital patients, certain juvenile matters, and in administering the child support enforcement program.

The medical examiner investigates all deaths in the county that are considered suicidal, accidental, homicidal, unexplained, unusual, suspicious, sudden, those where a physician is not available or will not sign a death certificate, and in those deaths where cremation is to be the final disposition of the corpse. All death certificates issued in Brown County are screened by the medical examiner for compliance with all rules and regulations.

The clerk of courts is responsible for handling documents related to the work of the courts. In great part, the duties of the clerk of courts are identified in state statutes and allow the clerk little discretion. Similarly, the duties of judges within the circuit court system are also primarily assigned by state statute; although, most court employees are still county personnel.

Brown County's Circuit Court system consists of eight branches and numerous employees, including circuit court reporters, court commissioners, and a register in probate. The Brown County Circuit Court system hears and determines all civil and criminal actions and proceedings unless jurisdiction is given to some other court. The court commissioners are appointed by the circuit judges to aid in minimizing court delays by handling certain cases as determined by the judges. The register in probate is also appointed by the circuit judges to maintain records and provide information and counsel to attorneys and individuals involved in probate matters.

It is recommended that should an additional circuit court be added to the Brown County system, greater use of the Law Enforcement Center be considered. It is also recommended that the feasibility of more secure parking be studied.

In addition, every city and village within Brown County and the Towns of Lawrence and Ledgeview have their own municipal judges. The Cities of De Pere and Green Bay also provide their own fulltime attorneys, while all other communities contract for those services with private providers.

Except as previously noted, it is envisioned that this arrangement will continue to meet the needs of Brown County and the local units of government during the timeframe of this plan.

County Administration

As with most counties in Wisconsin and as the fourth largest county in the state, Brown County provides a wide range of administrative functions. In addition to the elected administrators noted previously, the County provides a clerk, treasurer, and auditor.

As dictated by the state constitution, the county clerk can serve as the secretary of the county board and its committees and as a general coordinator. The clerk may maintain records, assemble the county budget, conduct elections, issue various permits, and perform other duties as assigned by the county board. The Brown County Clerk performs all of these duties but assemblage of the budget, which has been assigned to the administration department.

As dictated by the state constitution, the county treasurer is the custodian of county funds and performs a long list of fiscal duties. The treasurer carries out financial decisions in a non-discretionary capacity. The treasurer is also charged with maintaining records affecting taxes, collection of property taxes, and other tax-related matters throughout the entire county.

In addition, Brown County provides an administration department that is in charge of the County's internal financial management, payroll and accounting, and information services. This includes provision of financial information to the county executive, county board, and various boards, commissions, and committees to assist in policy making, preparation of financial reports, audits, etc., preparation of the annual budget, capital improvements bonding, annual report, etc., and purchasing.

It is envisioned that (except where noted previously) these services will continue to meet the needs of Brown County during the timeframe of this plan.

Land Records/Property Listing

The Brown County Land Records/Property Listing service includes the Brown County Register of Deeds, Survey Department, Information Services Division, and Land Information Office. These offices and departments and their duties all pertain to land, property, and related records, and these duties extend throughout the entire County into all local communities.

As provided by the Wisconsin Constitution, the Register of Deeds records most legal documents (deeds, mortgages, marriage certificates, etc.). According to state statutes, this must be accomplished in a ministerial manner; although, the Register of Deeds may exercise judgment to decide whether statutory conditions are met before accepting a document. Proper recording of this information is vital to obtaining accurate descriptions of property and local government property tax base.

As originally envisioned by the Wisconsin Supreme Court, each county would provide an elected surveyor to carry out the duties of that office but, over time, have allowed county boards to designate any registered land surveyor employed by the county to perform those duties. By 1990, most counties employed rather than elected the county surveyor. Brown County has also chosen that route and has created the Brown County

Survey Department that is responsible for the property listing, surveying, and microfilming duties required by state statute. This includes processing the documents that affect land boundary locations, title interest and extents, property taxation status, and maintaining the Public Land Survey System.

Information Services is a division of the Brown County Administration Department. The division's purpose is to design, coordinate, and implement automated record keeping and telecommunications services for all county departments. The Information Services Division also contains the Land Information Office. This office, created in 1990, is to plan land records modernization activities for the County and to integrate this effort with public and private agencies throughout the County to obtain a single Land Records Modernization Plan. The plan addresses the technological and organizational issues associated with sharing, storing, and depicting information and records related to land.

It is recommended that the County continue its support of countywide data sharing, including land, tax, and property records, in the most efficient and cost-effective manner as possible. Doing so should enable not only the County but also local governments and other public and private agencies to share, store, and utilize this information. It should also provide an effective and efficient means for all such agencies, as well as the County, to continue to provide these services through the timeframe of the County's comprehensive plan.

Health and Human Services

In addition to the Aging Resource Center and the Syble Hopp School noted in earlier sections of this chapter, Brown County also provides various treatment, rehabilitation, social work, and related case management services.

The Brown County Human Services Department provides foster care and supportive services, alternate care, juvenile court services, child protective services, adult support services, adult protective services, family preservation services, and access and economic support services to primarily Brown County residents. Many of these services are mandated and/or supported by the federal and state governments, have eligibility requirements, and, in some cases, fees based on ability to pay. Due to high demands, some of these programs have waiting lists. This department is also responsible for the Brown County Shelter Care Facility and the Brown County Mental Health Center.

The Brown County Shelter Care Facility is a temporary 20-bed and 24-hour non-secure detention facility for youths aged 10 to 17 who are unable to remain at home. Placement is determined by court judges or by Child Protection Disposition or Juvenile Court Services agencies.

Brown County also provides a mental health center (MHC) located on the east side of the City of Green Bay. Brown County provides three types of licensed inpatient services at the MHC. The three licenses are for mental health, nursing home, and intermediate care facility programs. The MHC also provides a Parent Education Program and a Community Support Program. Nursing home services are provided to people with behavioral problems in a 104-bed facility, to people who are developmentally disabled at

an intermediate care facility containing 84 beds, and to community/contract service sites at state mental health institutes, developmental disability centers, and local providers.

The MHC was constructed in 1933, and additions were completed in 1966. It is in need of major renovations.

Current trends affecting the MHC include:

- Downward utilization of mental health centers across the country.
- Increasing out-of-county users of the Brown County MHC.
- An increasing number of local community facilities.
- Industry-wide improvements in care.
- An increasing elderly population.
- Increasing utilization of mental health services.

In 2003-2004, the County Executive named a Blue Ribbon Task Force to study the long-term needs for services at the MHC, and the findings were released in early 2004. In summary, the Blue Ribbon Task Force recommended downsizing the capacity of the facility to 100 beds over a 3- to 5-year period. Additionally, the Blue Ribbon Task Force recommended renovating the current facility. It was determined that downsizing would be consistent with state and federal de-institutionalization efforts. The Brown County Human Services Department and the Brown County Facilities Department have been working with architects and Human Services Department staff to develop a Request for Proposals (RFP) for architectural and engineering studies to estimate the costs to complete the recommended renovations. The RFP was released in 2004. Financing and operation expenses are being considered, and options will be examined for the 2005 Brown County budget. Additionally, a consultant's report to the Human Services Department will be completed to advise the department on downsizing plans related to staffing, community placements, and revenue maximization during downsizing and model program and services design. Major changes in funding for intermediate care facility residents at the MHC will be considered in this planning process.

Numerous studies have been prepared over the years detailing various options for the building, including abandonment, remodeling, and renovation. Prior plans for renovation or new construction have been re-examined, and it has been determined that prior studies would have resulted in an excessively large and overly costly facility. Prior analyses of renovation costs have been considered in the most recent planning activities.

Complications regarding funding through medical assistance (Medicaid) for some of the services at the MHC exist, as Medicaid does not pay full costs for the services provided. The balance of costs not covered by Medicaid is financed through the Brown County levy. Recent attempts to obtain waivers for these costs have been unsuccessful, and the County is seeking rate relief; although, this is unlikely to be successful. In the spring of 2004, the Brown County Board passed a resolution and placed restrictions on admissions of out-of-county consumers to the nursing and intermediate care facilities of the MHC unless full costs could be reimbursed.

Downsizing the MHC from an approximately 188-bed facility to a 100-bed facility can be accomplished by these restrictions on the number of out-of-county admissions and by greater utilization of local community facilities. The newest portion of the building could possibly be renovated and used for the downsized MHC, and at least one of the two slightly older wings could also be renovated if needed for other county uses. However, while renovation plans are in a very preliminary stage, it is anticipated that use of available space within the MHC will be necessary for “swing bed” space while renovations occur over a 3- to 5-year period.

It is recommended that a study of the Information Services (computer) and other related technology needs of the Human Services Department (HSD), in general, and the MHC, in particular, be undertaken. The HSD has major needs in information systems that are not currently being met. HSD services and information are fragmented across programs and agencies, funding streams, levels of government, providers, and other system participants. Information Services (IS) systems do not communicate across these gaps. The HSD needs a component-based, a web-enabled system for real-time case management and decision-making across programs. System capabilities should enable the sharing of data for understanding clients’ involvement with all agencies. The system should incorporate client demographic information with assessment, service planning, payment authorizations, case noting, case management, billing, and other related applications. This will enable the Human Services Department to interface with various state required reporting systems and other County systems with the ability to extract utilization data from client and treatment records and to use databases to capture information as needed for monitoring, analysis, and reporting. The HSD’s IS needs were partly addressed in a consultant study in 2004. It is anticipated that the HSD will conduct a separate IS study in the near future year to define systems requirements to meet the needs previously listed.

It is recommended that Brown County study the feasibility of decentralizing some of its health, family, and/or other similar services and programs to increase access through limited satellite locations if determined to be efficient and cost-effective.

A study of the Brown County Human Services Department has been initiated to determine the appropriate staffing levels, space needs, funding, and inter-relationships with other departments and agencies, etc. Cost-effective recommendations from this study should be implemented.

Veterans Office

The Brown County Veteran’s Office provides assistance to those individuals who served in the U.S. Armed Forces, their dependents, and widow/widowers on matters pertaining to state and federal benefits and programs.

Transportation Services

Brown County has long recognized the importance of and has established departments for transportation issues, as evidenced by its airport department, highway department, and port and solid waste department.

The Brown County Airport Department is responsible for operating the Austin Straubel International Airport located in the Village of Ashwaubenon. Austin Straubel International Airport is Wisconsin's third largest airport and operates 24 hours a day, 365 days a year. It is a commercial and general aviation facility. It is an enterprise fund and (under federal law) is fully self-supported. It is currently served by five major airlines with direct service to five cities and connections available to any destination in the world. It consists of a 150,000-square-foot passenger terminal, 10,000-square-foot vehicle maintenance building, and 3,000-square-foot aircraft rescue and firefighting building. The airport also contains a parking facility, car rental agencies, a restaurant/lounge, a business center, fixed-based operations, gift shops, airfreight companies, and custom brokerage. It is a regional base of operations for the Federal Aviation Administration and the Transportation Security Administration serving one-third of Wisconsin and the Upper Peninsula of Michigan. It has a U.S. Customs office.

All facilities are currently in good shape but will need to be repaired and replaced as time goes by. A current 100,000-square-foot expansion of the passenger terminal will be completed in 2005. Current plans call for a small addition to the ticketing wing, baggage claim area, and construction of a parking ramp. These changes are still under study.

It is recommended that Brown County continue to work closely with the federal government and the airline industry to stay on top of changes that affect the success and viability of Austin Straubel International Airport.

Further detailed information and recommendations regarding the Austin Straubel International Airport are included in Chapter 3, Transportation.

The Port Division of the Brown County Port and Solid Waste Department is responsible for planning and implementation of harbor improvements for commercial navigation. This includes long-range planning for dredging and disposal sites, coordination with the U.S. Army Corps of Engineers, DNR, U.S. Fish and Wildlife Service, and various environmental, business, and transportation groups, and review of legislation as it affects the port. The mission of the Brown County Port and Solid Waste Department for the Port of Green Bay is to plan and effectuate harbor improvements to spur the economic development of the Green Bay Metropolitan Area and northeastern Wisconsin by stimulating trade, business, and employment through developing, promoting, and advocating for safe, efficient, and cost-effective commercial transportation distribution activities. It is envisioned that the port will eventually become self-sufficient through increased port development, real estate acquisition, and other activities. The port should build alliances with industry, other waterfront land uses, and local government and should coordinate its activities with all other transportation services, including marine, rail, truck, and air.

Further detailed information and recommendations regarding the port are included in Chapter 3, Transportation.

The Brown County Highway Department has three purposes. One is to construct and maintain the county trunk highway system in a safe, convenient, and efficient manner for the movement of vehicles within Brown County. Its second purpose is to provide high quality, cost-effective roadway maintenance and construction services to the State of

Wisconsin and local communities for state highways and local roads. Third, it is to plan, program, and implement necessary county trunk highway improvements to efficiently accommodate increased traffic demands generated from area growth and to enhance the economic development and new job growth in Brown County. Brown County Highway Department facilities consist of a Duck Creek site, which houses the department's administrative offices, as well as numerous maintenance buildings, storage buildings, and a garage. This site serves the northwestern portion of the County. The Greenleaf site also contains a garage and maintenance and storage buildings, and it serves the southern portion of the County. The New Franken site contains maintenance and storage buildings and serves the northeastern portion of the County. The Highway Department also owns approximately seven acres on Scrays Hill in the Town of Ledgeview. This was the site of an old County asphalt plant.

The buildings and structures at the Duck Creek site have been remodeled and, for the most part, should continue to meet the Highway Department's needs for the next 20 years. It is recommended that the feasibility of an additional storage building be studied. The Greenleaf site is currently undergoing renovations and, when completed, should also meet the needs of the department for the next 20 years. However, the New Franken site is the department's smallest and oldest site and is in need of remodeling. However, due to a more extensive and efficient road network, it may be possible to eliminate the New Franken site if one or both of the other sites are similarly expanded. It is recommended that this possibility be studied.

It is recommended that the feasibility of consolidating the highway, park, and any other applicable departments' maintenance activities be studied.

The Highway Department's greatest staffing needs are during the winter for snow plowing. During the rest of the year, the department staff undertakes state, county, and local road construction and repair projects, as well as various other construction projects for local communities and other County departments. It is recommended that Brown County continue to utilize Highway Department staff in the most efficient manner possible throughout the year and, towards that end, expand its practice of undertaking local road and construction projects during the spring, summer, and fall months of the year should this be feasible and cost-effective.

Further recommendations are contained in Chapter 3, Transportation.

Brown County Facilities and Structures

In 2004, Brown County was in the process of developing a Facilities Master Plan to provide a comprehensive review of the County's facility needs over the next few decades, taking into consideration the continued population growth anticipated within the County and its attendant effects upon services, as well as the financial capabilities of the County. The plan is also envisioned to develop a strategy to guide future decisions made to meet those needs. That plan's findings and recommendations would be continuously reviewed.

To house its criminal justice services, Brown County built the Brown County Courthouse. The County courthouse is an historic structure located in downtown Green Bay that was

constructed in 1908 and last renovated in 1992. It contains eight courtrooms, six jury rooms, three court commissioners' rooms, one hearing room, court offices and chambers, the Register in Probate offices, law library, and Clerk of Courts office. It is envisioned that the County courthouse will continue to meet the County's needs for the next 20 years. However, should an additional circuit court be added, more space will be needed. It is currently being studied and should space become available in the Law Enforcement Center, some personnel and offices could possibly be moved from the courthouse to the Law Enforcement Center to free up space for the new circuit court.

To house its county administrative functions, as well as the County Executive, the Brown County Board of Supervisors, Corporation Counsel, Finance, Human Resources, Parks, Public Safety Communications, Veterans Services, Register of Deeds, Survey, and Zoning Departments, Brown County acquired the Northern Building. The Northern Building is located in downtown Green Bay near the County courthouse and was constructed in 1929 and last renovated in 1994. It contains offices and conference rooms for all of the administrative departments previously noted.

The Fox River Professional Building is located in the City of Green Bay's near west side on Broadway. The second floor is leased by the County for the offices of the Brown County Health Department. The lease expires in December of 2007.

The Law Enforcement Center (previously the County Courthouse Annex and before that the U.S. Post Office) is an historical building constructed in 1926 and last renovated in 1985. It is adjacent to the County courthouse in downtown Green Bay. It houses the Brown County Sheriff's Department and the Brown County District Attorney's office. Although an older building, it is still in good shape, and routine maintenance and eventual renovation of its mechanical systems are envisioned. As noted earlier in this chapter, it is recommended that the space needs of the Sheriff's Department should continue to be studied. The Sheriff's Department's and other County department's fleet maintenance garage, parking, and vehicle storage needs should also be studied.

The Work Release Center (previously the old jail) is attached to the County courthouse in downtown Green Bay, was constructed in 1963, and was last renovated in 2002. It houses the Huber Facility, serves as a court holding facility, and houses the medical examiner. The building and its systems are sound but were solely designed for holding inmates so that renovation for any other uses will likely be difficult and expensive. It is recommended that the building be maintained as necessary.

The Brown County Jail is located in Green Bay's east side at the old County Farm Property, now referred to as the Bayview Campus. It was constructed in 2001. Current and future growth of the inmate population may require expansion of the jail in the future, and the potential need for expansion was incorporated into the building design. It is recommended that its space needs be periodically reviewed to ensure that planned expansions can occur as efficiently as possible when necessary.

The Denil Building in downtown Green Bay near the Courthouse Square is leased by the Brown County Sheriff's Department for use as a service garage for its vehicles. It is recommended that the study of the feasibility of relocation of this facility to an

alternative site should be continued should the Sheriff's Department also relocate to that site.

The Shelter Care Building is located in the City of Green Bay near the MHC and was constructed in 1991. It houses the Brown County Shelter Care Facility and is operated by the Human Services Department. It is recommended that the building be maintained as necessary.

The Mental Health Center is located in Green Bay's east side adjacent to the old County Farm Property, which is often referred to as the Bayview Campus. It was constructed in 1918, additions were constructed in 1934 and 1966, and it was last renovated in 1985. It houses the mental health, nursing home, and intermediate care facility programs (noted earlier). The Blue Ribbon Task Force mentioned previously has recommended that the facility be downsized and renovated as necessary.

The Neville Public Museum is located in downtown Green Bay's west side adjacent to the Fox River. It was constructed in 1981. It houses the displays, exhibits, and records of the museum, as well as the Region 5 Office of the State Regional Archeology Program. It is recommended that its program needs be evaluated and the facility appropriately renovated as funding allows.

The Sophie Beaumont Building is located in downtown Green Bay adjacent to the Northern Building. It was constructed in 1956 and renovated in 1999. It houses the Brown County Human Services, Facility Management, and Information Services Departments. It also contains conference rooms, a computer training room, document center, and storage areas, as well as office rooms. The building is crowded with inadequate parking, particularly for clients.

Our Place, a county-owned community-based residential care facility, is located in the City of Green Bay. It is a 20-bed facility that was remodeled in 2004. From a structural and maintenance perspective, this facility should be adequate for the next 20 years. Brown County makes the facility available to a purchase-of-service provider on a contract basis.

The UW Extension Building is located on the City of Green Bay's east side on Bellevue Street. It was constructed in 1961 and was last renovated in 1981. It houses the Land Conservation Department, the Brown County Health Department Bioterrorism Consortium of Lake Michigan, and the UW-Extension Office. It contains conference and office rooms. It is recommended that the facility be maintained as necessary.

The Syble Hopp School is located on the City of De Pere's west side on Scheuring Road. It was constructed in 1970 and has been renovated numerous times to provide improved facilities and services to its students. Private fundraising efforts were underway in 2004 to obtain additional funding for special facilities, such as a therapy pool and sensory rooms.

The Bay View Campus, located on the City of Green Bay's east side, is comprised of the old County Farm Property, the new Brown County Jail, and the existing Mental Health Center. The final disposition of the County Farm Property has been under discussion for

some time. Although no final decision has yet been reached, it is envisioned that some of this land will be retained for future county purposes, while some will be sold and/or developed for other uses. It is recommended that study of these options continue.

It is recommended that a study of the feasibility of a consolidated garage maintenance facility be continued and implemented if determined cost-effective. It is also recommended that this study consider consolidation of other community garage/mechanic facilities.

Policies and Programs

There are many approaches Brown County can take to achieve the utilities and community facilities goal and objectives listed in this plan's Issues and Opportunities chapter. They range from specific one-time actions to broad ongoing programs. A summary of those actions and programs as they pertain to the Utilities and Community Facilities chapter of this plan is provided in this section.

In addition, while not specifically addressed within this plan, it is generally understood that the County should review its administrative practices to ensure their compatibility with the policies, programs, and actions in this plan. Examples of this would include an employment assessment to determine an adequate number of staff to carry out County programs, the provision of continuing professional and technical education to County staff, and the division of department and individual staff duties to ensure an efficient operation.

It is recommended that the County review consolidation of its programs, services, and departments whenever opportunities arise. If determined to be cost-effective and beneficial to the affected programs and services, consolidation should be implemented. Possibilities currently under consideration include consolidation of the Highway and Park Departments' maintenance facilities.

One of the most important and commonly raised issues during the visioning session was the need to identify, propose, and consolidate government services to the greatest extent possible. As that applies to the comprehensive plan in general and this chapter in specific, it is particularly important that the County study each opportunity for consolidation of services in cooperation with affected local units of government, as well as the private sector. Only through this approach can all alternatives and their advantages and disadvantages be clearly identified. This then falls heavily within the intergovernmental coordination recommendations of this comprehensive plan, as well.

Brown County and its local communities are expected to experience significant growth and development pressures over the next 20 years. This will likely mean that demands for the level and quality of many services will also increase. This, in turn, will likely mean that government, in general, will need to evaluate its needs to increase in size, cost, and/or complexity to respond to these needs and demands. However, this does not mean that government, in general, and the provision of the services in this chapter, in particular, cannot be provided more efficiently, more cost-effectively, or even in some completely new manner than currently exists. It is, therefore, recommended that

whenever changes to government services are proposed, Brown County should consider all options, including privatization and consolidation, before making any decision. The potential benefits and savings associated with such options are too great to ignore and will become even more important as time goes by and as Brown County continues to grow and develop.

As the County's population increases, it is anticipated that there will be a correspondingly similar increase in the demand for local and county government services in suburban and rural communities. In conjunction with the importance and interest in the village center concept expressed within this and numerous local comprehensive plans, it is recommended that Brown County work with other agencies, local communities, and the private sector to investigate the possibility of joint community service/family service centers (providing such services as outreach and education, elderly care, senior centers, childcare, and healthcare) as one of the principal focal points for local community centers. Numerous possibilities for such joint facilities exist, including cooperative arrangements with public or private schools, churches, recreational centers, private clinics, and community-based residential care facilities.

However, it is recommended that Brown County continue to maintain a significant presence within and near downtown Green Bay. The Neville Public Museum, the Brown County Central Library, and the Brown County Courthouse are just a few of the County facilities that contribute towards the health and vitality of the downtown area. Studies across the country have shown that maintaining a healthy downtown for a city the size of Green Bay benefits the greater region as a whole. Such cities and their downtowns often offer attractions and amenities that no other smaller community can provide. It is these attractions and amenities that so often attract businesses and people to a region. Brown County recognizes these facts and will strive to continue to do its full share to support the businesses, services, and economy of downtown Green Bay.

It is also recommended that the County review opportunities for the establishment of additional enterprise fund operations for its programs and/or services whenever possible, feasible, and cost-effective. Enterprise fund operations are financed and operated in a manner similar to private business enterprises. The goal is that the cost of expenses, including both operations and capital, are financed or recovered primarily through user-related charges. In this instance, individual county operations would each be designated as separate enterprise funds within county government with the intent that they be self-supporting.

Recommendations

Emergency Services

- The Brown County Sheriff's Department should continue to contract with local communities to provide additional police services to those communities as long as its costs are entirely reimbursed and, where feasible and cost-effective, expand such services to other communities.
- Brown County should continue to study the needs of the Sheriff's Department and, if necessary and feasible, consider its relocation to a larger, more accessible location.

The study should also consider similar relocation of other County departments or programs to take advantage of any linkages that may exist.

- The comprehensive study of the feasibility of establishing a countywide law enforcement agency should be continued.
- Cooperative ventures between the Sheriff's Department and other agencies should be encouraged.
- Periodic study by Brown County and local communities should be undertaken to ensure that an adequate level of police service continues to be provided.
- Local fire departments should be consolidated when feasible and cost-effective and when levels of service are similar. A comprehensive study, with participation by all affected parties, should be undertaken to initiate such considerations. The study should also include consideration of fire station consolidations, as well as the potential for more and greater mutual aid agreements.
- Fire and rescue departments should continue to provide the most appropriate level of service possible, and this should include consideration of expanded service levels as population levels increase and greater cooperation between the numerous departments and agencies.

Sanitary Sewer Service

- Brown County should encourage the GBMSD and local communities to establish concurrency policies regarding the extension of sanitary sewer and other related utilities and services and to establish utility and service policies that prohibit premature extension of such utilities and services.
- Brown County should encourage the establishment of concurrency policies and policies prohibiting the premature extension of public sewer within its plans and programs.
- Brown County should continue to encourage service, boundary, and other types of intergovernmental agreements between communities.
- Brown County should encourage GBMSD and local communities to expand their utilities and services in accordance with their locally identified 5-year growth increments.
- Brown County should encourage the City of De Pere and the GBMSD to expand their efforts to jointly plan the long-range extension of sanitary sewer service within their mutual areas.
- Brown County should encourage local communities and affected agencies (and reflect this in their plans and programs) that most development within the County should occur on public sanitary sewer service in a planned and incremental manner.
- Brown County should encourage local communities and agencies to continue their long-range planning, maintenance, and funding activities to ensure that their sanitary sewer systems are properly located and adequately sized for future development.

- Brown County should share the information contained within this comprehensive plan and the various local comprehensive plans with the GBMSD so that it can undertake long-range planning consistent with such plans and the Smart Growth principles.

Onsite Sewage Disposal Systems

- Brown County should encourage local communities to comprehensively and jointly plan for the extension of utilities and services, such as public sewer, public water, onsite sewage disposal systems, so that such utilities and services complement rather than conflict with one another.
- Brown County should continue its program of requiring inspections of all onsite sewage disposal systems at the time of sale of the associated property or residence or division of land, its mandatory 3-year maintenance program, and its enforcement of these regulations, including the issuance of fines for violations of the County ordinance.

Water Supply

- The County should encourage those communities that do not yet have a public water supply system to study the feasibility of such a system and to implement one in the most regionally-sound manner possible when appropriate.
- Brown County should encourage local communities and agencies to continue their long-range planning, maintenance, and funding activities to ensure that their public water systems are properly located and adequately sized for future development.
- Brown County should encourage local communities to expand their utilities and services in accordance with their locally identified 5-year growth increments.

Solid Waste Disposal

- Brown County should encourage those communities that do not yet have a comprehensive solid waste disposal program to study the feasibility of implementing such a program in a regionally-sound manner when warranted by continued growth and development.
- The Brown County Solid Waste Plan should be updated.
- Brown County should continue to work cooperatively with adjacent counties to address solid waste issues in a feasible, cost-effective, and efficient manner.
- The County should pursue renewal of its contracts with local communities for the disposal of its solid waste. The County should also enter into similar contracts with additional communities when feasible and advantageous for Brown County.
- Brown County should continue to work with the ACOE and DNR to obtain closure of Renard Isle in the most cost-effective manner possible.
- Brown County should initiate as soon as possible planning for closure of the Bay Port CDF and siting of a new CDF for contaminated sediments.

- The Port and Solid Waste Department should continue to utilize the Highway Department for its construction projects as long as cost-effective.

Recycling

- Brown County should study the feasibility and timing of adding another shift to the operation of the Materials Recycling Facility.

Stormwater Management

- Brown County should prepare and implement a stormwater management plan for its facilities.
- Brown County should prepare and adopt a stormwater management ordinance to enforce the recommendations of the proposed stormwater management plan.
- Brown County should participate in the proposed stormwater management consortium for the Fox Valley area that is anticipated to address the public informational and educational mandates of new federal and state stormwater management regulations.
- Brown County should prepare, adopt, and enforce an erosion control ordinance for, at a minimum, those lands it owns and maintains.
- Brown County should encourage all local units of government to prepare, adopt, and implement stormwater management plans, stormwater management ordinances, and stormwater management utilities to fund the construction and maintenance of their proposed stormwater management practices and facilities.
- Brown County should, in cooperation with the local units of government, undertake a study of the feasibility of a countywide stormwater management effort.

Park and Recreation

- Brown County should continue to support the numerous cultural attractions located within the County.
- Brown County should continue implementation of its open space and outdoor recreation plan (including the acquisition and development of new parks, parkways, trails, and facilities) as the County continues to grow.
- Brown County should consider establishment of a park impact fee.
- Brown County should continue to maintain close ties with its many nonprofit and volunteer organizations, local communities, and school districts to sustain existing and establish new park, outdoor recreation and open space sites, facilities, programs, and joint school/park sites as needed.
- Brown County should update its park plan approximately every five years to maintain the County's eligibility to apply for state and federal recreational grants.
- The North Eastern Wisconsin (NEW) Zoo Master Plan should be reviewed and revised as necessary and implemented as funding opportunities allow.

- The Brown County Fairgrounds Master Plan should be revised and updated.
- Efforts to make the Brown County Golf Course a year-round facility and destination should continue.

Telecommunications/Power Generation

- Brown County should undertake a countywide telecommunications study to determine the means of obtaining the best and most cost-effective telecommunications service possible for the County and its local communities.
- Brown County should investigate opportunities to recommend or require uniform design and location standards for telecommunication, power, and other utility facilities on its property.
- Brown County's plans and programs should be reviewed to ensure that where appropriate adequate easements or other necessary rights-of-way are available and maintained for such infrastructure.

Power Generation

- Brown County should share the information contained within this comprehensive plan and the various local comprehensive plans with WPS so that it can undertake long-range planning consistent with such plans.

Elderly Care

- The Aging Resource Center should expand its ties to its partners, such as the Red Cross, local hospitals, and the YMCAs. This should include consideration of the shared or joint provision of services, programs, sites, etc. when feasible.
- Expansion of the home-delivered-meals program should be studied and, if feasible, a cost-effective solution found.
- Information regarding such programs as healthcare, elderly care, childcare, and family services should be coordinated between the affected public, private, and nonprofit agencies to the greatest extent possible. Creation of a centralized location for this information should also be considered.
- Provision of new sites or greater room at existing sites for expansion of programs, such as home delivery of meals, should be studied.

Libraries and Museums

- A study of the Central Library should be undertaken to ensure its most efficient and cost-effective use.
- The service provided by the bookmobile should continue to be evaluated.
- A study of the museum should be undertaken to ensure its most efficient and cost-effective use.

- The museum's 5-year plan should be updated and any necessary changes implemented.
- The museum should continue its efforts to provide meaningful and timely exhibits, programs, and activities.

Schools

- A study of the trends, needs, and status of the Syble Hopp School should be undertaken.
- Brown County and its communities should further expand and strengthen their ties with UWGB, NWTC, UW-Extension Office, and the school districts within Brown County.
- Brown County should assist the school districts in planning for the anticipated growth and development as identified in this comprehensive plan, as well as in the local comprehensive plans.
- Brown County and its communities should assist the school districts in the timing and placement of future school sites to ensure the efficient and cost-effective provision of infrastructure and utilities and services to the new school sites.
- Brown County and its communities should encourage the school districts to undertake a comprehensive countywide study of the feasibility of consolidation to the greatest extent practical.
- Brown County and its communities should continue their efforts to share sites and facilities when appropriate.

County Government

- Relocation of and upgrading the facilities for the Public Safety Communications Department should be studied. This should include consideration of the timing of the relocation, as well as the opportunities for consolidation and/or sharing of joint facilities.
- Should an additional circuit court be added to the Brown County system, greater use of the Law Enforcement Center should be considered. It is recommended that the feasibility of more secure parking be studied.
- Brown County should continue to encourage and support countywide land use data sharing in the most efficient and cost-effective manner possible.
- Proceed with decisions regarding the proper size and function of the Mental Health Center based on the recommendations of the Blue Ribbon Task Force .
- The computer and related technology needs of the Human Services Department should be addressed following the completion of the comprehensive study of information services needs.
- The feasibility of decentralizing some of the health, family, and/or other similar programs to increase access through limited satellite locations should be considered if efficient and cost-effective.

- Implement the cost-effective recommendations of the comprehensive study of the Human Services Department programs, services, staffing, and funding that is anticipated to be completed in 2004.
- Brown County should continue to work with the federal government and the airline industry to maintain the usefulness and viability of the Austin Straubel International Airport.
- The feasibility of closing the New Franken Highway Department shop and the impacts upon the facility needs of the other two shops should be studied.
- The feasibility of consolidating various County department maintenance activities should be studied.
- Study of the staffing and space needs for the jail should be periodically undertaken.
- The feasibility of relocation and/or consolidation of the Sheriff's Department's garage should be considered.

CHAPTER 7

Agricultural Resources

Introduction

Like in many other growing communities, planning in Brown County often focuses more on such issues as land use, transportation, and infrastructure and less on agriculture. Oftentimes cohesive and consistent goals, objectives, and policies about agriculture are lacking in a community's plans. Although Brown County has recognized the importance of planning for agricultural resources, as evidenced by its agricultural preservation plan, particular emphasis has not been placed on maintaining the plan or ensuring its integration with other planning efforts. This can result in lost opportunities in agriculture preservation and inefficiencies for growth and development.

Another important reason for a comprehensive approach to agricultural planning is agriculture's strong influence on quality of life issues and the character of the community. Reasonable and timely protection of agricultural resources can help preserve a community's history and identity and can help sustain an important Wisconsin industry. In an urbanizing county like Brown County with its mix of urban, suburban, and rural lands, sensible protection of agricultural resources can help ensure a successful and profitable agricultural presence.

It is important to understand that what happens to agriculture has an impact on other aspects of our lives and on our society. It impacts not only the relationships between farming and the local economy but also the relationships between growth and development. It affects the quality and pattern of development. Unplanned and uncontrolled growth within and adjacent to agricultural areas can lead to leapfrog development, inefficient extension of utilities and urban infrastructure, and fragmentation of agricultural and rural landscapes. Not only are such development



patterns inefficient in and of themselves (leading to a higher per capita cost for such infrastructure as roads, sewer, water, and stormwater), but they also cause existing land uses to become inefficient. In regard to agriculture, this often means fewer large parcels and blocks of farmland, which lead to greater transportation and land use conflicts with adjoining nonagricultural properties. Fewer large parcels also lead to greater costs to the farmer in that

manure must be transported greater distances to find enough land for proper spreading, and plowing, planting, and harvesting operations become more inefficient as parcels become smaller and interruptions more frequent. Furthermore, the loss of the open space associated with agriculture and its environmental, historical, and cultural benefits are lost forever.

Background

Brown County can be described as a county with a stable and generally older urban core surrounded by a growing and generally newer suburban fringe, which in turn is surrounded by a correspondingly shrinking area of agricultural lands interspersed with growing amounts of rural residential development. The County also includes three outlying satellite urban/suburban villages that are slowly but steadily growing. Although Brown County is the fourth most populous county in Wisconsin, agriculture has always been its most dominant land use.

The dominance of agricultural land uses in Brown County has slowly but steadily declined due to the development of urban, suburban, and rural lands within the County. As shown in Figure 7-1, between 1970 and 2000, land in agricultural uses (cropland, pasture, orchards, nurseries, etc.) within Brown County have decreased by over 50,000 acres, or about 22 percent. This loss is equal to about 15 percent of the County or an area larger than the Cities of De Pere and Green Bay and the Villages of Allouez and Ashwaubenon combined. Rural residential lands alone have increased almost four-fold. The pace of this loss will likely increase over time as population levels in Brown County continue to increase, the average household size continues to decrease, and the average residential density continues to decrease¹⁰.

Figure 7-1a: Analysis of Historical and Projected Agricultural Lands In Brown County

Year	Acres	Percentage of County	Absolute Change in Acres	Percent Change
1970	227,254	66.4		
1980	216,809	63.3	-10,445	-4.6
1990	201,668	58.9	-15,141	-7.0
2000	176,695	51.6	-24,973	-12.4
2010	159,842	46.7	-16,853	-9.5
2020	142,989	41.8	-16,853	-10.5
2030	126,136	36.8	-16,853	-11.8

Source: Brown County Planning Commission.

Years 1970, 1980, 1990, and 2000 are based upon actual land use inventories.

Years 2010, 2020, and 2030 are projections based upon the average absolute change between 1970 and 2000.

There are numerous ways to project future agricultural land use trends. Two examples are shown in Figure 7-1. While these two projections are possible outcomes, they are only two of many possibilities and, for that reason, are for discussion purposes only. As shown, if the current loss of agricultural lands continues in a linear fashion (continuation of the average loss experienced between 1970 and 2000), by the year 2030 an additional 50,000 acres of agricultural land could be lost to development. This would be a loss of another 20 percent between 2000 and 2030, leaving only one-third of the County in

¹⁰ As determined by the U.S. Census Bureau, population levels within Brown County increased from 158,244 people in 1970 to 226,778 people in 2000, while the average household size decreased from 3.53 people per household in 1970 to 2.51 people per household in 2000. The Brown County Planning Commission has also determined that the average residential density (as determined by the number of people in the county divided by the number of acres in residential land use) decreased from about 13 people per acre in 1970 to about 5 people per acre in 2000.

agricultural lands. At that rate, it is possible that the last of Brown County’s agricultural lands would be developed in about 100 years.

In the second projection of Figure 7-1, the rate of loss of agricultural land is envisioned to grow (continuation of the increasing rate of loss experienced between 1970 and 2000). In that projection, all agricultural lands within Brown County would be developed within 30 years. While this scenario may be unlikely, many local comprehensive plans envision continued rapid growth and development for the foreseeable future.

Figure 7-1b: Analysis of Historical and Projected Agricultural Lands In Brown County

Year	Acres	Percentage of County	Absolute Change in Acres	Percent Change
1970	227,254	66.4		
1980	216,809	63.3	-10,445	-4.6
1990	201,668	58.9	-15,141	-7.0
2000	176,695	51.6	-24,973	-12.4
2010	131,814	38.5	-44,881	-25.4
2020	52,067	15.2	-79,747	-60.5
2030	0	0.0	0	-167.0

Source: Brown County Planning Commission.

Years 1970, 1980, 1990, and 2000 are based upon actual land use inventories.

Years 2010, 2020, and 2030 are projections based on continuation of the percent change between 1970 and 2000.

Status of Agriculture at the State Level

The following information provides an indication of the importance of farming and agriculture to Wisconsin.

According to the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP):

- At \$40 billion, agriculture is Wisconsin’s largest industry and uses nearly half of the state’s 34.8 million acres of land.
- The most prevalent agricultural use in Wisconsin (and in Brown County) is dairy farming.

According to the 2002 Census of Agriculture:

- Wisconsin ranked first in the nation in cheese production, dry whey products, mink pelts, corn for silage, cranberries, cabbage for kraut, and snap beans for processing.
- Wisconsin ranked second in the nation in milk production, butter production, and number of milk cows.
- Wisconsin ranked third in the nation in oats, potatoes, carrots, sweet corn for processing, and green peas for processing.

