



2030 Comprehensive Plan

A Policy Guide to 2030

**Approved by Board of Commissioners
May 26, 2009**

**Planned Adoption by Board of Commissioners
Fall 2010**

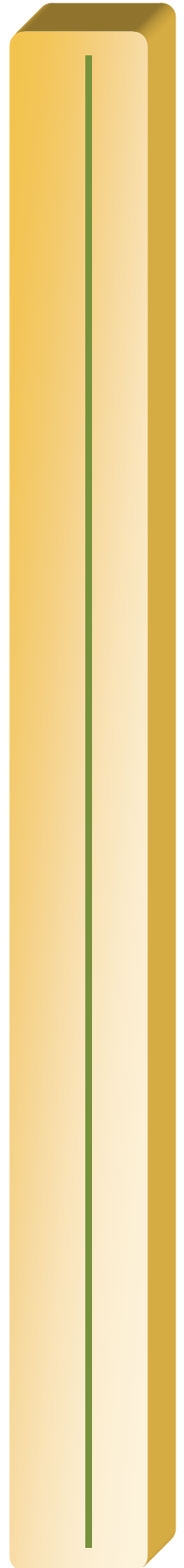


2030 Comprehensive Plan A Policy Guide to 2030

Executive Summary

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Washington County Mission

To provide quality public services in a cost-effective manner through innovation, leadership, and the cooperation of dedicated people.

Washington County Values

Fiscal Responsibility - to provide good stewardship of public funds

Ethics and Integrity - to maintain the public trust

Openness of the Process - to promote citizen participation

Our Heritage and Natural Resources - to conserve and preserve them

The Individual - to promote dignity and respect

Washington County Goals

- To promote the health, safety, and quality of life of citizens
- To provide accessible, high-quality services in a timely and respectful manner
- To address today's needs while proactively planning for the future
- To maintain public trust through responsible use of public resources, accountability, and openness of government

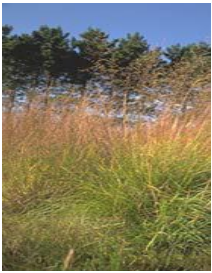


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Setting

Washington County is an area of abundant beauty, historical character, and agricultural heritage located on the eastern edge of the Twin Cities Metropolitan Area. The county has historically played a diverse role in the region, serving the Twin Cities with its commercial, industrial, community, natural, and agricultural resources. Today the county is no less diverse. From the corn fields of Denmark Township to the residential community of Woodbury; from the office and retail complexes along I-94 to the cooling waters of the St. Croix River; from the lake communities around White Bear Lake and Forest Lake to the pastoral wooded settings of New Scandia and May townships, each area plays a unique role in the county and region.

Washington County covers 423 square miles, measuring 38 miles from north to south and 14 miles from east to west. The county contains 27 cities and 6 townships. The western boundary of the county is within 5 miles of the Minnesota state capital. The eastern boundary shares the beautiful St. Croix River as a border with the State of Wisconsin. The county is bounded on the south and southwest by 16 miles of the commercially navigable Mississippi River.

Purpose and Scope

The 2030 Comprehensive Plan describes the choices that Washington County has made for how it will develop through 2030. The 2030 Comprehensive Plan is an official document adopted by the County Board as a policy guide for decisions about the physical development of the county. The plan sets broad policies and strategies to direct the future growth and development in the areas of land use, transportation, parks, housing, natural resources, historic resources, and public facilities. For each topic the plan identifies issues, sets goals, establishes policies to achieve the goals, and identifies strategies and actions needed to implement the policies. The plan is the legal basis for adoption of land use controls.



Metropolitan Development Framework and Policy Plans

The Metropolitan Council was created in 1967 to help ensure the coordinated, orderly and economical development of the seven-county Twin Cities Metropolitan Area (1967 Minnesota Laws, chapter 896). State law requires the Metropolitan Council to adopt a comprehensive Metropolitan Development Guide that establishes parameters for regional infrastructure and local planning. This guide is comprised of a Regional Development Framework and policy plans for water resource management; parks and open space; transportation, including transit and aviation. Minnesota Statutes section 473.864 requires local governmental units to develop a comprehensive plan, fiscal devices and official controls that conform to the metropolitan policy plans.

The 2030 Regional Development Framework (Development Framework) adopted by the Metropolitan Council on January 14, 2004, sets out four broad goals to guide the region's development:

- 1. Efficient Growth.** Work with local communities to accommodate growth in a flexible, connected, and efficient manner.
- 2. Multi-Modal Transportation:** Plan and invest in multi-modal transportation choices, based on a full range of costs and benefits, to slow the growth of congestion and serve the region's economic needs.
- 3. Housing Choices:** Encourage expanded choices in housing locations and types, and improved access to jobs and opportunities.
- 4. Natural Resource Protection:** Work with local and regional partners to conserve, protect and enhance the region's vital natural resources.

The Development Framework contains the following specific benchmarks to measure progress toward achieving these goals.

Working collaboratively with regional partners to accommodate growth within the metropolitan area. The Development Framework recognizes that “one size does not fit all;” that different communities have different opportunities, needs, and aspirations. But it also is grounded in the belief that all communities have a shared responsibility to help accommodate the region’s growth, use market forces to help expand housing choices, and ensure connected, efficient land-use patterns.

Maximizing the effectiveness and value of regional services, infrastructure investments, and incentives. The Metropolitan Council feels that it must take full advantage of the enormous investment that has been made in regional systems – transportation, airports, wastewater treatment, and regional parks – as well as ensure that future resources are used in a cost-effective manner.

Enhancing transportation choices and improving the ability of Minnesotans to travel safely and efficiently throughout the region. Traffic congestion is worsening at a disturbing rate, affecting all modes of travel, and making it more difficult and costly for workers to get to their jobs and goods to get to market. Meanwhile, highway and transit funding are falling far short of the needs. The Metropolitan Council needs to make the most of available resources to improve mobility and avoid gridlock.

Preserving vital natural areas and resources for future generations. This metropolitan area boasts a unique combination of assets that are essential to the region’s quality of life and continued economic well-being: three majestic rivers, lakes, rolling hills, extensive wetlands, native prairies and woodlands, aggregate and a multi-layered aquifer system. Maintaining compliance with federal air quality standards will ensure that citizens benefit from cleaner air and avoid costly federal pollution control requirements.



The Metropolitan Council has adopted policy plans to implement the Development Framework and to guide the expansion of the four regional systems: transportation, aviation, water resources (including wastewater collection and treatment), and regional parks and open space.

The 2030 Transportation Policy Plan addresses the need to prepare for expected growth in the region. The transportation policy gives priority to maintaining the existing metro highway system, reducing bottlenecks that impede travel, implementing new strategies to improve the system's efficiency, and adding capacity where possible. It also supports the expansion of the transit system. Aviation is included in the transportation policy plan.

The 2030 Water Resources Management Policy Plan establishes policies to ensure the protection of water resources as the region continues to grow. It focuses on assessing the region's water supply, protecting surface water from pollution and ensuring that wastewater flowing into sewer systems is treated efficiently.

The 2030 Regional Parks Policy Plan recognizes the need to maintain and expand the open spaces that promote the quality of life in the region.

2030 Comprehensive Plan Overview

2030 Forecasts

The Metropolitan Council projects the following forecasted growth between 2008 and 2030:

- 128,842 more people (55 percent increase)
- 57,638 more households (66 percent increase)

The Metropolitan Council projects the following forecasted growth between 2000 and 2030.

- 62,971 more jobs (93 percent increase)

2030 Plan Vision

Washington County's guiding vision as it plans for the 2030 growth is:

To accommodate the county's projected population growth of 128,842 people between 2008 and 2030 while incorporating sustainable growth and preserving the natural, cultural, and historic characteristics of the county.

Priority Planning Principles

The proposed 2030 plan supports a development pattern that, as much as practicable, meets current needs without environmental, economic, and social burdens on future generations. The county is committed to maintaining or enhancing economic opportunity and community well-being while protecting and restoring the natural environment upon which people and economies depend.

Customer service is an important part of county business. Maintaining a high level of satisfaction from citizens about quality of service, knowledge, courteousness, and responsiveness while experiencing an increased demand for services is important to the county. The county uses a



performance measurement program to maintain and improve upon its commitment to high-quality service that meets and exceeds the needs and expectations of county residents.

Washington County's core functions foster an environment where commerce can develop and thrive. The county contributes to a robust business climate by: providing well-planned, essential infrastructure; maintaining a low tax rate; and assisting in creating an ample pool of skilled employees. The county strives to maintain the right blend of county services to support a vibrant business sector, be it transportation and transit services, public safety, health and human services, corrections services, workforce housing, or other public services. The county is committed to stewardship of cultural and natural amenities such as land and water resources, parks and opens spaces, and libraries which contribute to a high quality of life for business owners and their employees and families. The county's efforts in workforce development provide skilled employees that enable companies to be competitive and successful in the local, regional, and global economies.