According to the Wisconsin Dairy Industry:

- For each dollar a dairy producer generates in milk sales, six dollars are generated in the local economy.
- If Wisconsin were a country, it would rank fourth in the world in terms of cheese production.
- Wisconsin contains 23 of the top 79 milk producing counties in the U.S.

According to the Michigan Land Use Institute, Wisconsin has more farmers markets than any other Midwest state.

Status of Agriculture at the County Level

The following information provides an indication of the importance of farming and agriculture to Brown County.

According to U.S. Census of Agriculture statistics:

- The market value of agricultural products sold in Brown County increased by 18 percent from 1992 to 1997, totaling \$128,466,000 in 1997. Crop sales accounted for 14 percent and livestock sales accounted for 86 percent of the 1997 market value.
- Brown County ranks as the sixth highest milk producing county in Wisconsin and ranks third in terms of average amount of milk per cow.
- Brown County ranks seventh in the state in the number of acres of winter wheat planted and harvested.

According to the Wisconsin Dairy Industry, Brown County has had the greatest increase in milk production during the past five years of any county in Wisconsin, at 178 percent. The next largest increase was in Outagamie County at 98 percent.

Brown County Land Conservation information indicates that Brown County has the highest concentration of milk cows per square mile of any Wisconsin county.

Inventory and Analysis

This section of the Brown County Comprehensive Plan identifies the agricultural resources present within the County, notes current and future issues, and proposes actions and programs that the County should undertake to address these issues.

Soils

Soil is one of the major building blocks of the environment. It is the interface between what lies above the ground and what lies underneath. The relationship between soil and agriculture, in particular, is obvious and pervasive. However, the relationship between soil and other land uses, while almost as important, is often less apparent. In Brown County as elsewhere in the United States, little attention is given to soils in regard to the location and type of future development. Among the reasons for this is the complacency

by many that modern engineering technology can overcome any problems associated with soils. While this is true, the financial and environmental costs associated with overcoming soil limitations can often be prohibitive. As concerns increase about the health of the economy and the environment, the use of soil surveys in development decisions becomes much more important.

Another important factor for agriculture is soil properties. The relationship between soil properties and agriculture is obvious and widespread, especially in areas of more traditional agriculture. Soil properties are used to describe soil for problems involving agriculture and land development. Of these, texture and composition are usually the most meaningful. From them, inferences about fertility, bearing capacity, internal drainage, erodibility, slope stability, etc. can be made.

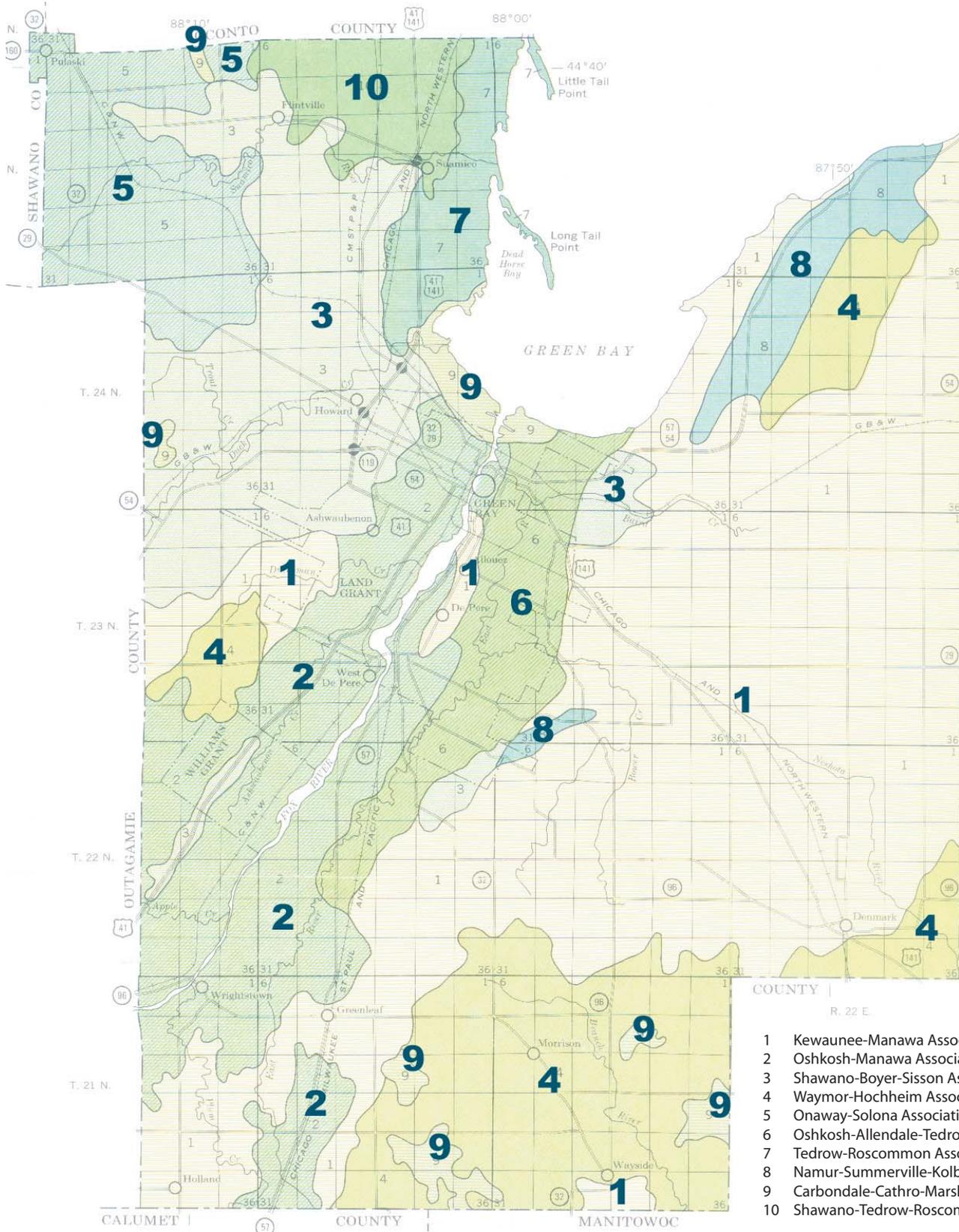
As stated in the 1974 Soil Survey of Brown County, most of the soils in Brown County formed in glacial till and lake sediment that were high in clay. These soils are generally rich, heavy soils common to gently rolling topography and are well suited to farming. In the northwestern part of Brown County, the soils are slightly lighter (containing a higher sand content) but remain acceptable for farming. On the south and west sides of the Bay of Green Bay and scattered throughout the rest of the County, the soils are organic peat and are poorly suited for farming.

The 1974 Soil Survey of Brown County also states that ten soil associations are located within the County. A soil association is a landscape that has a distinctive proportional pattern of soils. Soil associations are useful in that they provide a general idea of the soils in a county, facilitate simple comparisons, and provide a general indication of the suitability of large areas for various land uses. The ten soil associations are shown on Figure 7-2 and are summarized in this section.

- The Kewaunee-Manawa Association consists of deep, well drained to somewhat poorly drained, nearly level to steep soils found on glacial till plains and ridges that have dominantly clayey subsoil. This association is the most common in Brown County, encompassing about 39 percent of the County. Most of the soils in this association are cultivated and are suited to all of the crops commonly grown in Brown County. Controlling erosion and tilling and maintaining soil fertility are common management concerns. The clayey subsoil is a severe limitation to use for home sites or other non-farm purposes, particularly for those with conventional septic systems.
- The Oshkosh-Manawa Association consists of deep, well drained to somewhat poorly drained, nearly level to steep soils found on glacial lake plains dissected by narrow v-shaped valleys that have dominantly clayey subsoil. This association encompasses about 16 percent of the County. Most of the soils in this association are cultivated and are suited to all of the crops commonly grown in Brown County. Controlling erosion and tilling, providing proper drainage, and maintaining soil fertility are common management concerns. The clayey subsoil is a severe limitation to use for home sites or other non-farm purposes, particularly for those with conventional septic systems.
- The Shawano-Boyer-Sisson Association consists of deep, excessively drained to well drained, nearly level to steep soils found on outwash plains and ridges and glacial

Figure 7-2

Soil Associations Within Brown County



- 1 Kewaunee-Manawa Association
- 2 Oshkosh-Manawa Association
- 3 Shawano-Boyer-Sisson Association
- 4 Waymor-Hochheim Association
- 5 Onaway-Solona Association
- 6 Oshkosh-Allendale-Tedrow Association
- 7 Tedrow-Roscommon Association
- 8 Namur-Summerville-Kolberg Association
- 9 Carbondale-Cathro-Marsh Association
- 10 Shawano-Tedrow-Roscommon Association

lake plains that have sandy and loamy subsoil. This association encompasses about 13 percent of the County. Most of the soils in this association can be cleared for cultivation, but erosion, fertility, and drought are problems with the Shawano and Boyer soils. The Sisson soils are well suited to crops and are often used for vegetable crops. Slight to moderate limitations for conventional septic systems and foundations for buildings are present in these soils.

- The Waymor-Hochheim Association consists of deep, well drained, nearly level to moderately steep soils found on glacial lake plains and ridges that have a loamy subsoil. This association encompasses about 12 percent of the County. Most of the soils in this association are used for dairy farming and are well suited to all of the crops commonly grown in Brown County. Controlling erosion and fertility are common management concerns. These soils are also well suited for residential and industrial development.
- The Onaway-Solona Association consists of deep, well drained and somewhat poorly drained, nearly level to moderately steep soils found on glacial till plains that have a loamy subsoil. This association encompasses about 6 percent of the County. Most of the soils in this association are cultivated and used for farming, but protection from runoff and erosion is necessary on the steeper slopes, and artificial drainage is necessary on the wetter soils. The Onaway soils are also suited for urban and suburban development. However, the seasonal high water table of the Solona soils have moderate to severe limitations for home sites or other non-farm purposes, particularly for those with conventional septic systems.
- The Oshkosh-Allendale-Tedrow Association consists of deep, well drained to somewhat poorly drained, nearly level to steep soils found on glacial lake plains dissected by narrow v-shaped valleys that have a clayey and sandy subsoil. This association encompasses about 4 percent of the County. Some of the soils in this association are cultivated and used for farming. Controlling drainage, erosion, and fertility are common management concerns. Slow permeability, wetness, and high shrink-swell potential are limitations for non-farm development.
- The Tedrow-Roscommon Association consists of deep, somewhat poorly drained and poorly drained, nearly level soils found on glacial lakes and outwash plains that have a sandy subsoil. This association encompasses about 3 percent of the County. Most of the soils in this association are poorly suited for cultivation and are typically used for pasture because of low fertility. These soils have severe limitations for structural development.
- The Namur-Summerville-Kolberg Association consists of very shallow to moderately deep, mostly well drained, nearly level to moderately steep soils found on glacial till plains that have a loamy and clayey subsoil underlain by limestone bedrock. This association encompasses about 3 percent of the County. Where the soils in this association are deep, they are cultivated and are suited to all of the crops commonly grown in Brown County. Controlling erosion and maintaining good tilth are common management concerns. Where the soils in this association are shallow, they are poorly suited for cultivation because of shallow depth to bedrock and steep slopes, which often restrict non-farm development.

- The Carbondale-Cathro-Marsh Association consists of very deep, very poorly drained, nearly level organic soils found on glacial lake and outwash plains and ridges that have a sandy subsoil. This association encompasses about 2 percent of the County. Where the soils in this association are drained, they are moderately well suited to all of the crops commonly grown in Brown County. Controlling drainage and water table levels are necessary. Use of these soils for urban or rural development is severely limited.
- The Shawano-Tedrow-Roscommon Association consists of deep, excessively drained to poorly drained, nearly level to steep soils found on plains and depressions. This association encompasses about 2 percent of the County. Most of the soils in this association are poorly suited for farming due to soil blowing. Many that have been farmed in the past have been so damaged by soil blowing that they have been abandoned. These soils are well suited for urban and suburban development.

In addition, those soils generally best suited to agricultural and urban uses are identified in Figure 7-3. The Waymor and Hochheim soils are well suited to both and are located primarily in the northwestern and southeastern portions of the County.

As indicated in the Soil Survey of Brown County, Wisconsin, most of the soils within Brown County have erosion concerns.

In addition, a soil erosion inventory of Brown County was completed in 1982 as part of the Wisconsin Erosion Control Program and resulted in the preparation of the Brown County Erosion Control Plan by the Brown County Land Conservation Department. The inventory determined that the Towns of Glenmore, Green Bay, Holland, New Denmark, Rockland, and Wrightstown had serious erosion problems that often exceeded allowable soil erosion rates. As shown in Figure 7-4, the actual community average soil loss rates in the Towns of Green Bay, New Denmark, and Rockland exceeded their allowable rate. Figure 7-4 also shows that the actual soil loss rates of certain farmlands in the Towns of Glenmore, Green Bay, Holland, New Denmark, Rockland, and Wrightstown sometimes exceeded their allowable rate by a factor of three. In recognition of these concerns, the erosion control plan outlined a strategy for implementing erosion control measures, including a goal to reduce soil erosion to tolerable levels by the year 2000.¹¹ The strategy included pursuit of funding for new and existing programs, such as the Farmland Preservation and Priority Watershed Programs within Brown County, implementation of cost-effective best management practices on local farms (including stream bank stabilization, contour farming, and buffer strips), and targeting erosion control efforts to cropland with the greatest erosion rates within priority areas (the Towns of Glenmore, Green Bay, Holland, New Denmark, Rockland, and Wrightstown).

The Brown County Land & Water Resource Management Plan 2004-2008, prepared in 2003 by the Brown County Land Conservation Department, also recognized concerns with soil erosion and states that the plan's goal is to reduce sediment and phosphorus delivery to the Lower Fox River-Green Bay. To achieve that goal, the plan proposes to:

¹¹ Tolerable soil loss is a calculated number defined as the average erosion rate (in tons per acre per year) that a particular soil type can withstand and still maintain production indefinitely.

Figure 7-3 Suitability of Soils for Agricultural and Urban Uses Brown County, WI

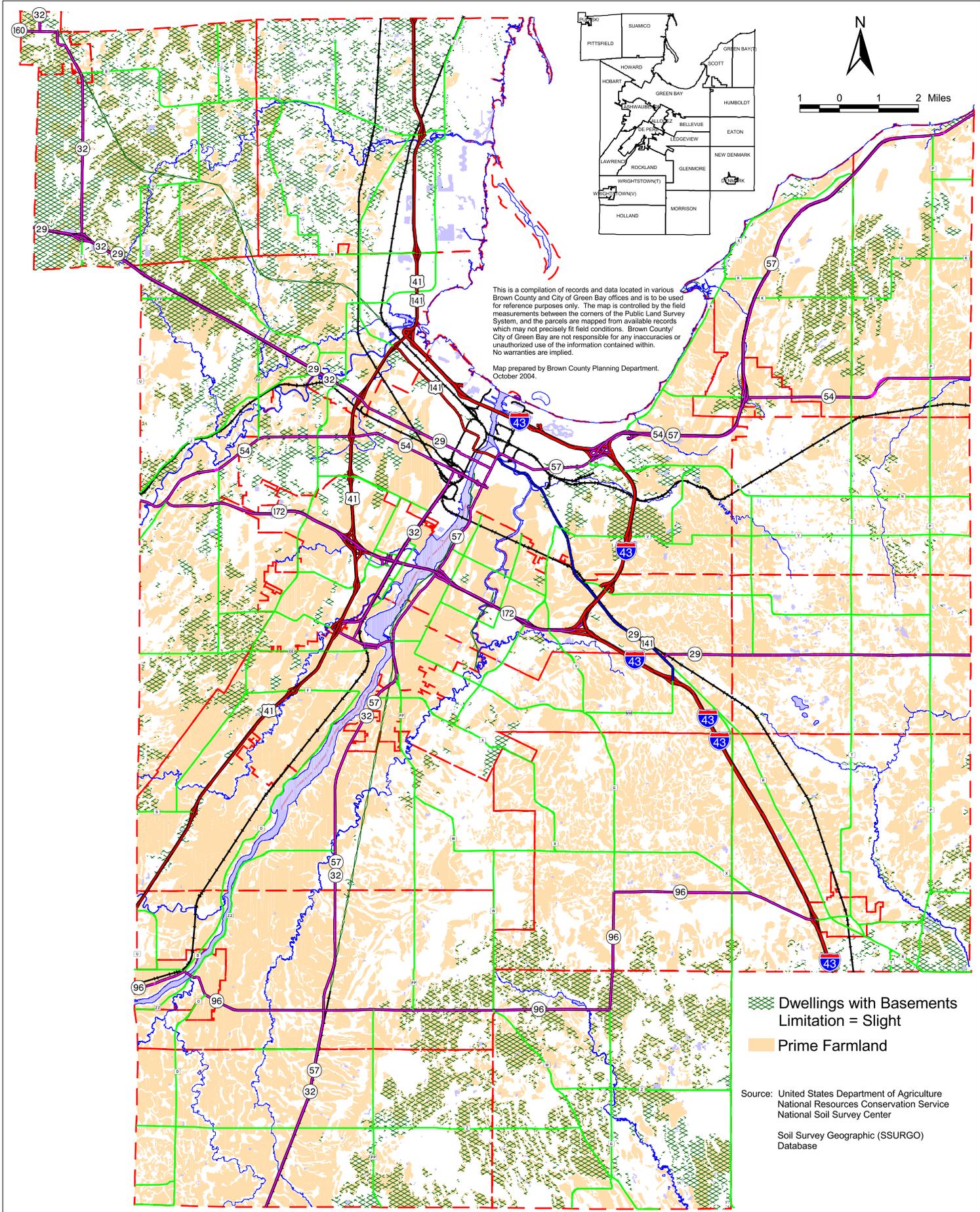


Figure 7-4: Erosion Analysis

Community	Allowable Soil Loss (T) (tons/acre/year)	Calculated Soil Loss (tons/acre/year)	Total Cropland Over T (acres)	Total Cropland Over 3 Times T (acres)
C. of De Pere	3.41	2.5	170	35
C. of Green Bay	3.59	2.9	2,100	426
V. of Allouez	3.75	2.0	0	0
V. of Ashwaubenon	3.76	3.3	100	20
V. of Bellevue	3.29	2.3	800	0
V. of Denmark	3.42	2.6	70	15
V. of Hobart	4.21	3.7	2,700	0
V. of Howard	4.50	3.4	675	138
V. of Pulaski	4.96	3.6	50	9
V. of Suamico	4.71	3.7	3,000	0
V. of Wrightstown	3.39	2.8	147	29
T. of Eaton	3.23	2.7	2,900	512
T. of Glenmore	3.37	2.5	3,000	100
T. of Green Bay	3.02	3.1	2,550	821
T. of Holland	3.38	2.7	3,100	400
T. of Humboldt	3.23	2.6	2,400	371
T. of Lawrence	3.56	2.2	900	0
T. of Ledgeview	3.36	2.6	1,500	275
T. of Morrison	3.98	3.1	3,400	628
T. of New Denmark	3.44	4.8	8,350	1,820
T. of Pittsfield	4.88	3.5	3,700	0
T. of Rockland	3.49	3.6	3,400	1,550
T. of Scott	2.61	1.8	1,200	105
T. of Wrightstown	3.45	2.8	3,000	1,078

Note: This information was obtained during the 1982 county erosion inventory, which evaluated over 114,000 acres, or about 50 percent, of the cropland in Brown County.

- Identify priority farms within Brown County (those that have the greatest impact on water quality from agricultural nonpoint pollution).
- Track progress on those farms and their nonpoint pollution.
- Notify those farms of their problems and possible solutions.
- Install 25 miles of buffer strips over the next five years on the priority streams.
- Install nutrient management plans on 25,000 acres of these priority farms over the next five years.
- Annually review and certify existing and new nutrient management plans.
- Install conservation practices on 12,500 acres of land within the agricultural shoreland management areas over the next five years.

- Correct 25 manure management prohibition sites over the next 25 years.
- Administer, implement, and monitor priority watershed projects, farmland preservation programs, the Animal Waste Management Ordinance, and other similar programs.

Of the approximately 1,200 miles of streams located within the agricultural shoreland management areas (all intermittent and perennial streams within Brown County), about 800 miles have some type of buffer in place. Of the approximately 175,000 acres of cropland within the County, only about 50,000 acres are under nutrient management plans. Based on this information, it will take approximately 80 years to provide buffers to all of the streams within the agricultural shoreland management areas and about 25 years to install nutrient management plans on all of the cropland within the County.

Because of the importance of soil to agriculture and farming and to promoting environmentally correct development, it is recommended that Brown County expand its efforts to disseminate soil suitability and soil limitation information to local officials, to the development and agricultural communities, and to the general public to expand their knowledge of and access to this information and its importance to cost-effective agricultural and development efforts. It is recommended that this type of information be incorporated into the development of this and other comprehensive plans, planning efforts, and local and county development decisions. This goal can be accomplished by providing such information to these groups through presentations, seminars, or conferences specifically tailored to their needs. In order to accomplish this effectively, existing agencies knowledgeable in agricultural issues should be utilized. In particular, this would include the USDA Farm Service Agency, the USDA Natural Resources Conservation Service, the Wisconsin Department of Agriculture, Trade and Consumer Protection, the UW Cooperative Extension, and the Brown County Land Conservation Department.

In addition, it is recommended that every local unit of government within Brown County conscientiously adopt and enforce an erosion control ordinance for both agricultural and construction purposes. The communities of Allouez, Ashwaubenon, Bellevue, De Pere, City of Green Bay, Hobart, Lawrence, Ledgeview, Pittsfield, Scott, Suamico, as well as Brown County, are required to do so under the recently revised Wisconsin Administrative Code NR 216. The Cities of De Pere and Green Bay, the Villages of Allouez, Ashwaubenon, Bellevue, Hobart, Howard, Pulaski, and Wrightstown, and the Town of Ledgeview have already adopted construction site erosion control ordinances. It is recommended that the Brown County Planning Commission encourage all communities and provide assistance to local communities wishing to prepare and implement such an ordinance.

It is recommended that the Brown County soil erosion inventory, as well as the Brown County Erosion Control and the Brown County Land and Water plans, be periodically updated to re-evaluate the location and extent of soil erosion within Brown County to ensure that appropriate and effective measures are being undertaken to address soil erosion and loss and to ensure consistency with this comprehensive plan, the Brown County Farmland Preservation Plan, and similar local plans. Brown County's soils are an invaluable resource and should be protected to the greatest extent possible.

Agriculture

Prior to European settlement of the area, Brown County, as well as most of Wisconsin, was covered with woodlands and forests. Agriculture boomed as Brown County's woodlands and forests rapidly disappeared during the 1800s due to extensive harvesting of timber for the lumber industry. Agriculture has been the dominant land use in Brown County in terms of amount and percentage of land area since the late 1800s. This dominance has slowly but steadily decreased, however, as urban land uses have increased. A land use inventory compiled in 2000 for Brown County indicates that 52 percent of the County,¹² or approximately 176,695 acres, was devoted to agricultural use.

U.S. Census of Agriculture statistics indicate the following important agricultural trends within Brown County:

- The number of farms within Brown County has steadily decreased over time from 2,388 farms in 1959 to 1,059 farms in 1997. This is a decrease of 1,329 farms, or about 56 percent, over the past 40 years.
- The amount of land in farms in Brown County has steadily decreased over time from 292,995 acres, or about 86 percent of the county, in 1959 to 195,966 acres, or about 57 percent of the county, in 1997. This is a loss of 97,029 acres, or about 33 percent, over the past 38 years.
- The size of the average farm in Brown County has steadily increased from 122 acres in 1959 to 185 acres in 1997, an increase of 63 acres or about 52 percent.

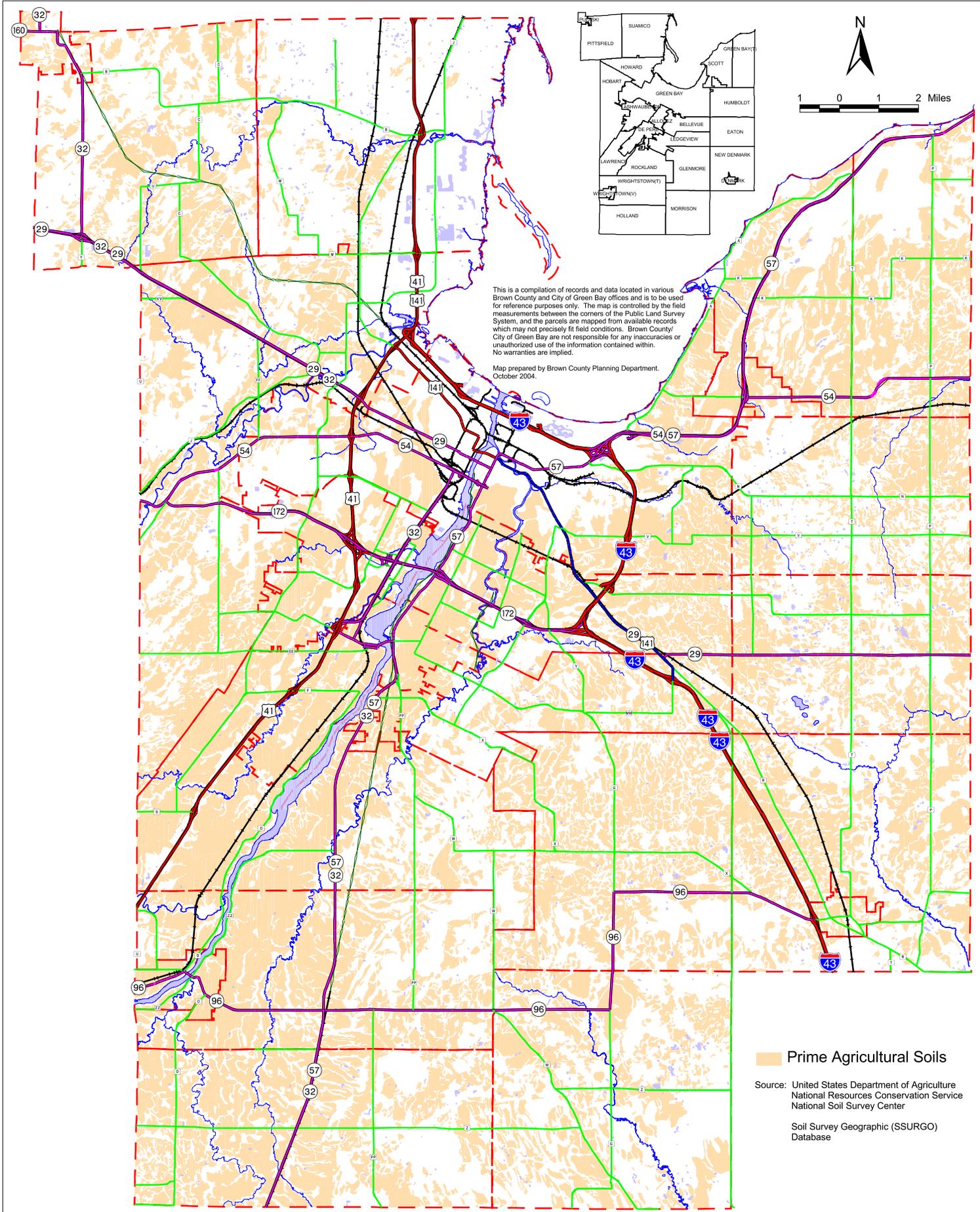
Prime Agricultural Soils

An important consideration in agricultural planning is the value of the soil for agricultural purposes. The Brown County Farmland Preservation Plan identified the best agricultural soils in Brown County based upon several soil characteristics and soil measurement guides. The best soils, identified as top prime agricultural soils, were determined to be those in a non-eroded condition with a predicted crop yield of 100 bushels or more of corn for grain, a slope less than 6 percent, and a soil capability class of I or II. Slightly less valuable soils were identified as prime agricultural soils with similar erosion, slope, and capability characteristics but with typically a predicted crop yield of 85 to 100 bushels of corn for grain. Other important agricultural soils were also identified. Subsequent to that effort, the U.S. Soil Conservation Service rated the soils of the state for agricultural purposes. Only a few differences arose between those two efforts.

The Hochheim loam, Lamartine silt loam, Sisson silt loam, and the Waymor silt loam were identified in the Brown County Farmland Preservation Plan as the top prime agricultural soils of the County. As shown in Figure 7-5, most of the County's soils are prime agricultural soils, with the largest concentrations in the central portion of the

¹² In comparison to the Brown County land use inventory (which includes cropland, pasture, orchards, nurseries, etc. within its agricultural land use classification), a summary of reports by the assessors of all the towns in Brown County indicates that there were about 170,900 acres of agricultural land. This does not include similar lands within cities and villages. The Wisconsin Agricultural Statistics Service indicates that there were about 157,200 acres of cropland in Brown County in 2002.

Figure 7-5
Prime Agricultural Soils
 Brown County, WI



Towns of Green Bay and Scott and in the Town of Morrison/eastern portion of the Towns of Holland and Wrightstown/southern portion of the Town of Glenmore area.¹³

It can also be seen that a particularly heavy concentration of these soils is located along both sides of the Fox River.

The majority of the remaining agricultural lands in Brown County have been identified as prime agricultural soils, only slightly less valuable than the top prime agricultural soils. Due to the extensiveness of Brown County's high quality soils, only those lands that are already developed, are located in low lying areas within or adjacent to wetlands, or are located in low lying areas within or adjacent to streams have not been identified as prime agricultural soils.

It is recommended that Brown County, as well as the affected local units of government, utilize this information in their efforts to identify the most likely areas to focus their efforts toward farmland preservation.

Location and Distribution

As shown on Figure 7-6 and Figure 7-7, about half of Brown County is comprised of agricultural lands, with the vast majority of these lands in the towns and very little located in the villages and cities. The Towns of Glenmore, Holland, Morrison, New Denmark, and Wrightstown located in southern Brown County contain the most. However, significant amounts of agricultural lands are also located in the Towns of Eaton, Humboldt, and Pittsfield. The Towns of Glenmore and Wrightstown contain the greatest percentage of agricultural lands of any community within the County and the greatest percentage of the County's agricultural lands, as well. Generally, the southern portion of Brown County contains the most agricultural lands.

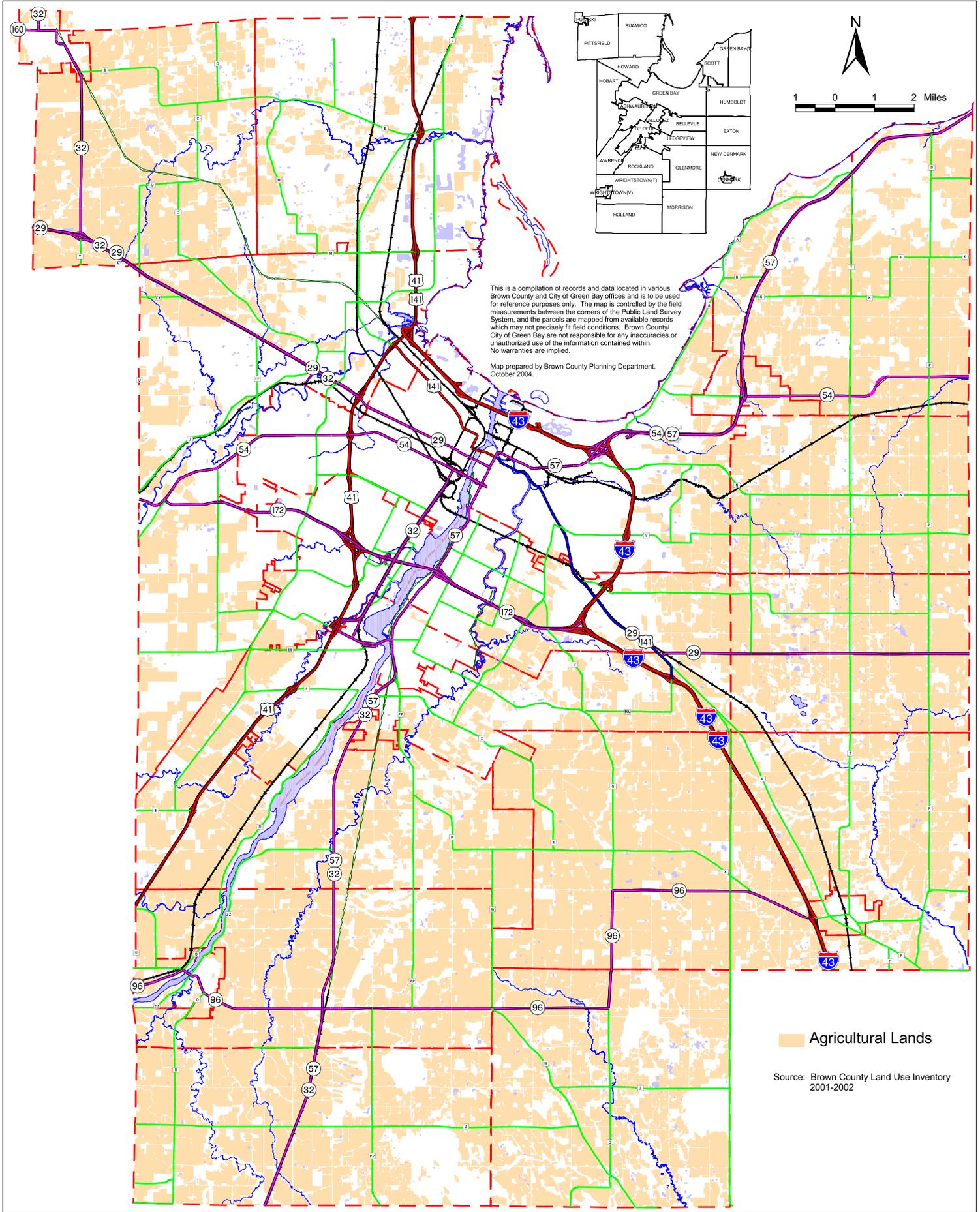
This information gives a simplified indication of which communities are the most agricultural in nature as compared to other rural communities, such as the Village of Hobart and the Towns of Green Bay and Rockland, which, while still containing significant amounts of agricultural land, can be considered more rural than agricultural in nature.

In light of today's trends toward larger farming operations, it may be more important to agricultural planning to know where the largest contiguous blocks of such lands are. As shown in Figure 7-8, the largest contiguous blocks of agricultural lands are located in the southern and eastern portions of the County.

It is recommended that Brown County, as well as the affected local units of government, undertake efforts to preserve the most important of the remaining agricultural lands within Brown County for as long as possible. Such lands would include those that are comprised of large contiguous parcels, those located in communities that contain large amounts of agricultural land, and those with significant local support for continued agriculture. These efforts should include further refinement of where the large

¹³ The Soil Survey of Brown County, Wisconsin, has also identified the Dresden silt loam, the Onaway loam, and the Waymor silt loam as well suited to urban development.

Figure 7-6
Agricultural Lands
 Brown County, WI



contiguous parcels are, where high levels of local support are, and how long and in what manner this protection should occur. This can be accomplished through update of the Brown County Farmland Preservation Plan and county support of local initiatives. In this regard, should such local initiatives extend to long-range efforts involving multiple communities, Brown County should offer its every assistance to promote these efforts. Such support could encompass planning, technical, or even financial assistance as explained later in this chapter. This recommendation is further discussed and elaborated in the following sections of this chapter.

Figure 7-7: Comparison of Agricultural Lands Within Brown County by Community

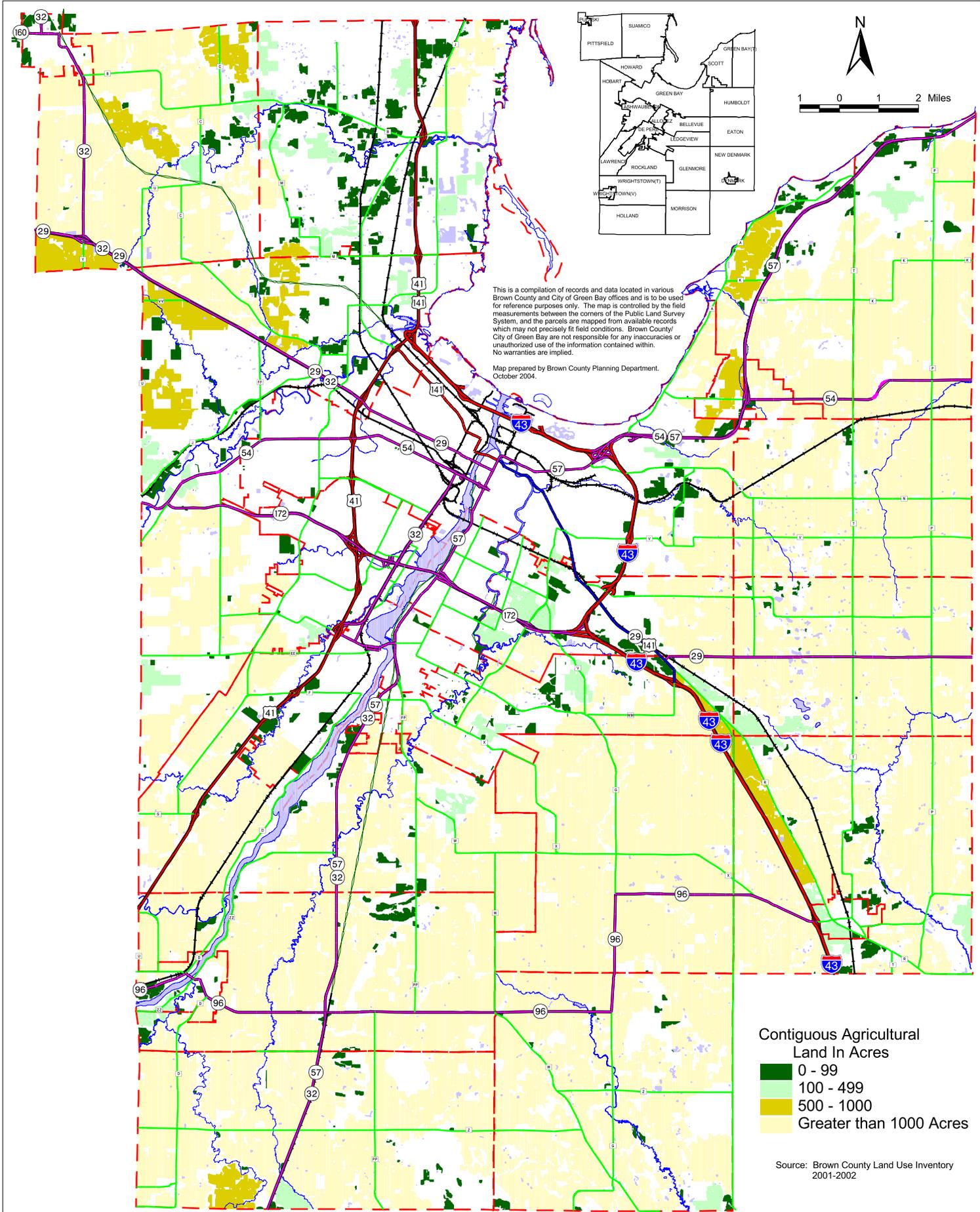
Community	Agricultural Lands (acres)	Percent of County Agricultural Lands	Percent of Community Total
C. of De Pere	945	0.5	13.3
C. of Green Bay	3,456	2.0	11.8
V. of Allouez	103	0.1	3.1
V. of Ashwaubenon	606	0.3	7.3
V. of Bellevue	3,781	2.1	41.6
V. of Denmark	348	0.2	36.9
V. of Hobart	9,607	5.4	45.4
V. of Howard	2,810	1.6	24.0
V. of Pulaski	684	0.4	49.7
V. of Suamico	5,103	2.9	22.0
V. of Wrightstown	686	0.4	36.3
T. of Eaton	11,035	6.2	70.8
T. of Glenmore	17,401	9.8	82.8
T. of Green Bay	9,170	5.2	64.8
T. of Holland	14,971	8.5	65.0
T. of Humboldt	10,363	5.9	67.4
T. of Lawrence	5,978	3.4	58.1
T. of Ledgeview	5,031	2.8	44.4
T. of Morrison	14,874	8.4	63.8
T. of New Denmark	14,312	8.1	64.1
T. of Pittsfield	13,485	7.6	65.5
T. of Rockland	9,442	5.3	64.2
T. of Scott	6,404	3.6	53.7
T. of Wrightstown	16,101	9.1	75.2
Brown County Total	176,696		

Source: Brown County Planning Commission

Farm Economy

Farming is Wisconsin's number one industry, by some estimates adding \$40 billion to the state's economy each year and with half of that from dairy farming and processing alone. Agriculture, and particularly dairy farming, should be of particular concern to Brown

Figure 7-8
Contiguous Agricultural Lands
 Brown County, WI



This is a compilation of records and data located in various Brown County and City of Green Bay offices and is to be used for reference purposes only. The map is controlled by the field measurements between the corners of the Public Land Survey System, and the parcels are mapped from available records which may not precisely fit field conditions. Brown County/ City of Green Bay are not responsible for any inaccuracies or unauthorized use of the information contained within. No warranties are implied.