In 1996, the Minnesota Legislature defined sustainable development as development that maintains or enhances economic opportunity and community well-being while protecting and restoring the natural environment upon which people and economies depend. Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. Washington County aims to meet current needs without placing environmental, economic, and social burdens on future generations to meet their own needs.

Mission, Values, Goals

The Washington County Comprehensive Plan reflects Washington County's mission, values, and goals.

Washington County Mission

To provide quality public services in a cost-effective manner through innovation, leadership, and the cooperation of dedicated people.

Washington County Values

- Fiscal Responsibility- to provide good stewardship of funds.
- Ethics and Integrity- to maintain the public trust.
- Openness of the Process- to promote citizen participation.
- Our Heritage and Natural Resources- to conserve and preserve them.
- The Individual- to promote dignity and respect.

Washington County Goals

- To promote the health, safety, and quality of life of citizens.
- To provide accessible, high-quality services in a timely and respectful manner.
- To address today's needs while proactively planning for the future.
- To maintain the public trust through responsible use of public resources, accountability, and openness of government.

Plan Elements

Each chapter of the 2030 Comprehensive Plan contains goals, policies, strategies, and actions that are guided by the county's mission, values, goals, vision, and priority planning principles. While the plan does not propose any basic changes from past policies, it does incorporate strategies and actions from a decade of planning and projects since adoption of the last comprehensive plan. It also includes new policies and strategies to address contemporary issues such as sustainability, healthy communities, transit, and transit-oriented development. Below is a summary of each chapter of the plan and its goals.

County Context – Chapter 2

This chapter takes a close look at Washington County's people, economy, and important themes that face the county in upcoming years. It contains key data that lays the framework for the plan.



Land Use Plan – Chapter 3

The Land Use Plan describes how the county will guide the projected growth in unincorporated areas of the county. It delineates the land use areas by type, and sets the general guidelines and policies for developing the zoning map and ordinance, and for guiding the review of development proposals. The Land Use Plan provides for logical development patterns that preserve the existing natural resources, retain the existing character of the county, and provide a high quality of life.

Goals

- 3-1 Utilize land and related natural resource so they are conserved for future generations.
- 3-2 Support the growth of attractive urban communities while preserving rural functions and appearances.
- 3-3 Design the land use plan to support economic development.

Priority Actions

- 1. Amend the county zoning ordinances to implement the 2030 Land Use Plan, including the zoning district maps, floodplain maps and Floodplain Ordinance, the Shoreland Ordinance, and Lower St. Croix River Bluffland and Shoreland Ordinance.
- 2. Continue working with townships to revise their land use plan to conform to the overall county plan and policies.
- 3. Encourage cities to revise their land use plans to be compatible with the county's policies and plans.
- 4. Monitor the pace of land development through subdivision platting and variance and land use development applications.
- 5. The Planning Advisory Commission and the Board of Commissioners will continue to monitor land use policies throughout the county as they relate to the environment, transportation, transit, and parks, and open space.

Transportation Plan – Chapter 4

A key function of Washington County is to provide a robust transportation system. The transportation system supports the county land use and development plans, while minimizing the impact on the county's historic and natural resources. The Transportation Plan provides policies and strategies that keep the transportation system functioning safely and efficiently. The plan's overall goal is to increase capacity, improve safety, and reduce congestion within the constraints of the existing infrastructure and to avoid premature roadway widening.

Goals

- 4-1 Develop and maintain a roadway system that accommodates the safe and efficient movement of people and goods.
- 4-2 Promote the development and utilization of a transit system that meets the existing and future travel needs of the public.
- 4-3 Use effective transportation planning to accommodate existing and planned land uses, while preserving natural, cultural, and historic resources.
- 4-4 Develop a non-motorized transportation system to provide mobility and recreational options to the public.

Priority Actions

- 1. Design and construct projects included in the Capital Improvement Program.
- 2. Develop a formalized process for jurisdictional transfers.
- 3. Coordinate with communities on development proposals adjacent to county roadways.
- 4. Coordinate with communities to develop an access management plan for specific county roadways.



-
5. Revise the Intersection Control Ranking System (ICRS) to better prioritize intersections in need of increased traffic control.
 6. Participate in the Washington County Safe Community Coalition.
 7. Complete the bus feasibility study for the Red Rock Corridor.
 8. Conduct station area planning and design for the Red Rock Corridor.
 9. Coordinate with the Metropolitan Council, MNDOT, and local communities on the development of the alternatives analysis for the I-94 Corridor.
 10. Participate in the transitway corridor coalitions.
 11. Update the county's Cost Participation Policy for highway improvement projects.

Park and Open Space Plan – Chapter 5

The Washington County park system provides large open space that preserves the county's unique and sensitive natural resources, and provides recreational experiences not provided by local, state, or federal parks. The Park and Open Space Plan sets the overall goals and policies that guide development of county-controlled sites and facilities. It establishes a direction for land preservation, development, and use of various resources of the county park system.

Goals

- 5-1 Showcase the county's heritage through conservation, restoration, and interpretation of cultural and natural resources.
- 5-2 Improve personal and community health by providing natural resource-based park features that encourage structured and unstructured active outdoor recreation opportunities for youth, adults and families.

Priority Actions

1. Establish prioritized areas to be acquired, developed, or designated.
2. Apply for funding assistance from appropriate agencies to supplement county funding.
3. Acquire areas designated in the master plans.
4. Prioritize development projects, prepare contracts, and award construction contracts for priority projects.
5. Maintain staff and equipment as needed to ensure a high level of maintenance and control of parks.
6. Review and update the Park and Open Space Plan at regular five-year intervals.
7. Update Big Marine Park Reserve master plan.

Natural Resources and Environmental Protection Plan – Chapter 6

Washington County's physical environment is very diverse. The county aims to continue economic growth while protecting natural resource systems and providing a high quality of life. The Natural Resources and Environmental Protection Plan sets the framework to continue economic growth while protecting natural resources and supporting a high quality of life.

Goals

- 6-1 Utilize land in a manner that minimizes the impact on the county's natural resources.
- 6-2 Protect groundwater and surface water resources through coordination and collaboration with state and local water resource organizations.
- 6-3 Preserve, manage, and utilize resources to promote a healthy environment for present and future generations.

Priority Actions



-
1. Implement the Groundwater Plan through annual work plans.
 2. Review and update Groundwater Management Plan.
 3. Review and update the Solid Waste Master Plan.
 4. Convene representatives from each county department to develop a sustainable implementation plan that incorporates sustainability principles into county plans and programs.
 5. Participate in the Lake St. Croix Total Maximum Daily Load study.
 6. Participate in the update of county zoning ordinances.

Housing Plan – Chapter 7

Washington County directly supports a variety of interrelated resources and service, including first-time homebuyer assistance, financial and budget counseling, transportation assistance, employment services, social services, and housing maintenance. The Housing Plan presents the county's goals and policies that guide provision of these services

Goals

- 7-1 Maintain a choice of housing type and encourage the development of mixed-income residential environments.
- 7-2 Maintain and improve the current housing stock.

Priority Actions

1. Complete the 2010 to 2014 Consolidated Plan for Community Development Block Grant and Home Investment Partnerships programs.
2. Continue the partnership between Washington County and the Washington County HRA to address issues related to foreclosed upon homes in the county.
3. Apply for federal, state, and regional funds for developing affordable housing in Washington County.

4. Lobby the Department of Housing and Urban Development for additional Housing Choice Vouchers for Washington County households.
5. Continue funding the county's Owner-Occupied Rehabilitation Program.

County Facilities Plan – Chapter 8

The Facilities Plan describes current Washington County facilities and the plans for future facilities to support the projected service needs through 2030.

Goal

- 8-1 Provide the necessary facility infrastructure to provide efficient, effective, and high quality public services in order to meet the needs of the current and future population of the county.

Priority Actions

1. Update the Strategic Facility Plan to 2030.
2. Develop a “green” operating policy for all county facilities.
3. Consider establishing a “green team,” made up of county employees, to make suggestions and help implement sustainable practices in all areas of facility construction and operations.
4. Identify opportunities to use more sustainable materials, techniques, and systems when remodeling and retrofitting structurally sound buildings.



Historic Resources Plan – Chapter 9

Although Washington County does not have a formal historic preservation commission or historic preservation ordinance, it strives to preserve and enhance the character of historical villages and rural areas through its land development processes in unincorporated areas. The Historic Resources Plan establishes the county's policies and strategies that guide its historic preservation activities.

Goals

- 9-1 Maintain the historical integrity of the Washington County Historic Courthouse and use it as a venue to interpret the history of Washington County and Washington County government.
- 9-2 Work to retain important historic contexts and features, including structures, landscapes, archaeological sites, and pedestrian-oriented village development patterns.