Map prepared by Brown County Planning Department.
 October 2004.

Contiguous Agricultural Land In Acres

- 0 - 99
- 100 - 499
- 500 - 1000
- Greater than 1000 Acres

Source: Brown County Land Use Inventory
 2001-2002

County. It is, therefore, obvious that continued support of farming is one key to the state's and county's prosperity.

By 1875, Wisconsin agriculture was largely subsistence in nature except for wheat production. Between 1856 and 1872, Wisconsin was among the top wheat states producing about 25 to 30 million bushels annually. Eventually, commercial production shifted to Minnesota and the Dakotas as Wisconsin soils were quickly depleted of the necessary nutrients. At that time, a confluence of factors allowed dairying to fill the void left by the loss of commercial wheat production and, ultimately, saved agriculture in Wisconsin. According to information from the College of Agricultural and Life Sciences, University of Wisconsin-Madison, milk emerged as Wisconsin's number one agricultural commodity in 1925, but it took five decades to reach that prominence.



By 1925, Wisconsin surpassed New York as the leading dairy state and accounted for nearly 12 percent of all U.S. milk production. Wisconsin milk production grew steadily during the next 50 years and peaked at nearly 18 percent of the nation's milk production in 1979. At that time, milk production in the western states mushroomed and surpassed Wisconsin even though milk production in Wisconsin continued to increase. Wisconsin's increasing milk production continued until 1988 when it peaked at 25 billion pounds per year. Since then, it has ranged between 22 and 24 billion pounds per year.

According to information from the College of Agricultural and Life Sciences, University of Wisconsin-Madison, and the Cooperative Extension, University of Wisconsin-Extension, the number of milk cows in Wisconsin has fallen sharply over the last 15 years, and milk production has been flat or slowly decreasing. However, this is



occurring at the same time that U.S. milk utilization, especially cheese consumption, has shown strong growth. Wisconsin cheese makers report having trouble finding enough milk to meet their needs even though they pay more for it than their competitors in the western part of the U.S. where milk production is increasing. Some have moved or

expanded operations to where milk is more abundant and less costly, and others are considering similar moves. This information raises the possibility that a significant loss

of processing capacity in Wisconsin could occur and threaten the entire dairy infrastructure. omissions

Dairying remains strong in certain portions of the state. While the largest number of herds and the largest number of cows are typically found in the central and southwestern portions of the state, the east-central portion of the state (including Brown County) contains the state's highest concentration of cows and the largest herd sizes. The east-central portion of the state was one of the few areas to show an increase in milk production between 1980 and 2000, and it had the highest increase at 19 percent. In addition, the east-central portion of the state had the highest yield of milk production per cow and the smallest decrease in the number of cows of any region in the state.

It is believed, however, that the east-central region's high cow density and large herd size may indicate that the potential for growth in this area may be more restricted than in other portions of the state. As previously noted, Brown County has the highest density of cows per square mile and the largest average herd size of any county in the state, and Brown County led the state in the amount of milk produced per farm.

Possibly related to this situation is the fact that Brown County has consistently experienced the greatest (or second greatest) difference in value of agricultural land sold for continuing agricultural uses as compared to agricultural land sold for other uses when compared to any other county in the state over the last five years (see Figure 7-9).

Figure 7-9: Comparison of Brown County Agricultural Land Sales to Other Wisconsin Counties

Year	Average Value of Ag. Land Sold for Ag. Purposes (\$/acre)	Rank and Comparison to the Rest of the State	Average Value of Ag. Lands Sold for Other Purposes (\$/acre)	Rank and Comparison to the Rest of the State	Average Total of all Ag. Land Sold (\$/acre)	Rank and Comparison to the Rest of the State	Difference in Value between Ag. Sold for Ag. and Ag. Sold for Other Uses	Rank and Comparison to the Rest of the State
1998	1,839	9th	6,833	2nd	4,307	4th	272	2nd
1999	1,445	20th	6,736	6th	4,556	6th	366	1st
2000	1,923	14th	12,123	2nd	8,833	3rd	530	1st
2001	1,856	22nd	9,992	6th	4,335	9th	438	2nd
2002	1,871	24th	7,336	9th	6,431	8th	292	2nd

Source: USDA National Agricultural Statistics Service and BCPC.

While the dairy farming sector is the most visible, it is the dairy-manufacturing sector that has the largest economic value added. This includes manufacturing of dairy products, such as cheese, butter, and cottage cheese. It is estimated that about 80 to 90 percent of Wisconsin's milk supply goes to the production of cheese, about 6 to 8 percent to fluid milk, and the rest for the production of butter, cottage cheese, and whey. About 364 dairy plants are located throughout the state (approximately 9 cheese plants and about 11 other dairy plants are located in Brown County). Within Wisconsin, the number of cheese plants has fallen by more than 60 percent since 1980, with the largest decrease in cheddar plants, a relatively stable number of mozzarella (and other Italian cheeses) plants, and a slight increase in the number of other cheese plants (mainly specialty cheeses). These statewide changes have been accompanied by a substantial increase in

average plant scale. The average volume per plant has nearly tripled in cheddar plants and has quadrupled in mozzarella plants.

While this information clearly illustrates the importance of agriculture (and, specifically, dairying) to Wisconsin and Brown County, the Agriculture, Forestry and Fishing Industry has the lowest number of employees and among the lowest wages of all major Wisconsin industries. The industry, together with construction and mining, usually accounts for only 5 to 6 percent of the County's total employment. Information from the Department of Workforce Development indicates that the annual average wage in Brown County for the Agriculture, Forestry and Fishing industry was \$21,274, the second lowest of all major Wisconsin industries. The Agriculture, Forestry and Fishing industry experienced the third smallest 5-year wage increase of any other sector of industry.

As stated in its "Sustaining Wisconsin, A Statewide Dialogue on Wisconsin's Future" by the Center on Wisconsin Strategy, University of Wisconsin-Madison, while this region of the state has a relatively high percentage of jobs that pay poverty wages, Brown County has the lowest rate in the region and one of the lowest in Wisconsin at 32 percent (the federal poverty line was \$16,700 for a family of four in 1999).

The Center on Wisconsin Strategy also notes that agriculture's role in Wisconsin is declining as farmers continue to be adversely impacted by low commodity prices and high development pressures. Like the rest of Wisconsin, the number of farms continues to decrease in Brown County. The rate of this loss was less in Brown County, however, than in the rest of the region and less than the state average. The decline in the amount of land used for farming in Brown County is slightly less than the state average. Within the agricultural industry, there is a trend toward bigger farms. While the number of farms over 1,000 acres in size increased by only 4 percent in the U.S., it increased by 32 percent in Wisconsin and by a similar rate in Brown County. While Brown County has more large farms than any other county in the region (22 in 1997), the number of farmers is decreasing in Brown County as elsewhere in the region, state, and country while the average farmer's age is increasing.

Dairy's contribution to the state's and county's economy takes many forms. This includes direct or initial contribution through on-farm and processing employment and income generation and indirect and induced effects through linkages with machinery, trucks, fuel, financial, and other business services of other industries. It is estimated that farmers spend \$.75 in the local economy for every \$1.00 they earn, and as farms disappear, many local businesses are adversely impacted.

In addition, numerous untapped and underutilized opportunities exist in agriculture. Entrepreneurial agriculture, for instance, is a new way of thinking of farms as innovative small businesses. The Michigan Land Use Institute states that entrepreneurial agriculture does not seek to replace current large scale mass market agriculture but to complement it to find new opportunities, new markets, and to recognize the importance of local agriculture not only to the local economy but also to local lives and landscapes. Entrepreneurial agriculture is about adding value to products by providing local friendly service, by special processing, or by finding niches and new ways to market goods to consumers. It can be as simple as new ways of selling, labeling, processing, packaging, or creating a new perspective about raising crops.

Examples of entrepreneurial agriculture abound and include:

- Direct marketing of agricultural products to consumers, such as local schools, farmers markets, and custom production for local restaurants.
- Niche marketing, such as ethnic foods, organic foods, and specialty farm products.
- Value added approaches to farming, such as fruit drying, jellies and jams, wine making, and agri-tourism.
- New grazing systems.
- Cooperatives marketing local free-range poultry, beef, or pork.
- Community-supported agricultural operations where local consumers pay local farmers for a share of the following year's crops.
- Local marketing and/or direct delivery of all-natural products, such as grass-fed all-natural milk to local grocers and health food stores.



Entrepreneurial agriculture and the flexibility behind the idea produces countless benefits, including:

- Opportunities to create net returns of 40 to 50 percent compared to conventional agriculture's 15 to 20 percent.
- Thinking and acting as a small business can keep small farms viable and provide another option to competing with the large-scale mass-market approach more typical of conventional agriculture.
- Small viable farms on the outskirts of communities can contribute more greenspace, fresh food, and local commerce to the community and the region.
- Creating a viable mix of large and small agricultural operations can contribute to the local community and region's farmland protection strategies.

Entrepreneurial agriculture is more appropriate now than ever before because of continuing shifts in consumer awareness and demands. For instance, farmers markets have increased nationwide by 63 percent from 1994 to 2000. Organic products have increased nationwide by 38 percent between 1999 and 2000 alone, as compared to a 4 percent increase for conventional groceries. The fastest growing categories of organic food products from 1999 to 2000 include meat and dairy alternatives at 215 percent, meat, poultry, and eggs at 64 percent, canned and jarred products at 51 percent, and dairy products at 40 percent.

Consumers spend a significant amount of money on groceries and restaurants, and most of this food comes from distant locations. For example, a study by the University of Iowa noted that the typical tomato, can of corn, and loaf of bread travel 1,500 miles from field to plate. Coupled with changes in consumer awareness and demands, opportunities abound for local farmers to provide greater amounts of produce to local consumers.

Additionally, the middleman processing, packaging, advertising, and distribution often account for 80 percent of the cost of food.

According to the Michigan Land Use Institute, for entrepreneurial agriculture to work, it requires close relationships between economic development professionals and the agricultural sector. It requires the involvement of local leaders to connect the small and mid-sized farms to the local economy and to bring business expertise and market knowledge to those farmers. It also requires state and federal cooperation in terms of working with and helping farmers understand regulations, particularly those pertaining to food inspection. Additionally, it requires the community to understand farmers and vice-versa so that communities can take advantage of the locations of local farms and for farmers to know local consumers' needs.

Last, the importance of sustaining agriculture cannot be over emphasized. Governor Doyle, in his "Grow Wisconsin" initiative, states that "Wisconsin's economic base, including manufacturing, agriculture, and tourism, needs to be strengthened, not abandoned." In regard to agriculture, this includes proposed creation of a dairy modernization and competitiveness program, promotion of the Agricultural Stewardship initiative, expansion of agriculture's role in energy production, continuation of efforts to establish Wisconsin as a leader in the nation in organic food production, enhance investment and capital formation in producer-owned businesses, encourage consumers and businesses to buy Wisconsin products, protection of a safe and secure food supply, reform payment security for agricultural producers, and promotion of new business models for Wisconsin agriculture.

Based upon this information, it is recommended that Brown County and the affected local units of government immediately work together to actively encourage and preserve both conventional and entrepreneurial agricultural opportunities within the County. It is also recommended that more specific information be obtained concerning the status and trends of agriculture in Brown County from an economic standpoint to help prioritize and guide the agricultural preservation efforts recommended by this plan, possibly as part of the update to the Brown County Farmland Preservation Plan.

Farmland Preservation

The Wisconsin Farmland Preservation Program was developed in the late 1970s and early 1980s to achieve three goals: land conservation, tax relief, and land use planning. In response to this law, county level agricultural preservation plans were developed by 70 of Wisconsin's 72 counties. Few local level agricultural preservation plans were prepared, however.

The requirements for these plans are set forth in Chapter 91 of the Wisconsin State Statutes. However, these plans are not mandated unless a community wishes its property owners to be eligible for tax credits. In those instances, the plan must be reviewed by the state to ensure that the plan meets the procedural and statutory requirements of Chapter 91, is internally consistent, is consistent with county development plans, and it must be certified by the county land and water conservation board. The plan is implemented through farmland preservation agreements and by exclusive agricultural zoning ordinances.

Brown County prepared and adopted its first agricultural preservation plan in 1985 and updated that plan in 1990. These plans recognized that Brown County's farmlands are an irreplaceable resource that is necessary to the continued well-being of the County's economy. The 1990 update, entitled Brown County Farmland Preservation Plan 1990 Update, was prepared by the Brown County Planning Commission in 1992 to reflect the changes that had occurred within agricultural areas during the five years between 1985 and 1990 and to explore new issues affecting the County's agricultural economy and land use. The plan's overall goal was "To preserve productive agricultural lands in Brown County." Further goals and objectives dealt with six main issues consisting of agricultural lands, urban growth, public facilities, preservation of environmental areas, public participation, and implementation.

The 1990 update indicated that farmland was rapidly being developed, primarily for residential uses and particularly in Bellevue, De Pere (Ledgerview), Hobart, and Suamico, contrary to the recommendations of the 1985 plan. The 1990 update did, however, determine that the 1985 plan had a significant positive impact upon zoning and conservation practices within the towns of Brown County.

The 1990 update expressed concerns with many issues, including the strength and stability of the farm economy, the need to continue implementation of conservation best management practices, continued loss of farmland to development, increased government regulations at the same time as decreased government financial assistance, absentee ownership, future impacts of chemical use and biotechnology, and abuse of the Farmland Preservation Program.

The 1990 update indicated that participation in the Farmland Preservation Program has been high from the start, consistently over 50 percent since 1985. The Wisconsin Department of Revenue indicates that for the 2001 tax year, 1,111 property owners in Brown County claimed tax credits under the Farmland Tax Relief Credit Program, and 793 property owners claimed tax credits under the Farmland Preservation Credit Program. In terms of total number of claims by county, this ranked 20th and 9th respectively in the state. This corresponds to a participation rate of 71.4 percent for the Farmland Preservation Credit, which is 6th highest in the state.

The goals of the Farmland Preservation Credit Program are to preserve Wisconsin farmland by means of local land use planning and soil conservation practices and to provide property tax relief to farmland owners. To qualify for the credit, the farmland must be 35 acres or more in size and must be zoned exclusive agriculture or be subject to a preservation agreement between the farmland owner and the state. In addition, participants must comply with soil and water conservation standards set by the state Land Conservation Board.

The Farmland Tax Relief Credit Program provides direct benefits to all farmland owners with 35 acres or more. It does not require participation in exclusive agricultural zoning or a farmland preservation agreement, does not require meeting any soil and water conservation standards, and repayment is not necessary when the land is sold for other uses.

It is recommended that the Brown County Farmland Preservation Plan once again be updated to maintain eligibility for these tax credit programs, to reflect the development that has occurred within agricultural areas since 1990, to encourage entrepreneurial agriculture, to further refine the proposed purchase of agricultural easements and innovative agricultural zoning programs, and to maintain conformance with this county comprehensive plan.

Current Regulations, Rules, and Programs

In addition to the requirement concerning agricultural preservation plans, State Statute 91 also sets standards for exclusive agricultural zoning (EAZ) ordinances. The ordinance is not mandatory and can be a county, city, village, or town ordinance. The local ordinance does need to be certified by the Wisconsin Land and Water Conservation Board in order for farmland owners to be eligible for tax credits. For tax credit eligibility, the lands contained within the EAZ ordinance must also be lands contained within the county agricultural preservation plan, the ordinance must be consistent with the county agricultural preservation plan, and the uses within the EAZ ordinance must be agricultural as defined by the state statute.

Other governmental regulations, rules, and programs specific to agriculture in Brown County include the following.

- The Wisconsin Pollutant Discharge Elimination System (WPDES) permits for Concentrated Animal Feeding Operations (CAFO). This permit program is primarily intended to protect water quality by regulating manure runoff, storage, and application in the field. The permit program requires the operator of any CAFO to develop and implement an acceptable nutrient and waste management plan. Approximately ten CAFOs are located within Brown County. In addition, there are approximately four smaller operations that are regulated under NR 243 and the Notice of Discharge (NOD) program. The number of these permitted operations will likely change over time but in what manner and to what extent is currently unknown. These permits and regulations have been based upon nitrogen standards but are currently changing to phosphorus standards.
- Chapter 26 of the Brown County Code, the Brown County Animal Waste Management Ordinance, regulates the design, construction, abandonment, and maintenance of animal waste storage facilities, animal feedlots, and nutrient management to protect and promote the County's agricultural industry and enhance the aesthetic conditions and general welfare of the County. The ordinance, passed in 1999, applies only to the unincorporated portions of the County, applies to many but not all animal feedlots, and applies to all animal waste storage facilities that are to be abandoned. No changes are currently anticipated to this ordinance.
- Chapter 10 of the Brown County Code, the Brown County Agricultural Shoreland Management Ordinance, regulates landowner activities within identified agricultural shoreland management areas to prevent surface water pollution and, thereby, protects the health, welfare, and general prosperity of Brown County. The ordinance, passed in 1998, applies to all lands and surface waters in Brown County that are located in the agricultural shoreland management areas. These areas include all land that is within 300 feet of perennial streams and rivers, the ordinary high

water mark of all named ponds and lakes, and the centerline of all intermittent streams identified on United States Geological Survey maps. Cost-share funding is often available for implementation of certain best management practices within the agricultural shoreland management areas. No changes are currently anticipated to this ordinance.

- The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) has made substantial changes to administrative code ATCP 50 (Soil and Water Resource Management Program). The program, which is designed to conserve Wisconsin's soil and water resources, reduce soil erosion, prevent nonpoint source pollution, and enhance water quality, was revised in October 2002. The changes were part of a comprehensive redesign of Wisconsin's nonpoint pollution control programs mandated by the legislature in 1997. Performance standards for farms to reduce runoff and protect water quality are set forth in the Wisconsin Department of Natural Resources' Administrative Code NR 151. It is anticipated that this program will be administered and implemented by each county through its land and water resource management plan. Brown County's plan was updated in 2003. One of the standards in this program involves a requirement that a nutrient management plan be prepared and implemented by most farmers. Some farmers have been required to meet the standards in this program as of October 2003, while others will not need to until January 2005. By January 2008, however, all farmers will be required to meet these standards, and some cost sharing is available to assist farmers with meeting these standards.
- Numerous non-regulatory tools exist to encourage protection and/or maintenance of agricultural lands, and these include purchase of agricultural conservation easements, transfer of development rights, and educational programs offered by such agencies as the United States Department of Agriculture, the Wisconsin Agricultural Statistics Service of the National Agricultural Statistics Service of the USDA, the Wisconsin Department of Agriculture, Trade and Consumer Protection, the University of Wisconsin-Extension Agricultural and Natural Resources Program, and the Brown County Land Conservation Department. Under Governor Doyle's "Grow Wisconsin" initiative, access to this kind of assistance (not only for the agricultural sector but for other sectors of the economy, as well) would be improved.

Educational, Financial, and Other Sources of Assistance

As many regulations exist regarding agriculture as do agricultural educational and financial programs. These programs are found in a variety of places, sometimes even within the regulatory agencies themselves. The issues and concerns raised in this chapter are not unique. They have been or are being experienced elsewhere in the state and/or the country. The responses to such issues and concerns are as numerous as the communities experiencing them. While many of the issues and concerns regarding agriculture are complex and not easily solved, they can and have been solved, and much assistance is available. Examples include:

Numerous federal and state incentive programs exist to assist farmers. These include the Conservation Reserve Enhancement Program (CREP), the Wetlands Reserve Program (WRP), the Environmental Quality Incentives Program (EQIP), the Wildlife Habitat Incentives Program (WHIP), the Grazing Lands Conservation Initiative (GLCI), and the

USDA Farmland Protection Program, among others. These programs, as well as other less well-known programs, offer technical assistance and, in many cases, financial assistance to farmers and the farming community. One such program is the Value Added Agricultural Market Development Grant Program (VADG). This program's primary objective is to help farmers and agricultural producers develop feasibility studies or business plans for viable value-added marketing opportunities, particularly in regard to emerging markets. Another program, specifically directed to beginning farmers, is the Wisconsin Housing and Economic Development Authority (WHEDA) Beginning Farmer Bond (BFB) Loan. This program provides low interest rate financing to beginning farmers for their first major purchase of farm land or farm assets.

Within Brown County, the Land Conservation Department is the agency responsible for administration and implementation of not only county agricultural-related programs but also many state and federal programs. This includes the priority watershed, farmland preservation, wildlife damage, agricultural shoreland management, land and water resource, and conservation reserve enhancement programs. The Brown County Land Conservation Department also works with and maintains close ties to the Wisconsin Department of Agriculture, Trade and Consumer Protection, the Wisconsin Department of Natural Resources, and the NRCS, as well as the agricultural community itself.

Recommended Policies, Programs, and Actions

There are many approaches Brown County can take to achieve the agricultural goal and objectives listed in this plan's Issues and Opportunities chapter. They range from specific one-time actions to broad ongoing programs. A summary of those actions and programs are provided in this section.

While not specifically addressed within this chapter, it is generally understood that the County should review its ordinances and administrative practices to ensure their compatibility with the policies, programs, and actions set forth in this plan. Examples of this would include provision of adequate staff to administer federal and state agricultural programs, to assist the public, and to implement this chapter's recommendations in as efficient and cost-effective a manner as possible and consistent with the other recommendations of this plan, as well as with those plans of other local units of government.

A consensus of opinions from the nominal group session, stakeholder interviews, discussion groups, open house, public hearing, the County Board of Supervisors, and local staff indicate that the biggest issues facing Brown County's agriculture include:

- Maintaining the rural atmosphere in Brown County's towns.
- Controlling urban development so that



sprawl and premature extension of utilities and infrastructure do not occur and viable agricultural lands can be retained as long as possible.

- Providing additional educational, financial, and other types of assistance to enable agriculture to become more economically viable.
- Making it financially easier for farmers within Brown County to keep farmland in its agricultural state instead of selling the land for uses other than agriculture.

Other important opinions raised, although less consistently, include:

- More education is needed to inform county residents and local officials of the importance of agriculture to Brown County.
- Wisconsin's new nutrient management requirements will have an incredibly significant impact upon the continued viability of farming in Brown County. These rules will make it more difficult for farmers to dispose of manure in terms of the need for more land and more record keeping.
- Rural development should continue to be accommodated within Brown County's towns but in a way that encourages preservation of larger viable blocks of agricultural land.

The Brown County Comprehensive Plan intends that these opinions, in conjunction with the goals and objectives of this plan, become the framework for Brown County's involvement in farmland preservation. The extent of the concerns and issues raised in this plan and their importance to Brown County and its local communities have been verified by the information presented in this chapter. It is, therefore, recommended that Brown County, in cooperation with the local units of government, the State of Wisconsin, and the federal government, make a concerted effort to preserve Brown County's best remaining farmlands for continued agricultural production. It is further recommended that this include efforts to protect the economic viability and sustainability of agriculture in Brown County. Based upon this information, the following guiding principles are set forth. Following these principles are specific recommended programs and policies to be undertaken and/or supported by Brown County.

- Principle #1 *Brown County will revise its existing plans and programs to address the issues and concerns raised in this chapter as soon, as effectively, and as fairly as possible but will not initiate any new plans or programs without full community knowledge, input, and support.*
- Principle #2 *Brown County will provide planning, technical, and/or financial assistance to address farmland preservation issues to the greatest extent possible when so requested by its local communities.*
- Principle #3 *Brown County will be an advocate for long-range, consistent, and cooperatively agreed upon change.*
- Principle #4 *The identification, implementation, and funding of methods to achieve agricultural preservation will be a joint public and private effort involving federal, state, county, and local units of government and public and private foundations, organizations, and businesses.*

Principle #5 *Brown County believes that the purpose of farmland preservation is to preserve a way of life, to sustain a viable industry, and to retain a rural character that has long been a part of Brown County and should remain a part of Brown County.*

Based upon the information presented within this comprehensive plan, including the five principles previously noted, agricultural preservation within Brown County is proposed to consist of numerous inter-related efforts, including:

- Establishment of a purchase of agricultural conservation easements (PACE) program. The most common approach in such programs is to purchase agricultural easements from willing landowners through use of a legally binding agreement that transfers the rights to develop the property from the landowner to the agency administering the program. These agreements are recorded with the property deed and remain in place for the timeframe set forth in the agreement (sometimes for a set period of time and sometimes in perpetuity, as determined by the program). The value of the easement is determined by calculating the difference between the market price for the land with and without development (for instance, the difference between the land if developed for residential uses compared to it remaining for agricultural uses). Market conditions and the landowner would determine the specific value of the easement and how much the program is allowed and able to pay. The purchase would proceed only if that amount was acceptable to the landowner, the program could afford it, and it met its selection criteria. A unit of government or a land trust typically, but not always, administers such programs. The specifics of this program are to be further refined during and after update of the Brown County Farmland Preservation Plan.¹⁴ It is anticipated that at that time it would be known which communities would be interested in participating, which governmental agencies would be interested in assisting, how much and what sources of funding would be available, and what the selection criteria might consist of. Although the update of the Brown County Farmland Preservation Plan would further refine this program, it is envisioned that the PACE program would likely be established by local communities for selected portions of their community where appropriate soils, agricultural lands, and local support exist. The level of county involvement in this program should be based upon the number of local communities involved and their request for county support. This involvement could include administration, funding, and/or technical support of the program. Funding could and likely should be from a number of sources. Possibilities include a community or county imposed tax, a dedicated portion of the county sales tax, a dedicated portion of selected local revenues (such as gaming or landfill revenues), nonprofits, such as land trusts and/or conservancies, and state or federal financial assistance programs. Selection criteria would likely involve the value of the soils, the size of the farm parcel, the location of the farm parcel in relation to other parcels participating or potentially participating in the program, the potential for loss or development of the farmland, landowner interest, and local community support. It is also suggested that the feasibility of and interest in a similar program, typically referred to as transfer of development rights (TDR), be studied at this time. TDR programs typically consist of both “sending” areas (areas from which development rights are voluntarily

¹⁴ See the Town of Dunn, Dane County, Wisconsin, for an example of a purchase of agricultural conservation easements program.

removed) and “receiving” areas (areas to which development rights are voluntarily added). As such, community and regional decisions about where development is to be both restricted and encouraged are necessary for this program to operate successfully. Administration of such a program can be more complicated and time consuming than the PACE program, but in general, its advantages and disadvantages are otherwise similar.

- Implementation of innovative agricultural zoning. This is envisioned to consist of the inclusion of maximum lot sizes with restricted density requirements within local zoning ordinances to ensure minimum disruption of large parcels of agricultural lands. Similar to that established in the Town of Eaton Comprehensive Plan, a maximum lot size would be established by the local community in conjunction with limits on the number of parcel splits and the location and placement of the newly created lots. The Brown County Comprehensive Plan envisions that this zoning change would be implemented and administered by the individual communities and would be most appropriate for those towns with significant amounts of agricultural land or those towns that are participating in a purchase of agricultural conservation easements program. If requested, Brown County should provide planning and technical assistance to these communities on this matter.
- Support and encouragement of both conventional and entrepreneurial agriculture. In addition to the purchase of agricultural conservation easements and the innovative agricultural zoning programs previously noted, it is also recommended that Brown County actively support efforts to secure and retain both conventional and entrepreneurial agriculture. Conventional agriculture typically requires large investments of land and capital, which are issues that can be addressed in large part by the two programs noted in conjunction with funding and educational systems already in place at the state level. Brown County’s support of efforts to expand and modernize agricultural operations and to retain agricultural infrastructure (feed and implement dealers, milk and cheese processing plants, etc.) can help bridge the gap between what others already provide and what is still needed to establish a healthy and vital agricultural industry. More specifically, this is proposed to include financial assistance through such means as the revolving loan program administered by Brown County and promotion of policies within county and local plans that minimize conflicts between agriculture and other types of development. Entrepreneurial agriculture, however, does not yet have such a support system in place. As noted in this chapter, entrepreneurial agriculture is more appropriate now than ever before as consumer awareness, consumer demands, and opportunities continue to shift and change. Also, there is an overriding need to have small farmers act and be treated as small businesses. This means that small farmers must become knowledgeable about business issues and that business professionals must extend the same services, knowledge, and connections to farmers as they do to other small businesses. It is, therefore, recommended that Brown County become more involved in rural economic development issues and initiatives to direct farmers to existing support programs and vice-versa and to provide its own share of planning, technical, and financial assistance.
- Revision of existing Brown County plans and programs. To implement the recommendations contained within this chapter, it is also necessary to ensure that all County plans, programs, and initiatives are consistent with this plan. Of foremost

importance to agriculture are the erosion control, land and water, farmland preservation, sewage, and the open space and outdoor recreation plans and the agricultural shoreland management, the subdivision, shorelands floodplain, and animal waste management ordinances. These plans and ordinances, as well as any other affected programs or initiatives, should be revised as necessary to encourage and reflect local implementation of the PACE program, local implementation of innovative agricultural zoning efforts, and local decisions regarding growth and development. In this regard, it will be important for Brown County and local communities to support agricultural infrastructure, while at the same time discourage incompatible development. Tools already available to Brown County in this regard include its sewage plan and its subdivision ordinance. Both tools should be used in conjunction with local zoning to direct growth and development to appropriate locations consistent with the goals, recommendations, and principles set forth in the county and local comprehensive plans.

It is proposed that these recommendations be implemented concurrently on many fronts, consisting of both voluntary and regulatory programs and individual and agency actions that protect the agricultural economy and promote farmland preservation. It is envisioned that these efforts will be undertaken in a cooperative manner involving not only the state, the county, and the local units of government but the entire agricultural sector, as well. It is envisioned that this effort will transcend traditional urban/rural boundaries, may extend to areas outside of Brown County, and will involve a long sustained effort by many individuals and agencies.

In summary, if agriculture is to remain a viable industry within Brown County (as indicated by the visioning session, the stakeholder interviews, and the discussion group meetings), many serious and challenging issues exist. Furthermore, current trends in Brown County appear to indicate that these issues will continue for the foreseeable future and may get worse. These issues and challenges include the escalating loss of agricultural lands to other uses, the continuing loss of farms and farmers, the disparity in land values of agricultural land sold for agricultural uses as compared to agricultural land sold for non-agricultural uses, the very high density of cows per acre of farmland, farming's traditionally low wages and low profit margins, the poor performance of the agricultural economy nationally and locally, and the continuing erosion of the agricultural infrastructure in Brown County.

To begin to address these issues, the Brown County Comprehensive Plan, in its goals, objectives, principles, and recommendations, presents a vision for agriculture in Brown County. That vision proposes that the very best of the remaining agricultural lands in Brown County would be protected from development and land subdivision. It also proposes that other slightly less valuable and/or adjacent agricultural lands would be encouraged to remain in agricultural, agricultural support, or entrepreneurial agricultural uses as long as possible. It envisions that preservation of these areas would maintain a viable agricultural economy and rural atmosphere of many of Brown County's towns, and it would provide long-term assurances and predictable land use policy to local farmers and developers in regard to agriculture and development. Development within these areas can occur but only at a time and place compatible with this vision of sustaining agriculture and the rural atmosphere.

A summary of all the recommendations contained within this chapter follows:

- Brown County should expand its efforts to disseminate soil suitability and soil limitation information to local officials, to the development and agricultural communities, and to the general public.
- Every local unit of government within Brown County should conscientiously adopt and enforce an erosion control ordinance for both agricultural and construction purposes.
- The Brown County soil erosion inventory, as well as the Brown County Erosion Control and the Brown County Land and Water plans, should be periodically updated.
- Brown County, as well as the affected local units of government, should utilize the soils information contained within the Brown County Farmland Preservation Plan in its efforts to identify the most likely areas for farmland preservation.
- Brown County, as well as the affected local units of government, should undertake efforts to preserve the most important of the remaining agricultural lands within Brown County for as long as possible.
- Brown County should update the Brown County Farmland Preservation Plan.
- Brown County and the affected local units of government should immediately work together to actively encourage and preserve both conventional and entrepreneurial agricultural opportunities within the County.
- Local communities should consider the establishment of a Purchase of Agricultural Conservation Easements program and should study the feasibility of a transfer of development rights program.
- Local communities should consider implementation of innovative agricultural zoning.

CHAPTER 8

Natural and Cultural Resources

Introduction

Planning in Brown County often focuses more on such issues as land use, transportation, and infrastructure and less on natural and cultural resources.¹⁵ Oftentimes, cohesive and consistent goals, objectives, and policies about natural and cultural resources are lacking in a community's plan. Brown County has recognized the importance of planning for natural resources, as evidenced by its environmentally significant areas report, open space and outdoor recreation plans, and its sewage plans. This chapter of the Brown County Comprehensive Plan places for the first time particular emphasis on integrating those plans' recommendations with other county and local planning efforts. Furthermore, Brown County has not undertaken any similar planning efforts with cultural resources. This can result in lost opportunities in natural and cultural resources preservation efforts.

Another important reason for a comprehensive approach to natural and cultural resources planning is its strong influence on quality of life issues and the character of the community. Reasonable and timely protection of natural and cultural resources can help sustain many important functions of a community and can help preserve a community's history and identity. In an urbanizing county like Brown County with its mix of urban, suburban, rural, and agricultural lands, sensible protection of natural and cultural resources can help ensure a healthy, safe, and attractive environment.

Beyond the obvious quality of life benefits, it is important to understand and realize the vital functions and benefits that preservation of natural resources provides, which in the long run saves everyone money. Wetlands, for example, perform a vital function in preserving the quality of groundwater, as well as surface water. Development adjacent to natural resource areas should be done in a well-planned fashion to preserve the natural functions of these resource areas. Such development can be enhanced by melding development features with natural features.

Background

An understanding of the important features of a community and of the changes those features have undergone is an essential ingredient of any planning endeavor. The natural and cultural features of Brown County have long been an important part of the County. An understanding of the past and present status of natural and cultural resources will enable trends to be identified. This will, in turn, help identify future trends regarding such resources and related subjects as recreation, land use, and stormwater management.

¹⁵ For purposes of this plan, cultural resources include historic districts, sites and buildings, and archeological sites.

History, Natural Resources

Natural resources have long played an important role in the history and development of the County. These resources, most important being the Bay of Green Bay and the Fox River, have long been an attraction to the people of Brown County. The various Indian tribes were most likely first attracted to this area for the extensive wild rice fields located near the mouth of the Fox River. The Europeans were later attracted to this area for the fur trading. By the mid-1840s, the lumber industry – for a relatively short period of time – became the major attraction of this area due to the abundance of high quality pine and the presence of the Fox River.

By 1860, agriculture replaced logging as the principal industry of this area when conversion of large acreages of land within Brown County to wheat fields became commonplace. By 1900, interest in wheat farming began to decline as vital nutrients in the soil were depleted. Shortly thereafter, dairy farming rose to replace wheat farming as the number one land use in the county, the region, and the state. Such dairy farming is still very evident today. It is easy to see, therefore, that the natural resources of Brown County have long served an important and vital role in the development of the County. A particularly appropriate example of this can be seen in the history of Brown County's waterways. The waters of the bay and the Fox River have long served as an important highway over which first furs and then agricultural products and later industrial products could be easily transported from the mid-western to eastern markets.

Even after all of this change, many scenic, unique, and sensitive natural resource areas still exist within Brown County. The most well-known include:

- The Bay of Green Bay.
- The Fox River.
- The Long Tail Point and Little Tail Point islands.
- Coastal wetlands, such as Point Au Sable and Peters Marsh.
- The Niagara Escarpment and the associated Fonferek, Kittel, Rock, and Wequiock Falls areas.
- The Big Scott Woods.
- The Neshota River Valley.
- Baird Creek.

History, Cultural Resources

It is believed that human habitation of the area that would one day become Brown County may have existed near the Red Banks area along the east shore of the Bay of Green Bay as far back as 7000 B.C. Since then, many different Indian tribes have periodically inhabited the lands adjacent to the Bay of Green Bay and the Fox River. Prior to the 1600s, the Winnebago and Menomonee Indian tribes inhabited what is now Brown County. However, by the mid-1600s, other tribes, such as the Ottawa, Huron, Fox, Sauk, Potawatomi, and Ojibwa, moved into the area as they were displaced from

their ancestral lands further east, and they, in turn, displaced the Winnebago and Menomonee tribes.

Jean Nicolet has commonly been credited with being the first European to set foot in what would one day become the State of Wisconsin when he arrived at the Red Banks area in 1634. This event heralded a period of rapid change for the area adjacent to the bay and the Fox River as other French explorers and fur traders quickly followed Nicolet. By the mid-1600s, French missionaries also began to visit the area. These visits eventually became so numerous that in 1671 the first permanent European development, the St. Francis Xavier mission, was established along the Fox River near the De Pere rapids. In 1701, following this initial wave of French explorers, fur traders, and missionaries, the French government established a military stockade called Fort St. Francis in the area along the bay near the mouth of the Fox River where the Canadian National Railroad yards in the City of Green Bay are now located. By 1764, the first recorded settler, Augustin de Langlade, moved to this area and established a trading post.

Eventually, the French presence in this region gave way to British influences. In 1761, the French Fort St. Francis was rebuilt by the British and renamed Fort Edward Augustus. In 1763, France ceded the area to England. By the mid-1780s, the colony established by de Langlade, which would eventually become part of the City of Green Bay, had reached a population of about 50 people.

In 1783, England ceded this region to the United States. However, it was not until after the War of 1812 that the British presence was, in turn, supplanted by the American when pioneers from New England and New York outnumbered the original French-Canadian settlers. By 1812, the population of the settlement established by de Langlade had increased to about 250 people. In 1816, Fort Edward Augustus was once again rebuilt and renamed Fort Howard. At that point in time, the Fort Howard area was the second largest settlement in Wisconsin. By 1824, the settlement originally founded by de Langlade had reached a population of about 500 people with an additional 600 troops stationed at Fort Howard. In 1824, Brown County's first county courthouse was founded. In 1854, Green Bay incorporated as a city. Large-scale immigration into this area began by the late 1840s, so that by 1860 about 11,800 people inhabited the area identified today as Brown County.

Brown County was created in 1818 as part of the Michigan Territory, and at that time, it included much of Upper Michigan and all of Wisconsin from Lake Michigan to the Wisconsin River and south to Illinois. By the time the Wisconsin Territory was established in 1836, the southern one-third of Brown County had been removed to form new counties in the rapidly growing southeastern portion of the territory. When Wisconsin became a state in 1848, the counties of Door, Oconto, Outagamie, and Waupaca were created from Brown County. The following year, Kewaunee County was created. By 1853, Brown County was confined to its present size (534 square miles) when Shawano County was created. Brown County was formally established by congress in 1861.

Brown County's first communities, Navarino (which later became part of the City of Green Bay) and De Pere, were founded in 1829 along the shores of the Fox River near the

Bay of Green Bay. Other early Brown County communities, Astor (which later became part of the City of Green Bay) and Wright (which later became the Village of Wrightstown), were also located along the Fox River. Jurisdictional changes continue to the present with incorporation of the Town of Allouez as a village in 1986, the Towns of Bellevue and Hobart as villages in 2002, and the Town of Suamico as a village in 2003. The 24 municipalities of present-day Brown County include 2 cities, 9 villages, and 13 towns. Since its inception, the City of Green Bay has always been and continues to be Brown County's largest community.

Inventory and Analysis

This section of the Brown County Comprehensive Plan identifies the natural and cultural resources present within the County, notes current and future issues associated with each resource, and proposes actions and programs that the County should undertake to address those issues.

Surface Water

Lakes, rivers, and streams offer enjoyment, peace, and solitude. These surface waters provide such opportunities to anglers, boaters, hunters, water skiers, swimmers, sailors, and casual observers alike. They also drain the land after heavy rains, provide habitat for countless plants, fish, and animals, are a source of drinking water for many communities, and are a source of process water for industry and agriculture. Lands immediately adjacent to such waters have an abundance of cultural and archeological significance because they were often the location of Native American and early European settlements. For all these reasons and more, surface waters are typically the most important natural resource a community can possess.

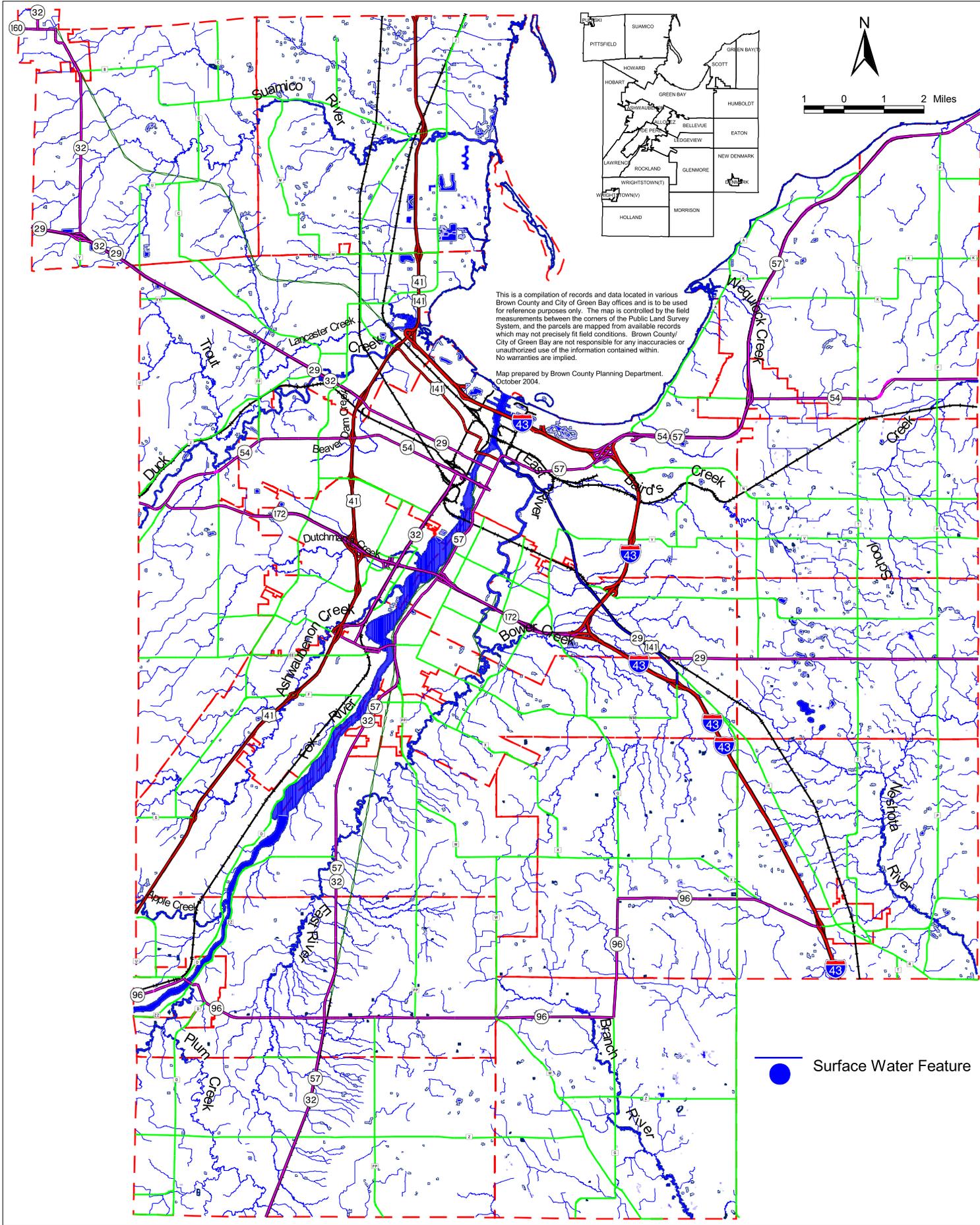
Because of this importance, numerous federal, state, and local laws and regulations have been created to protect surface waters. They range from the commerce clause of the United States Constitution to local floodland zoning regulations. The most heavily regulated waters are those that are determined to be natural and navigable.

Brown County contains numerous significant surface water resources. The largest and most important of which are the Bay of Green Bay and the Fox River. Based upon a 2000 land use inventory undertaken by the Brown County Planning Commission, surface water features (not including the bay) encompassed approximately 4,100 acres or about 1 percent of the County. See Figure 8-1 for the location of the major rivers and streams in Brown County.

Bay of Green Bay

Beyond serving as the starting point for early settlement and transportation to the interior of Wisconsin and, thus, being rich in historical and archeological significance, the Bay of Green Bay provides the largest potential for water-based recreational activities within Brown County with about 30 miles of shoreline. Although the eastern and southern shores are now largely developed, the majority of the western shore still remains undeveloped and available for future open space or recreational opportunities.

Figure 8-1
Surface Water Features
 Brown County, WI



Commercial fishing (primarily for perch, whitefish, and lake trout) had long been a popular activity within the bay until high pollutant loadings to the Fox River and the southern portion of the bay became a significant and widespread problem by the late 1940s and early 1950s. However, recent studies have indicated that a slight improvement has occurred in the water quality of the Bay of Green Bay and is most likely due to reduced point source pollution loading.

About 49,000 acres of the Bay of Green Bay are located within Brown County. Its depth is an average of about 26 feet. The bay is a hard water alkaline basin, and its bottom materials consist of very loose flocculent sediment.

Water quality impairments to the lower Bay of Green Bay include PCB fish consumption advisories, excessive levels of bacteria, and low levels of dissolved oxygen. Factors causing this impairment are varied and complex and are discussed in detail in the Lower Green Bay Remedial Action Plan but are generally attributable to nonpoint sources of pollution. For these reasons, the lower bay has been identified by the Wisconsin Department of Natural Resources as an Impaired Water, which means that it does not meet federal and state water quality standards.

Fox River

The Fox River is the largest and most important river in northeastern Wisconsin. It is a navigable river that flows northward 155 miles from its headwaters in southern Green Lake County in east-central Wisconsin to the Bay of Green Bay. Its basin drains over 2,700 square miles of east-central and northeastern Wisconsin. In Brown County, it extends 19 miles from the Village of Wrightstown to its downstream end at the Bay of



Green Bay and drains about 311 square miles, or almost half of Brown County. Its upstream portions within Brown County are characterized by steep, wooded bluffs that gradually flatten out to low plains near its confluence with the bay. Portions of the Fox River, particularly those portions in the Green Bay Metropolitan Area and in the Village of Wrightstown, are developed with

urban uses and densities. Suburban and rural uses and densities are located along the portion of the river between the metropolitan area and Wrightstown. The Fox River's water is hard and very turbid. The river bottom is mostly comprised of sand and silt. The river itself is classified as a Warm Water Sport Fishery.

The importance and history of the Fox River parallels that of the Bay of Green Bay. The Fox River served as the route into the interior of the state for early explorers, and many of Wisconsin's earliest communities were located along its banks.

In addition to being Brown County's largest river, the Fox River also plays a very large role in determining the overall water quality of the lower Bay of Green Bay. As with the bay, the Fox River has experienced high pollutant loadings in the past but recently has

shown signs of a slight improvement in water quality. Historically, fishing and recreation once played a vital and important role along the Fox River but, until recently, had almost entirely vanished. By the 1940s, pollution in the river had increased to the point where its fisheries were severely damaged, and its scenic and recreational values were lost. With passage and implementation of the Clean Water Act in the early 1970s, the Fox River's water quality began to improve, which in turn has resulted in recovering fish populations and increased recreational use. The walleye fishing tournaments are now hosted on the Fox River and the Bay of Green Bay, and in 2000 and 2001, national walleye fishing tournaments were held.

However, stormwater and agricultural runoff (nonpoint source pollution) continue to be the greatest water quality threats. The Fox River continues to be exposed to many adverse environmental impacts, including excessive sedimentation, nutrient enrichment, and turbidity due to nonpoint source pollution, urban stormwater runoff, storm sewer discharges, and impoundment of the river. Polychlorinated Biphenyl (PCB) accumulation and fish consumption advisories due to past industrial point source discharges are also present. The Fox River has been identified as the second largest contributor of suspended sediment and the largest contributor of phosphorus to Lake Michigan.

For these reasons, the Fox River has been identified by the Wisconsin Department of Natural Resources as an Impaired Water, which means that it does not meet federal and state water quality standards. Reduction of these impacts would improve the overall health and appearance of the Fox River.

Other Surface Water Features

Other significant surface water resources in Brown County include its three named lakes: the small Lily, Middle, and Third Lakes located adjacent to one another in the eastern portion of the County. Also included are the numerous smaller rivers and streams, the biggest of which include Duck Creek, the East River, and the Suamico River.

Lily Lake, Middle Lake, and Third Lake in the Town of Eaton in the eastern portion of the County are the only natural lakes within Brown County. They comprise a combined surface water area of about 50 acres. They are hard water lakes that are fed by groundwater seepage. None of these lakes have inlets, and only Third Lake has an intermittent outlet that drains it. All of the lakes are located in a shallow depression upon Carbondale muck soils. The bottom materials consist of peat, mulch, and rock debris. Fishing on the lakes is poor due to periodic winterkills. Agricultural land uses and a limited amount of rural residential development are located adjacent to these lakes. In addition, Lily Lake and a small portion of Middle Lake are located within a county park.

Lily Lake is a popular fishing destination for anglers who use small boats, fish from shore, or fish on the ice in winter. Recent Wisconsin Department of Natural Resources surveys indicate that pan fish, bluegill, sunfish, and yellow perch dominate the fishery of the lake and that large-mouth bass, small-mouth bass, and northern pike are also present. It was estimated that during 1999, anglers fished for over 21,000 hours on Lily Lake, while catching and harvesting thousands of fish. In the past, nutrient rich waters in the

lake have led to algal blooms and periodic winterkills. Limited information exists for Middle and Third Lakes. It is likely that pan fish dominate the fisheries of these two lakes.

Duck Creek is tributary to the Bay of Green Bay and is located in the Villages of Hobart and Howard in the western portion of the County. From its headwaters in Outagamie County, it flows northeasterly until it flows into the bay in the Village of Howard. It is a slow-moving stream and is classified as a Warm Water Sport Fishery. Agricultural and limited rural development are located along the majority of this stream; although, significant amounts of urban development outside its floodway and wetlands are present in the Village of Howard and the extreme northeastern portion of the Village of Hobart. Key threats to the health of this waterway are sedimentation due to erosion from construction sites and farm fields and excessive nutrients caused by nonpoint source pollution due to storm runoff from lawns, farms, and other sources.

The East River is a major tributary of the Fox River. It is a navigable river that flows northward 39 miles from its headwaters in northern Calumet County to one mile upstream of the Bay of Green Bay/Fox River mouth, and it is east of and generally parallel to the Fox River. In Brown County, it extends about 33 miles from the Brown County/Calumet County border east of STH 32/57 to its downstream end at the Fox River one mile south of the Bay of Green Bay and drains about 148 square miles of the County. It is a sluggish, hard water, and very turbid stream. The northernmost third of the river is classified as a Warm Water Sport Fishery. While urban development is adjacent to approximately the northern third of the stream, agricultural lands are adjacent to the remainder of the stream. Many of its banks have been pastured and are badly eroded. Sediments have blanketed the streambed (filling in pools and riffles), thereby degrading habitat for fish species and associated fauna. The East River continues to be exposed to many adverse environmental impacts, including sedimentation, excessive nutrient inputs, low levels of dissolved oxygen for a Warm Water Sport Fishery, loss of in-stream habitat, excessive suspended solids leading to turbidity, and fish kills due to nonpoint source pollution, cropland erosion, and barnyard runoff. For these reasons, the East River has also been identified as an Impaired Water.

In 1987, the East River was designated as a priority watershed under the Wisconsin Nonpoint Source Water Pollution Abatement Program. Subsequently in March 1993, a report titled "Nonpoint Source Control Plan for the East River Priority Watershed Project" was prepared by a consortium of state, county, and local agencies. The intent of the plan is to guide the implementation of nonpoint source control measures within the East River watershed and to provide the basis for the WDNR to enter into cost-share and local assistance grants to implement water quality improvement measures. The plan's implementation recommendations, including education, installation of vegetative buffer strips, and other techniques, should continue to be implemented throughout the East River Watershed to continue the East River's improvement in overall water quality.

The Suamico River is a tributary of the bay. It is a navigable river that flows eastward 16 miles from its headwaters in Shawano and Outagamie Counties to the bay in the Village of Suamico. In Brown County, it is a sluggish, hard water, and very turbid stream. The easternmost portion of the river is classified as a Warm Water Sport Fishery with bottom materials comprised of sand and silt. The remainder is classified as a Full Fish and Other

Aquatic Life Water with bottom materials comprised of rubble and gravel. Agricultural and rural residential land uses are adjacent to the majority of the stream. The Suamico River continues to be exposed to nonpoint source pollution.

Many other perennial and intermittent, navigable and non-navigable, named and unnamed, studied and unstudied streams are present within Brown County.

Drainage

Brown County is located within the Great Lakes-St. Lawrence drainage basin. Approximately one-fourth of the County is drained by streams tributary to Lake Michigan, and the remainder of the area is drained by streams tributary to the Bay of Green Bay and through the bay to Lake Michigan. As shown on Figure 8-2, portions of four river basins and ten watersheds are located within the County. A watershed is an area of land where all of the water on it and under it drains to the same place. Within this area of land, all living things are linked by the common waterway.

Lower Fox River Basin

About 311 square miles of the County, or about 58 percent, are located within the Lower Fox River Basin. Portions of the Apple and Ashwaubenon Creeks Watershed, the Duck Creek Watershed, the East River Watershed, and the Plum Creek Watershed are located within this area. These lands generally drain northeastward to the Bay of Green Bay.

The East River Watershed encompasses about 203 square miles, or about 38 percent of the County. Major streams within this area include the East and Fox Rivers and Baird and Bower Creeks.

The Apple and Ashwaubenon Creeks Watershed encompass about 47 square miles, or about 9 percent of the County. Major streams within this area include Apple, Ashwaubenon, and Dutchman Creeks.

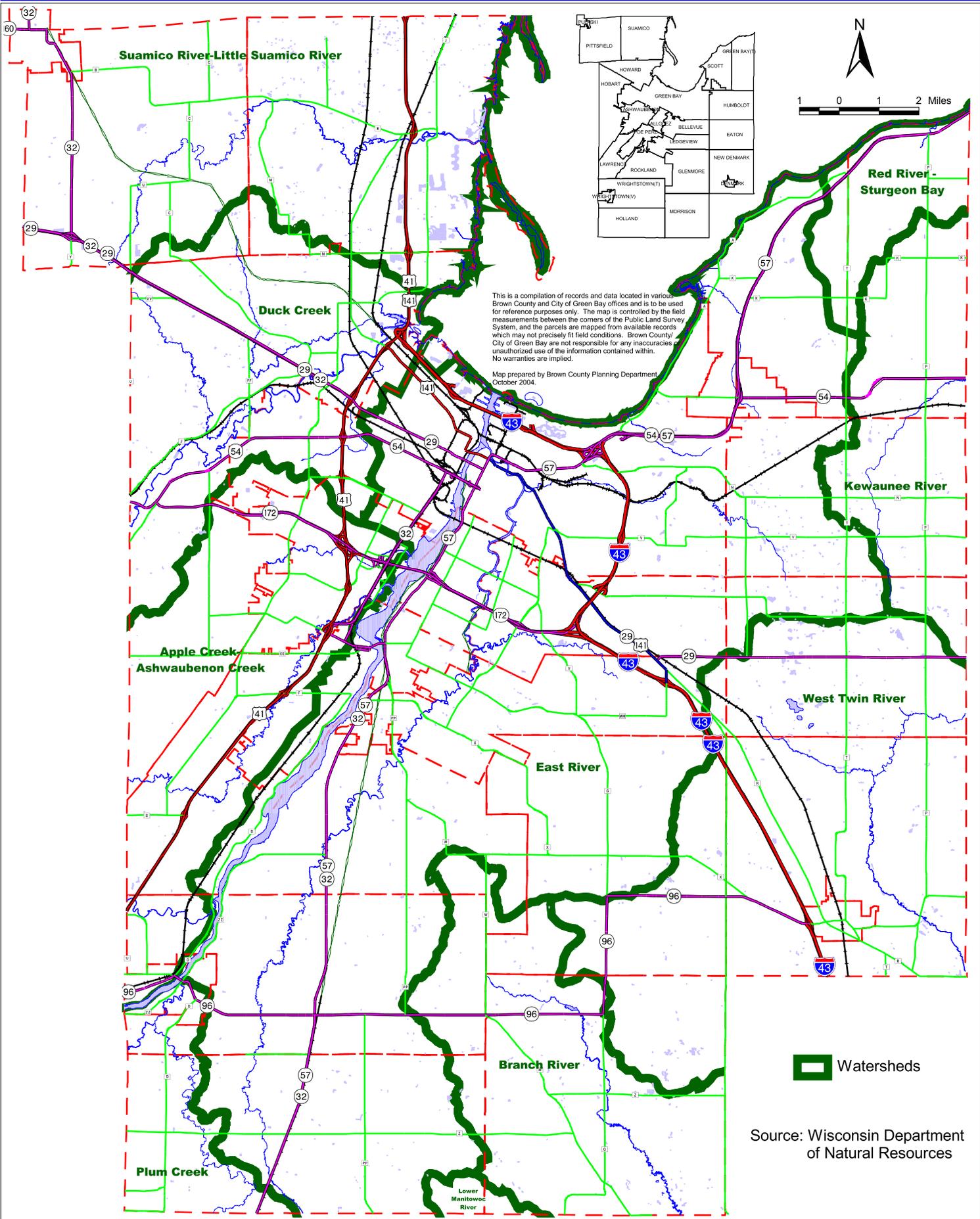
The Plum Creek Watershed encompasses about 13 square miles, or about 2 percent of the County. Major streams within this area include Plum Creek.

The Duck Creek Watershed encompasses about 48 square miles, or about 9 percent of the County. Major streams within this area include Duck and Trout Creeks.

Twin-Door-Kewaunee River Basin

About 115 square miles of the County, or about 21 percent, are located within the Twin-Door-Kewaunee River Basin. Portions of the Kewaunee River Watershed, the Red River and Sturgeon Bay Watershed, and the West Twin River Watershed are located within this area. The lands within the Kewaunee River Watershed and the West Twin River Watershed generally drain southeastward to Lake Michigan, while the lands within the Red River and Sturgeon Bay Watershed generally drain northwestward to the Bay of Green Bay.

Figure 8-2
Drainage Basins
 Brown County, WI



The West Twin River Watershed encompasses about 75 square miles, or about 14 percent of the County. Major streams within this area include the Devils and Neshota Rivers and King and Twin Hill Creeks.

The Kewaunee River Watershed encompasses about 27 square miles, or about 5 percent of the planning area. Major streams within this area include School Creek.

The Red River and Sturgeon Bay Watershed encompasses about 13 square miles, or about 2 percent of the planning area. Major streams within this area include Gilson Creek.

Upper Green Bay Basin

About 69 square miles of the County, or about 13 percent, are located within the Upper Green Bay Basin. A portion of the Suamico and Little Suamico Rivers Watershed is located within this area. These lands generally drain eastward to the bay. Major streams within this area include the Suamico River.

Manitowoc River Basin

About 42 square miles of the County, or about 8 percent, are located within the Manitowoc River Basin. Portions of the Branch River Watershed and the Lower Manitowoc River Watershed are located within this area. These lands generally drain southeastward to the Manitowoc River just west of the City of Manitowoc.

The Branch River Watershed encompasses about 40 square miles, or about 7 percent of the County. Major streams within this area include the Branch River.

The Lower Manitowoc River Watershed encompasses about 2 square miles, or about 1 percent of the County. Major streams within this area include Mud Creek.

Concerns

A number of studies and programs have been undertaken by various federal, state, and regional agencies of one aspect or another of water quality within Brown County. A brief list of the more significant of those studies and programs would include the U.S.G.S. National Water Quality Assessment Program, the Wisconsin Department of Natural Resources 303(d) Waterbody Program, the Wisconsin Department of Natural Resources Water Quality Management Plans, the Wisconsin Department of Natural Resources Lower Green Bay Remedial Action Plan, and the Brown County Land and Water Plan.

Each of these studies and programs notes that many of the surface water features in Brown County have been subject to and continue to experience significant amounts of damage and pollution. For instance, Section 303(d) of the federal Clean Water Act, which requires that states identify those waters that are not meeting water quality standards, has identified the lower Bay of Green Bay, the East and Fox Rivers, an unnamed tributary to the East River, and Duck, Dutchman, and Trout Creeks as not doing so. As such, they have all been identified as Impaired Waters. Section 303(d) of the federal Clean Water Act further requires that this information be used by each state as the basis for development of Total Maximum Daily Loads (TMDLs), an analysis of the maximum

amounts of pollutants a water body can receive each day while still meeting state-designated water quality standards and uses. This will be used to establish stream specific pollutant limits, pollution reduction goals, and guidelines for stormwater management and erosion control best management practices for businesses and governments.

A consensus of these and other studies indicates that the major threat to water quality within Brown County, the state, and the country continues to be stormwater and agricultural runoff (nonpoint source pollution).

Recommendations

Due to the overwhelming importance to the health, welfare, and safety of the citizens of Brown County and to its quality of life, identity, and character, the protection and preservation of the County's surface waters should be its highest natural resources priority. In addition to the general floodplain, shoreland, environmentally sensitive area, conservancy, park, parkway, and cultural preservation recommendations that follow, the County should also incorporate the conservation by design standards, pedestrian-oriented transportation standards, architectural design standards, and landscaping recommendations set forth in this and other chapters of the comprehensive plan.

One action that the County could start at minimal cost is to work with local nonprofit and volunteer groups to stabilize the shorelines of and establish vegetated buffers along the County's rivers, streams, and creeks. This could consist of planting native grasses, flowers, shrubs, and trees in order to reduce erosion, increase infiltration, and filter out pollutants. This can occur in any setting imaginable, including both developed and undeveloped areas and urban and rural areas.

Efforts to showcase the Bay of Green Bay and the Fox River as the central natural resource attractions of the County should continue and would then address many of the objectives of this plan, as well.

Implementing these and the recommendations to follow would address the goal and objectives of this chapter, the issues raised at the visioning session, and the concerns raised at the discussion group sessions. Two of the top ten ranked issues at the visioning session concerned the importance of water quality protection.

Floodplains

Floodplains are natural extensions of surface waters. They store floodwaters, reduce flood peaks and velocities, and reduce sedimentation. They also provide wildlife habitat and serve to filter out pollution from water.

Like surface waters, the importance of floodplains is also recognized and is regulated by federal, state, and local governments. The State of Wisconsin mandates floodplain zoning for all communities under Wisconsin Administrative Code NR 116. These minimum standards must be implemented in order to meet eligibility requirements for federal flood insurance programs. As required by NR 116, Brown County has adopted and enforces Chapter 22 of the Brown County Code. In regard to floodplains, this

Shorelands, Floodplains and Wetlands Ordinance regulates development and other land-disturbing activities, such as filling, within the regional flood areas of the unincorporated communities within Brown County.

For regulatory, insurance, and planning purposes, the 100-year recurrence interval flood hazard area (also referred to as the regional flood) is most often used. This is the land that has a 1 percent chance of being flooded in any given year. Although all rivers and streams possess floodplains, the only mapped floodplains within the County are those associated with the larger rivers and streams and many of those that have experienced significant amounts of development. The Federal Emergency Management Agency (FEMA) has prepared floodplain mapping for many of the larger rivers and streams, such as the East and Fox Rivers. The Brown County Planning Commission and many local communities also often require flood studies and the mapping of floodplains when development occurs adjacent to rivers and streams.

Figure 8-3 presents a diagram of a floodplain and identifies its constituent parts, including both the floodway and flood fringe.

The following are several threats to floodplains and the resource values that they represent:

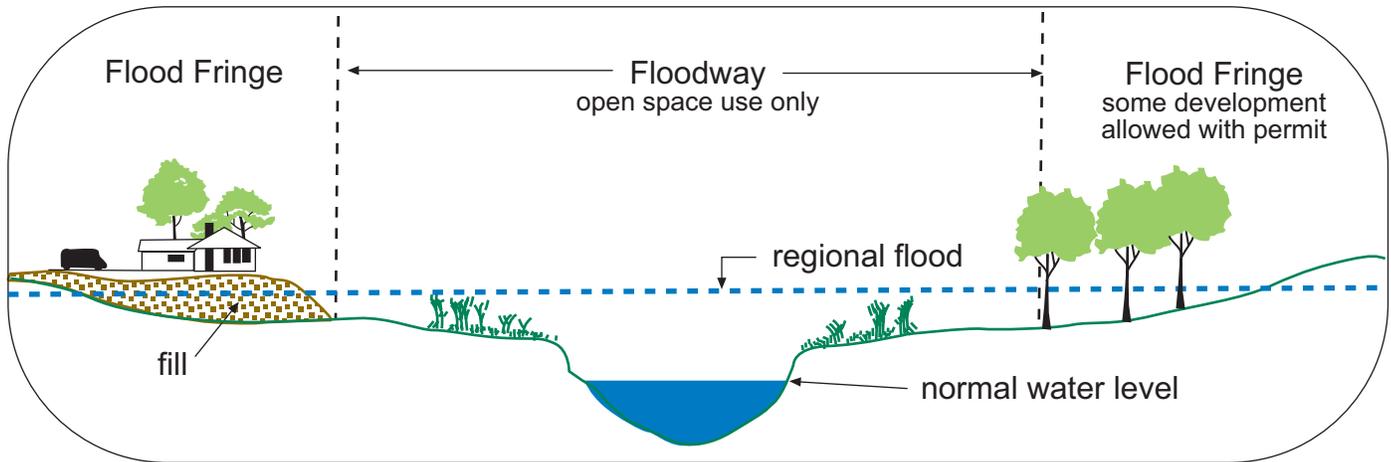
- *Filling*, which might diminish the flood storage capacity of the floodplain. This could have the effect of increasing the elevation or velocity of floodwaters to the detriment of upstream or downstream properties.
- *Grading*, which can degrade the resource functions of floodplains, such as filtering pollutants or providing habitat.
- *Impediments*, which include the encroachment of buildings or the construction of undersized culverts and bridge openings in the floodplain and which can adversely affect the size and proper functioning of the floodplain and can pose potential hazards to adjacent residents and passersby.
- *Impervious surfaces*, which can increase the velocity of the flood flows, increase the amount of pollutants, reduce the amount of natural wildlife habitat, and limit the amount of infiltration of stormwater runoff into the ground.

The FEMA-mapped 100-year floodplains within the County are shown in Figure 8-4. In addition to these mapped floodplains, local communities or developers have completed other flood studies during the land subdivision or development process. However, these studies are not yet available in a single standardized format or location.

Due to the lack of uniform and consistent flood data, a new series of flood studies and an effort to incorporate previously prepared flood studies are underway by FEMA and the DNR. When completed, this project will result in the compilation in a standardized format at one location with most of the flood studies currently undertaken to date. Future similar projects may also be possible to further expand the amount and quality of floodplain data in Brown County. It is, therefore, recommended that when flood studies are required by Brown County, they should be submitted in a standardized and digital format for easier incorporation into the County GIS data system to streamline their eventual incorporation into the FEMA mapping efforts.

Figure 8-3

Floodlands and Floodplain Zoning



Definitions

Floodplain - That land which has been or may be covered by floodwater during the regional flood. The floodplain includes the floodway and floodfringe areas.

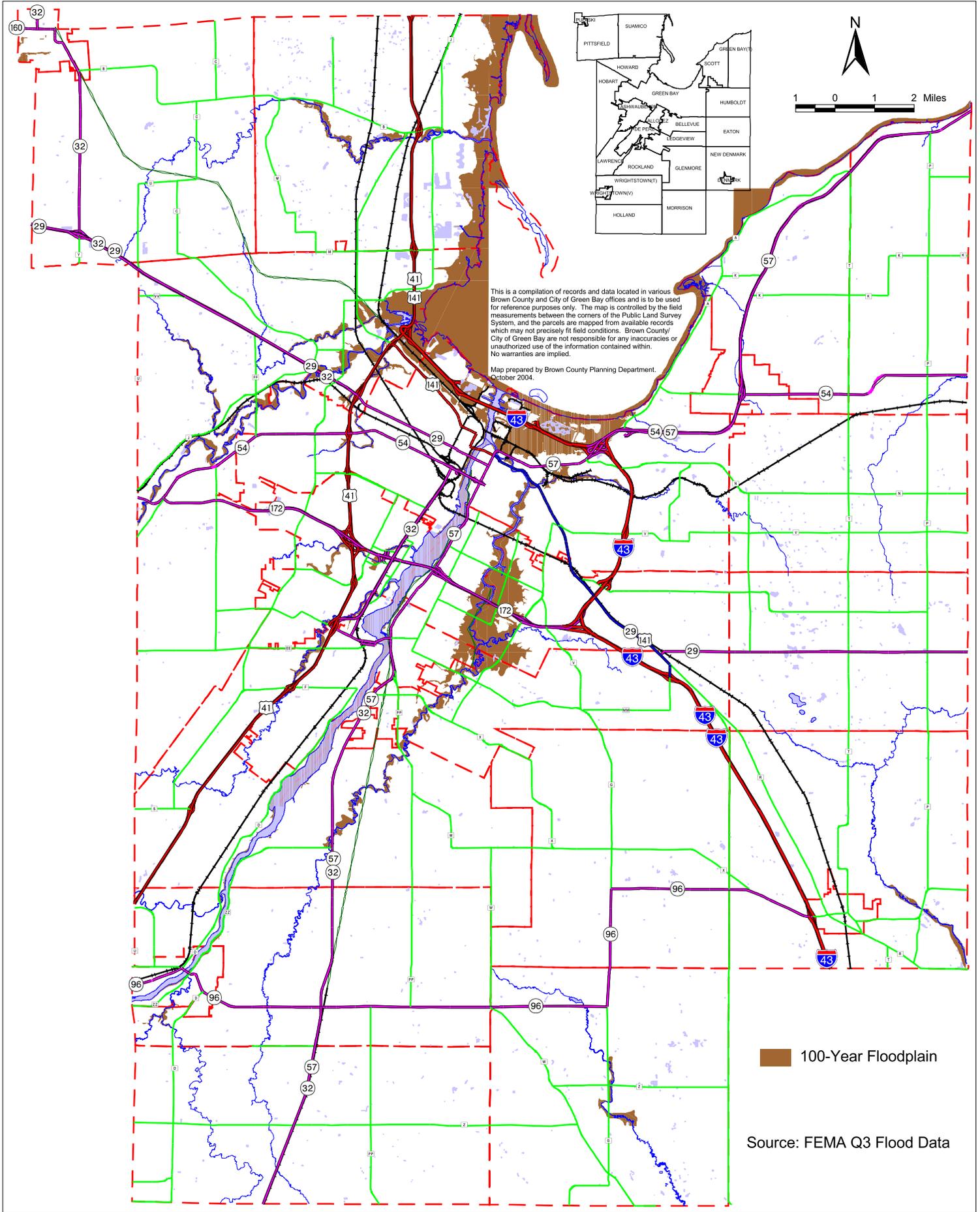
Floodway - The channel of a river or stream, and those portions of the floodplain adjoining the channel, required to carry the regional flood discharge. The floodway is the most dangerous of the floodplain, it is associated with moving water.

Floodfringe - The portion of the floodplain outside of the floodway, which is covered by floodwater during the regional flood, it is associated with standing water rather than flowing water.

Regional Flood - That area where large floods are known to have occurred in Wisconsin, or which may be expected to occur, at a frequency of one percent during any given year. Also referred to as the 100-year floodplain, or 100-year recurrence interval flood hazard area.

Source: Wisconsin Department of Natural Resources

Figure 8-4
 100-Year FEMA Floodplains
 Brown County, WI



It is also recommended that a new flood study be undertaken for the East River to incorporate and assess the development of the watershed and its impact upon the floodplain since the last flood study was undertaken in 1972.

Additionally, the County should develop a consistent policy regarding flood studies and stormwater management to understand the impact on and mitigate some of the impacts of such new development on floodplains, flooding, and drainage.

To address nonpoint source pollution concerns, potential flooding, and the loss and fragmentation of aquatic and terrestrial wildlife habitat, the County should study the advantages and disadvantages of increasing county regulatory protection of floodplains. Such a study should also include an inventory and analysis of more than just floodplains. It should involve a comprehensive inventory and analysis of the water quality benefits, current size, location and quality of natural resource features, the degree of biodiversity, and the goals to be achieved, such as natural resource preservation and pollution reduction in general and, specifically, nonpoint source pollution reduction. The benefits to natural resource preservation, stream and flood protection, biodiversity and habitat loss and fragmentation, and consistency with other regulatory programs should be reviewed in light of development patterns and development restrictions. The County should also consistently enforce and periodically review its Shorelands, Floodplains and Wetlands Ordinance and its subdivision ordinance to ensure that they continue to achieve their stated objectives and to ensure consistency with one another and with state and federal requirements, such as those in the Brown County Sewage Plan. It is envisioned that implementation of the recommendations of this study could result in a clearer, more concise, and easier to administer environmentally sensitive area definition while at the same time improving water quality. It is envisioned that in some instances this may also result in reduced ESAs and increased ESAs in other instances.

It is also recommended that Brown County update its Shorelands, Floodplains and Wetlands Ordinance to reflect changes in these programs at the state level, as well as to further clarify and streamline these programs. The DNR has requested that Brown County have separate shoreland, floodplain, and wetland ordinances rather than one ordinance for all three topics.

Shorelands and Stream Corridors

Shorelands are the areas of interface between land and water. In its natural condition, these shorelands are comprised of thick and diverse vegetation that protect lakes, rivers and streams, and natural scenic beauty and provide fish and wildlife habitat. If these areas are developed, this vegetation is lost, and fish, wildlife, and water quality is damaged.

Much of these lands within Brown County have been developed, and the natural resources they once possessed and the benefits they provided are now gone. Most of the shoreline along the east and south sides of the bay, most of the shoreline along the Fox River, most of the shoreline along the portions of the East River, Ashwaubenon, Beaver Dam, Duck, Dutchman, and Trout Creeks within the Green Bay Metropolitan Area, and small portions of numerous creeks and streams in less urban areas of the County have been developed.

Due in large part to these changes, as well as to the removal of all of the native upland woods and filling and draining of many of the wetlands that were scattered throughout the rest of the County, habitat loss, deterioration and fragmentation, nonpoint source pollution, and invasive species have become common environmental problems within the County. These problems, in turn, have led to declines and changes in biodiversity and to the overall health and sustainability of the natural environment.

Like floodlands, state and local governments recognize the importance of shorelands. Wisconsin mandates shoreland zoning for all unincorporated communities under Wisconsin Administrative Code NR 115 and recommends that all other communities adopt similar standards. Figure 8-5 presents a diagram of the state-mandated minimum shoreland zoning requirements. Shoreland zoning is primarily intended to control the intensity of development near and to create a buffer around lakes, rivers, and streams. The buffer is intended to remain an undeveloped strip of land to protect the water from the physical, chemical, hydrological, and visual impacts of nearby development and to protect fish and wildlife habitat. The Brown County Zoning Department (with oversight provided by the Wisconsin Department of Natural Resources) is the agency within unincorporated communities that typically enforces these standards.

However, these regulations do not apply to incorporated communities, except for those lands annexed after May 7, 1982. Those lands that were annexed from a town after this date must abide by the same state-mandated shoreland zoning requirements previously noted, and enforcement (with oversight by the DNR) must be provided by the incorporated community. These standards do not apply to non-navigable waters. However, all lakes, rivers, and streams - no matter their size - should be assumed to be navigable until determined otherwise by the DNR.

As shorelands are closely related to floodplains, so are the threats to the resource values of shorelands. In addition, research being conducted by the DNR and others indicates that current state-mandated shoreland zoning standards might not be adequate to properly protect water quality and shoreland ecosystems.