Priority Actions

- 1. Evaluate the current uses of the Historic Courthouse and develop strategies to increase public spaces and uses of the facility.
- 2. Increase the number of public events and opportunities for the public to experience the Historic Courthouse.
- 3. Explore the possible funding opportunities provided by the 2009 sales tax increase dedicated for arts, cultural, and historical resources.
- 4. Develop stronger coordinated marketing activities and program partnerships with local historical organizations.
- 5. Establish a permanent exhibit at the Historic Courthouse and enhance the diversity of seasonal exhibits.



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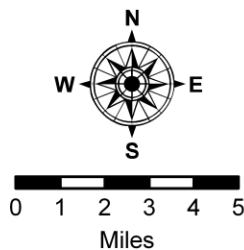
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Washington County is an area of abundant beauty, historical character, and agricultural heritage located on the eastern edge of the Twin Cities Metropolitan Area. The county, encompassing 423 square miles of land and water surface, is the fourth smallest county in the state based on land area. The county is 38 miles from north to south and 14 miles from east to west. Elevations in the county range from a low of 675 feet at Lake St. Croix to over 1,100 feet in Section 17 in Woodbury. The St. Croix River forms the entire eastern border and the Mississippi River forms the southern and southwestern border. In 2008, 234,348 people resided in the county.



Regional Context & Washington County Communities



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Metropolitan Council - 2008

Figure 2-1



Historic Settlement Patterns and Influences

Washington County has historically played a diverse role in the region, serving the Twin Cities Metropolitan Area with its commercial, industrial, historical, natural, and agricultural resources.

Originally part of the St. Croix County of Wisconsin Territory, Washington County was established on October 27, 1849 after the formation of Minnesota Territory. Many of the first permanent settlements after the 1837 treaties with native populations were located along the rivers in the area of what later became Washington County. The earliest townsite developments were in Stillwater, Lakeland, and Marine on St. Croix along the St. Croix and Mississippi rivers. Settlements in the 1840s and 1850s along the St. Croix River included Copas, Arcola, Marine on St. Croix, Baytown, Afton, and Oak Park. Early townsites on the Mississippi River included Grey Cloud, Point Douglas, and Newport.

The county was one of the first areas of the state settled by people from the eastern United States and Europe, particularly Scandinavians. The earliest Swedish settlement in Minnesota occurred in Scandia in 1850, an area that was formally organized as a township in 1893.

The first commercial sawmill was established in Marine in 1839. By the 1850s, a sawmill site located in present day Stillwater became a booming lumber town. Cut timber was shipped via the Mississippi River to St. Louis and other southern markets. After the turn of the 19th century, much of the northern forests were felled and sawmilling declined, as did the area's economy. The populations of Stillwater and Washington County plummeted.

Agriculture gained importance and became the economic mainstay of the county through the 1950s. Townships of Afton, Denmark, Lakeland, Oakdale, Cottage Grove, Baytown, Grant, Oakdale, and Red Rock (now known as Woodbury) were important agricultural areas.



The railroad played an important role in the early development of Washington County. In the 1960s, construction of interstates 694 and 94 and improvements to the state highways, such as Highway 61, facilitated suburban growth in the outer rings of the Twin Cities Metropolitan Area. Cottage Grove and Oakdale were the first suburbs. Suburban growth continues today.

Washington County as a Place

Scenic beauty, historic significance, recreational amenities, and proximity to the growing Twin Cities Metropolitan Area have made Washington County a popular recreation and tourism destination. These qualities also explain the county's continued popularity for residential and commercial development.

Washington County's physical environment is very diverse; its surface and underground features vary throughout the county. The county is fortunate to have high-quality lakes, woodlands, agricultural areas, watersheds, wetlands, and two nationally significant river valleys. These natural resources and features are remarkably intact compared with those in other metropolitan counties; this is rapidly changing due to development. Parks and preserved open space provide an opportunity to preserve portions of the county's many natural systems, including groundwater, wildlife habitats, and vegetative and landscape types.

Surface waters cover about 10 percent or about 44 square miles of the county's 423 square miles. The majority of the county's surface waters consist of lakes and wetlands, most of which are located in the northern half of the county. The largest lakes are Forest Lake, Big Marine Lake, Lake Elmo, White Bear Lake, and Lake St. Croix. Many of the larger lakes, once resort and vacation spots during the first part of the 20th century, are now ringed with permanent residential development.

Before settlement, as much as 80 percent of the county was forested. The rest of the county was covered by lakes, wetlands, and some prairie. After the timber was harvested and the land was cleared, agriculture prevailed. Nearly all the

land suitable for agriculture was being farmed by the early 1900s. Today, woodlands cover about 9 percent of the county according to the Minnesota Land Cover Classification System and about 51 percent of the land area is classified agricultural according to the Metropolitan Council.

While much of Washington County has retained its rural atmosphere, today it is considered a “suburban” county. However, the county continues to maintain its diverse image—from the corn fields of Denmark Township to the residential neighborhoods of Woodbury; from the office and retail complexes along Interstate 94 to the cooling waters of the St. Croix River; from the lakeshore communities around White Bear Lake and Forest Lake to the pastoral wooded settings of May Township. Each area of Washington County possesses a distinct set of landscapes and resources.

Washington County is a place where a prosperous economy grows with vital industries. The continual expansion of the Twin Cities Metropolitan Area, with its resultant population growth, has caused a spread of highly developed suburban areas in Washington County in the cities of Woodbury, Cottage Grove, and Oakdale. The communities of Stillwater, Bayport, St. Paul Park, Newport, and Forest Lake have developed economic bases that support a local labor force.

Data Sources

This chapter takes a closer look at Washington County’s people, economy, and important themes that face the community in upcoming years. The data from this section comes from the 2000 U.S. Census, annual American Community Surveys, the Washington County Community Health Assessment, the Minnesota Department of Employment and Economic Development, the Minnesota Department of Education, and the Metropolitan Council. Appendix 2-A, Washington County At-A-Glance, contains a summary of current data for Washington County.



Two agencies provide population and household projections for Washington County. Their projections are generated by differing methodologies. The Minnesota State Demographer's projections are based on the U. S. Census data. The projections are tied to a series of overall statewide control numbers against which cities and townships, in the aggregate, must match. The State Demographer's projections are used to establish broad statewide policies and to understand trends that influence statewide planning and legislation.

The Metropolitan Council's projections are generated with a greater understanding of land availability, site suitability, and historic growth patterns in the quadrants, rings and communities of the Twin Cities Metropolitan Area. The Metropolitan Council uses the projections to set its policies related to the location of the Metropolitan Urban Services Area and the services it provides.

Population and Households

Historic Growth

Washington County experienced modest population growth in the early part of the 20th century, increasing by only 24 percent between 1900 and 1950. The county experienced dramatic population growth during the second half of the 20th century. Population grew by 58 percent between 1960 and 1970 and was followed by a sustained high growth rate until 2000. With its population surging to 201,130 Washington County was the third fastest growing county in Minnesota in the 1990s. Since 2000, growth has slowed to a rate not seen since the early 1900s.

According to the U.S. Census Bureau, between 1980 and 2000, household growth increasingly concentrated in the county's three largest cities of Oakdale, Cottage Grove, and Woodbury. These communities housed 42 percent of the total population in 1990 and 50 percent of the total population in 2006. The trend of growth concentration is expected to continue through 2030 when two-thirds of the county's population is expected to be

housed in the western communities of Woodbury, Cottage Grove, Oakdale, Hugo, and Forest Lake.

Table 2-1 Growth in Population and Households 1900 to 2030 Washington County								
	1900	1950	1960	1970	2000	2010	2020	2030
Population	27,808	34,544	52,452	82,948	201,130	257,932	318,603	363,190
Percent Increase	n/a	24%	52%	58%	38%	28%	24%	14%
Households	n/a	9,414	13,715	21,300	71,462	97,449	123,584	144,347
Percent Increase	n/a	n/a	46%	55%	45%	12%	27%	17%

*Percentages rounded to the nearest whole number.

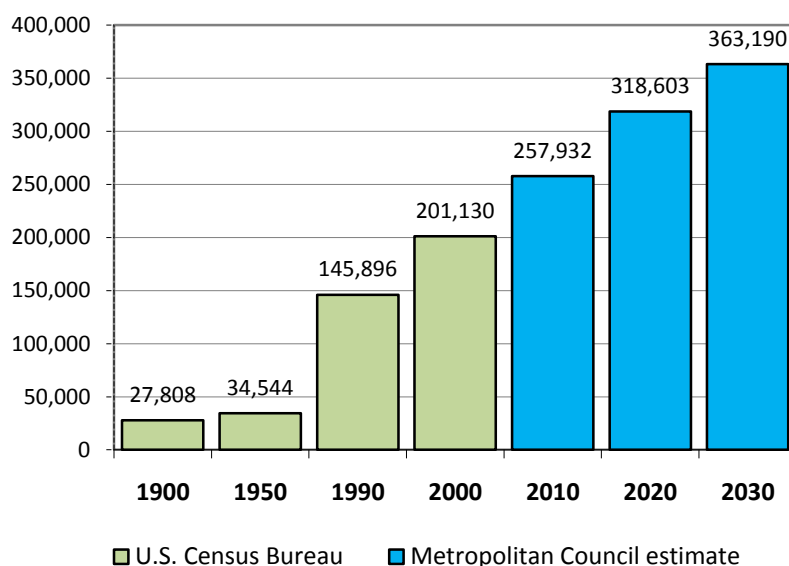
Source: U.S. Census Data for 1900-2000, Metropolitan Council estimates for 2008, 2010, 2020, and 2030.