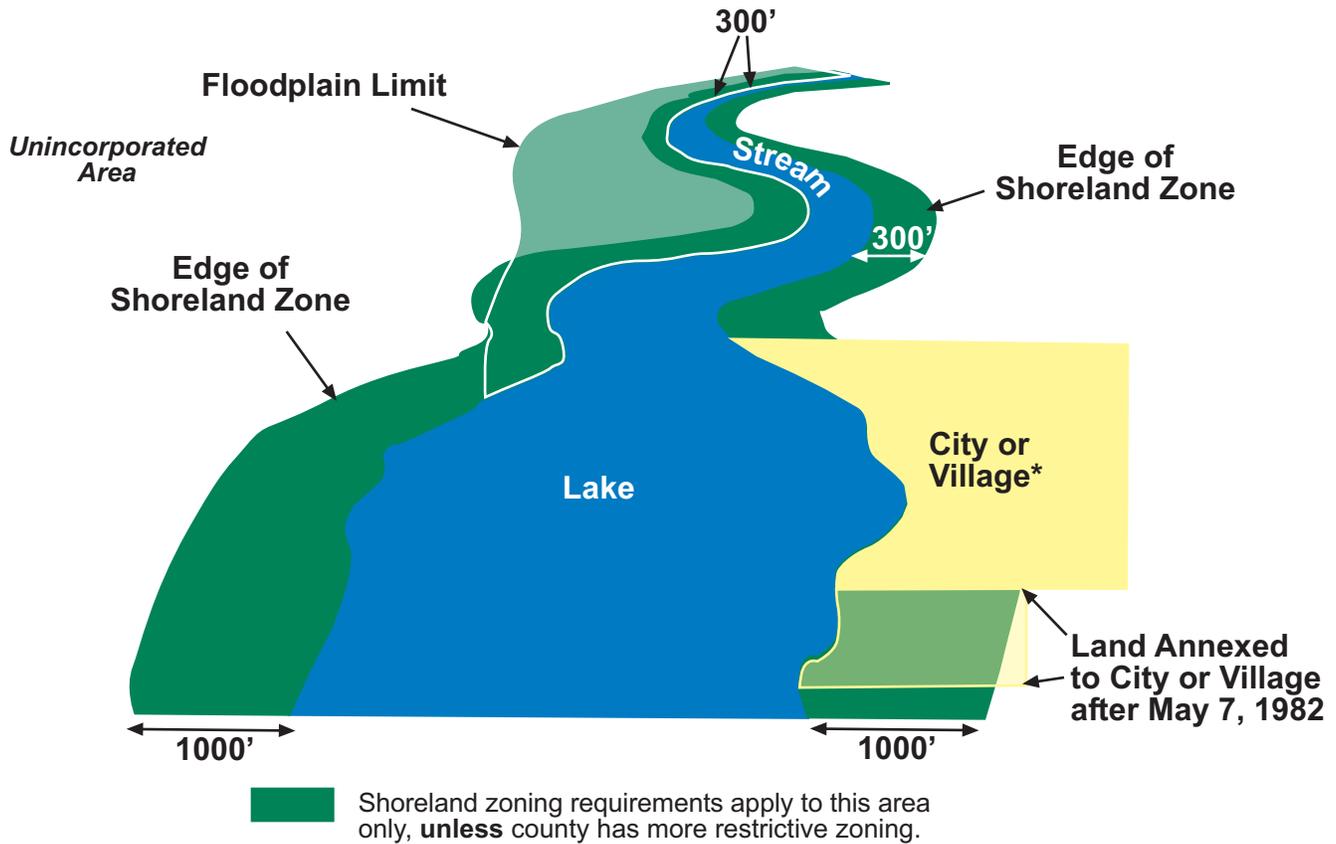
Because of the importance of surface waters to Brown County, it is recommended that the County continue to consistently enforce and periodically review its Shorelands, Floodplains and Wetlands Ordinance and its subdivision ordinance to ensure that they continue to achieve their stated objectives and to ensure consistency with one another and with state and federal requirements. In this regard, it is proposed that a uniform setback/buffer, setback averaging procedure, and definition of permitted uses be established within these ordinances and related plans, such as the Brown County Sewage Plan. It is also proposed that these ordinances be revised to reflect changes in the state shoreland program, including shoreland development standards, and to provide separate shoreland, floodplain, and wetland ordinances.

Wetlands

Wetlands are defined as areas where water is at or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which have soils indicative of wet conditions. Wetlands are a significant natural resource that have several important functions. They enhance water quality by absorbing excess nutrients

Figure 8-5

Shorelands and Shoreland Zoning



*Cities and villages are required to zone wetlands within the shoreland.

Definitions

Shoreland Zone - The shoreland zone is located within 1,000 feet of the ordinary high water mark (OHWM) of a "navigable" lake, pond or flowage or within 300 feet of the OHWM of a "navigable" stream or river or to the landward side of the floodplain, whichever distance is greater.

Ordinary High Water Mark - The ordinary high water mark is the boundary between upland and lake or riverbed. It is the point on the bank or shore up to which the presence and action of the water is so continuous as to leave a distinct mark either by erosion, destruction of terrestrial vegetation, or other easily recognized characteristics.

Navigable - Generally, a waterway is navigable if it has a bed and banks and can float a canoe at some time each year - even if only during spring floods. Even small intermittent streams that are seasonally dry may meet the test of navigability. Navigable lakes and streams are public waterways protected by law for all citizens.

Unincorporated Areas - Lands lying outside of incorporated cities or villages.

Source: Wisconsin Department of Natural Resources

into the roots, stems, and leaves of its plants and by slowing the flow of water to let suspended pollutants settle out. Wetlands help regulate stormwater runoff, which minimizes floods and periods of low flow. They also provide essential habitat for many types of wildlife and offer recreational, educational, and aesthetic opportunities to the community.



After the retreat of the glaciers and prior to significant human habitation of the area, Brown County is believed to have once possessed extensive areas of wetlands in the northern and southern portions of the County.

In the north, there once existed conifer swamps along the west shore of the bay and marshes along the mouth of the Fox River and along the southern shore of the bay. Extensive areas of conifer swamps once existed in the southern portion of the County. Many scattered smaller areas of wetlands were also located along the low-lying areas of the many rivers and streams within Brown County. Information obtained from the original land survey field notes written in the mid-1800s for Brown County indicates that at that time wetlands occupied about 51 square miles, or about 10 percent of the County.¹⁶

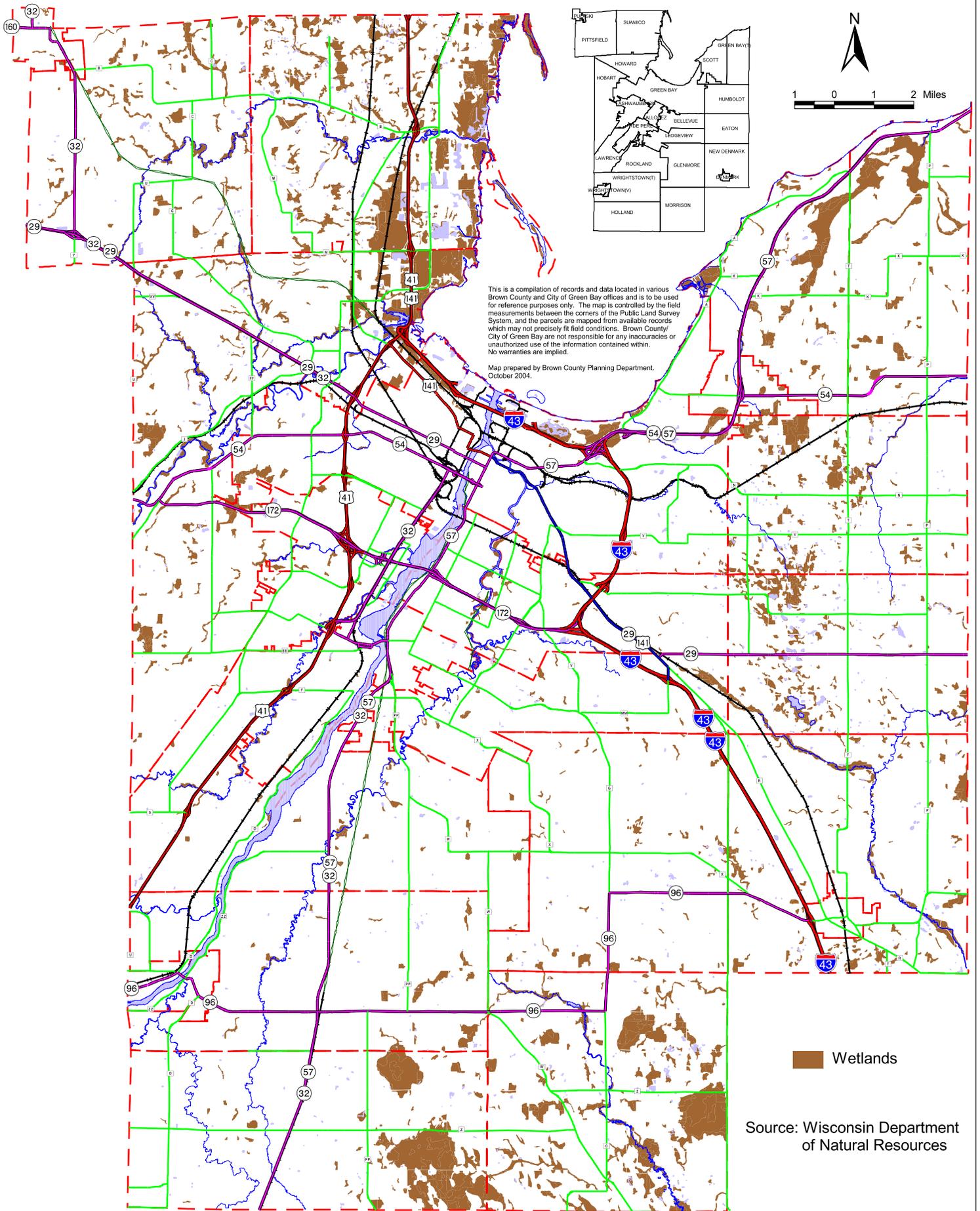
Today many of these wetlands have been destroyed or degraded through development, farming, and grazing. The significant loss of wetlands along the southern and eastern shores of the Bay of Green Bay provides a clear example of this trend. However, the wetlands along the west shore of the bay, while adversely impacted by adjacent development and past farming practices, still remain the largest wetlands complex within Brown County. Other relatively large areas of wetlands are located in the southeastern portion of the Town of Holland and the northern portion of the Towns of Scott and Green Bay.

Pursuant to federal and state regulations, all communities are required to protect wetlands. In Wisconsin's Administrative Code NR 117, all cities and villages, and under NR 115, all counties for unincorporated areas are required to protect through shoreland-wetland zoning all unfilled wetlands that are within their community's shoreland areas, which are five acres or larger, that are shown on the Wisconsin Wetlands Inventory map. Brown County's Shorelands, Floodplains and Wetlands Ordinance contains those provisions and requirements.

The Wisconsin Wetlands Inventory maps for Brown County identify wetlands throughout the entire County, primarily along its lakes, rivers, and streams, and they are shown on Figure 8-6. According to the latest County land use inventory, about 45 square miles of the County, or about 8 percent, were encompassed by wetlands in 2000.

¹⁶ Based upon a 1976 extrapolation by the Wisconsin Department of Natural Resources of the information contained within the original land survey field notes of Brown County taken in the mid-1800s. This estimate most likely undercounts wetland acreage as most small wetland areas were missed or were included with the adjacent vegetation type.

Figure 8-6
WDNR Wetlands
 Brown County, WI



The primary threat to wetlands is filling. Although an array of federal, state, and local regulations help protect wetlands, wetlands (especially smaller ones) are still lost to road construction and other development activities. The draining of wetlands can also occur through tiling and rerouting of surface water. Some agricultural areas are actually former wetlands that would revert back to wetlands if left undisturbed.

Even if wetlands are not directly filled, drained, or developed, they still could be impacted by adjacent uses. Sedimentation from erosion or pollutants entering via stormwater runoff could destroy a wetland. Under these conditions, previously healthy and diverse wetlands could be reduced to degraded “muck holes” where only the hardiest plants like cattails could survive. Invasive plant species, such as purple loosestrife, could also negatively affect wetlands.

Because of the importance of wetlands to Brown County, it is recommended that the County continue to consistently enforce and periodically review its Shorelands, Floodplains and Wetlands Ordinance and its subdivision ordinance to ensure that they continue to achieve their stated objectives and to ensure consistency with one another and with state and federal requirements. In this regard, it is proposed that a uniform setback/buffer, setback averaging procedure, and definition of permitted uses be established within these ordinances and related plans, such as the Brown County Sewage Plan.

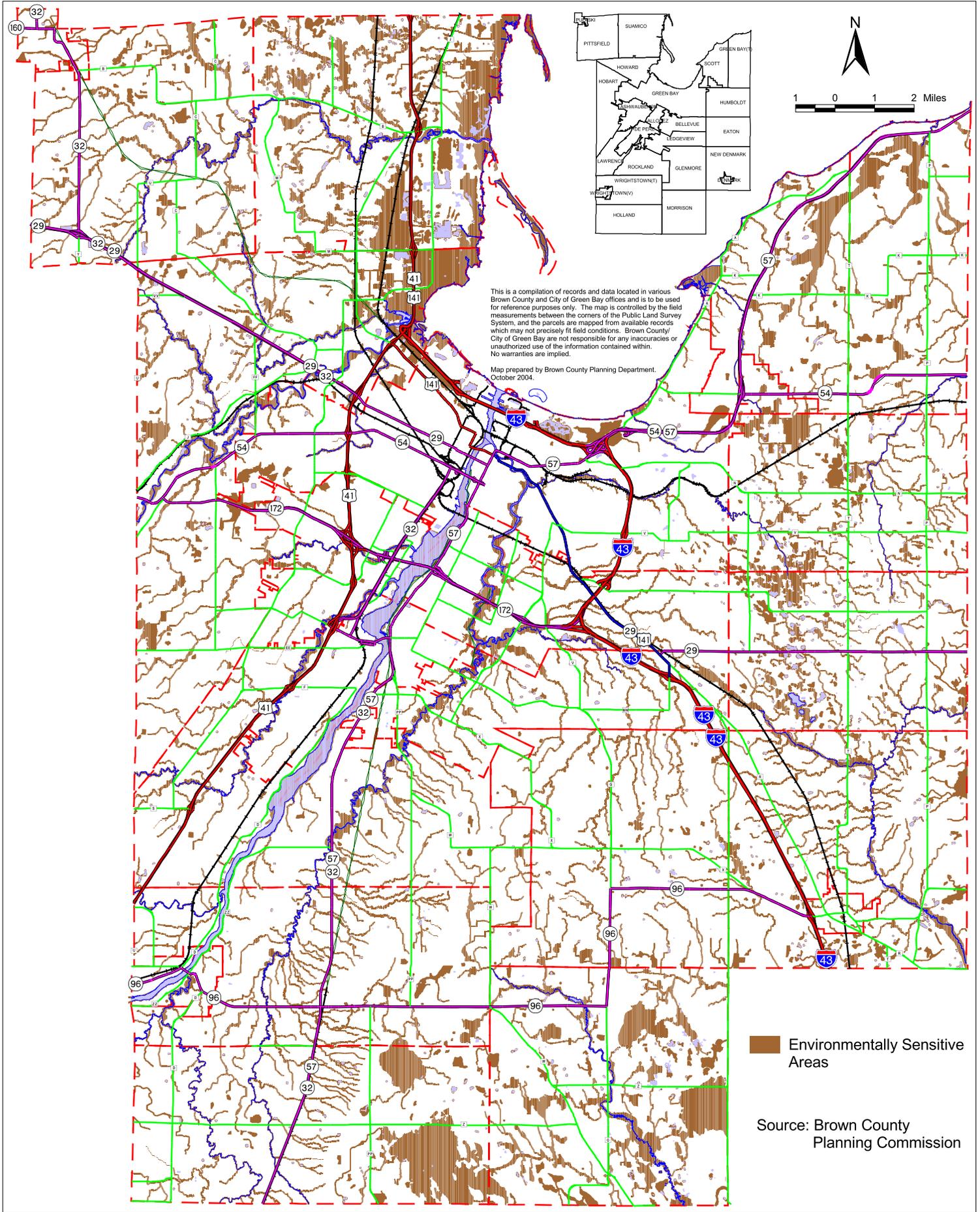
It is also recommended that Brown County update its Shorelands, Floodplains and Wetlands Ordinance to reflect changes in these programs at the state level, as well as to further clarify and streamline these programs. The DNR has mandated that Brown County have separate shoreland, floodplain, and wetland ordinances rather than one ordinance for all three topics. It is also proposed that Brown County study the feasibility of extending the proposed wetland ordinance beyond the shoreland portion of unincorporated areas. This study should be undertaken in cooperation with the DNR and with a number of goals, including provision of a more timely wetland delineation process, more accurate wetland delineations, and more uniform and consistent protection of wetlands.

It is also recommended that the County expand its efforts to work with the DNR, local communities, and local service groups to remove invasive species of plants from the County’s wetland, shoreland, and floodplain areas. Brown County should encourage and assist local units of government in their efforts to identify and protect significant natural resource features, such as wetlands, floodplains, and streams. Brown County should also assist the Army Corps of Engineers and the Wisconsin Department of Natural Resources to investigate ways to more efficiently and promptly obtain wetland delineations and, if possible and appropriate, wetland delineation approvals.

Environmentally Sensitive Areas

Environmentally sensitive areas (ESAs) are defined by the Brown County Planning Commission as portions of the landscape consisting of valuable natural resource features that should be protected from intensive development. They include all lakes, rivers, streams, wetlands, floodways, and other locally designated significant and unique natural resource features. ESAs also include a setback or buffer from these features. In

Figure 8-7
Environmentally Sensitive Areas
 Brown County, WI



addition, they include areas of steep slopes (slopes 12 percent or greater) when located within or adjacent to any of the features previously noted (see Figure 8-7). According to the latest County land use inventory, about 102 square miles of the County, or about 19 percent, are encompassed by ESAs¹⁷. Research and experience from throughout Wisconsin indicate that the potential exists for significant adverse water quality impacts if these areas are developed.

Identification and protection of ESAs are required by both state and county regulations under Wisconsin Administrative Code NR 121 and the Brown County Sewage Plan. The Wisconsin Department of Natural Resources and the Brown County Planning Commission enforce them during the review and approval of all public sanitary sewer extensions. The Brown County Planning Commission also enforces them during its review and approval of land subdivisions within the villages and towns of Brown County. The intent of the ESAs is to protect water-related natural resource features from the adverse impacts often associated with development. Due to the specifics of the Wisconsin Administrative Code that pertain to these ESAs, these rules and regulations apply only to sewered development and related activities. Development not requiring a land division and utilizing private onsite sewage disposal systems is not subject to these regulations. However, the Brown County Subdivision Ordinance (Chapter 21, Brown County Code of Ordinances) does regulate ESAs in all land divisions less than 10 acres in size regardless of type of sewage disposal system.

In general, sewered development and associated filling, excavation, grading, and clearing are prohibited within ESAs. However, certain non-intensive uses, such as public utilities and public recreation, are often allowed within these areas. In conjunction with proper erosion control and stormwater management practices both during and subsequent to development within and adjacent to these areas, protection of the ESAs could provide numerous benefits, including:

- Recharge of groundwater.
- Maintenance of surface water and groundwater quality.
- Attenuation of flood flows and stages.
- Maintenance of base flows of streams and watercourses.
- Reduction of soil erosion.
- Abatement of air pollution.
- Abatement of noise pollution.
- Favorable modification of microclimates.
- Facilitation of the movement of wildlife and provision of game and non-game wildlife habitat.
- Facilitation of the dispersal of plant seeds.

¹⁷ This estimate does not include steep slopes and those floodways identified in local flood studies. These two sources of ESA information are still being collected and have not yet been included in the countywide ESA maps.

- Protection of plant and animal diversity.
- Protection of rare, threatened, and endangered species.

Threats to ESAs are similar to those of floodplains and shorelands. In addition, the quality and effectiveness of ESAs could be severely reduced should adjacent development change drainage patterns or remove native vegetation from the lands within or immediately adjacent to the ESAs. Such disturbances can also introduce invasive plant species to the ESAs, which can result in loss of native vegetation, diversity, and habitat.

It is recommended that the Brown County Planning Commission continue to identify and educate the County's residents about the location and importance of ESAs.

Groundwater

As shown in Figure 8-8, groundwater begins as precipitation. This precipitation (rain or snow) falls upon the land, and some runs off into lakes, rivers, streams, or wetlands. Some evaporates back into the atmosphere, and plants take some up. Groundwater is that precipitation that soaks into the ground past plant roots and down into the subsurface soil and rock. A layer of soil or rock that is capable of storing groundwater and yielding it to wells is called an aquifer. There can be a number of aquifers within an area, one above another. The top of the aquifer closest to the ground's surface is called the water table. It is the area below which all the openings between soil and rock particles are saturated with water.

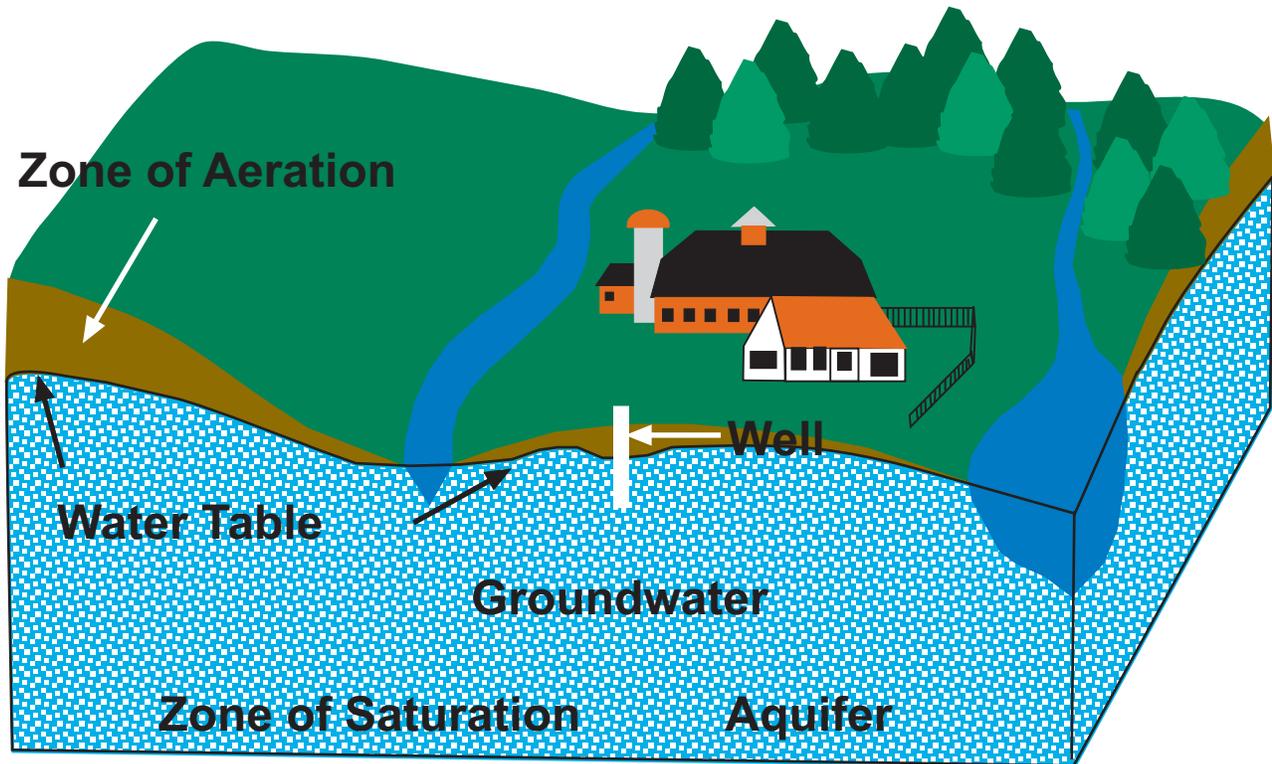
Like surface water, groundwater moves from high areas to low areas. It discharges at those places where the water table intersects the land's surface, such as in lakes, streams, and wetlands.

Groundwater is the source of drinking water for all communities in Brown County except for the City of Green Bay, which obtains its drinking water from Lake Michigan. It originates as precipitation that soaks into the ground south of Brown County in Calumet and Outagamie Counties. Drinking water for the County, except for the City of Green Bay, is drawn from the groundwater through municipal and private wells. This groundwater is also used by local agriculture and industry. In addition, the groundwater sustains the streams within and adjacent to the County.

Overall, groundwater quality within northeastern Wisconsin is generally considered good, but tests have shown that many of Brown County's communities' wells exceed the federal standards for radium. These communities were required by the EPA to have a DNR-approved radium control plan in place, and their radium levels must be below the federal standard by December of 2006. In addition, scattered isolated problems with arsenic in the western portion of the County and bacteriological contamination in the northeastern portion of the County also exist.

In addition to quality concerns, the other threat to the County's groundwater resource is supply. Numerous studies have been undertaken which indicate that groundwater levels within and immediately adjacent to the Green Bay Metropolitan Area are dropping. It is believed that as urban development continues and groundwater

Figure 8-8
Groundwater



Definitions

Groundwater - The water below the water table contained in void spaces (pore spaces between rock and soil particles, or bedrock fractures).

Water Table - The water surface in an unconfined aquifer; the level below which the pore spaces in the soil or rock are saturated with water; the upper surface of the zone of saturation.

Aquifer - A saturated geologic formation (rock or sediment) capable of storing, transmitting and yielding reasonable amounts of groundwater to wells and springs.

Zone of Saturation - The zone in which the pore spaces between soil and rock particles are completely filled with water. The water table is the top of the zone of saturation.

Zone of Aeration - The zone between the land surface and the water table in which the pore spaces between soil and rock particles contain water, air and/or other gases.

Source: Portage County Groundwater Citizens Advisory Committee

withdraws escalate, naturally occurring problems with radium and arsenic will also get worse. It is also a concern that bacteriological contamination problems will continue in the northeastern portion of the County as the number of septic systems and the amount of animal waste spreading continues in areas with shallow and fractured bedrock.

To address these concerns, the Green Bay Metropolitan Area communities of Allouez, Bellevue, De Pere, Howard, Lawrence, and Ledgeview created and are current members of the Central Brown County Water Authority. The Authority has contracted with the City of Manitowoc to become wholesale customers of the Manitowoc Water Utility via a treated water transmission line along CTH R to the Town of Ledgeview. The treated Lake Michigan water would solve both the radium issue and the supply issue for a time, but eventually, as the metropolitan area continues to grow, the problem of dropping water levels and increasing natural contaminants may occur once again. It is for this reason that it is recommended that the County continue to encourage as many metropolitan communities as possible to become part of the Central Brown County Water Authority as soon as possible.

Since before the inception of the Central Brown County Water Authority, Brown County has provided staff and educational assistance on this issue. This assistance is envisioned to continue until this issue is addressed and a solution is obtained. It is very important that groundwater, the County's major source of drinking water, be protected. The greatest threats to groundwater are contamination and overuse. As with any urban or urbanizing community, the most common sources of contamination include sludge and wastewater disposal, landfills, sanitary sewers, above-ground storage of chemicals, contaminated stormwater, underground tanks, septage disposal, junkyards, septic systems, highway deicing salt, lawn fertilizers, pesticides, and improperly constructed wells. As a significant amount of agricultural lands are located within and adjacent to the County, agricultural sources of contamination are also possible, including feedlots, manure storage and spreading, manure pits, irrigation, fertilizers, and pesticides.

To help communities meet the requirements of the federal Safe Drinking Water Act and to protect their drinking water supply, the Wisconsin Department of Natural Resources requires that all communities undertake a Wellhead Protection Plan for all municipal wells that are planned after 1992 and recommends, but does not require, that such plans also be prepared for wells planned before 1992. The DNR is preparing Source Water Assessments for every public water system in the state. The assessments, which could be used to help prepare Wellhead Protection Plans, will be provided to communities. These assessments review the susceptibility of the public water system to contamination and review geologic and well construction data.

Although Brown County itself does not have a public water system, many communities within the County do, including the Cities of De Pere and Green Bay, the Villages of Allouez, Ashwaubenon, Bellevue, Denmark, Hobart, Howard, Pulaski, Suamico, and Wrightstown, and the Towns of Lawrence, Ledgeview, Scott, and the unincorporated communities of Greenleaf and Holland. It is recommended that Brown County encourage these communities to undertake those studies and obtain assistance from the DNR to construct public water systems.

It is also recommended that the County continue its maintenance requirements and “time of sale” program of inspecting private onsite wastewater treatment systems to guard against failing systems for those areas not served by municipal sewer. Ensuring functioning septic systems would protect groundwater used for private wells in these areas. If areas with multiple failing systems are found, the County and local community should consider the feasibility of extending sewer lines to correct these situations.

Woodlands

Prior to human-induced changes and development, it is generally accepted that Brown County consisted primarily of vast tracts of climax forests. These large undisturbed woodlands were believed to consist of mature hardwoods dominated by sugar maple, basswood, hemlock, and American beech. However, such woodlands rarely contained pure stands of timber but were more likely a mixture of tree species that grew well together. Such common mixtures or groupings included beech, sugar maple, basswood, red oak, white oak, and black oak associations and beech, hemlock, sugar maple, yellow birch, white pine, and red pine associations. After more than 300 years of human-made changes, such as clearing, burning, and filling, many of these woodlands have disappeared, and very few, if any, virgin stands of timber remain. It is estimated that, prior to human settlement of this area, woodlands once occupied about 460 square miles, or about 86 percent of the County.¹⁸

Due to human activities, wooded lands within Brown County are now less extensive and



of lesser quality. Those areas that still remain are typically less ecologically diverse and more disturbed than before. These areas typically consist of successional stages of woody growth or mature second growth rather than the climax forests of the past. In addition, the majority of these lands are grazed rather than left undisturbed, and the variety of species within typical existing woodlands is substantially less than would historically be found in a mature

forest. A relatively recent trend is the establishment of new areas of trees and shrubs primarily attributable to the landscaping activities associated with urban development. However, these areas of often-exotic species of trees and shrubs are typically neither dense enough nor extensive enough to be considered woodlands.

The remaining relatively large areas of mature second growth woods can be found in the northern portion of the Towns of Scott and Green Bay, in the northern portion of the Village of Hobart, and along Plum Creek in the Town of Holland. A significant number of smaller scattered woodlots can be found in the Village of Suamico and Town of Pittsfield.

¹⁸ Based upon the 1976 extrapolation by the Wisconsin Department of Natural Resources of the information contained within the original land survey field notes of Brown County.

Based upon a 1996 inventory undertaken by the U.S. Forest Service, woodlands encompassed about 74 square miles of the County, or about 14 percent. Thus, about 386 square miles, or about 84 percent of the woodlands initially identified within the County, have been lost. Furthermore, between 1983 and 1996, the U.S. Forest Service has determined that about three square miles of the County's woodlands, or about 4 percent, were lost to development or other uses.

According to the 2000 land use inventory, woodlands encompassed 61 square miles, or about 11 percent of the County. However, the majority of forested land in Brown County is associated with its wetlands. As such, it is probable that many of these woodlands are actually wooded wetlands (approximately 45 square miles, or about 73 percent, are estimated to be wooded wetlands). The County's woodlands are shown in Figure 8-9.

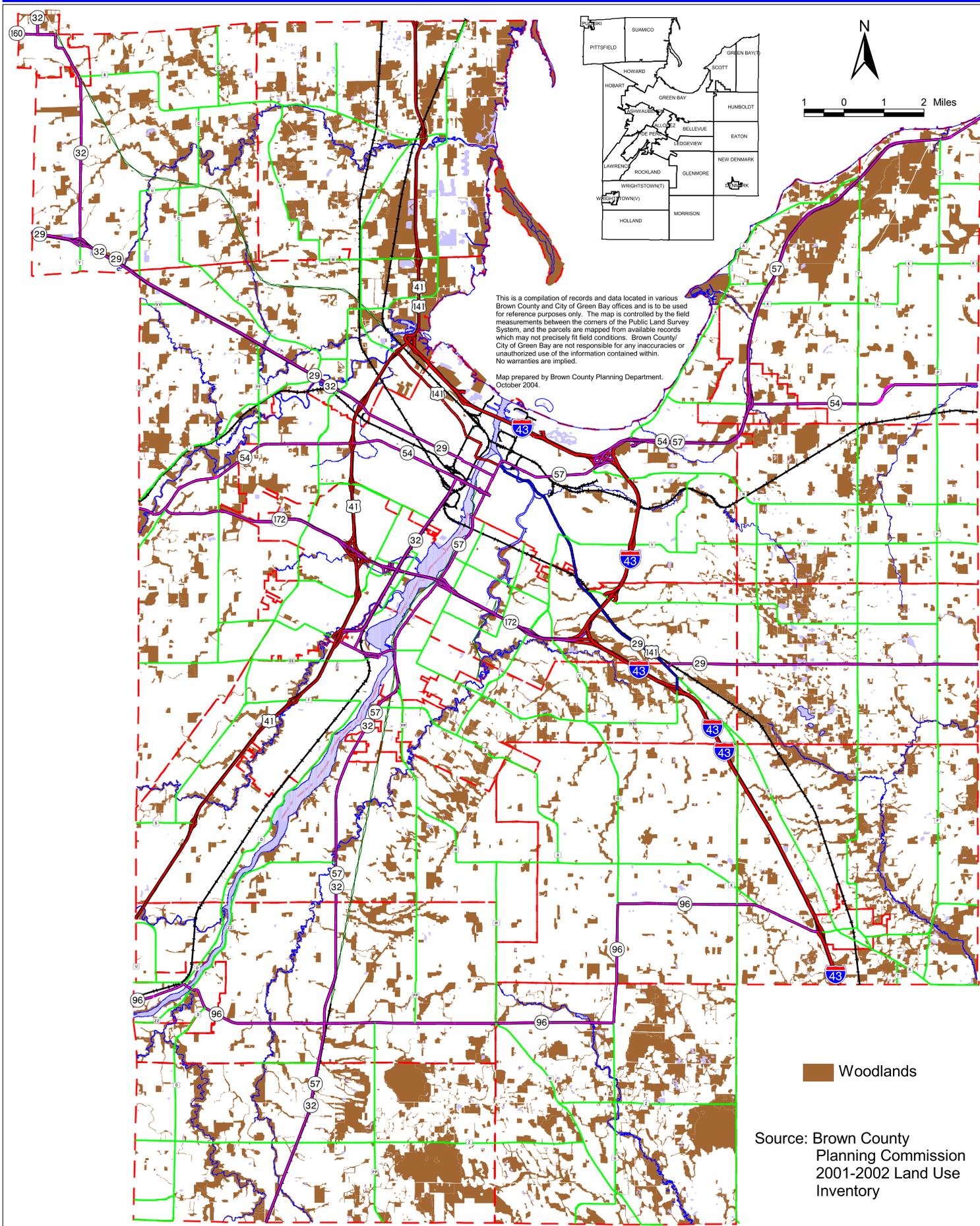
Although the woodlands that remain in the County are typically less ecologically diverse and more disturbed than the woodlands that existed prior to settlement of the County, valuable urban forests can and do occur and should continue to be encouraged. An urban forest includes tree-lined streets and trees in home landscapes, schoolyards, parks, stream banks, cemeteries, etc. The shrubs, flowers, and grasses often associated with these woods are also a part of the urban forest and play an important part in the community's ecosystem, as well as in its identity and appearance.

Continued development is the key threat to the County's remaining woodlands. Since these areas are prized as settings for residential subdivisions, they are often targeted for development. Intensive development, especially if improperly planned, could destroy the scenic and natural values of the woodland resource and could disrupt the blocks and corridors of vegetated land necessary to provide refuge and passage for wildlife. However, a well-planned and well-maintained urban forest could mitigate many of these adverse impacts and could reduce air pollution, slow stormwater runoff, and conserve energy.

It is recommended that the County inform communities of the Tree City USA program and its ability to help preserve their more important woodlands and to help establish an urban forest. The Tree City USA designation is a voluntary program administered by the National Arbor Day Foundation and the USDA Forest Service. Currently, there are 2,700 tree cities across the country, with 139 in the State of Wisconsin. The following Brown County communities are in the Tree City USA program: Village of Allouez, Village of Ashwaubenon, City of De Pere, Village of Denmark, City of Green Bay, Village of Hobart, Village of Howard, and Town of Lawrence. These communities have participated in the program for an average of 8 years, ranging from 1 year for the Village of Denmark to 21 years for the City of Green Bay. To receive the designation, a community must have a tree board, commission, or municipal department that has legal authority for the care of public trees and for developing and administering a community tree management program. The community must also have a tree ordinance, an annual budget for administering, managing, and implementing the community forestry program, and an Arbor Day observance and proclamation.

It is also recommended that the County educate and encourage local communities to institute park and open space planning, conservancy zoning, conservation by design, and other similar practices as a viable method of protecting their woodlands.

Figure 8-9
Woodlands
Brown County, WI



Wildlife Habitat

Wildlife habitat, as well as the other natural resources mentioned in this chapter, is part of Brown County's biodiversity. Biodiversity (or biological diversity) is the full spectrum and inter-relationships of all plants and animals (including humans), their composition and distribution, and the landscapes and functions they assume. Biodiversity provides a way of thinking that takes into account the landscape, species, communities, and systems that comprise the environment and allows us to take an integrated approach to the management of our natural surroundings. This approach is critical because humans depend on nature and a healthy environment, and human actions have a profound impact upon the natural environment. Thus, it is a continuing challenge to balance the needs of a growing human population with maintaining a diverse, productive, and resilient natural environment.

The greatest threats to biodiversity are the loss of natural habitats due to urban development and the introduction of non-native invasive plants and animals.

Since much of the County is either developed or actively farmed, existing wildlife habitat is generally found along the County's rivers and streams. These lands consist of both upland and lowland vegetation. Such lands, because of their location, are conducive to forming large linear tracts of open space that are essential for biodiversity and for providing wildlife corridors.



It is recommended that the County educate and encourage local communities to institute park and open space planning, conservancy zoning, conservation by design, and other similar practices as a viable method of protecting their wildlife habitat.

It is also recommended that the County continue and expand its efforts on its county park properties to re-establish native vegetation and habitat and to assist others in doing so on their property.

Threatened and Endangered Species

Federal and state laws protect endangered and threatened species. Activities that impact state- or federally-listed animals on public or private lands and plants on public lands are prohibited under the related state and federal laws. This protection is usually accomplished during the federal and state permit review process, but it is ultimately the responsibility of a project proponent and property owner to ensure that they are not in violation of the endangered species laws.

Protection of such species is a valuable and vital component of sustaining biodiversity. An endangered species is one whose continued existence is in jeopardy and may become

extinct. A threatened species is one that is likely, within the foreseeable future, to become endangered. A special concern species is one about which some problem of abundance or distribution is suspected but not yet proven. The main purpose of the special concern category is to focus attention on certain species before they become endangered or threatened. Both levels of government prepare their own separate lists of such plant and animal species but do so working in cooperation with one another, as well as with various other organizations and universities. The Wisconsin Department of Natural Resources Bureau of Endangered Resources monitors endangered, threatened, and special concern species and maintains the state's Natural Heritage Inventory (NHI). This program maintains data on the locations and status of rare species in Wisconsin. Because some species are very sensitive, their actual locations are kept vague in order to protect them. Data for these species is only available at the county level.

According to the NHI and summarized in Figure 8-10, there are 58 species recorded as occurring in Brown County that are state-listed as endangered, threatened, or special concern. Twenty of these plant and animal species are either threatened or endangered. The dwarf lake iris is listed as threatened on both the state and federal lists and is the only federally-listed species known to occur in Brown County.