Projected Growth

Today, Washington County is the fifth largest county in population in Minnesota; it is projected to continue this role through 2030. The Metropolitan Council estimates the county's population in 2008 to be 234,348. The county's population is expected to grow at a modest rate with the population expected to reach 318,603 by the year 2020 and 363,190 by the year 2030. This growth will result in an increase of 55 percent and 128,842 people between 2008 and 2030.



Figure 2-2
Population 1900 to 2030
Washington County



Population growth east of Washington County could affect the county's future growth. Population growth in St. Croix County, Wisconsin, due east of Washington County, is due to its abundance of affordable land and its proximity to the Twin Cities Metropolitan Area job market. From 2000 to 2006, St. Croix County realized a 26.7 percent increase in its population, similar to the growth rates of Washington County's fastest growing cities of Forest Lake, Oak Park Heights, and Woodbury. This growth is dramatic when compared to the 3.6 percent growth for the same period for the State of Wisconsin. According to the Wisconsin State Demographic Center, the latest population projection from 2005 to 2030 has St. Croix County growing by 44.5 percent. This growth will add demand on the I-94 Hudson Bridge and the Trunk Highway 36 Stillwater Bridge. Washington County households are expected to grow by 66 percent from 86,709 in 2008 to 144,347 by 2030.

Figure 2-3
Households 1900 to 2030
Washington County

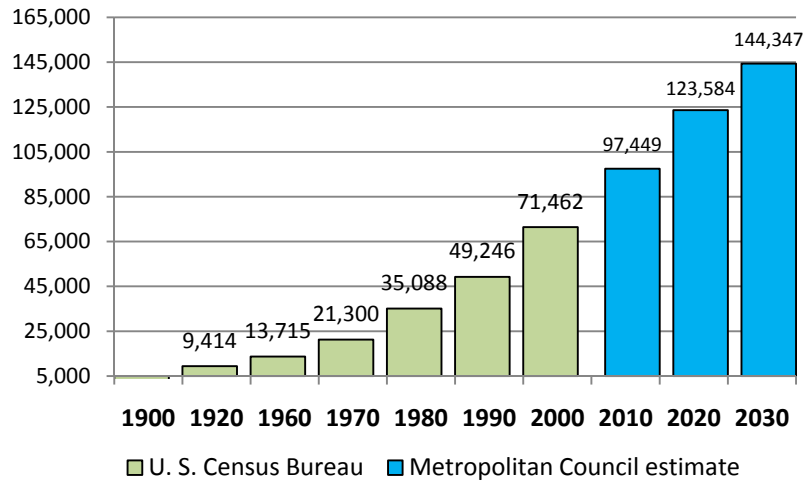


Figure 2-4 compares the population growth by community for 1996 - 2008 to projected population growth for 2008 - 2030. Figure 2-5 compares the concentration of population in 2008 and 2030. Appendices 2-B and 2-C contain the Metropolitan Council's population and household growth by community.



Figure 2-4 Population Growth By Community

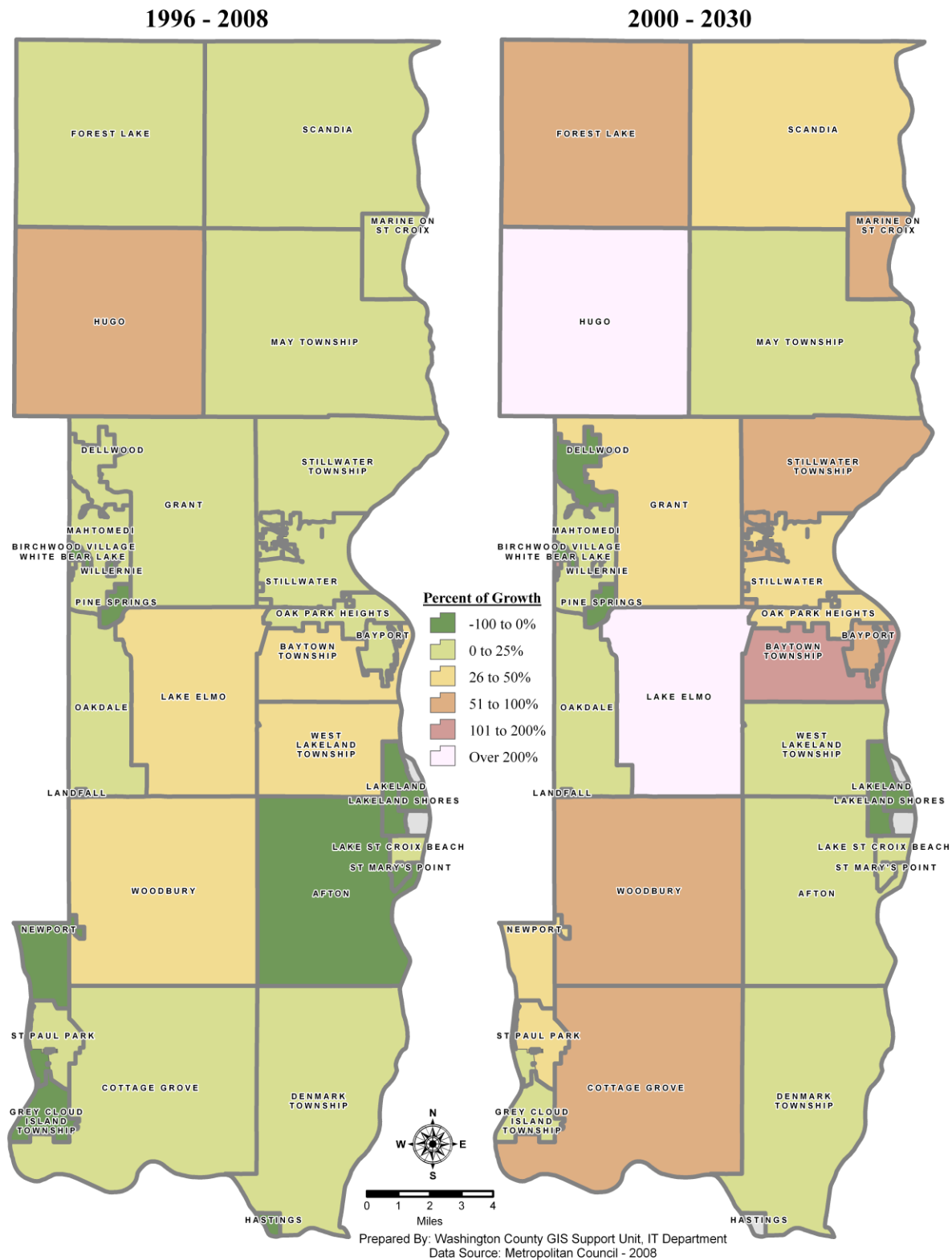
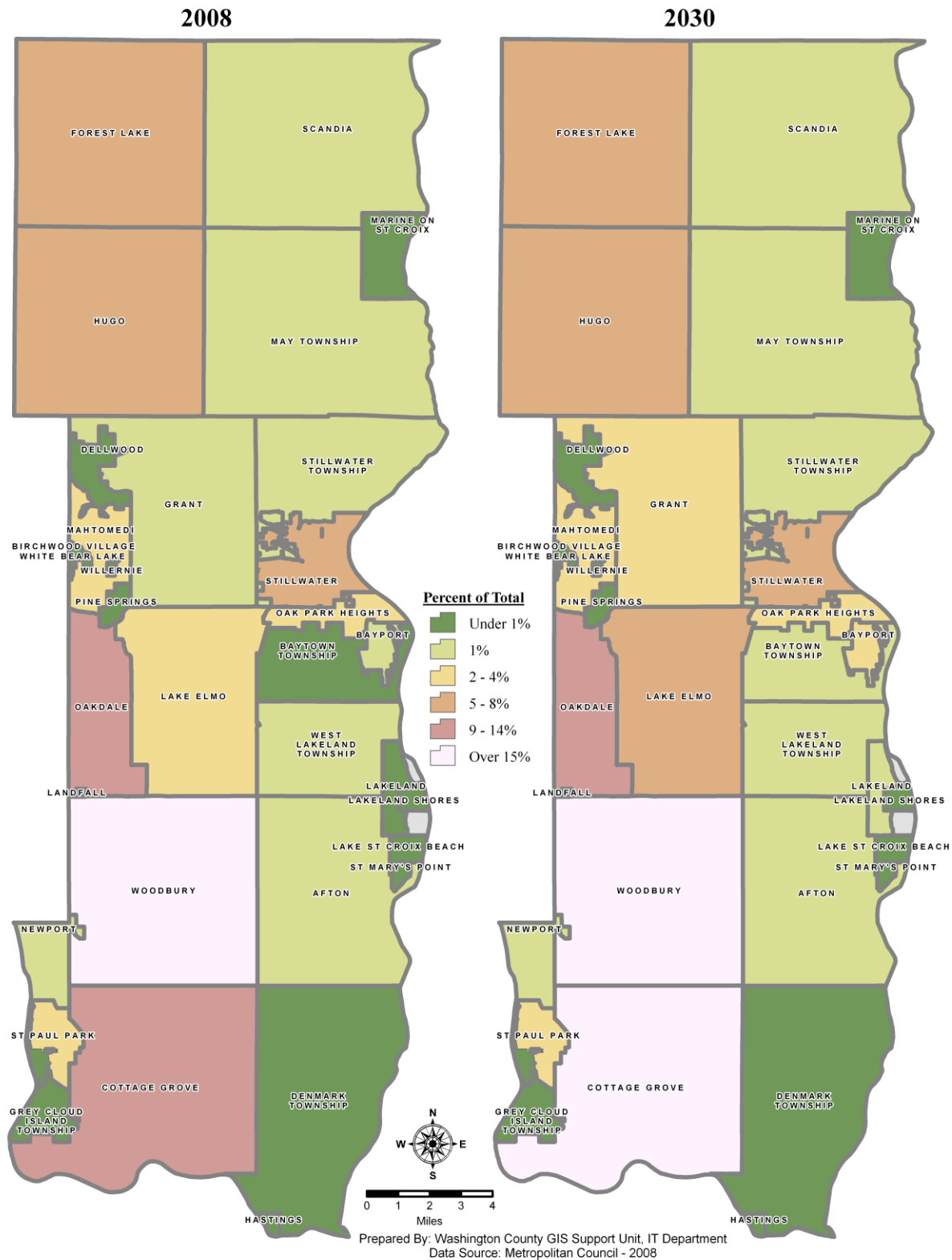