In addition to the species listed in Figure 8-10, Brown County contains important examples of the following 12 natural community types. Although communities are not legally protected, they are critical components of Wisconsin's biodiversity and may provide habitat for rare, threatened, and endangered species. The Niagara Escarpment is a primary example of a very prominent, yet unique, ecosystem that harbors several species that are found nowhere else in the County.

- Alvar.
- Emergent aquatic.
- Forested ridge and swale.
- Lake - shallow, hard, seepage.
- Migratory bird site.
- Moist cliff.
- Northern dry - Mesic Forest.
- Northern Mesic Forest.
- Northern wet forest.
- Southern Mesic Forest.
- Southern dry - Mesic Forest.
- Stream - slow, hard, warm.

Rare species and natural communities are critical components of Brown County's natural resources, and protecting these resources is essential to ensure the long-term sustainability of the County's environment. It is recommended that Brown County encourage communities and developers to contact the Wisconsin Department of Natural Resources Bureau of Endangered Resources and review the state's Natural Heritage

Inventory prior to any development within the County. This will serve to protect these species and ensure the appropriate application of the state and federal endangered species laws. It is further recommended that should the above-noted species and natural communities be encountered, the appropriate agencies be contacted and protection measures implemented. The Brown County Planning Commission already undertakes similar actions during its review and approval of subdivision plats and sanitary sewer extension reviews.

Figure 8-10: Threatened, Endangered, and Special Concern Species in Brown County

Common Name	Scientific Name	Species Taxonomic Group	State Status	Federal Status
Caspian tern	<i>Sterna caspia</i>	Bird	END	
Common tern	<i>Sterna hirundo</i>	Bird	END	
Forster's tern	<i>Sterna forsteri</i>	Bird	END	
Forster's tern	<i>Sterna forsteri</i>	Bird	END	
Blanchard's cricket frog	<i>Acris crepitans blanchardi</i>	Frog	END	
Purple false oats	<i>Trisetum melicoides</i>	Plant	END	
Lake-cress	<i>Armoracia lacustris</i>	Plant	END	
Midwest pleistocene vertigo	<i>Vertigo hubrichti</i>	Snail	END	
Greater redbhorse	<i>Moxostoma valenciennesi</i>	Fish	THR	
Longear sunfish	<i>Lepomis megalotis</i>	Fish	THR	
Redfin shiner	<i>Lythrurus umbratilis</i>	Fish	THR	
Dwarf lake iris	<i>Iris lacustris</i>	Plant	THR	LT
Handsome sedge	<i>Carex formosa</i>	Plant	THR	
Pale green orchid	<i>Platanthera flava var herbiola</i>	Plant	THR	
Snow trillium	<i>Trillium nivale</i>	Plant	THR	
Yellow gentian	<i>Gentiana alba</i>	Plant	THR	
Seaside crowfoot	<i>Ranunculus cymbalaria</i>	Plant	THR	
Cherrystone drop	<i>Hendersonia occulta</i>	Snail	THR	
Blanding's turtle	<i>Emydoidea blandingii</i>	Turtle	THR	
Wood turtle	<i>Clemmys insculpta</i>	Turtle	THR	
American gromwell	<i>Lithospermum latifolium</i>	Plant	SC	
American sea-rocket	<i>Cakile edentula</i>	Plant	SC	
Blunt-lobe grape-fern	<i>Botrychium oneidense</i>	Plant	SC	
Christmas fern	<i>Polystichum acrostichoides</i>	Plant	SC	
Climbing fumitory	<i>Adlumia fungosa</i>	Plant	SC	
Crinkled hairgrass	<i>Deschampsia flexuosa</i>	Plant	SC	
Indian cucumber-root	<i>Medeola virginiana</i>	Plant	SC	
Limestone oak fern	<i>Gymnocarpium robertianum</i>	Plant	SC	
Long-spur violet	<i>Viola rostrata</i>	Plant	SC	
Male fern	<i>Dryopteris filix-mas</i>	Plant	SC	
Marbleseed	<i>Onosmodium molle</i>	Plant	SC	
Richardson sedge	<i>Carex richardsonii</i>	Plant	SC	
Crawe sedge	<i>Carex crawei</i>	Plant	SC	
Northern bog sedge	<i>Carex gynocrates</i>	Plant	SC	
Showy lady's-slipper	<i>Cypripedium reginae</i>	Plant	SC	

Figure 8-10 continued: Threatened, Endangered, and Special Concern Species in Brown County

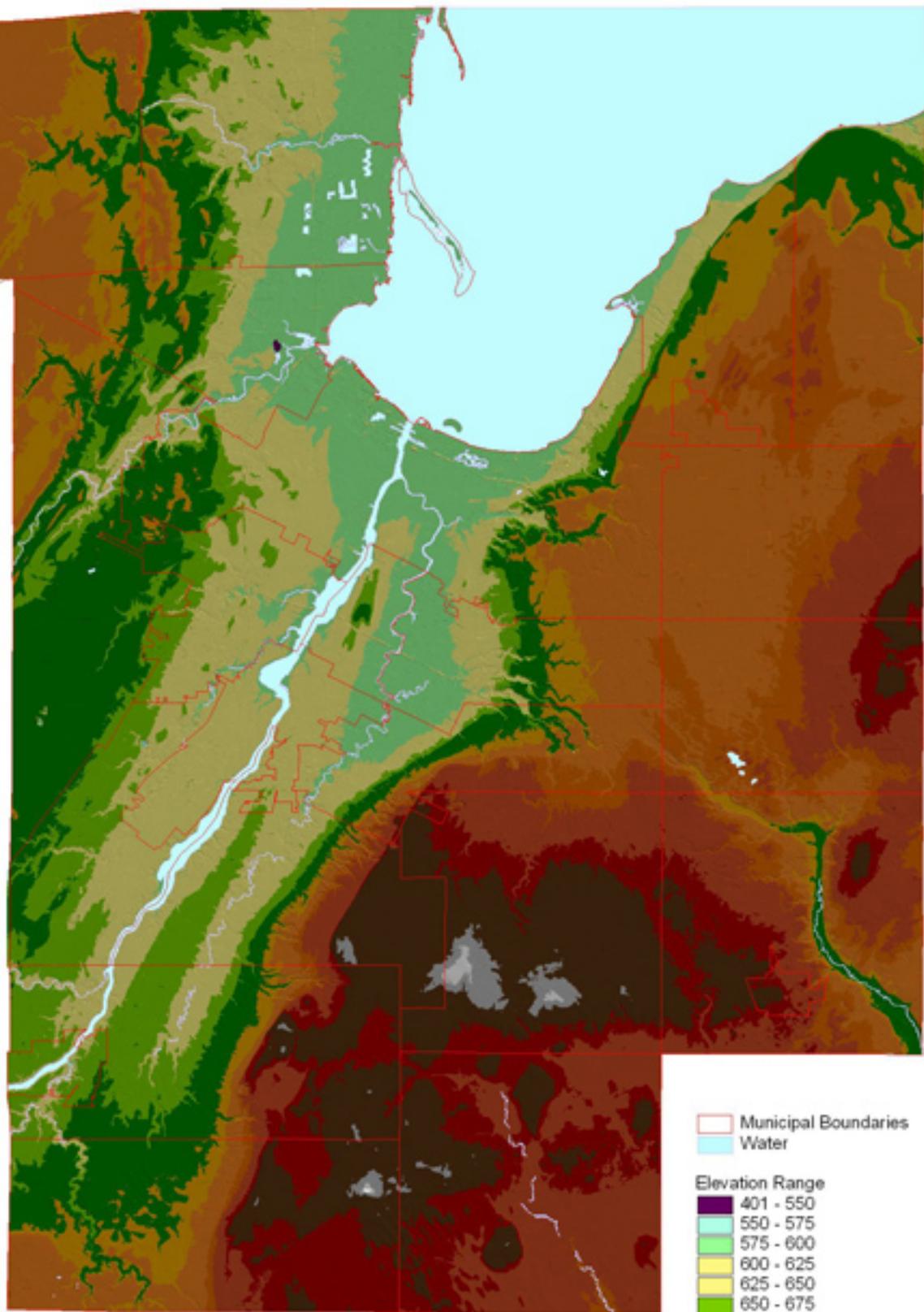
Common Name	Scientific Name	Species Taxonomic Group	State Status	Federal Status
Small yellow lady's-slipper	<i>Cypripedium parviflorum</i>	Plant	SC	
White adder's-mouth	<i>Malaxis brachypoda</i>	Plant	SC	
Lake sturgeon	<i>Acipenser fulvescens</i>	Fish	SC	
Black-crowned night-heron	<i>Nycticorax nycticorax</i>	Bird	SC	
Broad-winged skipper	<i>Poanes viator</i>	Butterfly	SC	
Mottled dusky wing	<i>Erynnis martialis</i>	Butterfly	SC	
Dion skipper	<i>Euphyes dion</i>	Butterfly	SC	
Mulberry wing	<i>Poanes massasoit</i>	Butterfly	SC	
Two-spotted skipper	<i>Euphyes bimacula</i>	Butterfly	SC	
American eel	<i>Anguilla rostrata</i>	Fish	SC	
Redside dace	<i>Clinostomus elongatus</i>	Fish	SC	
Northern myotis	<i>Myotis septentrionalis</i>	Mammal	SC	
A land snail	<i>Catinella gelida</i>	Snail	SC	
A land snail	<i>Succinea "bakeri"</i>	Snail	SC	
Black striate	<i>Striatura ferrea</i>	Snail	SC	
Brilliant granule	<i>Guppya sterkii</i>	Snail	SC	
Deep-throated vertigo	<i>Vertigo nylanderi</i>	Snail	SC	
Dentate supercoil	<i>Paravitrea multidentata</i>	Snail	SC	
Eightfold pinecone	<i>Strobilops affinis</i>	Snail	SC	
Honey vertigo	<i>Vertigo tridentata</i>	Snail	SC	
Iowa pleistocene vertigo	<i>Vertigo iowaensis</i>	Snail	SC	
Sculpted glyph	<i>Glyphyalinia rhoadsi</i>	Snail	SC	
Tapered vertigo	<i>Vertigo elatior</i>	Snail	SC	

Source: WDNR – Natural History Inventory

The informational “Wisconsin Land Legacy Report” by the DNR identified the Colonial Waterbird Nesting Islands, Duck Creek and Burma Swamp, Niagara Escarpment, Point Au Sable, Red Banks Alvar, Suamico River, Twin River, and the west shore of the Bay of Green Bay wetlands as among the most important natural resource features in the state. Furthermore, the Red Banks Alvar and the Holland Red Maple Swamp are the only state natural areas in Brown County. State natural areas are Wisconsin’s best remaining examples of natural native communities, and they receive the state’s highest efforts of protection and acquisition.

Scenic Resources and Topography

As shown in Figure 8-11, the topography of Brown County has been greatly modified by glacial action and today is generally characterized by gently rolling moraines. The western two-thirds of the County is associated with the roughly 4-mile-wide Fox River Valley, a continuation of the same depression forming the Bay of Green Bay. This area slopes gently northeastward from Lake Winnebago in east central Wisconsin, drains to the bay, and is generally level to gently rolling. This lowland area contains many glacial



Brown County Elevation

2 0 2 4 Miles



landforms, including eskers, moraines, and remnants of extinct glacial lakes. During glacial times, the flat marshy land west and south of the bay had been covered by the bay. Most streams in the area flow northeastward and parallel to the escarpment to the bay. Most streams also possess shallow channels, except in a few instances where the streams have cut through softer underlying glacial landforms, such as the Fox River in Wrightstown.

Forming the eastern boundary of the Fox River Valley is a steep escarpment referred to as the Niagara Escarpment, which rises relatively abruptly as high as 200 to 250 feet above the valley floor. East of and alongside most of the Niagara Escarpment is a narrow strip of level land. East of that is generally a slightly rolling plain that drains east and southeast toward Lake Michigan. The headwaters of a number of streams that drain to Lake Michigan are located within this area. However, gaps in the Niagara Escarpment allow two streams—Baird Creek and Bower Creek—to flow westward to the Bay of Green Bay. The area is generally well drained but has many small wet depressions in places.

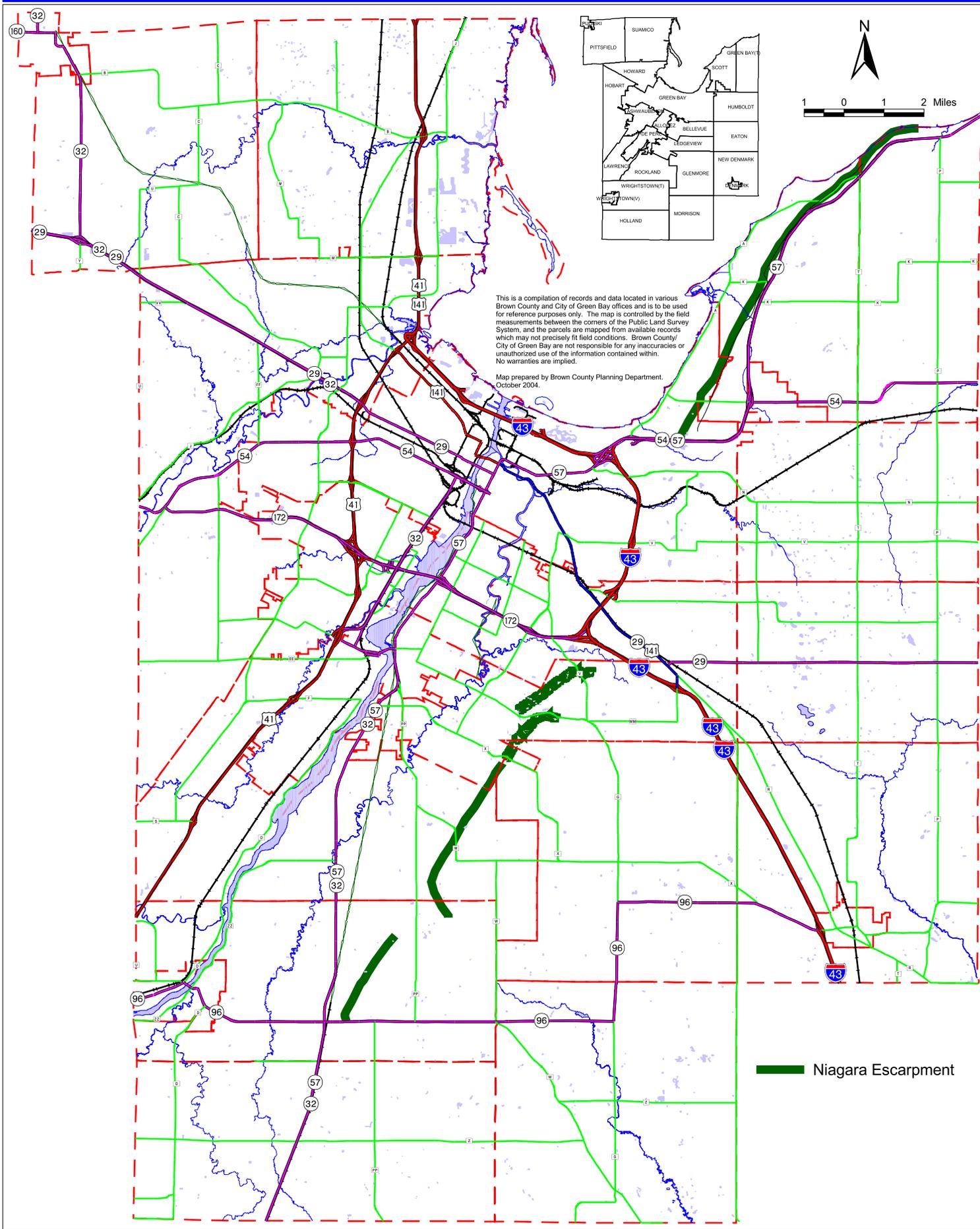
Due to its location between two lobes of the last glacier to advance through Wisconsin, the southeastern portion of the County is extremely hilly and has many poorly drained depressions. This area, which extends into southeastern Wisconsin, is called the Kettle Moraine area of the state.

Land relief within the County ranges from approximately 600 feet above sea level to approximately 1,000 feet above sea level. The low point in the County, at an elevation of about 580 feet, is located in the City of Green Bay where the Fox River enters the bay. The highest point in the County is located in the Town of Holland, southeast of the unincorporated community of Greenleaf, at an elevation of about 1,020 feet.

The most dominant topographical feature in Brown County is the Niagara Escarpment. This escarpment is the exposed edge of a ridge with a steep face on one side and a gentle slope on the other. Most portions of the Niagara Escarpment in Brown County face northwest and vary in height from 5 feet to 125 feet. It was formed by the exposure of a layer of eastward or southeastward tilting rocks that are older, harder, and more resistant to weathering and erosion than the underlying rocks. Over time, the underlying rocks have been eroded away, leaving the edge of the more resistant rocks exposed. The steep, straight cliff faces have been accentuated by the scouring action of glaciers (as shown in Figure 8-12). The Niagara Escarpment extends in a southwest-northeast direction through the eastern portion of Brown County (approximately five miles east of and parallel to the Fox River) until it nears the northeast side of the City of Green Bay where it is located adjacent and parallel to the bay. The Niagara Escarpment continues to the southwest into central Wisconsin and to the northeast through Door County, Upper Michigan, Canada, and back into the United States in Upstate New York. The Door County Peninsula and Niagara Falls are two exceptional and well-known features located along this escarpment.

The topography of the County has a significant impact on its natural and scenic resources, as well as on stormwater management and erosion control. While highly subjective, scenic beauty is also an important element of many successful communities.

Figure 8-12
Niagara Escarpment
 Brown County, WI



Surveys have shown that most people enjoy open spaces and vistas of unspoiled nature, while others enjoy views of more urban development and the contrasts that they can provide. To some, the most beautiful scenic resources are views of blue skies, green hills, shorelines, and woodlands, while others prefer park or golf course settings and still others prefer pastoral settings. One of the most often cited scenic views in the County is that of the bay and the City of Green Bay viewed from the Niagara Escarpment, which incorporates elements of both urban and natural settings.

The areas of varying topography within the County can be scenic resources of great value to the community. The shoreline of the Fox River, particularly the southern portion, is a significant scenic resource. However, public access is not available to this part of the Fox River, and there are no vantage points for the public to view the topography. The same applies to the southern portions of the Niagara Escarpment.

Seeking ways to obtain access to and maintain these scenic characteristics of the community should be considered because of the contrast they offer from the surrounding landscape and the vistas they provide. As the County continues to develop, the County and local communities should continue to extend parkways along these features and the major waterways to preserve their scenic qualities, as well as to improve their water quality. Opportunities are more limited along the Fox and East Rivers and other creeks and streams within the metropolitan area due to development that is already in place. However, as redevelopment opportunities arise or further development occurs within and outside the metropolitan area, providing additional public access to these ridgelines and shorelines would provide additional places for residents and visitors to enjoy the views the County has to offer.

For these reasons, the recommendations of the Brown County Open Space and Outdoor Recreation Plan regarding the establishment of parkways are included and incorporated into this comprehensive plan and should also be considered in local comprehensive and park plans.

Additionally, many of the areas within Brown County that provide such valuable scenic views are located along the Niagara Escarpment, which, in turn, are associated with karst features. Karst features consist of cracked and fractured bedrock, such as limestone, that is close to the surface. This bedrock is easily dissolved by water, and its cracks and layers allow water and pollutants to easily reach the groundwater. Sinkholes, shallow soils, sinking streams, and springs are commonly found in such areas. These features are located adjacent to the escarpment and more extensively in the Towns of Green Bay and Scott.

Because of the fragility of these features and their susceptibility to groundwater contamination, development within them should be discouraged. At a minimum, setbacks from these features should be considered for barnyards, manure storage areas, chemical and manure spreading, septic systems, and roads and other paved areas. It is recommended that a study of the escarpment and its associated karst features within Brown County, their location, their susceptibility to groundwater contamination, their value as scenic areas and parkways, their potential for tourism, their potential for harboring rare plant and animal species, their relationship to similar efforts in adjacent counties, and their appropriateness for development be undertaken. This study should

be a cooperative undertaking by the DNR, the County, and the affected local units of government.

Mineral Resources

Although comprehensive studies or inventories of metallic or nonmetallic mineral resources have not been undertaken in Brown County, there do exist numerous pits and quarries located throughout the County as shown on Figure 8-13. These nonmetallic mines provide aggregate (dolomite, sandstone, and limestone) for construction and sand, gravel, and crushed stone for road building and maintenance.

Brown County is believed to contain some of the best quality aggregate in the state associated with the Niagara Escarpment. Brown County is also believed to produce more dimension stone (limestone) for landscaping purposes, etc. than any other county in the state except for Fond du Lac and Waukesha.

In 1994, Wisconsin's nonmetallic mining reclamation program required that all nonmetallic mines be registered. In 2000, it resulted in the preparation of a model ordinance for county reclamation programs. The Wisconsin nonmetallic mining reclamation program further required that all counties adopt and enforce the model ordinance beginning in 2001. It also allowed local communities rather than the County to enforce the program if they so wished. The model ordinance dealt with environmental standards for reclamation planning, identification of the final land use after reclamation, saving, storing, and reuse of topsoil, erosion control, revegetation, and how the mining operation should be conducted to promote a sound final reclamation plan. The program also involves a permit system, financial assurances (bonds, etc. to cover the cost of reclamation), DNR oversight of the County and local programs to ensure implementation and statewide uniform standards, program funding, and registration criteria and standards. The registration is valid for ten years with one 10-year renewal. After this period, the mine would have to be registered again.

Brown County administers this program for all local communities except the Village of Hobart and the Town of Lawrence, which have decided to enforce the ordinance themselves. Within the remaining 22 communities, there are currently 19 permitted mines, pits, and quarries (although others may exist that are covered by other regulations).

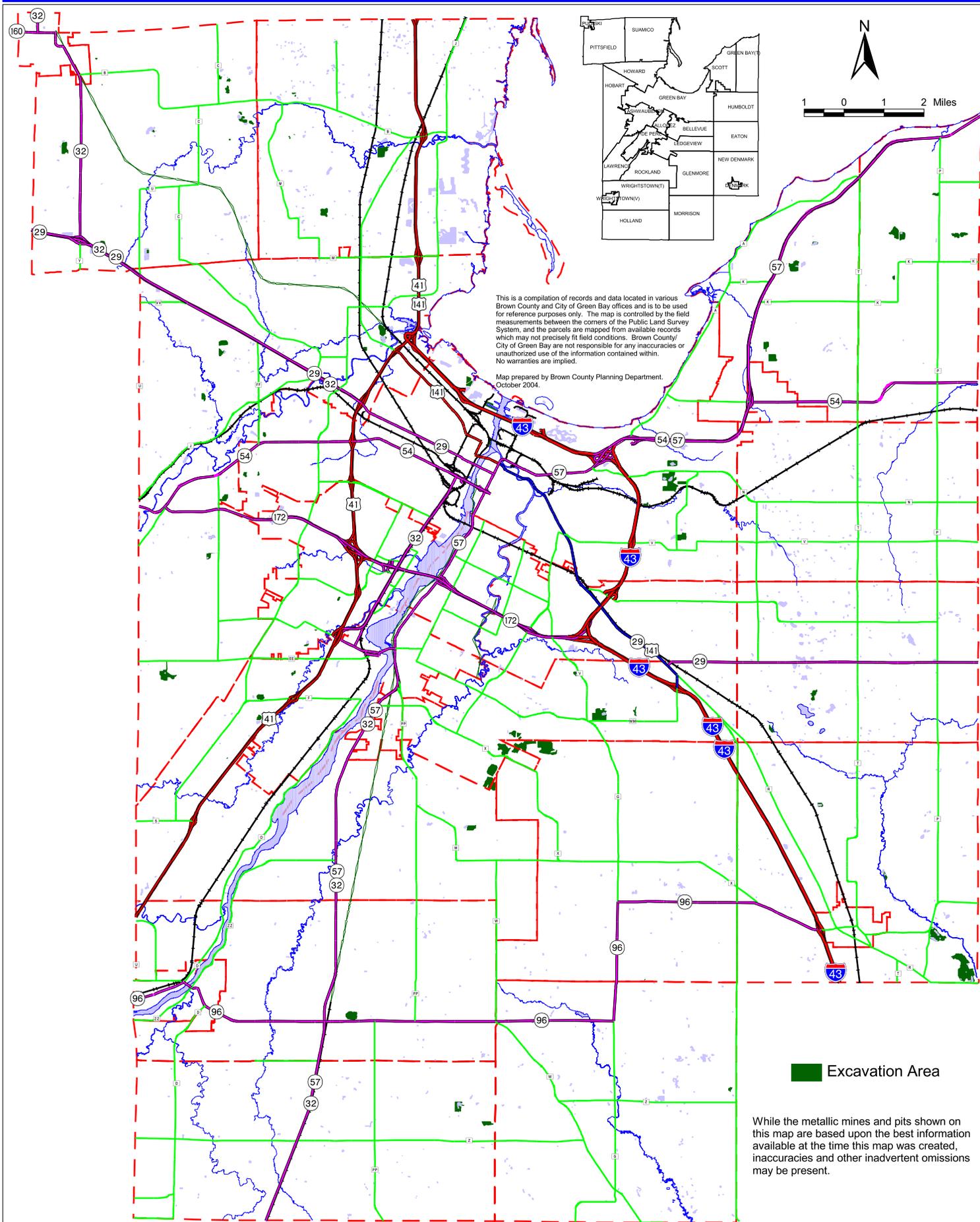
It is recommended that the County continue to implement and assist local communities with implementation of the nonmetallic mining ordinance requirements of the DNR.

It is also recommended that should such resources be discovered or such operations undertaken, the County should work with the local community and consider adoption of applicable ordinances to regulate that activity.

Cultural Resources

As one of the oldest counties in Wisconsin, Brown County has a number of buildings and sites that are significant to the culture of the county, region, and state. The identification

Figure 8-13
Known Mines and Pits
Brown County, WI



and preservation of these unique and irreplaceable resources are an important part of the County's, as well as the local communities', quality of life.



Figure 8-14 identifies the districts and buildings in the County that are listed on the state and national registers of historic places.

Figure 8-14: Districts and Buildings Listed on the State and National Registers of Historic Places

Historic Name	Address	Community	Period(s) of Significance	Certification Date
Astor Historic District	WI 57	C. of Green Bay		2/27/1980
Baird Law Office	2640 S. Webster Ave.	C. of Green Bay		10/15/1970
Broadway – Dousman Historic District	Broadway, Dousman Street, Chestnut Street	C. of Green Bay		3/12/1999
Broadway – Walnut Historic District	Broadway, Pearl Street, Walnut Street	C. of Green Bay		7/8/1999
Brown County Courthouse	100 S. Jefferson Street	C. of Green Bay		1/1/1976
Chicago and North Western Railway Passenger Depot	202 Dousman Street	C. of Green Bay		12/30/1999
Cotton House	2640 S. Webster Ave.	C. of Green Bay		4/28/1970
De Pere Lock and Dam Historic District	Fox River and St. James Street	C. of De Pere	1930-1941	12/7/1993
De Pere Public Library	380 Main Avenue	C. of De Pere	1937-1952	10/4/2002
Fisk, Joel S. House	123 N. Oakland Ave.	C. of Green Bay		8/11/1978
Fort Howard Hospital	2640 S. Webster Ave.	V. of Allouez		7/22/1979
Fort Howard Officer's Quarters	2640 S. Webster Ave.	V. of Allouez		7/22/1979
Fort Howard Ward Bldg	2640 S. Webster Ave.	V. of Allouez		7/22/1979
Fox Theatre	117 S. Washington St.	C. of Green Bay		3/24/2000
Hazelwood	1008 S. Monroe Ave.	C. of Green Bay		4/28/1970
Henry House	1794 Riverside Drive	V. of Suamico		1/31/1980
Holy Cross Church and Convent	3001 Bay Settlement Road	C. of Green Bay		6/28/2001
Kellogg Public Library and Neville Public Museum	125 S. Jefferson Street	C. of Green Bay		6/9/1981
C.A. Lawton Co.	233 N. Broadway	C. of De Pere	1875-1899 1900-1924 1925-1949	1/30/1992
Little Kaukauna Lock and Dam Historic District	Fox River at Mill Road	T. of Lawrence		12/7/1993
Main Hall (St. Norbert College)	Third Street and College Avenue	C. of De Pere	1900-1924 1925-1949	10/28/1988

Figure 8-14 continued: Districts and Buildings Listed on the State and National Registers of Historic Places

Historic Name	Address	Community	Period(s) of Significance	Certification Date
Milwaukee Road Passenger Depot	400 S. Washington Street	C. of Green Bay		8/16/1996
Mueller-Wright House	Washington and Mueller Streets	V. of Wrightstown		3/29/1978
North Broadway Street Historic District	Broadway, Ridgeway Blvd., Morris, Fulton, Franklin, Cass, Front, and Wisconsin Streets	C. of De Pere	1836-1923	9/8/1983
Oakland – Dousman Historic District	Dousman, Oakland, Shawano, Antoinette and Francis Streets	C. of Green Bay		4/27/1988
Rioux, Angeline Champeau House	2183 Glendale Avenue	V. of Howard		10/28/1994
Tank Cottage	2640 S. Webster Ave.	V. of Allouez		4/28/1970
Wisconsin State Reformatory	Riverside Drive and STH 172	V. of Allouez		5/3/1990

Source: State of Wisconsin Historical Society – Wisconsin National Register and State Register database, 2003.

In addition to those properties already listed on the state and national registers of historic places, the Wisconsin Historical Society also maintains the Wisconsin Architecture and History Inventory (AHI). The AHI is a listing of buildings, structures, and objects by community that illustrates Wisconsin’s unique history. Properties that are listed within the AHI may or may not still exist and are not conferred any special status or regulations. However, the AHI provides a good idea of additional properties that could be considered for protection and listing on the state and national registers of historic places. According to the AHI, the County contains over 4,600 architecturally or historically significant properties that have been surveyed, primarily in the Cities of De Pere and Green Bay and the Villages of Allouez, Ashwaubenon, Denmark, Howard, Pulaski, and Wrightstown. The entire listing of properties and detailed records may be viewed at <http://www.wisconsinhistory.org/ahi/welcome.asp>.

Heritage Hill State Park, located in the Village of Allouez, contains six of the buildings that are listed on the state and national register of historic places, and a number of other buildings on these grounds may also be eligible for listing (according to the AHI). The Heritage Hill State Park is a living history museum devoted to the preservation of buildings and artifacts and the interpretation of northeastern Wisconsin’s history and people. Numerous educational opportunities are provided at this site.

Historic preservation protects important aspects of the past and provides a sense of continuity and place. It also fosters community pride and helps establish community identity. Successful comprehensive preservation efforts can promote increased tourism and increased reinvestment into older neighborhoods, benefits which have already occurred in places like the Cities of De Pere and Green Bay because of their efforts in this regard.

The purpose of and benefits associated with archeological preservation are similar to that of historic preservation. Such preservation protects important aspects of the past and provides a sense of continuity and place. It also fosters community pride and helps

establish community identity. Brown County has over 400 archeological sites listed in the Archeological Site Inventory at the Wisconsin Historical Society in Madison. These 400-plus sites by no means represent the total number of sites but reflect the sites that have been discovered accidentally through construction or plowing or intentionally by collectors or archeological surveys undertaken as part of a publicly funded project. Some of these archeological sites have been destroyed by construction or plowing, and most of these sites are disturbed in some way. Parts of some of these sites may survive in backyards in the City of Green Bay or under the plow-zone in a field in the Town of Scott.

An archeological site may be defined as any place where there is evidence of past human activity. Site types in Brown County range from isolated finds of a chert spear or copper harpoon to rock shelter sites to shipwrecks to Euro-American homesteads to large villages occupied by the Oneota archeological culture.

A glance at a map of Wisconsin with all of the archeological sites indicated shows that in Brown County sites cluster along waterways and bay shores. Concentrations of archeological sites are apparent along the east shore of the Bay of Green Bay, especially between Red Banks and Point Au Sable, and along the Suamico River, especially near its mouth. Early artifact collectors considered these two areas the most productive for artifacts in the County. Many sites are located along the Fox River, especially between De Pere and the mouth of the river. Archeological sites also cluster on the shore of the bay near river mouths – the Fox, the Suamico, and Duck Creek. Some of these sites are under water during high water levels in the bay but are on dry land during low water levels. The site cluster along the east shore of the bay has already been noted, with the Point Au Sable to Red Banks area of special interest, but large and important sites are found along the bay to the Kewaunee County line. Many of the sites in the Town of Scott and the Town of Green Bay were discovered by the archeological survey conducted as part of the STH 54/57 expansion project.

While the location of archeological sites is kept confidential, it can be noted that there are approximately 400 known sites within Brown County, as indicated in Figure 8-15.

After the European arrival in northeast Wisconsin, the Bay of Green Bay and the Fox River became the hub of French fur trading and missionary concerns. Important sites, such as the early missions and the early forts, are known to exist in Brown County but are largely uninvestigated. Sites of the Metis Society in which French and Native Americans met and married are also located in Brown County, many of them underneath downtown Green Bay. In recent years, it has been recognized that archeological investigation of European homesteads and early industrial sites can also contribute to our understanding of the history of the area. These kinds of sites, as well as historic shipwreck sites, have not attracted the attention paid to Native American sites but are nevertheless an important resource for future investigation.

Three shipwreck sites are listed for Brown County: two in the Fox River and one in the waters of the Bay of Green Bay. These sites are not included in the breakdown in Figure 8-15. The Villages of Denmark, Wrightstown, and Pulaski have not been separated from their surrounding towns.

Figure 8-15: Known Archeological Sites in Brown County by Community

Town of Scott	93
City of Green Bay	67
Village of Suamico	67
Village of Howard.....	31
Village of Hobart.....	19
Town of Lawrence.....	16
Town of Green Bay	15
Village of Allouez.....	14
Village of Ashwaubenon.....	13
Town of Ledgeview	10
Town of Wrightstown	10
City of De Pere.....	8
Village of Bellevue	7
Town of Pittsfield.....	7
Town of Humboldt.....	5
Town of Rockland	5
Town of New Denmark.....	5
Town of Holland	3
Town of Morrison	2
Town of Glenmore	2
Town of Eaton.....	1

Archeological sites are windows to the past. They provide information and insight as to the culture of the previous residents of Brown County. Current state law gives protection to all human burial sites. There are also programs and restrictions relating to other archeological sites. Developing these sites before they can be catalogued and studied is the major threat to this resource.

Brown County should capitalize on the value of these resources, perhaps through encouraging local communities to include these sites within public neighborhood parks and educating citizens about pre-European settlement life in the northeastern Wisconsin region. The County should work with the Wisconsin Historical Society and the Neville Public Museum to help identify these sites. Processes for dealing with these sites during construction of new development should then be established, particularly for burial sites.

Historic preservation of cultural resources is recognition and protection of communities, areas, structures, sites, and objects having historic, archeological, architectural, social, or cultural significance. It is not blind protection of everything old. It is protection and preservation done sensitively to the needs, ability, and desires of the community. It reflects the desire to save reminders of the past, not to recreate them. When it is done well, it is done in such a fashion that it fits seamlessly with the existing surroundings and environment.

Because of this importance, it is recommended that the County assist local communities in their efforts in identifying and preserving the elements of their community they wish to preserve and/or emulate and incorporating such findings in the plans and efforts of

the individual communities. It is recommended that the County encourage the communities to undertake a cultural resource survey to accomplish this goal. It is also recommended that the County educate local communities of the value and importance of programs, such as the Certified Local Government (CLG) program by the Wisconsin State Historic Preservation Officer and the U.S. Department of the Interior and Wisconsin's Main Street Program by the Department of Commerce.

Community Identity and Design

Issues related to community identity and community design appeared during the public visioning sessions that were conducted early in the planning process. Residents were particularly concerned about encouraging efficient, compact, and well-balanced development and encouraging greenspace and open space in planning developments. Therefore, these issues became a foundation for this plan's vision statement and for many of its objectives.

It should also be noted that the County's cultural landmarks (especially its public gathering places, its older and more architecturally-interesting buildings, and its greenpaces and landscaping) contribute to the establishment of Brown County's identity. Churches, libraries, dance halls, and similar institutions are what often spring to mind when one thinks of a community. Within Brown County, these sites serve as cultural landmarks due to their central location, architectural scale and design, and status as a focal point for residents during much of the history of the community.

Brown County has undertaken many efforts to capitalize upon its own distinctive history, and the Neville Public Museum has been very active in the identification and preservation of historic and archeological resources in the County.

It is important to recognize and promote the art and cultural facilities in Brown County. These facilities, institutions, and artists contribute not only to community identity and design but also to the overall quality of life. They serve as a catalyst for economic development, and they serve to attract and retain creative businesses and individuals. Just a few examples of these facilities in Brown County include the Weidner Center, Meyer Theater, Lambeau Field, Oneida Nation Museum, Resch Center, Hazelwood, White Pillars, Mueller-Wright House, Brown County Fair, Art Street, and numerous local festivals.



Because of the success of past local efforts, the importance of community identity and community design to the County's quality of life, its role in fostering community pride, and its value in attracting and retaining industry, business, and residents, it is recommended that not only should these efforts be continued, they should be expanded upon. More specifically:

- The suggestions and recommendations of local historic, cultural, and architectural preservation plans should be supported.
- The County's entranceways and unincorporated communities, as well as the County's urban areas, should be the focal point of efforts to achieve good design and a distinct identity. In this regard, it is recommended that the County assist local communities in their efforts to identify neighborhoods, districts, and special areas to recognize and foster not only their own unique identities but also their ties to the rest of the County. Detailed suggestions and recommendations as to their development and design should be articulated by the local communities.
- Nonprofit groups, neighborhood associations, business associations, etc. should be utilized to assist the County and the local communities in the establishment of design, architectural, building, and landscaping criteria to revitalize, beautify, and restore the character of the County's communities, neighborhoods, districts, etc.
- Planting street trees should be continued as a means of beautifying the built environment and providing neighborhood character. In the older neighborhoods of communities like De Pere and Green Bay where street trees were originally planted, the now mature trees are a significant amenity. Brown County should encourage local communities to require the planting of street trees for new subdivisions. In addition, the County should seek to preserve selected existing trees and woodlots by working with developers and the local communities to design around such features or through local tree preservation ordinances.
- Even small areas of greenspace within residential developments are cultural resources that add value to neighborhoods. New development should contain small neighborhood parks through the use of conservation subdivisions or by setting aside small areas as neighborhood green or recreation areas.
- Where natural resource preservation is appropriate, public acquisition is supported, and a larger setback/buffer or other protective measure is desired, establishment of natural corridors or parkways should be considered as has been done with the East River Parkway. By keeping intensive development out of the stream corridors, ridgelines, and other similar features, water quality is improved, habitat is maintained, and recreational opportunities are preserved. While such parkways are already established and/or underway along portions of the Bay, the East River, and Baird Creek (among others), it is recommended that such parkways be considered along other streams as recommended in the County park and open space plan. The parkways should, at a minimum, include the floodway/shoreland buffer portion of the corridor and should ideally contain additional lands. These parkways would allow the corridors to remain mostly undeveloped as wildlife corridors, preserve natural beauty, provide stormwater management areas, and link the County and its local communities together. The parkways would also enhance public access and allow the County to capitalize on the intrinsic value of its most notable natural

features. Acquisition of parkways could occur any time that an opportunity arises. Generally, it could occur at the time adjacent lands are developed or redeveloped and could be accomplished either through dedication or purchase. Municipalities in the County need to weigh the benefits to the general public of each potential parkway if a cost is associated with acquisition of the land. If public acquisition is not feasible, other alternatives involving private ownership should be explored, such as conservation easements.