Figure 2-5 Percent of Total Population By Community





Population Characteristics

Household Types

The 2008 American Community Survey reports that 71.8 percent of households are family households, of which 35.6 percent have their own children less than 18 years. Non-family households make up about 28.2 percent of Washington County. Of the non-family households, 6.8 percent are 65 years of age and over. The average household size is 2.63 persons and the average family size is 3.14 persons.

In 2000, 77 percent of the county's households were families, compared with 67 percent for the Twin Cities Metropolitan Area. The difference is primarily the result of a high number of new families moving into the county, compared to younger singles. "Other Family" includes single parents and unmarried couples with no children.

Table 2-2 Household Types 2000 Washington County					
	Non-Family		Family		
Location	Living Alone	Other (roommates)	Married with children	Married without children	Other Family
Washington County	18.7%	4.8%	34.0%	30.8%	11.7%
Metro Area	25.4%	7.9%	27.3%	26.6%	12.8%

Source: U.S. Census Data for 2000

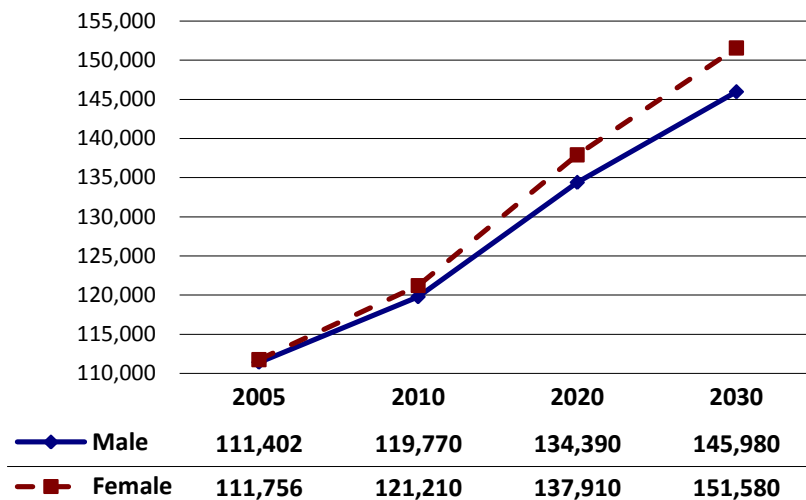
Age and Gender

The county's population is aging, mirroring state trends. In 1980, the median age in Washington County was 27.4; by 2000 it had increased by 7.7 to 35.1. In 2008 the median age was 36.7 years, an increase of 9.0 years since 1980. In 2000 the median age for males was 34.5 and for females it was 35.6.

In 1980, 3 percent of the county population was over 65; this doubled to 6 percent in 1990. In 2009, 8.9 percent of the population was over the age of 65. During the coming decade, the elderly population in Washington County will grow by 78 percent. According to the State Demographic Center of Minnesota Planning, between 2005 and 2035, the population of older Minnesotans will increase by as much as 125 percent.

The male to female ratio in Washington County is fairly even. The 2000 U.S. Census reported that 49.7 percent of Washington County was male, and 50.3 percent was female. The 2008 American Community Survey reported 49.8 percent was male and 50.2 percent was female. The percent of the population that is female is expected to begin growing after 2010 with the gap between male and female genders widening through 2030.

Figure 2-6
Projected Population by Gender 2005 to 2030
Washington County



Source: Minnesota State Demographic Center, June 2007



Table 2-3
Projected Population by Age and Gender 2005 to 2030
Washington County

Estimated Population		
	2005	
	Male	Female
Age 0 to 4	7,475	7,081
Age 5 to 19	25,547	24,588
Age 20 to 64	70,221	69,836
Age 65+	8,159	10,251
Gender Totals	111,402	111,756
Total Population		223,158

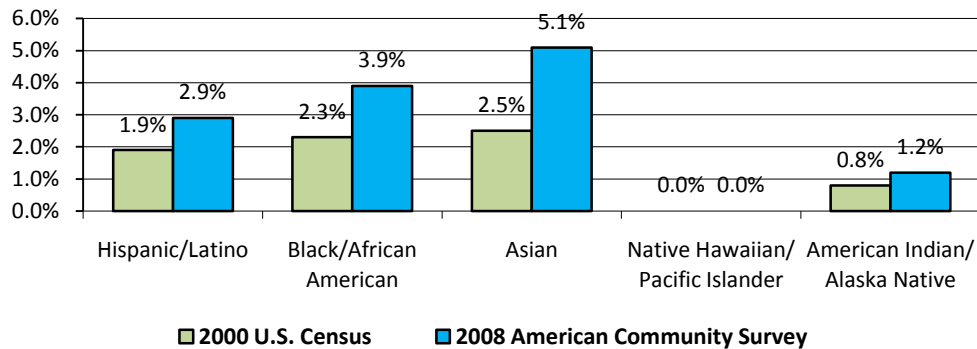
Projected Population						
	2010		2020		2030	
	Male	Female	Male	Female	Male	Female
Age 0 to 4	7,750	7,400	8,150	7,770	8,130	7,760
Age 5 to 19	26,300	25,260	28,150	26,810	29,540	28,230
Age 20 to 64	74,530	75,210	79,090	80,530	80,050	81,340
Age 65+	11,190	13,340	19,000	22,800	28,260	34,250
Gender Totals	119,770	121,210	134,390	137,910	145,980	151,580
Total Population		240,980		272,300		297,560

Source: Minnesota State Demographic Center, June 2007

Ethnic and Racial Diversity

Washington County is becoming more racially diverse. The non-white population almost tripled from 3.2 percent of the total population in 1990 to 8.5 percent of the total population in 2008. The non-white population attributed to inmates in correctional institutions is small and statistically insignificant. The non-white population in 2000 was smaller in Washington County (6.4 percent) than in Minnesota (8.8 percent). Figure 2-7 shows the change in each ethnic group between 2000 and 2008.

Figure 2-7
Ethnic and Racial Diversity 2000 to 2008
Washington County



According to the 2000 U.S. Census and the 2008 American Community Survey, the following changes occurred within the county between the year 2000 and 2008.

- Hispanic or Latino (of any race) population increased from 1.9 percent of the population to 2.9 percent.
- Black or African American population increased from 2.3 percent to 3.9 percent of the population.
- Asian population increased from 2.5 percent to 5.1 percent of the population.
- Native Hawaiian and other Pacific Islander remained below 0 percent of the population.
- American Indian and Alaska Native increased from 0.8 percent to 1.2 percent of the population.

The 2008 American Community Survey reports that 91.6 percent of Washington County residents are English-only speakers in their homes. The remaining 8.4 percent speak a language other than English, including Spanish, other Indo-European languages, Asian, Pacific Islander, or some other language as their primary language at home. The Minnesota Department of Education reports that nearly 50 different languages are spoken in Washington County schools, including Hmong, Spanish, Chinese, and Russian.



Income and Poverty

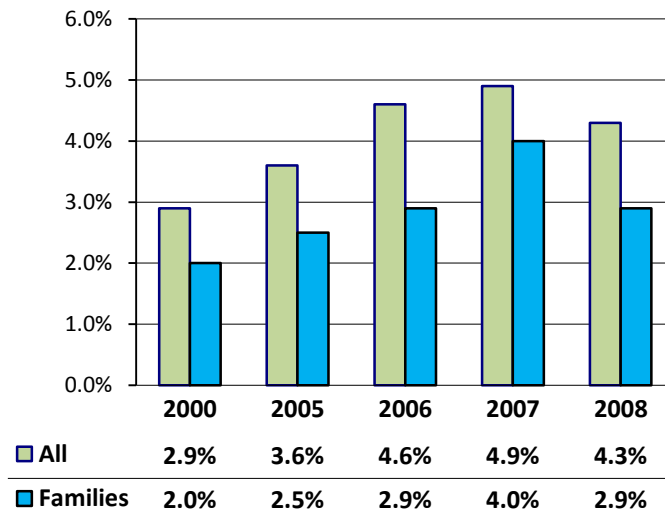
Washington County is the second most affluent county in Minnesota based on household income, after Scott County. This is due to the dominant influence of rapidly growing second and third ring suburbs made up of professional and managerial households. Median household income increased from \$44,122 in 1990 to an estimated \$79,339 in 2008, a 44 percent increase. Minnesota's median household income was \$30,909 in 1990 and \$57,288 in 2008, an increase of 46 percent.

According to the U. S. Department of Commerce, Bureau of Economic Analysis, Washington County had the third highest per capita income in the state in 2007 at \$47,351, behind Hennepin (\$56,280) and Carver (\$49,691) counties. In 2007, Washington County's per capita income was above the state average of \$41,105 and the U.S. average of \$38,615. Per capita income includes earnings, assets (interest, dividends, rent) and transfer payments.

Although poverty has increased in the last seven years Washington County continues to have a low poverty rate. The percent of Washington County population below the poverty level increased from 2.9 percent in 2000 to 4.3 percent in 2008. The percent of families below the poverty level also increased from 2.0 percent in 2000 to 2.9 percent in 2008.

According to the 2000 U.S. Census, low-income concentrations exist in 14 of the county's 35 census tracts. Low-income concentrations are defined as census tracts with 51 percent or more of the total population at or below 80 percent of the median-family income. These tracts are located in Forest Lake, Stillwater, Bayport, Oak Park Heights, Landfall, Oakdale, and Cottage Grove.

Figure 2-8
Poverty Level 2000 to 2008
Washington County



Source: 2000 U.S. Census, 2005, 2006, 2007, and 2008 American Community Survey, U.S. Census Bureau

Economy

Labor Force and Employment

In 2008, 122,485 Washington County residents were employed. The Office of the State Demographer projects that number to increase by about 45 percent or 54,809 by 2030. The number of residents employed in 2030 should be about 177,000 or 49 percent of the population.

Between 1990 and 2006, employment increased by an average of 2,252 people annually with the greatest growth occurring in the early 1990's. Growth in employment has stabilized in recent years but is projected to increase at a rate that will add, on average, 2,383, per year between 2006 and 2030.

According to the 2008 American Community Survey, the median earnings for workers working within Washington County in 2008 were \$41,098, while the median earnings for workers within the State of Minnesota were \$31,562.



The 2008 unemployment rate in Washington County was 5.1 percent, an increase of 2.7 percent from 2000. The current unemployment rate has remained lower than in the Twin Cities Metropolitan Area, but continues to increase at a similar rate.

Table 2-4 Resident Employment 1990 to 2008 Washington County					
Year	Labor Force	Employment	Unemployment	Unemployment Rate	
				Washington County	Metropolitan Area
1990	82,781	79,691	3,090	3.7%	4.8%
1995	104,642	101,893	2,749	2.6%	3.7%
2000	117,904	115,004	2,900	2.5%	3.1%
2005	127,163	122,699	4,464	3.5%	4.1%
2007	128,022	122,846	5,176	4.0%	4.3%
2008	128,957	122,485	6,472	5.0%	5.2%
Change 1990 to 2000					
Number	35,123	35,313	-190	---	---
Percent	42.4	44.3	-6.1	---	---
Change 2000 to 2008					
Number	10,118	7,481	3,572	---	---
Percent	8.6	6.5	123.2	---	---

Sources: MN Dept. of Employment and Economic Development

Jobs

The Metropolitan Council's forecast projects employment in Washington County to grow to 130,620 by 2030, a 93 percent increase from 67,649 jobs in 2000. The number of jobs located in Washington County is projected to grow by a little over 20,000 between 2000 and 2010 (30 percent), about 24,000 between 2010 and 2020 (27 percent), and approximately 19,000 between 2020 and 2030 (17 percent). This is a greater growth rate than the Twin Cities Metropolitan Area, which is projected to experience growth of 17 percent during the period between 2010 and 2030. Appendix 2-D contains the Metropolitan Council's projected employment by community.

Two thirds of all the jobs in Washington County in 2005 were located in the Stillwater area, and the cities of Woodbury and Cottage Grove. The Stillwater area had the most jobs, 27 percent of the total, including employers such as Andersen Corporation, Minnesota Correctional Facilities, Washington County Government, and School District 834. Woodbury is projected to take the lead in the number of jobs by 2010. By 2030, the City of Woodbury will have 37,000 jobs, followed by the City of Lake Elmo with 14,000 jobs and the Stillwater area with 13,600 jobs.

Employment by Industry

Table 2-5 shows the job growth in Washington County between 2000 and 2008. The Minnesota Department of Employment and Economic Development data indicates that Washington County experienced job growth since 2000 in every industry sector except natural resources and mining, manufacturing, and financial activities. Education and health care, wholesale trade, transportation, and utilities, and leisure and hospitality had the greatest growth. The greatest average wage changes from 2000 to 2008 were in the financial activities category at 50.5 percent, wholesale trade, transportation and utilities at 37.5 percent and education and health at 30.8 percent.

Commuting

According to the U.S. Census Bureau, Washington County ranks 10th in the nation for residents who commute to work outside of the county, at 69.1 percent of the workforce.

Travel time to work has increased from 24.6 minutes in 2000 to 25.5 minutes in 2008. The majority of workers, 83.0 percent drove alone to work, 7.3 percent carpooled, 2.3 percent used public transportation, and 2.6 percent used other means, while 4.8 percent worked from home. The fastest growing segment of commuting patterns is suburb to suburb.

Appendix 2-A

Washington County, Minnesota

2010 At-A-Glance

POPULATION

Washington County Population	(+16.5% since 2000)	234,348*
Median Age (both genders)	35.1 (2000) 36.7 (2008) ***	
Population Rank in Minnesota	5 of 87 counties **	
Population age 18 years and over	169,666 ***	
Population age 65 years & over	20,489 ***	
Civilian Veterans	15,125 ***	
Housing Units	86,258***	
Households	86,709***	
Persons per Household	2.63***	
Source: * 2008 Metropolitan Council 4/1/08; estimates made public summer 2009 ** 2000 U.S. Census *** 2008 American Community Survey (margin of error not included)		

PROJECTED GROWTH 2008 to 2030

Number of New Residents Forecast	128,842 (+ 55%) *
Number of New Households Forecast	57,638 (+ 66%) *
Projected Population in 2030	363,190 *
Projected Households in 2030	144,347 *
Projected Employees in 2030	130,620 *
Source: * Metropolitan Council Forecasts of Population, Households, and Employment 12/31/09	

ECONOMIC

Median Household Income	\$ 79,339 *
Per Capita Income (2007)	\$ 47,351 **
Average Residential Value (Single Family Dwelling/Townhouse/Condo)	\$297,800 ***
Median Residential Taxable Market Value-pay 2010	\$240,000 ****
New Houses (Single Family Dwelling/Townhouse/Condo) Started (2007)	1,041 ***
Mean Commute Travel Time for Work	25.5 minutes *
Employment within County (2000)	72,442 *****
Source: * 2008 American Community Survey (margin of error not included) ** Bureau of Economic Analysis *** Washington County's 2008 Assessment Report **** Washington County Property Records and Taxpayer Services ***** Minnesota Department of Employment and Economic Development	