- Because parkways are typically publicly owned and used only for passive recreational uses, such as trails, and due to the amount of development that has already occurred along the Fox River and other similar rivers, a “green infrastructure” approach may be more appropriate. Green infrastructure is a strategically planned and managed network of various landscape elements that are linked together to sustain air and water resources and contribute to the health and quality of life for communities and people. These landscape elements typically include natural areas, public and private conservation lands, public and private working lands (such as farms), and outdoor recreation. However, to ensure connectivity of the green infrastructure across political boundaries and diverse landscapes, other features, such as gardens, boulevards, and plazas, may also be included.
- Alternative development approaches, such as conservation subdivisions, should continue to be encouraged near environmentally sensitive areas. New subdivisions could be designed to preserve natural drainage patterns, reduce fragmentation of wildlife habitat, and limit the amount of impervious surfaces, such as roads. By clustering development on a site, large blocks of environmentally sensitive areas could be left as preserved open space.
- Natural and cultural resources education should be encouraged. Spreading knowledge of the importance of the County’s natural and cultural resources and ways to maintain them are essential implementation tools. For example, educating property owners along the County’s numerous rivers and streams about nonpoint source pollution and providing tips on landscaping and buffering to prevent this pollution could help to achieve improved water quality. Periodic newsletters could be mailed to County residents to provide information on topics, such as not dumping pollutants down storm sewers, tree trimming, and other issues relating to natural resource protection. Water resource educational materials are available from the WDNR and the UW-Extension. Facilities, such as the Bay Beach Wildlife Sanctuary, Barkhausen Preserve, Neville Public Museum, and the Brown County Library system, and the programs they offer should also be promoted and encouraged.

Recommended Policies, Programs, and Actions

Many of the policies, programs, and actions identified in this chapter have been specifically formulated to also address recommendations within the Land Use and Community Facilities chapters of this plan. Not only is such an approach economical and efficient for the County, but such considerations are also required under the Smart Growth legislation.

While not specifically addressed within this chapter, it is generally understood that the County should review its ordinances and administrative practices to ensure their compatibility with the policies, programs, and actions set forth in this plan. Examples of this would include provision of adequate staff to administer federal and state environmental programs, to assist the public, and to implement this chapter's recommendations in an efficient and cost-effective manner as possible and consistent with the other recommendations of this plan, as well as with those plans of other local units of government.

A consensus of opinions from the nominal group session, stakeholder interviews, discussion groups, open house, public hearing, the County Board of Supervisors, and local staff indicates that the biggest issues facing Brown County's natural and cultural resources include:

- Encourage the preservation of environmental corridors and other sensitive areas, such as the escarpment, waterfronts, streams, and wetlands.
- Encourage efficient, compact, coordinated, and well-balanced land development to control sprawl (inefficient development).
- Preserve, restore, and improve surface water quality (wetlands, lakes, rivers, and streams) through education, erosion control, buffer strips, easements, land use controls, flood controls, and nutrient/sediment reductions.
- Encourage greenspace and open space in planned developments, conservation by design developments, and possible acquisitions.

Other important opinions raised, although less often and less consistent, include:

- Recognize the Fox River as a recreational asset and encourage the development of appropriate recreational uses and facilities.
- Improve air quality.
- Provide additional restoration and protection to existing natural wildlife habitats, such as wetlands, woodlands, and prairies.
- Recognize Brown County's mineral resources (sand, gravel, and dimension stone) and plan for their use accordingly.

The Brown County Comprehensive Plan intends that these opinions, in conjunction with the goals and objectives of this plan, become the framework for Brown County's involvement in natural and cultural resources preservation and protection efforts. The extent of the concerns and issues raised in this plan and their importance to Brown County and its local communities have been verified by the information presented in this chapter. It is, therefore, recommended that Brown County, in cooperation with the local units of government, the State of Wisconsin, and the federal government, make a concerted effort to preserve Brown County's best remaining natural and cultural resources. It is further recommended that this include efforts to maintain the connectivity of these areas, as well.

To accomplish this goal in the most cost-effective and beneficial manner possible, it is recommended that the DNR, Brown County, and the local communities seek grant funds

and technical assistance from state and federal agencies to undertake a comprehensive countywide study of natural and cultural resource identification, prioritization, and protection. Such a study should encompass all of the natural and cultural resources mentioned in this plan, should involve a comprehensive inventory and analysis of the current size, location, and quality of natural and cultural resource features, the degree of biodiversity and connectivity, their relationships to nonpoint source pollution and water quality improvement, and the goals, objectives, and recommendations of the County and local comprehensive plans. It is further intended that this plan identify, map, articulate, and prioritize the actions that need to be taken by all affected parties to achieve a sustainable environment that balances natural and cultural resources with growth and development.

Such a study should also be designed and conducted in such a manner that it could be utilized by the DNR to officially identify and designate natural areas. For a study of such magnitude, numerous sources of educational and financial assistance would be available, not the least including in-kind and educational assistance from the EPA, U.S. Fish and Wildlife Service, ACOE, UW-system (UWGB, Extension, Sea-Grant Institute, etc.), as well as the DNR, and sources of funding, such as Coastal Management Grants and NRDA funds.

Natural Resources Recommendations

- Preservation and protection of the County's surface water features should be its highest natural resources priority. This would also include preservation and protection of the cultural and scenic resources associated with these stream corridors.
- Support and encourage local, nonprofit, and volunteer programs regarding natural resources restoration efforts.
- Continue efforts and support of showcasing the Bay of Green Bay and the Fox River as the County's premier natural resource features.
- Support and encourage updating current flood studies (such as the East River), completion of new flood studies, and provision of this information in a uniform and consistent manner. Brown County should require flood studies be undertaken for its purposes to be submitted in a similar uniform and consistent manner.
- Expand its efforts to educate and inform the general public and local communities of the importance of flood studies, stormwater management, and their inter-relationships.
- Study the advantages and disadvantages of more restrictive floodplain/shoreland zoning to create a more logical, consistent, and uniform system of related regulatory programs.
- Periodically review and revise, when necessary, the County's shoreland, floodplains, and wetlands zoning ordinance to ensure its continued viability and consistency with other related regulatory programs.
- Encourage and assist local units of government in their efforts to identify and protect significant natural resource features, such as wetlands, floodplains, and streams.

- Assist the Army Corps of Engineers and the Wisconsin Department of Natural Resources to investigate ways to more efficiently and promptly obtain wetland delineations and, if possible and appropriate, wetland delineation approvals.
- Continue its support of efforts to find a long-term and dependable source of drinking water for Brown County's communities.
- Support an update of the Brown County Sewage Plan to ensure that it is consistent with the recommendations of this comprehensive plan, particularly as it applies to the environmentally sensitive area designations.
- Encourage and support the efforts of local communities to undertake Wellhead Protection Plans.
- Continue Brown County's "time of sale" program of inspecting private onsite sewage treatment systems.
- Encourage and support the efforts of local communities to participate in the Tree City USA program and urban forestry efforts.
- Contact the DNR to determine the presence and location of any threatened, endangered, or special concern species to facilitate their protection and preservation when possible.
- Consider scenic resources in the identification and acquisition of parks, parkways, etc. and in the establishment of local conservation districts and conservation by design developments.
- Inventory karst features and identify feasible methods to protect these features from inappropriate development.
- Incorporate the recommendations of the Brown County Open Space and Outdoor Recreation Plan into this comprehensive plan.
- Continue to implement and support local communities in implementation of the Nonmetallic Mining Ordinance requirements.

Cultural Resources Recommendations

- Support efforts to identify historic sites, historic buildings, and archeological sites that are worthy of protection for future generations.
- Support efforts to utilize Historic Preservation Funds to conduct a ranking of historically significant structures that should be protected.
- Work with the DNR and the Neville Public Museum to identify and preserve archeological sites and artifacts.
- Promote the County's uniqueness through educational efforts focused on its citizens, businesses, and tourists. Topics that should be addressed include its special natural, cultural, and historical aspects.
- Support and encourage the arts, cultural, and educational programs and facilities within Brown County.

- Focus the County’s design and beautification efforts and assistance upon urban areas, entrance corridors, and unincorporated communities for the improvement of neighborhoods, natural resources, and cultural resources. Specific actions should include:
 - Support local preservation and beautification efforts.
 - Street tree requirements.
 - Establish small neighborhood parks, areas of greenspace, plazas, etc.
 - Increase the involvement of civic and nonprofit organizations in the planning and designing of the County’s communities.
 - Support and encourage parkways, walkways, trails, etc. along major natural resource, recreation, or pedestrian corridors. This would also include “green infrastructure” approaches.
 - Promote alternative development methods, including conservation subdivisions, traditional neighborhood designs, and mixed use developments.
 - Provide more education to the general public and others about the importance of natural and cultural resources.

CHAPTER 9

Intergovernmental Cooperation

Introduction

Cooperation between neighboring and overlapping units of government is one of the primary goals of the Wisconsin Comprehensive Planning Law and is a very important aspect of the Brown County Comprehensive Plan. As Brown County and the municipal governments within Brown County develop and redevelop over the next 20 years, it is important for Brown County and the municipal governments within Brown County to work with each other, with various school districts, surrounding communities, the state, and other units of government to provide services. With recent budget challenges, it is even more fiscally prudent to evaluate the potential for savings and improvements to services through intergovernmental cooperation.

Many issues faced by units of government can be better handled cooperatively when they extend beyond the political boundaries of a community. While this chapter deals mainly with cooperative options and ideas that may save money and provide efficiency, it is vitally important to improve the provision of government services so as to make the service to the citizens of the County and region better.

This chapter will analyze existing relationships that Brown County has with other units of government and identify means of working cooperatively toward the goal and objectives identified in the Issues and Opportunities chapter of this plan. Within Brown County, there are numerous examples of duplication of government services where the same level of services could be provided in a more economical and efficient manner. While common sense dictates that communities should cooperate with one another, in reality, there are far too few examples where cooperation exists.

This chapter contains recommendations that can be implemented by Brown County and by various local units of government. Some of these recommendations could be immediate, while others will require further study. This chapter also contains examples of existing intergovernmental cooperation efforts and regional relationships within Brown County that can be used as building blocks for future cooperation.

Analysis of Governmental Relationships

Brown County Government

Each and every department, service, and facility of Brown County is available to citizens from every Brown County municipality. However, some departments have greater visibility than others. The Utilities and Facilities chapter of this comprehensive plan provides an exhaustive summary of the many services provided by Brown County. This section briefly highlights a few of the County departments that have entered into various types of service agreements with municipalities in Brown County.

Brown County Planning Commission

The Brown County Planning Commission offers local assistance planning services to municipalities within Brown County. The Planning Department provides a variety of services that include such things as the preparation of comprehensive plans, zoning ordinances, subdivision ordinances, official maps, and open space and outdoor recreation plans. This work is provided on a contract basis, and the County is reimbursed for all related expenses. County planners attend many municipal meetings to offer the communities planning advice on a variety of subjects.

Highway Department

The Brown County Highway Department constructs and maintains the county trunk highways system throughout Brown County. It provides roadway maintenance and construction services to the State of Wisconsin and local municipalities within the County for state highways and local road systems. It also plans, programs, and implements the necessary improvements to efficiently accommodate increased traffic demand generated by additional growth in the area. Since the Brown County Highway Department has jurisdiction over many of the major streets and intersections in Brown County, it will be very important to cooperate with the municipalities over the next 20 years to study and implement the street and intersection improvements recommended in the comprehensive plan. The Brown County Highway Commission should work with the municipalities and Brown County Planning Commission to identify, plan, and implement projects that fit within the context of their surrounding areas (as discussed in the comprehensive plan's Transportation chapter).

Park Department

The Brown County Park Department operates 18 park and open space sites totaling 3,474 acres throughout Brown County. Additionally, regional trail facilities, such as the Mountain-Bay Trail and the Fox River Trail, link many of our communities together with recreation trails and provide excellent recreational and transportation corridors. While the individual park facilities are located in specific municipalities to take advantage of natural amenities of the recreation site, the facilities serve a countywide and, oftentimes, regional customer base. Examples of these facilities include the NEW Zoo located in the Village of Suamico and the Brown County Fairgrounds located in the City of De Pere. County-operated boat ramps provide residents with access to many of the surface water resources located in communities throughout Brown County. It is important that Brown County continue to coordinate with the local units of government to make sure that these facilities are well maintained and are an asset to the local community, as well as to the entire County.

Sheriff's Department

The Brown County Sheriff's Department provides police protection to citizens of Brown County. Protection involves the prevention, detection, apprehension, prosecution, and detention of people who violate criminal or civil, state or local laws. The investigative function involves interviewing, interrogating, crime scene processing, and research related to criminal matters. The jail functions to provide a safe, secure, and humane

environment for individuals confined to jail custody. Courthouse security is provided by the jail division. Patrol services are intended to provide protection for the life and property of Brown County residents. The support function provides record keeping and data management and coordinates training for all divisions of the department. The Brown County Sheriff's Department contracts with a number of local Brown County municipalities to provide additional police protection within the particular communities.

Solid Waste Department

The Brown County Solid Waste Department provides for the solid waste disposal needs of municipalities within Brown County in a sound and economical manner. The department operates a material recycling facility that sorts, processes, and markets recyclable materials for Brown County residents and municipalities. It has also opened a solid waste transfer station to transfer waste to landfills as part of a tri-county waste disposal plan, and it maintains two closed landfills.

School Districts of Brown County

There are 12 different school districts wholly or partially located within Brown County (see Figure 9-1). Many school districts have experienced significant growth that has required the construction of new school facilities and/or the expansion of existing facilities. These expansions have provided temporary relief to the districts' capacity constraints, but many of the districts will likely have to consider creating additional capacity in the near future as more people live in Brown County.

Figure 9-1: Municipalities Served by School Districts of Brown County

School District	Municipalities Served
Pulaski Joint School District No. 5	Villages of Pulaski, Hobart, and Suamico and Town of Pittsfield
Howard- Suamico School District	Villages of Howard and Suamico
Green Bay School District	City of Green Bay, Villages of Allouez and Bellevue, and Towns of Eaton, Green Bay, Humboldt, Ledgeview, and Scott
Ashwaubenon School District	Village of Ashwaubenon
West De Pere School District	City of De Pere, Villages of Ashwaubenon and Hobart, and Town of Lawrence
Unified School District of De Pere	City of De Pere and Towns of Ledgeview, Glenmore, Rockland, Wrightstown, and Morrison
Wrightstown School District No. 1	Village of Wrightstown and Towns of Holland, Lawrence, Morrison, Rockland, and Wrightstown
Kaukauna School District	Town of Holland
Brillion School District	Town of Holland
Luxemburg-Casco School District	Towns of Green Bay and Humboldt
Denmark School District	Village of Denmark & Towns of Eaton, Ledgeview, Glenmore, New Denmark, and Morrison
Reedsville School District	Town of Morrison

While a school district has a more direct relationship with the individual municipalities in which it serves, Brown County regulations and ordinances also affect the school districts in a variety of ways. Brown County government policies affect school districts in the same way that its policies affect citizens and businesses located in the County. Examples of these County regulations include shoreland and floodplain regulations, sanitary regulations, and rules and regulations applying to the extension of public sewer service. County highways are used by students and school district employees to travel to and from their school destination sites.

Sharing of School District Facilities

School districts and municipal units of government often need to provide many of the same recreation facilities. Many school districts cooperate with local governmental units in the provision of recreation services to local residents. School districts often allow recreational sport leagues to use public school facilities through local park and recreation department programs. As participation in these leagues has grown, it is expected that additional cooperation will be needed.

The City of Green Bay has historically developed and operated joint school/park sites. This has cut down on land needs and saved money for the City and the school district by reducing the duplication of land and development costs.

Recommendations

- The practice of school districts cooperating with local park and recreation departments and service leagues to allow use of school district facilities for recreation activities should continue and be expanded whenever possible to include other activities, such as community meetings.
- The practice of developing joint school/municipal parks should continue and be utilized whenever possible.

School District Consolidation

Consolidation of existing school districts is a topic that often comes up when discussing efficiencies in government. While it is important to recognize that bigger is not always better, there are some efficiencies that can be gained by combining school districts. According to representatives of the Wisconsin Department of Public Instruction (DPI), school districts that consolidate in Wisconsin often have relatively small student populations, minimal financial and other resources, and limited curricula, and mergers are seen as the best method of providing adequate educational opportunities for students. Although it is possible that consolidating school districts could reduce certain costs (such as central office staffing), it is also possible that other costs could increase (busing students, etc.) following a merger.

Although the general perception of many residents appears to be that consolidation of school districts may be beneficial, this issue is very complex and should be studied thoroughly before school districts pursue consolidation.

Recommendations

- Brown County should encourage districts to consider consolidation and to hire qualified consultants to study the probable financial and non-financial impacts of consolidation. School districts should also be encouraged to consider consolidation as an option when evaluating building additional facilities or expanding existing facilities.

Location of Schools

As the population of Brown County increases, school districts will be faced with the question of school expansion. Location of new schools has enormous impacts on the residents of a municipality and the land uses in the vicinity of the school. A significant amount of factors must be reviewed when making decisions on site locations of new schools. When faced with building expansion, school districts must comply with municipal building regulations like any other prospective builder. Since many of the new school buildings are located in areas that are not yet fully developed, the extension of services to a prospective site is a vitally important consideration when determining location of a new school.

Recommendations

- The County should encourage school districts to continue their practice of placing schools in areas that can be easily and safely reached by young pedestrians and bicyclists and to include County representatives from departments, such as the Planning Department, Highway Department, and the Sheriff's Department, in discussions about future school sites. This cooperative effort should occur to boost communication and to evaluate and plan for impacts on various facilities and services before additional school property is purchased and new or existing facilities are built or expanded.
- School districts should consult with municipalities prior to planning for locations of future schools. The provision of municipal services to future schools requires a careful review of school placement in order to determine the ability of a municipality to provide the necessary services required of a school. Placement of schools affects a community's growth pattern and, therefore, is a major concern of a municipality.
- It is important that school officials understand what different types of permits are required before selecting and buying a building site, and it is important that school officials check with municipal officials early in the process in order to comply with local regulations.

Syble Hopp School

Brown County is somewhat unique in providing education services and facilities for people with special needs or disabilities through the Syble Hopp School located in De Pere. Many Brown County school districts have been able to avoid duplicating these services and facilities to meet these special education needs by taking advantage of the programs offered at the Syble Hopp School.

Communities Within Brown County

There are 24 local units of government within Brown County (see Figure 9-2). This is in addition to Brown County, the Oneida Nation, as well as the many general purpose units of government, such as sanitary districts, utility districts, school districts, and other types of special purpose districts.

Figure 9-2: Municipalities within Brown County

Municipality	Population	Municipality	Population
City of Green Bay	102,767	Town of Eaton	1,414
City of De Pere	20,559	Town of Green Bay	1,772
		Town of Glenmore	1,187
Village of Allouez	15,443	Town of Holland	1,339
Village of Ashwaubenon	17,634	Town of Humboldt	1,338
Village of Bellevue	11,828	Town of Lawrence	1,548
Village of Denmark	1,958	Town of Ledgeview	3,363
Village of Hobart	5,090	Town of Morrison	1,651
Village of Howard	13,546	Town of New Denmark	1,482
Village of Pulaski	3,013	Town of Pittsfield	2,433
Village of Suamico	8,686	Town of Rockland	1,522
Village of Wrightstown	1,934	Town of Scott	3,138
		Town of Wrightstown	2,013
Oneida Nation	Unknown		

Source: 2000 U.S. Census Bureau

Inter-Municipal Cooperation Efforts

Situations often develop between units of government that could be handled in a cooperative manner that would be beneficial to both parties. Annexation of property from a town into an incorporated village or city remains one of the most contentious issues between neighboring communities. Wisconsin annexation law provides an advantage to the incorporated municipalities in that the law is designed to enable annexation to occur following a request by property owners. Nevertheless, towns want to preserve their borders and retain their existing and future tax base, and the incorporated communities want to be able to expand their boundaries into adjoining municipalities.

Although Wisconsin state statutes provide incorporated communities with the ability to accept annexations from town property owners, annexations oftentimes lead to lawsuits, court battles, and ultimately one “winner” and one “loser” whether or not the town is successful in challenging the annexation in court or the incorporated community is successful in accepting the annexation. Cities, villages, and towns should be encouraged to work together on annexation issues and enter into cooperative boundary plans and intergovernmental agreements with litigation as the last option.

When done right, boundary plans and intergovernmental agreements can preserve lands for towns and allow them the ability to plan for future development without worrying about future annexation occurring. Depending on the agreements and plans developed, such devices also have the potential to get payments from incorporated areas, to receive

municipal services not readily available to towns, and to preserve lands from future encroachment. Such plans and agreements can minimize future conflict. Obviously, a town must also be willing under such arrangements to give up regulatory control and tax base from property to the adjacent incorporated community. In many cases, it is ultimately more economical for an unincorporated community to develop cooperative agreements than it is to pursue litigation.

The following list identifies examples of inter-municipal cooperation efforts in Brown County by various governmental units to cooperate and share in the provision of services:

- Local fire departments within Brown County have mutual aid agreements with adjacent fire departments serving adjoining municipalities in case there is a need for additional assistance in handling fires.
- Green Bay Metro system provides transit service to the metropolitan communities of the Cities of Green Bay and De Pere and the Villages of Ashwaubenon, Allouez, and Bellevue.
- Oneida Transit System provides transit service to tribal residents within the Green Bay Metropolitan Area.
- Several communities meet on a regular basis with representatives of their neighboring communities to discuss issues of mutual concern.

The Wisconsin property tax system creates severe competition between communities to attract industrial and business prospects. Most communities within Brown County have industrial parks within their municipal borders, and many incur high costs in the provision of services to businesses located within these parks. It may make more sense to cooperate and develop industrial parks in specific municipalities rather than to develop parks in each and every community due to the differences in costs of providing services to the parks in one community as compared to another. Location criteria so critical to development of a business park may be better in one community than another. Oftentimes, a community develops an industrial or business park solely for the tax benefits even though the location of such a park may adversely affect other land uses in the area. Such situations could be lessened if joint development between communities occurred and the tax base was shared among the communities involved.

As mentioned previously in this chapter, development of joint school park sites has the potential to save municipalities money. Neighboring municipalities should also consider sharing buildings and facilities. In addition to the cost savings of developing joint facilities, such cooperative endeavors can allow a municipality to address residents' needs at a lower per capita cost than when contemplating building alone. This can be the difference between providing and not providing such services. Quite often, there are needs for such facilities in communities, but communities are reluctant to spend the money to develop such sites due to the costs.

Recommendations

- Municipalities should be encouraged to enter into cooperative boundary plans and intergovernmental agreements.

- Communities should discuss with adjoining communities future development plans for areas of land located on the periphery of a municipal border and should try to develop boundary plans for such areas.
- Communities should review and study the possibility of joint development of business and industrial parks, as well as the idea of sharing tax revenues derived from development within such parks.
- Municipalities should consider developing joint recreational parks and community building sites where possible.

County/Municipal Cooperative Efforts

The following list identifies additional examples of regional efforts in Brown County by various governmental units to cooperate and share in the provision of services to Brown County residents:

- Brown County Central Dispatch operated by Brown County provides centralized emergency services dispatch for communities in Brown County.
- Brown County Library System provides library services to Brown County residents and has branches in various communities.
- Brown County Sheriff's Department provides police services to Brown County, as well as contracts with individual municipalities for more extensive police service.
- Advance, which is partially funded by Brown County, is the economic development arm of the Green Bay Area Chamber of Commerce and provides a public-private partnership to improve and diversify the local economy.
- Brown County Park System provides recreational opportunities to Brown County residents through existing county parks located throughout the County, as well as a trail system operating in various municipalities in the County.
- Brown County Planning Commission provides a variety of planning services to municipalities within Brown County.
- Brown County Highway Department provides contracted road maintenance and snow removal for municipal roadways in Brown County.
- Brown County owns and operates the Neville Public Museum, which is an accredited general museum of art, history, and science serving northeast Wisconsin.
- The NEW Zoo, located adjacent to the Reforestation Camp in Suamico, is an accredited zoo serving Brown County and the surrounding region.
- Brown County Port and Solid Waste Department provides solid waste and recycling services to numerous local communities both within and outside of Brown County.

Adjoining Counties

Brown County is bordered by Manitowoc and Calumet Counties to the south, Shawano and Outagamie Counties to the west, Oconto County to the north, and Manitowoc and Kewaunee Counties to the east. While several cooperative efforts exist between Brown

County and other area counties, the following is a summary of several significant agreements for services.

County Regional Cooperation Efforts

The following identifies a few of the partnerships that exist with area counties:

- The solid waste transfer station provides a drop-off station where solid waste is dropped off and transferred to the Outagamie County landfill as part of a 25-year solid waste disposal program. Brown, Outagamie, and Winnebago Counties have put together a tri-county waste disposal agreement.
- Brown County Jail is operated by the Brown County Sheriff's Department and houses prisoners from Brown County, as well as contracts with other counties to provide housing for prisoners from outside of Brown County.

Regional Organizations within Brown County

Green Bay MPO

The Green Bay Metropolitan Planning Organization (MPO) is a federally-designated transportation planning agency for the Green Bay urbanized area. Green Bay's MPO is a component of the Brown County Planning Commission, and the MPO was extensively involved in the development of the Brown County Comprehensive Plan. The MPO also works to develop the urbanized area's Transportation Improvement Program (TIP).

Central Brown County Water Authority (CBCWA)

Over the last 27 years, a number of Brown County communities have worked with consultants to determine the best method of satisfying the need for a reliable water source. The CBCWA is made up of six municipalities in Brown County and is in the process of obtaining a Lake Michigan potable water source for the six municipal member communities. A water purchase and sales contract was signed between the CBCWA and the six municipal members in late 2003. With this contract in place, the municipalities agree to take potable water from the CBCWA when it is available. The CBCWA is working on a contract to buy water from the City of Manitowoc.

Green Bay Metropolitan Sewerage District (Green Bay MET)

The Green Bay Metropolitan Sewerage District (GBMSD) has cooperatively managed the wastewater treatment needs of portions of 14 Brown County municipalities and several communities outside of Brown County for an estimated population of 154,926 people and a service area that encompasses 232 square miles.

Other Regional Partnership Organizations

- Employers' Workforce Development Network.
- Northeastern Wisconsin Economic Development Partnership.
- NEW Chambers Coalition.

- NEW Education Resources Affiliation.
- USH 41 Corridor Partnership.

Bay-Lake Regional Planning Commission

Brown County has been a member of the Bay-Lake Regional Planning Commission since it was created in 1972. Through this membership, communities in Brown County are eligible for services, such as preparation of comprehensive plans, zoning ordinances, grant writing and administration, GIS mapping, and preparation of outdoor recreation plans. The Bay-Lake Regional Planning Commission has prepared local comprehensive plans for some Brown County municipalities and prepares a regional plan, as well as an economic development plan, for the region. Additionally, the Bay-Lake Regional Planning Commission assists and completes planning projects for Brown County.

Other Entities

Other entities that provide regional benefits include St. Norbert College, the University of Wisconsin–Green Bay, Northeast Wisconsin Technical College, and the various private schools within the area. Several other regional facilities, such as Lambeau Field, the Resch Center, the Weidner Center, and the Meyer Theatre, provide venues for entertainment and athletic events.

State of Wisconsin

Wisconsin Department of Transportation (WisDOT)

In partnership with local governments and other groups, WisDOT administers a variety of state and federal programs to complete projects that enhance the transportation network within Brown County. The most significant projects that WisDOT plans to complete in Brown County during the 20-year planning period is the construction of a new bridge over the Fox River in the City of De Pere’s downtown (presumably in 2006) and the widening of USH 41 through Brown County.

Wisconsin Department of Natural Resources (DNR)

The Wisconsin Department of Natural Resources is dedicated to the preservation, protection, effective management, and maintenance of Wisconsin's natural resources. It is responsible for implementing the laws of the state and, where applicable, the laws of the federal government that protect and enhance the natural resources of the state. The DNR is charged with coordinating the many disciplines and programs necessary to provide a clean environment and a full range of outdoor recreational opportunities for Wisconsin citizens and visitors. The department is charged with approving a cleanup plan for the Fox River.

The DNR makes grants available to local units of government for park acquisition and development. In the future, Brown County communities should attempt to acquire additional grant funds through the DNR to improve recreational opportunities, to

purchase land for parks, and to construct trails. The County should also work with the DNR and the adjacent communities that are impacted by the waterways of Brown County to improve the water quality and increase recreational opportunities.

Department of Commerce

The Wisconsin Department of Commerce administers regulations for onsite waste disposal systems in the State of Wisconsin. The Brown County Zoning Administrator's office works closely with the Department of Commerce in the implementation of these regulations. The County Zoning Administrator's office enforces and implements these regulations for all municipalities in Brown County.

Federal Government

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers regulates federal wetlands protection regulations in the State of Wisconsin. These regulations affect each municipality in Brown County and many times coincide with State of Wisconsin wetland protection regulations.

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency is charged with administering federal environmental laws and regulations.

Examples of Existing Service and General Agreements in Brown County

There are many existing service agreements within Brown County between local units of government, as well as agreements presently being worked on. The following is a list of some of the agreements in Brown County:

- City of Green Bay/Town of Scott boundary agreement.
- City of De Pere/Town of Ledgeview intergovernmental agreement.
- Village of Wrightstown/Town of Kaukauna boundary agreement.
- Green Bay Metropolitan Sewerage District sewer agreement with the City of De Pere.
- Brown County Highway Department agreement with municipalities regarding snowplowing.
- Brown County Highway Department agreement with municipalities regarding road construction.
- Brown County, Winnebago County, and Outagamie County tri-county waste disposal agreement.
- Village of Bellevue/City of Green Bay water agreement.
- Village of Hobart/Village of Ashwaubenon water agreement.

- City of De Pere/Town of Ledgeview water agreement.
- City of De Pere/Town of Lawrence boundary agreement.
- City of Green Bay/Town of Scott water agreement.
- Creation of the City of Green Bay/Town of Scott Joint Plan Commission.
- City of Green Bay/Village of Ashwaubenon water agreement.
- MECCA room tax agreement.
- Mutual aid agreements between local fire departments.

In addition to the existing agreements identified, the Village of Ashwaubenon, the Oneida Nation, the City of De Pere, and the Town of Lawrence are investigating the potential and possible construction of a shared municipal building for public safety departments of the communities.

Regional Opportunity

Stormwater Management

A major opportunity exists for a regional approach to stormwater management. This effort is similar in scope to efforts of the Central Brown County Water Authority. Adequate stormwater management requires coordination between adjoining municipalities since a drainage area boundary is not consistent with political boundaries. Stormwater management planning solely for one community with no coordination with adjoining communities oftentimes minimizes effectiveness. The U.S. Environmental Protection Agency requires that all municipalities within an urbanized area as defined by the U.S. Census meet stormwater management requirements. This includes Brown County, the Cities of Green Bay and De Pere, the Villages of Allouez, Ashwaubenon, Bellevue, Howard, Hobart, Suamico, and the Towns of Lawrence, Ledgeview, Rockland, and Scott. By 2005, the EPA requires that all units of government within the urbanized area adopt a program for information and education about stormwater management and ultimately put together comprehensive stormwater management programs. A regional-type approach is the best way to tackle this issue.

Recommendation

- It is recommended that Brown County take the lead in putting together a program to implement the stormwater management requirements as set by the Environmental Protection Agency (EPA) for the metropolitan urbanized area municipalities within Brown County.

Natural Resource Features

In addition to stormwater management issues, most natural resource features also transcend municipal boundaries and are often best addressed on a regional basis. Examples of such features include groundwater, lakes, rivers, streams, wildlife habitat, and geological features, such as the Niagara Escarpment. Examples of regional issues

regarding these natural resources include issues of protection, preservation, use, and identification.

Recommendations:

- It is recommended that Brown County work cooperatively with adjacent communities and adjacent counties to address these issues in the most appropriate manner possible.

Intergovernmental Conflicts

There are barriers that must be broken down if intergovernmental cooperation and consolidation and sharing of services are to occur more frequently than the present pace. Providing government services in a more efficient, economical, and cooperative manner requires that municipalities and government entities, as well as citizens of municipalities, not just give lip service to ideas of cooperation, consolidation, and sharing of services but think in a non-parochial fashion. Municipalities, politicians, government agencies, government departments, and government employees should all be willing to evaluate opportunities where changes could occur.

It is important that decision-makers consider the cumulative effects and benefits to the communities from sharing or consolidating services. Many of the benefits of regional cooperation are due to the economies of scale generally inherent when tackling and resolving issues from a regional perspective. Municipalities must be cautious of taking a stance that each and every attempt to share or consolidate services must yield positive budgetary results for their community. In many cases, it is a total package of cooperative efforts that result in an overall benefit to a region, as well as to the individual communities. Before more cooperation between municipalities can occur, parties need to realize the “big picture” benefits to the overall region.

Some of the existing and potential conflicts between governmental units include annexation proposals, conflicting land use among adjacent communities, inadequate land use planning, lack of discussion between governmental bodies, extension of municipal services, conflicting ordinances and regulations, and competition among municipalities for tax base. The Summary of Recommendations portion of this chapter includes recommendations to address conflicts between governmental units. Many of the recommendations involve common sense ideas for cooperation. Too often municipalities operate in a vacuum without thought about or discussion with adjacent communities. Lack of communication can lead to decision-making that is less than perfect. Joint planning by way of boundary agreements and intergovernmental agreements – and even timely discussion among adjoining municipalities – can go a long way towards resolving conflicts and preventing future conflicts.

Summary of Recommendations

The following contains recommendations for intergovernmental cooperation and increased efficiencies in providing government services for citizens of Brown County. The recommendations are categorized by the type of governmental units that the recommendations are applicable to. The General Municipal category contains

recommendations that can apply to all units of government. The County category contains recommendations that apply to Brown County government. The Local category contains recommendations that can apply to local units of government. The General category contains recommendations that can apply to specific units of government and to all units of government. Last, the School District category contains recommendations that apply to school districts. The lists contain recommendations identified earlier in this chapter, as well as many additional recommendations. While this list should not be considered all-inclusive, implementation of these recommendations will add to cooperation and efficiency in government.

General Municipal Recommendations

- Complete a comprehensive review of the different types of services provided by each unit of government in Brown County. Once this has been accomplished, duplicative efforts can be identified and reviewed to determine whether it may make sense for the communities that provide similar services to continue to provide such services or whether it may make more sense to combine forces with other communities in providing such services.
- Complete a study to determine what government services could be handled at a comparable service level by the private sector. The study should determine if there are or are not benefits to private sector provision of services. If it is determined that some services are better provided by the private sector, joint agreements between multiple communities to obtain service from the private sector should also be considered.
- Municipal governments should study and determine whether the level of services provided by the governmental unit is sufficient or is excessive.
- Local units of government should consider sharing personnel or contracting with personnel from another municipality for specific situations.
- A study should be undertaken by municipalities in Brown County to determine the advantages and disadvantages of consolidation with adjoining municipalities.
- If specific shared municipal services cannot occur for whatever reason, communities should investigate whether it makes sense to share equipment used in providing municipal services.
- Reviews should be made of ordinances by municipal governments and government agencies within Brown County to determine if regulations could be streamlined, keeping in place the needed requirements while cutting down on the amount of similar permits or approvals necessary to develop property.
- Municipalities should coordinate the requirements within similar type local ordinances and, when possible, make requirements as uniform as possible over the entire region.
- A study should be undertaken to consider whether the various units of government could incur cost savings by consolidating the provision of employee benefits with other municipalities, including state government.

- A meeting should be held amongst local units of government in Brown County to discuss efforts to avoid duplication of services and the potential for consolidation in the provision of government services.
- Local governments should support and encourage efforts by state government to make it easier for local governments to provide services to its citizens in a more cooperative, economical manner. This should include enabling the freedom and flexibility to be innovative in the provision of services. When necessary, existing laws that discourage innovative thinking should be changed.
- Encourage and make efforts to increase citizen participation in all facets of municipal government within Brown County.
- Create an informational document identifying the various government permits (state, federal, and local) required for building projects within Brown County and make the information available to the general public.
- Encourage local governments to continue involvement with Advance, which is the economic development branch of the Green Bay Area Chamber of Commerce.
- Develop cooperative efforts with the University of Wisconsin-Green Bay, St. Norbert College, and Northeast Wisconsin Technical College.
- Municipalities should utilize comprehensive plans so that long-range decisions are well thought out and consistent.
- Promote cooperation between the federal, state, and local agencies in the provision of government services and the implementation of similar ordinances and regulations.

County Recommendations

- County officials should build on existing cooperative efforts with other counties in the provision of government services.
- The use of task force committees or special “blue ribbon” committees made up of people with expertise should be encouraged to review issues facing county and local government.
- A Metropolitan Police Task Force committee was formed to review the potential benefits of a metropolitan police force. Metropolitan communities should give careful consideration to these recommendations.
- It is recommended that Brown County and the private sector continue to work toward coordination in the provision of social services so residents of Brown County can best be served in the most economical manner possible while maintaining an adequate level of service.
- It is recommended that Brown County provide leadership in putting together a program to implement the stormwater management requirements as set by the Environmental Protection Agency (EPA) for the urbanized area within Brown County.
- The Brown County Sheriff’s Department should continue to contract with individual Brown County municipalities to provide additional police service and to expand such contracts to additional municipalities if the opportunities arise.

- The Brown County Solid Waste Department should continue its past action of investigating and implementing regional avenues to provide low cost solid waste and recycling service to residents and municipalities of Brown County.
- The Brown County Board, the county executive, and the various County government departments should carefully review and, where applicable, implement recommendations contained within the various chapters of the Brown County Comprehensive Plan to foster intergovernmental cooperation and increase efficiency in county government.
- Brown County Highway Department should continue to involve all municipalities in the County in obtaining input prior to putting together a listing of future highway projects.
- Brown County should continue to monitor regulations affecting land use to ensure that the County is not an unnecessary impediment to new land development techniques being utilized in municipalities within Brown County.
- Work together with federal and state agencies in making it easier for existing wetland regulations to be understood by the general public.
- Work with state and federal agencies in providing inter-municipal and inter-regional recreational trail systems.
- Brown County should encourage and, where possible, partner with local communities to enhance or redevelop commercial and industrial waterfront uses along the Bay of Green Bay and the Fox River.
- The Brown County Planning Commission should continue to work with local municipalities in acquiring grant money for various municipal projects.

Local Recommendations

- When possible, municipalities should work together on the extension of utilities, such as sewer and water service, when cost savings are possible.
- Encourage municipalities to negotiate intergovernmental boundary agreements to determine long-term boundaries that enable communities to develop in an efficient manner that is consistent with local goals and objectives.
- Encourage communities to develop industrial and business parks as a joint development with a sharing of the tax base among the communities that work together.
- Where possible, adjacent municipalities should consider developing joint recreational park sites and community building sites when providing certain community facilities.
- Continue to coordinate the development of trail facilities with adjoining communities, thereby maximizing the trail linkage for all residents of the region.
- Encourage municipalities to coordinate land use activities along each community's respective borders.