LABOR FORCE

Employment Statistics (a)	
Annual Labor Force Average	128,957
Number of County Residents Employed	122,485
Unemployed	6,472
Unemployment Rate	(MN 5.4%) 5.0%
Top 10 Taxpayers (b) 2009 Net Tax Capacity	
Xcel Energy	\$7,224,929
Woodbury Lakes Retail, LLC	\$1,763,084
Tamarack Village Shopping	\$1,630,156
Menard, Inc.	\$878,418
Imation Corporation	\$836,445
3M Company	\$ 826,378
State Farm Mutual Automobile	\$796,236
Woodbury Village Shop Corporation	\$791,132
Centro-Oakdale, LLC	\$ 685,300
Wal-Mart	\$ 557,632
Occupations (c)	
Management, Professional	42.4%
Sales and Office	27.4%
Service	12.8%
Production, Transportation, Material Moving	9.5%
Construction, Extraction, Maintenance	7.3%
Farming, Fishing, Forestry	.7%
Source: (a) Minnesota Department of Employment and Economic Development (annual average not seasonally adjusted) (b) Property Records and Taxpayer Services query; completed on 4/15/08 (c) 2008 American Community Survey (margin of error not included)	

HUMAN SERVICES

Percent of People Below Poverty Level	4.3% **
Percent of Families Below Poverty	2.9% **
Percent of B.A. or Professional Degree	40.3% **
Rate of Homelessness per 10,000 residents (2006)	3.7% ***
MN Medical Assistance Expenditures (2008)	\$165.7 million *
Cash Assistance & Food Support (2008)	\$11.4 million *
Source: * Washington County Community Services ** 2008 American Community Survey (margin of error not included) *** Wilder Research, Minnesota Statewide Survey of People without Shelter (2006), and U.S. Census Bureau (2007)	

COUNTY BUDGET & PERCENTAGES

Total 2010 Budget *		\$183,476,500
Revenue Sources **		
Net Levy		47%
Intergovernmental		24%
Fees, Licenses, and Fines		10%
Interest Income and Miscellaneous		7%
Bond Proceeds		5%
Other Taxes		4%
County Program Aid		3%
Expenditures		
Wages and Benefits		47%
Direct Payments		19%
Capital Expenditures		16%
Other Operations		13%
Debt Service		5%
County Budget Comparison ***		
	2009	2010
Operating	\$146.4 million	\$144.3 million
Capital	\$14.9 million	\$29.0 million
Debt	\$9.4 million	\$10.1 million
Total	\$170.7 million	\$183.4 million
County General Obligation Bond Rating		
Moody's	Aa1	Standard & Poor's AAA
County Tax Rate		
2010	27.71%	2009 26.21%
		2008 25.94%
		2007 25.67%
Source: * Washington County Office of Administration ** Rounded to the nearest whole number *** Rounded to the nearest tenth		

Data in At-A-Glance reflects a one-time snapshot of the county. The data will continue to change between now and the next At-A-Glance. Please check with the sources for the most recent information.

LAND USE

	Total Acres	%
Residential	50,042	18.5
Commercial	3,349	1.2
Industrial	4,946	1.8
Institutional & Recreational	26,328	9.7
Major 4-Lane Highways	2,851	1.1
Nonurbanized Land Total	157,402	58.1
Open Water Bodies	25,843	9.5
Total	270,761	99.9

Source: Metropolitan Council Generalized Land Use – Historical 1984, 1990, 1997, 2000, and 2005 For The Twin Cities Metropolitan Area.

GEOGRAPHY

Total Area	423.2 sq. miles *
Land Area (Without Water)	391.7 sq. miles **
Maximum county width	13.8 miles
Maximum county length	40.4 miles
County total area rank in Minnesota	83 of 87 counties *
Washington County Parks	7 parks
Lake Elmo Park Reserve	2,317 acres *
Cottage Grove Ravine Regional Park	540.8 acres *
Pine Point Park	312 acres *
Point Douglas Park	9 acres *
Square Lake Park	25 acres *
St. Croix Bluffs Regional Park	584 acres *
Big Marine Park Reserve	120 acres *
Number of major water bodies +	585 ***

Source: * Land Management Information Center data 2003

** U.S. Census Bureau, Summary File 1 (SF1-Percent data)

*** Lakes and type 3, 4, 5 wetlands. Wetlands are defined as over 10 acres in unincorporated areas or 2 ½ acres in incorporated areas. Lakes are defined as "all natural enclosed depressions, 10 acres or more in area, which have substantial banks capable of containing water, and which are discernible on aerial photographs," from "Inventory of Minnesota Lakes," Minnesota Conservation Department, Bulletin No. 25, 1968.

+ Department of Natural Resources Protected Waters Inventory

WASHINGTON COUNTY FACILITIES

Types of Facilities	Contact Number	#
Government Center -Stillwater (County Seat)	(651) 430-6000	1
County Service Center-Cottage Grove	(651) 430-4075	1
County Service Center- Forest Lake/Headwaters	(651) 275-7200	1
County Service Center – Woodbury	(651) 275-8600	1
County Branch Libraries	(651) 275-8500	9
License Centers	(651) 275-8600	3
County Parks	(651) 430-8368	7
Historic Courthouse	(651) 275-7075	1
Law Enforcement Center	(651) 439-9381	1
Household Hazardous Waste	(651) 430-6655	1
Transportation Offices	(651) 430-4300	2

LOCAL UNITS OF GOVERNMENTS & DISTRICTS

Number of Cities (See map to right)	27 *
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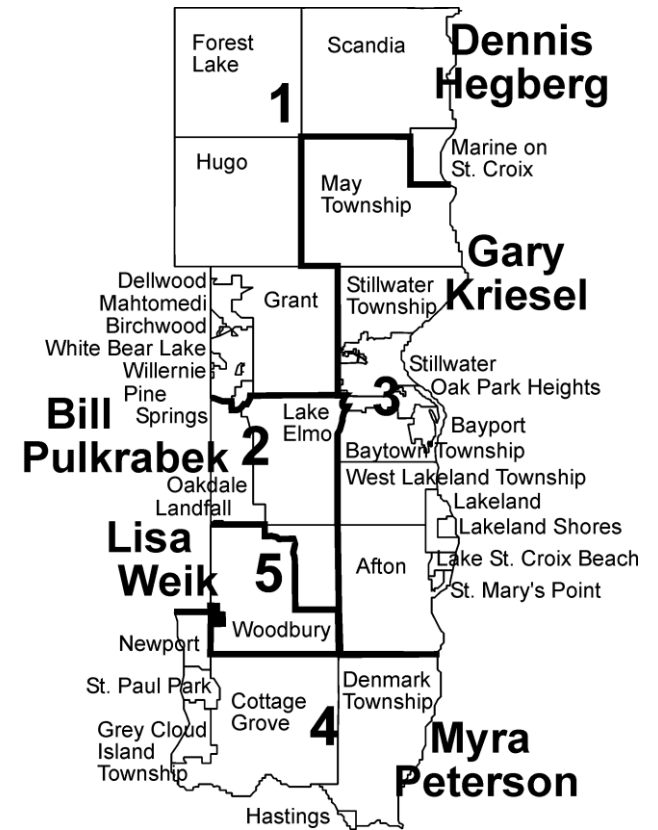
* Includes portions of Hastings and White Bear Lake located in Washington County.

Number of Townships (See map to right)	6
--	---

Watershed Districts	Contact Number
Brown's Creek	(651) 275-1136 x26
Carnelian Marine	(651) 433-2150
Comfort Lake – Forest Lake	(651) 209-9753
Ramsey-Washington Metro	(651) 792-7950
Rice Creek	(763) 398-3070
South Washington	(651) 714-3729
Valley Branch	(651) 748-4230

Independent School Districts	Contact Number
I.S.D. 200 (Hastings)	(651) 437-6111
I.S.D. 622 (North St. Paul)	(651) 748-7622
I.S.D. 624 (White Bear Lake)	(651) 407-7500
I.S.D. 831 (Forest Lake Area)	(651) 982-8100
I.S.D. 832 (Mahtomedi)	(651) 407-2000
I.S.D. 833 (South Washington County)	(651) 458-6300
I.S.D. 834 (Stillwater Area)	(651) 351-8301
I.S.D. 916 (Valley Crossing)	(651) 415-5657
I.S.D. 2144 (Chisago Lakes)	(651) 213-2000
I.S.D. 6067 (Crosswinds)	(651) 379-2600

Washington County, Minnesota



Washington County Commissioners - 2010

District 1 – Dennis C. Hegberg
 District 2 – Bill Pulkrabek –Chair
 District 3 – Gary Kriesel – Vice Chair
 District 4 – Myra Peterson
 District 5 – Lisa Weik

County Board meetings: Tuesdays, 9 a.m.
 (no meetings on 5th Tuesdays)



Washington County Government Center
 14949 62nd Street North
 P.O. Box 6
 Stillwater, Minnesota 55082-0006

Washington County general information telephone: (651) 430-6000
 Washington County web site: <http://www.co.washington.mn.us>