- In order to reduce conflict, periodic meetings should be held between officials of adjacent communities to discuss common issues, potential problems, and to acquire an understanding of the position of the other municipality. Meeting agendas and minutes from municipal meetings should be shared with adjoining communities.
- Encourage communities to study the benefits derived by contracting with the Brown County Sheriff's Department for police service as compared to pros and cons of starting a new police department.
- When appropriate, municipalities should take advantage of financial incentives offered by the state and federal government by way of revenue sharing, grants, or other means as rewards or benefits for fiscal responsibility and for consolidation of local government services.
- Local units of government should monitor local regulations affecting land use to ensure that the existing regulations are not an impediment to the utilization of new land development techniques.

General Recommendations

- Emphasize economic development as a regional benefit and less as an individual municipal benefit.
- A study should be undertaken to consider whether the various units of government could incur cost savings by consolidating with other municipalities, including state government, in the procurement of goods and materials required for municipal use.
- Develop an open public forum to be attended by representatives of all units of government in Brown County for the purpose of hearing ideas from the general public on ways for local units of government to provide government services to the citizens in a more economic, efficient manner. Representatives from the local units of government should then meet to review and discuss the merits of the recommendations and ideas emanating out of the public forum with the goal of implementing viable recommendations.
- Encourage municipalities with more than one sanitary district within their municipal boundaries to study the benefits of consolidation of such sanitary districts.
- Encourage the State of Wisconsin to change the way property is taxed so as to eliminate or reduce competition for tax base between municipalities. Location decisions that are not so heavily based on municipal boundaries and are based more on the best location for the facility will result in more cooperation between municipalities and better municipal land use decisions.
- Encourage local zoning regulators to work with regulators from the Wisconsin Department of Natural Resources and the U.S. Army Corps of Engineers to make the State of Wisconsin wetlands regulations and the federal government wetlands regulations less confusing for area property owners.

School District Recommendations

- The practice of school districts cooperating with local park and recreation departments and service leagues to allow use of school district facilities for recreation

activities should continue and be expanded whenever possible to include other activities, such as community meetings.

- The practice of developing joint school/municipal parks should continue and be utilized whenever possible.
- Brown County should encourage districts to consider consolidation and to hire qualified consultants to study the probable financial and non-financial impacts of consolidation. School districts should also be encouraged to consider consolidation as an option when evaluating building additional facilities or expanding existing facilities.
- The County should encourage school districts to continue the practice of placing schools in areas that can be easily and safely reached by young pedestrians and bicyclists and to include County representatives from departments, such as Planning, Highway, and Sheriff's Office, in discussions about future school sites.
- Encourage school districts to consult with municipalities and Brown County prior to planning for locations of future schools.
- It is important that school officials understand what different types of permits are required before selecting and buying a building site, and it is important that school officials check with municipal officials early in the process in order to comply with local regulations.

CHAPTER 10

Implementation

The completion of the Brown County Comprehensive Plan should be celebrated as a significant milestone in providing guidance for the future development and redevelopment of Brown County. However, the key to the success of a comprehensive plan is its implementation. There are several regulatory tools and administrative mechanisms and techniques that can be utilized to implement the plan. Although this chapter does not include all of the recommendations in the comprehensive plan, it does summarize many of the action steps the County should take to implement the recommendations. This chapter also identifies many steps that can be cooperatively taken by the County and individual communities and by the communities themselves to implement the recommendations in the County comprehensive plan.

Land Use

Brown County

Action Steps:

1. Revise the Brown County Subdivision Ordinance to reflect the recommendations in the Brown County Comprehensive Plan. The County should then use the revised ordinance when reviewing development and redevelopment proposals to ensure that the completed projects are consistent with the plan.
2. Complete a cost of development fiscal analysis for each community in Brown County to estimate and report the effects of residential and non-residential development.
3. Consider conducting a study to estimate the demand for residential developments that contain Smart Growth features (smaller lots, mixed land uses and housing types, etc.).
4. Develop model ordinances that can be used by local municipalities. Examples of these ordinances include a subdivision ordinance, conservation by design ordinance, traditional neighborhood development (TND) ordinance, stormwater management ordinance, and erosion control ordinance.
5. Develop model design guidelines and a site plan review process for local communities to ensure quality commercial and industrial building designs that meet community standards.

Brown County and Individual Communities

Action Steps:

1. Brown County and the County's communities should establish a data sharing system that includes mapping, zoning, development proposals, ordinances, and other information.

2. Brown County should encourage and work with local communities to enhance and/or redevelop commercial and industrial waterfront uses along the Bay of Green Bay and the Fox River.
3. Brown County should work with its communities to study the feasibility of a countywide stormwater management program.

Individual Communities

Action Steps:

1. The County's communities should consider including the applicable planning and development techniques identified in the Brown County Comprehensive Plan in their own comprehensive plans.
2. The County's communities should consider revising their zoning and subdivision ordinances to allow concepts identified in the Brown County Comprehensive Plan to be implemented. Examples of these concepts include mixed land uses, well-connected street networks and comprehensive pedestrian systems, traditional neighborhood development and conservation by design subdivisions, and neighborhood commercial nodes.

Transportation

Brown County

Action Steps:

1. Work with the Cities of Green Bay and De Pere, Villages of Allouez and Ashwaubenon, Port of Green Bay, Bay-Lake Regional Planning Commission, and other entities to develop a land use plan for the Fox River shoreline in the metropolitan area.
2. Study the long- and short-term parking needs of Austin Straubel International Airport to determine if a parking ramp should be built.
3. Work with the US Army Corps of Engineers to increase the depth of the Fox River channel from 24 to 26 feet and the width from 100 to at least 250 feet.
4. The Port of Green Bay should seek additional products to export from the area.

Brown County and Individual Communities

Action Steps:

1. Brown County should install sidewalks along its highways within incorporated communities and in portions of unincorporated communities that have urban characteristics. The County's incorporated and unincorporated communities are also encouraged to create sidewalk systems in their areas of urbanization.
2. If sidewalks cannot (or will not) be installed along streets with reverse frontage lots that have little or no direct driveway access, the state, county, and local governments should consider enhancing pedestrian access along these streets by constructing multi-use trails.

3. After the comprehensive plans consistent with the Wisconsin Comprehensive Planning Law for Brown County and the Southern Bridge corridor communities are finished and approved, the communities should work with Brown County and the State of Wisconsin to develop an implementation schedule for the Southern Bridge.
4. Brown County should continue to work with the Wisconsin Department of Transportation and the County's communities to ensure that all of the bridges, interchange overpasses, and other transportation structures within the County have adequate pedestrian and bicycle facilities when they are constructed or reconstructed.
5. Brown County and the County's communities should continue to utilize street design techniques that reduce vehicle speeds (where appropriate), minimize the possibility of conflicts, and enhance traveler awareness to maximize pedestrian, bicyclist, and motorist safety and accessibility at intersections.
6. Brown County and the communities within the Green Bay Metro service area are encouraged to work with Metro, employers within the service area, retail centers, and other groups and individuals to implement programs that could increase transit ridership.

Individual Communities

Action Steps:

1. Brown County's communities are encouraged to require well-connected street patterns within new developments that have frequent connections to the existing street system. However, if physical or environmental constraints prohibit street connections, the County's communities are encouraged to allow the development of cul-de-sacs near the constraints.
2. The County's communities are encouraged to require the designation of public rights-of-way at or near the end of the cul-de-sacs for multi-use paths that connect to neighboring subdivisions, schools, parks, and other destinations.
3. The County's communities are encouraged to amend their subdivision ordinances to enable the construction of narrower streets and to establish right-of-way width standards that do not require the acquisition of more right-of-way than necessary.
4. Brown County's towns are encouraged to study their roads to determine the appropriate speed limit for each road based on the standards in Chapters 346.57(4) and 349.11(3) of the Wisconsin Statutes. Once a study is completed, the community should establish the speed limits by adopting an ordinance for each town road and posting signs at appropriate locations.
5. The County's communities are encouraged to implement the Land Use chapter's recommendations for mixing land uses to create destinations that can be easily reached by pedestrians and bicyclists.
6. The County's communities should consider formally identifying streets where heavy trucks are allowed to travel. Once these systems are identified, the communities should mark the truck routes with street signs that distinguish them from other streets.

Economic Development

Brown County

Action Steps:

1. Confirm Brown County's status as a significant player in the governmental, legal, professional, service, and cultural environment of downtown Green Bay by continuing to concentrate the County's facilities in Green Bay's downtown.
2. Develop Smart Growth criteria for the Brown County Revolving Loan Fund Program to encourage businesses looking to locate or expand in Brown County to be consistent with the recommendations in the Brown County Comprehensive Plan.
3. Develop a comprehensive list of economic development funding programs offered by the state and federal governments.
4. Complete and maintain an inventory of existing vacant buildings and land that might be contaminated by industrial- or petroleum-based pollutants.
5. Organize and facilitate a yearly forum with Brown County businesses to discuss future needs, potential problems, and other issues.

Brown County and Individual Communities

Action Steps:

1. Brown County and the County's communities should identify methods of encouraging cooperation and coordination rather than competition between communities when evaluating locations for large economic development projects.
2. Brown County and the County's communities should work together to improve the quality of life for the citizens of Brown County, avoid the negative consequences associated with the loss of efficiencies from urban sprawl, and create interesting places that attract an educated workforce.
3. Brown County should encourage and, where possible, partner with local communities to enhance or redevelop commercial and industrial waterfront uses along the Bay of Green Bay and the Fox River.
4. Brown County and the County's communities should maintain their networks of local, regional, and statewide stakeholders to provide political support to the paper industry.
5. Brown County should assist local communities to ensure quality commercial and industrial building designs and site layouts by developing model design guidelines and a model site plan review process.
6. Brown County and the County's communities should continue to develop business attraction and retention programs to retain existing industries and encourage the development of new businesses within the information and professional/scientific/management industries.
7. Brown County and the County's communities should provide opportunities for local educational institutions to get involved in community activities in order to develop and retain a qualified workforce.
8. Brown County and the County's communities should continue to develop economic development partnerships with various agencies, such as Advance, the Bay-Lake

Regional Planning Commission, the Wisconsin Department of Commerce, and Wisconsin Public Service Corporation.

Individual Communities

Action Steps:

1. Brown County's communities should strive for compact development and should promote the redevelopment of underutilized, vacant, blighted, and brownfield commercial and industrial sites and buildings to efficiently utilize existing public utilities and services.
2. The County's communities should focus their redevelopment efforts (particularly in their downtowns, village/town centers, and neighborhood centers) toward making their street and business facades more pedestrian-friendly by encouraging the development of buildings with minimal setbacks and parking in the rear or along the side. Communities are also encouraged to allow the development of buildings with commercial uses on the first floor and residential uses on the upper floors.
3. The County's communities should identify and expand their industrial land areas and provide sufficient acreage for future industrial development needs in appropriate locations.
4. The Brown County communities that have a relationship with Advance should continue working with the organization to attract and retain businesses, and communities that have not worked with Advance should consider utilizing this resource in the future.

Housing

Brown County

Action Steps:

1. Brown County should foster the creation or designation of an umbrella organization to direct Brown County residents to the proper agency or program for housing resources.

Brown County and Individual Communities

Action Steps:

1. Brown County and the County's communities should strategically mix commercial, institutional, and recreational uses within and near residential developments to ensure residents have the option to walk or bike to these uses.
2. Brown County should discuss the concept of visitability with local communities as the communities develop their comprehensive plans so people with mobility impairments are not precluded from visiting homes.
3. Brown County should work with the County's communities to identify areas that might be in need of housing rehabilitation programs.

4. Brown County should help the County's communities identify homes that might be historically and/or architecturally significant and pursue funding sources that might be used to rehabilitate or renovate them in a historically-sensitive manner.
5. Brown County should help the County's communities implement the recommendations in the Affordable Housing and Homelessness in Brown County report.

Individual Communities

Action Steps:

1. Brown County's communities should permit smaller residential lot sizes based on the standards in the Brown County Subdivision Ordinance.
2. Communities should encourage at least two (and preferably more) types of housing units in all developments over 30 acres in size where at least one-half of the lots are intended for residential uses.
3. Communities that have the public services to support a traditional neighborhood development (TND) should create a traditional neighborhood development district category in their zoning ordinances.
4. In areas of the County where there are unique natural, agricultural, or cultural resources, conservation by design developments should be encouraged rather than larger lot rural subdivisions.
5. Communities should support the creation of neighborhood associations to foster neighborhood cohesion and provide a means for residents to communicate with elected officials.
6. Communities should develop small and accessible neighborhood parks within residential areas to create a sense of identity for neighborhoods and a gathering place for their residents.
7. Communities should adopt minimum housing maintenance standards to ensure that their older housing stock does not deteriorate.
8. Communities should increase the number of affordable 3- and 4-bedroom units available for rent in the suburban areas of Brown County by providing incentives for developers.

Utilities and Community Facilities

Brown County

Action Steps:

1. Continue to study the needs of the Sheriff's Department and, if necessary and feasible, consider its relocation to a larger, more accessible location. This study should also consider the relocation of other County departments or programs to take advantage of any linkages that may exist.
2. Establish concurrency policies and policies prohibiting the premature extension of public sewer in the County's plans and programs.
3. Update the Brown County Solid Waste Plan as necessary during the planning period.

4. Begin planning for the closure of the Bay Port Confined Disposal Facility (CDF) and evaluating potential sites for a new CDF for contaminated sediments as soon as possible.
5. Study the feasibility and timing of adding another shift to the operation of the Brown County Materials Recycling Facility.
6. Prepare and implement a stormwater management plan for the County's facilities.
7. Once a stormwater management plan is developed, prepare and adopt a County stormwater management ordinance to enforce the recommendations in the plan.
8. Prepare, adopt, and enforce an erosion control ordinance for, at a minimum, land owned and maintained by Brown County.
9. Consider the establishment of an impact fee for Brown County's parks.
10. Update the Brown County Park Plan approximately every five years to maintain the County's eligibility for state and federal recreation grants.
11. Review and revise the North Eastern Wisconsin (NEW) Zoo Master Plan as necessary and implement the plan's recommendations as funding becomes available.
12. Review and revise the Brown County Fairgrounds Master Plan.
13. Complete a countywide telecommunications study to determine methods of obtaining the best and most cost-effective telecommunications service possible for the County and its communities.
14. Study the development of new elderly care sites or the creation of more room at existing sites for the expansion of meal delivery and other programs.
15. Participate in the proposed stormwater management consortium for the Fox Valley area.
16. Study the Brown County library system to determine if it is being operated in the most efficient and cost-effective manner.
17. Study the Neville Public Museum to determine if it is being operated in the most efficient and cost-effective manner.
18. Update the museum's 5-year plan as necessary during the planning period.
19. Study the trends, needs, and status of Syble Hopp School.
20. Study the potential for relocating and improving the Public Safety Communications Department's facilities. This study should consider the timing of a potential relocation and should address opportunities for consolidating and/or sharing facilities with other departments.
21. Study the feasibility of closing the New Franken Highway Department shop and determine how the two remaining shops would be impacted if the New Franken shop is closed.
22. Study the feasibility of consolidating various County department maintenance activities.
23. Periodically study the staffing and space needs of the Brown County Jail.

Brown County and Individual Communities

Action Steps:

1. The Brown County Sheriff's Department should continue to provide law enforcement services to communities as long as the service costs are entirely reimbursed. When it is found to be feasible and cost-effective, the department should also extend these services to other communities.

2. The adequacy of police service in Brown County should be periodically studied by the County and its communities to ensure that an adequate level of service continues to be provided.
3. Brown County should encourage the Green Bay Metropolitan Sewerage District (GBMSD) and local communities to establish concurrency policies regarding the extension of sanitary sewer and other related utilities and services and to establish utility and service policies that prohibit premature extension of utilities and services.
4. Brown County should share the information contained within this comprehensive plan and the various community comprehensive plans with the GBMSD to enable its long-range plans to be consistent with the comprehensive plans.
5. Brown County should pursue the renewal of its contracts with local communities for the disposal of solid waste. The County should also enter into similar contracts with additional communities when it is feasible and advantageous to Brown County.
6. Brown County should, in cooperation with the local units of government, study the feasibility of a countywide stormwater management effort.
7. Brown County and its communities should continue to help school districts study the location and timing of future school facilities to ensure the efficient and cost-effective provision of services to the new facilities.
8. Brown County and its communities should continue to share sites and facilities with the school districts.

Individual Communities

Action Steps:

1. A comprehensive study should be completed by the fire departments in Brown County that examines the cost-effectiveness and feasibility of consolidating the departments. This study should consider fire station consolidations, the potential for additional mutual aid agreements, and other issues.
2. Brown County's communities are encouraged to prepare, adopt, and implement stormwater management plans, stormwater management ordinances, and stormwater management utilities to fund the construction and maintenance of their stormwater management practices and facilities.

Agricultural Resources

Brown County

Action Steps:

1. Become more involved in rural economic development issues and initiatives to direct farmers to existing support programs and to provide planning, technical, and financial assistance to farmers.
2. Revise Brown County's existing agricultural plans and programs to make them consistent with the recommendations in the Brown County Comprehensive Plan and enable the recommendations in the comprehensive plan to be implemented.
3. Disseminate soil suitability and soil limitation information to local officials, the agricultural and development communities, and the general public to expand their

- knowledge of this information and its importance to cost-effective agricultural and development efforts.
4. Update the Brown County Soil Erosion Plan to determine if erosion problems persist, identify the extent and location of erosion problems, and enable the plan to conform to the Brown County Comprehensive Plan.
 5. Update the Brown County Land and Water Plan to determine if the recommendations of the plan have been implemented and to enable it to conform to the Brown County Comprehensive Plan.
 6. Update the Brown County Farmland Preservation Plan to maintain eligibility for the state tax credit programs, reflect the development that has occurred within agricultural areas since 1990, enable the preservation plan to conform with the Brown County Comprehensive Plan, and provide detailed information about and solutions to the agricultural issues facing the County.

Brown County and Individual Communities

Action Steps:

1. Brown County and the County's communities should support and encourage conventional and entrepreneurial agricultural practices.

Individual Communities

Action Steps:

1. Brown County's agricultural communities should establish purchase of agricultural conservation easements (PACE) programs to preserve farmland.
2. Brown County's agricultural communities should include innovative agricultural zoning practices in their zoning ordinances to minimize the disruption of large parcels of agricultural land.
3. Every community in Brown County should adopt and enforce an erosion control ordinance for agricultural and construction purposes.

Natural and Cultural Resources

Brown County

Action Steps:

1. Study the advantages and disadvantages of a more restrictive floodplain/shoreland zoning policy to create a more logical, consistent, and uniform system of related regulatory programs.
2. Periodically review and revise (when necessary) the Brown County Shoreland, Floodplains, and Wetlands Zoning Ordinance to ensure its continued viability and consistency with similar regulatory programs.
3. Periodically update the Brown County Sewage Plan to ensure that it is consistent with the environmentally sensitive area designations and other recommendations in the Brown County Comprehensive Plan.

4. Continue Brown County's "time of sale" program of inspecting private onsite sewage treatment systems.
5. Work with the Wisconsin Department of Natural Resources to identify and preserve (where possible) archeological sites and artifacts.

Brown County and Individual Communities

Action Steps:

1. Brown County and the County's communities should contact the Wisconsin Department of Natural Resources to determine the location of any threatened, endangered, or special concern species to facilitate their protection and preservation.
2. Brown County and the County's communities should undertake a study of the Niagara Escarpment and its associated karst features within Brown County, their location, their susceptibility to groundwater contamination, their value as scenic areas and parkways, their potential for tourism, their potential for harboring rare plant and animal species, their relationship to similar efforts in adjacent counties, and their appropriateness for development.
3. Brown County should work cooperatively with adjacent communities and adjacent counties to address regional issues regarding natural resources, such as their protection, preservation, use, and identification, in the most appropriate manner possible.

Individual Communities

Action Steps:

1. Communities are encouraged to update their existing flood studies, complete new flood studies, and provide the information in a consistent manner to Brown County.
2. Communities are encouraged to develop Wellhead Protection Plans.

Intergovernmental Cooperation

Brown County

Action Steps:

1. Assemble information that identifies the permits required by the federal, state, and local governments for building projects within Brown County and make the information available to the general public.
2. Continue to pursue cooperative efforts with other counties to provide a high level of service at the lowest possible cost.
3. Continue to study the feasibility and desirability of establishing a metropolitan area police force.
4. Continue to work with the private sector to coordinate the provision of social services in order to provide the County's residents a high level of service at the lowest possible cost.

5. Lead the development of a program to implement the stormwater management requirements established by the Environmental Protection Agency (EPA) for the metropolitan area municipalities in Brown County.
6. Continue to contract with Brown County's communities for the provision of law enforcement services from the Brown County Sheriff's Department.
7. Continue to investigate and implement regional approaches to providing high quality and low cost solid waste and recycling services to communities in Brown County.

Brown County and Individual Communities

Action Steps:

1. Brown County and its communities should complete comprehensive reviews of the services they provide to determine if some of the services can be jointly provided by more than one unit of government or by the private sector.
2. Brown County and its communities should determine if they can save money by cooperatively purchasing materials.
3. Brown County and its communities should study the feasibility of consolidating employee benefits with the state government and other local governments.
4. Brown County and its communities should schedule forums that are attended by representatives of the County and all of the communities to receive ideas from the public about how services can be provided in a more cost-efficient manner.
5. Brown County and its communities should encourage the State of Wisconsin to change the way property is taxed to minimize competition for tax base between communities and maximize the likelihood of cooperative economic development efforts.
6. Brown County and its communities should encourage school districts to consult with the County and communities when identifying the locations of future schools.

Individual Communities

Action Steps:

1. Communities should study the advantages and disadvantages of consolidating with adjoining communities.
2. Communities should review their ordinances to determine if development approval processes can be streamlined without eliminating desired design and other requirements.
3. Communities should attempt to coordinate the requirements in their ordinances with the ordinance requirements of other communities in Brown County to establish a coordinated development pattern in the County.
4. Communities are encouraged to negotiate intergovernmental boundary agreements that enable the communities to develop efficiently and in a manner consistent with their local goals and objectives.
5. Communities are encouraged to coordinate land use activities along their borders.
6. Periodic meetings should be held between officials of adjacent communities to discuss common issues and potential problems.

7. Communities are encouraged to implement economic development initiatives on a regional basis instead of merely on an individual community basis.
8. Communities that contain more than one sanitary district are encouraged to study the benefits of consolidating their sanitary districts.

Other Items

Official Map

The Brown County Board of Supervisors has adopted a map that identifies existing county trunk highways, but the County has not adopted an Official Map that identifies planned routes. According to state law, a county's Official Map must first be approved by the communities that contain the planned routes before it can be adopted by the county board.

Action Steps:

1. The County's Official Map should be revised to reflect the recommendations in the comprehensive plan, and any changes to the County's Official Map should be reviewed and approved by the communities before the new Official Map is adopted.
2. Future amendments to the Official Map should be reviewed to determine if they are consistent with the recommendations of the comprehensive plan.

Capital Improvements Program

Brown County does not have a formal capital improvements program, but many departments issue summaries of capital projects that they intend to complete during a specified period. An example of a capital projects summary issued by the County is the Brown County Highway Department 6-Year Highway Improvement Plan. This document identifies the county highways that will be improved during the 6-year period, the type of work that will be performed, the estimated project costs, and other information.

Action Steps:

1. The County's departments should review and update their capital project summaries as necessary to enable them to be consistent with the recommendations in the comprehensive plan.
2. Annual updates to the capital project summaries should continue to occur, and these updates should be consistent with the recommendations in the comprehensive plan.

Potential Funding Sources

Some of the recommendations in the comprehensive plan may be implemented with the help of various sources of grant funds. Private dollars can and should be leveraged by developing creative partnerships and by utilizing state and federal grant sources.

Action Steps:

1. Review the recommendations of the comprehensive plan and determine if they can be implemented using non-county funding sources. A review of capital projects and an evaluation of grant fund resources should be completed on an annual basis, as well. The County should also aggressively pursue grant opportunities to minimize the financial impact of the plan's implementation on the County tax levy.

Comprehensive Plan Review

Planning is not static. It is a continuous, ongoing process that is subject to change. It is also at the mercy of many forces over which a county has very little or no control (economic conditions, weather, birth rates, etc.). Therefore, if the County's comprehensive plan is to remain a useful document, the plan should be reviewed on an annual basis to ensure that it reflects current conditions and any changes and developments that occurred in the previous year.

Action Steps:

1. The public should be notified and provided an opportunity to comment on proposed amendments to the comprehensive plan. Options for soliciting public opinion could include direct mail survey forms, community outreach meetings, and open house meetings.
2. Process for amending the comprehensive plan:
 - a. Applicant submits a request to the Brown County Planning Commission (BCPC) to amend the comprehensive plan.
 - b. BCPC makes a recommendation regarding the proposed amendment to the Planning, Development & Transportation (PD&T) Committee and the County Board.
 - c. PD&T makes a recommendation regarding the proposed amendment to the County Board.
 - d. County Board holds a public hearing on the requested amendment, which requires a Class 1 notice that is published at least 30 days before the hearing is held.
 - e. County Board makes a decision on the amendment request based on input from the public hearing and recommendations from BCPC and PD&T.
 - f. A copy of the amendment to the plan shall be sent to each of the following:
 - Every governmental body that is located in whole or in part within the boundaries of the governmental unit.
 - The clerk of every local governmental unit that is adjacent to the local governmental unit that is the subject of the plan that is amended.
 - The Wisconsin Land Council.
 - After September 1, 2005, the Department of Administration.
 - The regional planning commission in which the local governmental unit is located.
 - The public library that serves the area in which the governmental unit is located.
3. Criteria should be followed when considering amendments to the comprehensive plan. Amendments shall be approved only if they are determined to be in the public

- interest, and this determination should be based on a review of all applicable issues from the following list:
- a. How the proposal is more consistent with the applicable policies of the comprehensive plan than the existing provision.
 - b. How the proposal is more consistent with each of the following objectives than the existing provision (although consistency is not required where the objective is clearly not applicable to the type of proposal involved):
 - Maximizing pedestrian and bicycle access throughout the County.
 - Conserving and/or enhancing significant natural and historical features.
 - Preserving and/or enhancing County parks.
 - Providing adequate transportation, water, sewer, and other public services.
 - Providing significant economic development opportunities and broadening of the County's economy.
 - Providing for the formation and enhancement of neighborhoods within the County's communities.
 - c. How substantial changes in circumstances have occurred since the original provision was approved in the plan.
 - d. *Scope of review.* The review and evaluation of proposed comprehensive plan map changes shall consider both the likely and possible future use of the sites and the associated impacts.
 - e. *Cumulative impacts.* The review of individual comprehensive plan map or policy amendments shall also consider the cumulative transportation, land supply, and environmental impacts of other plan amendments proposed within the same annual cycle.
4. The Brown County Planning Commission should continue to prepare an annual report. This report should summarize how the comprehensive plan was used to direct major policy decisions, how development has or has not coincided with the recommendations of the plan, and how circumstances have changed that have necessitated recommendations for appropriate comprehensive plan amendments by the Brown County Board of Supervisors.
 5. The County should consult annually with other governmental agencies and the County's communities to get their input regarding how their activities relate to the recommendations in the Brown County Comprehensive Plan.
 6. The County should complete a formal review of the entire comprehensive plan at least once every five years. Based on this review, changes should be made to sections of the plan that are determined to be out of date and sections that are not serving their intended purposes.

At least once every ten years, the plan should be reviewed and updated using a formal process that includes a citizens advisory committee similar to the committee used to develop this plan.

APPENDIX A
Brown County Generalized Land Use Acreages
by Community, Year 2000

Brown County Generalized Land Use Acreages by Community, Year 2000

	V. Allouez	V. Ashwaubenon	V. Bellevue	C. De Pere	V. Denmark	T. Eaton	T. Glenmore	C. Green Bay	T. Green Bay	V. Hobart	T. Holland	V. Howard	T. Humboldt	T. Lawrence
Residential	1,444	1,791	1,852	2,116	204	813	593	7876	1,057	4,063	650	2,371	884	1,480
Commercial	107	1,192	329	368	24	46	2	1783	41	113	9	544	34	116
Industrial	5	798	168	795	54	22	172	1433	83	424	59	576	56	175
Transportation	578	2,021	1,185	1,107	154	571	686	5899	707	1,929	737	1,300	614	883
Communications/ Utilities	5	65	35	64	18	4	38	830	33	4	121	49	27	10
Institutional/ Governmental	319	248	62	315	52	10	5	1486	12	106	18	249	11	9
Outdoor Recreation	252	452	247	478	33	28	23	2565	102	646	465	379	53	197
Agricultural	103	606	3,781	945	348	11,035	17,401	3456	9,170	9,607	14,971	2,810	10,363	5,978
Natural Areas/ Water/Vacant	502	1,115	1,470	936	57	3,048	2,101	3863	2,941	4,281	6,003	3,416	3,339	1,441
TOTALS	3,315	8,288	9,129	7,124	944	15,577	21,021	29,191	14,146	21,173	23,033	11,694	15,381	10,289

* Portion in Brown County

Brown County Generalized Land Use Acreages by Community, Year 2000

	T. Ledgerview	T. Morrison	T. New Denmark	T. Pittsfield	V. Pulaski*	T. Rockland	T. Scott	V. Suamico	T. Wrightstown	V. Wrightstown	TOTAL
Residential	2,130	684	918	2,000	364	1,470	1,490	6,705	1,051	458	44,464
Commercial	105	15	26	49	54	13	49	164	12	32	5,227
Industrial	443	42	263	128	133	45	161	265	55	55	6,410
Transportation	766	706	1,082	845	158	526	78	1,862	781	164	25,339
Communications/ Utilities	13	99	102	4	5	5	4	4	7	5	1,551
Institutional/ Governmental	88	33	22	34	109	8	65	152	18	59	3,490
Outdoor Recreation	291	294	465	87	73	119	167	1,605	249	60	9,330
Agricultural	5,031	14,874	14,312	13,485	325	9,442	6,404	5,103	16,100	686	176,336
Natural Areas/ Water/Vacant	2,453	6,575	5,124	3,960	158	3,071	3,515	7,331	3,133	371	70,204
TOTALS	11,320	23,322	22,314	20,592	1,379	14,699	11,933	23,191	21,406	1,890	342,351

* Portion in Brown

APPENDIX B

Resolution of the Brown County Planning Commission Recommending to the Brown County Board of Supervisors the Adoption of the Brown County Comprehensive Plan - Vision for Great Communities

RESOLUTION NO. 2004-04

**RESOLUTION OF THE BROWN COUNTY PLANNING COMMISSION
RECOMMENDING TO THE BROWN COUNTY BOARD OF SUPERVISORS
THE ADOPTION OF
THE BROWN COUNTY COMPREHENSIVE PLAN – VISION FOR GREAT COMMUNITIES**

WHEREAS, Brown County is required to adopt a comprehensive plan that meets the requirements of Sec. 66.1001 Wis. Stats. by January 1, 2010; and

WHEREAS, Brown County received a grant from the State of Wisconsin to defray a large portion of the cost of developing a comprehensive plan; and

WHEREAS, the Brown County Planning Commission has developed a comprehensive plan that meets the requirements set forth in Sec. 66.1001 Wis. Stats; and

WHEREAS, the Brown County Comprehensive Plan addresses all fourteen of the State of Wisconsin Comprehensive Planning goals and contains all nine elements that are required under the grant contract with the State of Wisconsin; and

WHEREAS, throughout the development of the plan, the Brown County Planning Commission has solicited public input consistent with the *Public Participation Process for the Brown County Plan* to ensure that the public was actively involved in the development of the comprehensive plan; and

WHEREAS, the Brown County Comprehensive Plan promotes balance between conservation efforts and development; and

WHEREAS, the Brown County Comprehensive Plan is to be utilized by the local units of government as a resource for their detailed comprehensive plans and development proposals.

NOW, THEREFORE, BE IT HEREBY RESOLVED that the Brown County Planning Commission recommends adoption of the Brown County Comprehensive Plan – Vision for Great Communities to the Planning, Development & Transportation Committee of the Brown County Board and Brown County Board of Supervisors

BE IT FURTHER RESOLVED that a true, correct, and exact copy of this Resolution shall be forthwith distributed to the Brown County Board of Supervisors. The adoption recommendation, upon motion duly made and seconded, was adopted at the meeting of the Brown County Planning Commission Board of Directors held on the 6th day of October 2004, the vote being approved with 17 ayes and 0 nays.

BROWN COUNTY PLANNING COMMISSION



David Mau, President

ATTEST:



Chuck Lamine, Secretary

APPENDIX C

**Resolution Adopting the Brown County Comprehensive Plan -
Vision for Great Communities**

October 20, 2004

TO THE HONORABLE CHAIRMAN AND MEMBERS
OF THE BROWN COUNTY BOARD OF SUPERVISORS

Ladies & Gentlemen:

RESOLUTION ADOPTING THE BROWN COUNTY
COMPREHENSIVE PLAN – “VISION FOR GREAT COMMUNITIES”

WHEREAS, Brown County is required to adopt a comprehensive plan that meets the requirements of Sec. 66.1001, Wis. Stats., by January 1, 2010; and

WHEREAS, the Brown County Planning Commission received a grant from the State of Wisconsin to defray a large portion of the cost of developing a comprehensive plan; and

WHEREAS, the Brown County Planning Commission staff has developed a comprehensive plan that meets the requirements set forth in Sec. 66.1001, Wis. Stats., copies of which are available for access by the public in the County Clerk’s office and the Brown County Planning Commission office; and

WHEREAS, the Brown County Comprehensive Plan addresses all fourteen of the State of Wisconsin Comprehensive Planning Goals and contains all nine elements that are required under the grant contract with the State of Wisconsin; and

WHEREAS, throughout the development of the plan the Brown County Planning Commission has solicited public input consistent with the *Public Participation Process for the Brown County Plan* to ensure the public was actively involved in the development of the comprehensive plan; and

WHEREAS, the Brown County Comprehensive Plan promotes balance between conservation efforts and development; and

WHEREAS, the Brown County Comprehensive Plan is to be utilized by the local units of government in Brown County as a resource for their detailed comprehensive plans and development proposals; and

WHEREAS, the Brown County Planning Commission has approved a resolution recommending adoption of the Brown County Comprehensive Plan to the Brown County Board of Supervisors.

NOW, THEREFORE, BE IT RESOLVED by the Brown County Board of Supervisors that the Brown County Comprehensive Plan – “Vision for Great Communities” is hereby adopted.

BE IT FURTHER RESOLVED that a copy of this Resolution be forwarded to the State Dept. of Administration and to the Clerks of local units of government in Brown County.

Respectfully submitted,

PLANNING, DEVELOPMENT &
TRANSPORTATION
COMMITTEE

Approved By:



COUNTY EXECUTIVE

Date Signed: 11/5/04

Final Draft Approved by Corporation Counsel

BOARD OF SUPERVISORS ROLL CALL # _____

Motion made by Supervisor VAN DEURZEN

Seconded by Supervisor Fleck

SUPERVISORS NAME	DIST #	AYES	NAYS	ABSTAIN
VAN DEN HEUVEL	1	}		
GRAVES	2			
NICHOLSON	3			
THEISEN	4			
KRUEGER	5			
HAEFS	6			
ERICKSON	7			
KAYE	8			
ZIMA	9			
EVANS	10			✓
VANDER LEEST	11		✓	
JOHNSON	12		✓	
DANTINNE	13	}		

SUPERVISORS NAME	DIST #	AYES	NAYS	ABSTAIN	
FROHNA	14	}			
COLLINS	15				
BEYL	16				
BACKMAN	17				
VAN DEURZEN	18				
FLECK	19				
CLANCY	20				
MOYNIHAN, JR.	21			✓	
ZABEL	22			✓	
SCRAY	23			✓	
HINZ	24	}			
LUND	25				
FEWELL	26				

Total Votes Cast 26
 Motion: Adopted Defeated _____ Tabled _____

APPENDIX D
**Ordinance to Adopt the Comprehensive Plan of Brown
County, Wisconsin**

October 20, 2004

AN ORDINANCE TO ADOPT THE COMPREHENSIVE
PLAN OF BROWN COUNTY, WISCONSIN

THE BROWN COUNTY BOARD OF SUPERVISORS DOES ORDAIN AS FOLLOWS:

- Section 1 - Pursuant to sections 59.69 (2) and (3) of the Wisconsin Statutes, the County of Brown is authorized to prepare and adopt a comprehensive plan as defined in sections 66.1001 (1)(a) and 66.1001 (2) of the Wisconsin Statutes.
- Section 2 - The County Board of the County of Brown, Wisconsin, has adopted written procedures designed to foster public participation in every stage of the preparation of a comprehensive plan as required by section 66.1001 (4)(a) of the Wisconsin Statutes.
- Section 3 - The Brown County Planning Commission Board of Directors, by a majority vote of the entire commission recorded in its official minutes, has adopted a resolution recommending to the County Board the adoption of the document entitled "Brown County Comprehensive Plan – Vision for Great Communities", containing all of the elements specified in section 66.1001 (2) of the Wisconsin Statutes.
- Section 4 - The County has held at least one public hearing on this ordinance, in compliance with the requirements of Section 66.1001 (4) (d) of the Wisconsin Statutes.
- Section 5 - The County Board of the County of Brown, Wisconsin, does by the enactment of this ordinance, formally adopt the document entitled, "Brown County Comprehensive Plan – Vision for Great Communities," pursuant to section 66.1001(4)(c) of the Wisconsin Statutes.

Section 6 -

This ordinance shall become effective upon passage and publication.

Respectfully submitted,

PLANNING, DEVELOPMENT &
TRANSPORTATION COMMITTEE

Approved By:

Carol Kelso 11-5-04
COUNTY EXECUTIVE

Carol K. Marcelle 11-8-04
COUNTY CLERK

Patrick W. Majors 11-8-04
COUNTY BOARD CHAIR

Final Draft Approved by Corporation Counsel

BOARD OF SUPERVISORS ROLL CALL # _____

Motion made by Supervisor Collins

Seconded by Supervisor Beyl

SUPERVISORS NAME	DIST. #	AYES	NAYS	ABSTAIN
VAN DEN HEUVEL	1	}		
GRAVES	2			
NICHOLSON	3			
THEISEN	4			
KRUEGER	5			
HAEFS	6			
ERICKSON	7			
KAYE	8			
ZIMA	9			
EVANS	10		X	
VANDER LEEST	11		X	
JOHNSON	12		X	
DANTINNE	13	i		

SUPERVISORS NAME	DIST. #	AYES	NAYS	ABSTAIN	
FROHNA	14	}			
COLLINS	15				
BEYL	16				
BACKMAN	17				
VAN DEURZEN	18				
FLECK	19				
CLANCY	20				
MOYNIHAN, JR.	21		X		
ZABEL	22		X		
SCRAY	23	X			
HINZ	24	}			
LUND	25				
FEWELL	26				

Total Votes Cast 26

Motion: Adopted Defeated Tabled