2010 Legal newspaper: Oakdale-Lake Elmo Review
 At-A-Glance is prepared by the Office of Administration

01/10



Table 2-5
County Jobs by Industry 2000 and 2008
Washington County

	2000			2008			Change	
Industry	Number of Employees	% of Total	Average Wage	Number of Employees	% of Total	Average Wage	Number	Percent
Natural Resource/Mining	737	1.1%	\$24,336	608	.8%	\$28,028	-129	-21.2%
Construction	3,682	5.5%	\$40,976	3,825	5.3%	\$51,272	143	3.7%
Manufacturing	12,003	17.9%	\$50,232	8,964	12.3%	\$60,424	-3,039	-33.9%
W. Trade, T & U*	3,367	5.0%	\$42,160	5,387	7.4%	\$57,967	2,020	37.5%
Retail Trade	11,331	16.9%	\$20,280	12,104	16.6%	\$22,828	773	6.8%
Information	662	1.0%	24,804	---	---	---	---	---
Financial Activities	4,891	7.3%	\$36,660	4,504	6.2%	\$55,172	-387	-7.9%
Professional & Business Services	5,623	8.4%	\$47,632	6,336	8.7%	\$47,996	1,013	-12.7%
Education & Health Services	10,268	15.3%	\$31,616	14,668	20.1%	\$41,340	4,400	42.9%
Leisure & Hospitality	8,916	13.3%	\$11,544	10,316	14.2%	\$13,624	1,400	15.7%
Other Services	2,503	3.7%	\$17,628	2,647	3.6%	\$21,060	144	5.8%
Government	3,054	4.6%	\$35,516	3,468	4.8%	\$45,552	414	13.6%
Total	67,037	100%	\$32,627	72,827	100%	\$40,478	5,790	8.6%

* Wholesale Trade, Transportation, & Utilities

--- Information not available

Sources: MN Dept. of Employment and Economic Development, Maxfield Research Inc.



Appendix 2-B

2030 Projected Population Growth by Community Washington County

	2000	2010	2020	2030
Afton*	2,839	3,250	3,650	4,050
Bayport	3,162	4,600	5,300	6,000
Baytown Twp.***	1,533	1,820	1,960	2,160
Birchwood Village	968	950	930	930
Cottage Grove*	30,582	36,000	45,400	53,000
Dellwood	1,033	1,060	990	970
Denmark Twp.	1,348	1,750	2,150	2,550
Forest Lake***	14,440	22,200	33,300	38,300
Grant	4,026	4,400	4,450	4,500
Grey Cloud Island Twp.***	307	350	300	280
Hastings (pt)	3	0	0	0
Hugo**	6,363	19,100	29,000	40,000
Lake Elmo	6,863	9,952	18,403	24,000
Lakeland	1,917	1,880	1,790	1,760
Lakeland Shores***	355	370	370	370
Lake St. Croix Beach	1,140	1,140	1,100	1,080
Landfall	700	700	700	700
Mahtomedi*	7,563	8,100	8,000	8,000
Marine on St. Croix	602	760	880	1,000
May Twp.	2,928	3,200	3,600	4,000
Newport	3,715	3,800	4,400	4,890
Oakdale	26,653	28,000	28,400	30,000
Oak Park Heights***	3,777	5,100	5,400	5,700
Pine Springs	421	400	380	360
St. Mary's Point	344	370	350	340
St. Paul Park*	5,070	7,650	9,700	10,400
Scandia*	3,692	4,370	5,000	5,400
Stillwater	15,323	19,100	21,300	19,900
Stillwater Twp.	2,553	2,690	2,940	3,350
West Lakeland Twp.	3,547	3,860	3,950	4,190
White Bear Lake (pt)***	351	420	420	420
Willernie*	549	590	590	590
Woodbury*	46,463	60,000	73,500	84,000
TOTAL	201,130	257,932	318,603	363,190

Source: Metropolitan Council 2030 Regional Development Framework – Revised forecasts as of December 31, 2009.

* Forecasts revised by Council action in 2006.

** Forecasts revised by Council action in 2007.

*** Forecasts revised by Council action in 2009. All forecasts approved by Council actions January 14, 2004, and August 24, 2005 unless otherwise noted.



Appendix 2-C

2030 Projected Household Growth by Community Washington County

	2000	2010	2020	2030
Afton*	996	1,150	1,350	1,550
Bayport	763	1,140	1,300	1,500
Baytown Twp.***	492	600	680	760
Birchwood Village	357	370	370	370
Cottage Grove*	9,932	12,600	16,500	20,000
Dellwood	353	380	390	390
Denmark Twp.	481	650	820	990
Forest Lake***	5,433	8,500	13,000	15,000
Grant	1,374	1,540	1,570	1,600
Grey Cloud Island Twp.***	117	120	110	100
Hastings (pt)	2	0	0	0
Hugo**	2,125	7,200	11,100	15,600
Lake Elmo	2,347	3,619	6,324	8,727
Lakeland	691	700	710	710
Lakeland Shores***	116	130	130	130
Lake St. Croix Beach	462	480	480	480
Landfall	292	300	300	300
Mahtomedi*	2,503	2,900	3,000	3,100
Marine on St. Croix	254	320	370	430
May Twp.	1,007	1,200	1,400	1,600
Newport	1,418	1,580	1,850	2,130
Oakdale	10,243	11,300	12,000	13,000
Oak Park Heights	1,528	2,180	2,300	2,500
Pine Springs	140	140	140	140
St. Mary's Point	132	150	150	150
St. Paul Park*	1,829	2,900	3,770	4,150
Scandia*	1,294	1,590	1,890	2,100
Stillwater	5,797	7,500	8,100	8,600
Stillwater Twp.	833	960	1,110	1,260
West Lakeland Twp.	1,101	1,290	1,400	1,510
White Bear Lake (pt)***	149	210	210	210
Willernie*	225	250	260	260
Woodbury*	16,676	23,500	30,500	35,000
TOTAL	71,462	97,449	123,584	144,347

Source: Metropolitan Council 2030 Regional Development Framework – Revised forecasts as of December 31, 2009.

* Forecasts revised by Council action in 2006.

** Forecasts revised by Council action in 2007.

*** Forecasts revised by Council action in 2009. All other forecasts approved by Council actions January 14, 2004, and August 24, 2005 unless otherwise noted.



Appendix 2-D

2030 Projected Employment Growth by Community Washington County

	2000	2010	2020	2030
Afton*	351	450	560	630
Bayport	4,900	5,200	5,700	6,300
Baytown Twp.***	154	130	160	180
Birchwood Village	20	0	0	0
Cottage Grove*	6,263	8,500	10,000	11,500
Dellwood	282	150	170	180
Denmark Twp.	386	360	400	440
Forest Lake***	6,636	7,800	10,300	11,900
Grant	750	620	620	630
Grey Cloud Island Twp.***	50	100	100	100
Hastings (pt)	224	0	0	0
Hugo**	1,917	2,600	3,600	4,500
Lake Elmo	1,682	2,250	7,200	14,000
Lakeland	374	420	500	600
Lakeland Shores***	20	50	50	50
Lake St. Croix Beach	50	110	120	130
Landfall	50	60	70	90
Mahtomedi*	1,252	1,870	2,350	2,500
Marine on St. Croix	235	290	330	380
May Twp.	40	40	50	50
Newport	2,480	3,900	5,200	6,500
Oakdale	7,812	9,300	10,600	11,900
Oak Park Heights	2,713	3,900	4,100	4,600
Pine Springs	10	0	0	0
St. Mary's Point	10	10	10	10
St. Paul Park*	1,399	1,400	1,650	1,700
Scandia*	272	420	520	610
Stillwater	10,719	11,600	12,500	13,600
Stillwater Twp.	120	120	120	120
West Lakeland Twp.	313	90	90	100
White Bear Lake (pt)***	131	140	150	170
Willernie*	135	140	140	150
Woodbury*	15,899	26,000	34,200	37,000
TOTAL	67,649	88,060	111,560	130,620

Source: Metropolitan Council 2030 Regional Development Framework – Revised forecasts as of December 31, 2009.

* Forecasts revised by Council action in 2006.

** Forecasts revised by Council action in 2007.

*** Forecasts revised by Council action in 2009. All other forecasts approved by Council actions January 14, 2004, and August 24, 2005 unless otherwise noted.



2030 Comprehensive Plan A Policy Guide to 2030

Land Use

**Approved by Board of Commissioners
May 26, 2009**

**Planned Adoption by Board of Commissioners
Fall 2010**



Washington County Mission

To provide quality public services in a cost-effective manner through innovation, leadership, and the cooperation of dedicated people.

Washington County Values

Fiscal Responsibility - to provide good stewardship of public funds

Ethics and Integrity - to maintain the public trust

Openness of the Process - to promote citizen participation

Our Heritage and Natural Resources - to conserve and preserve them

The Individual - to promote dignity and respect

Washington County Goals

- To promote the health, safety, and quality of life of citizens
- To provide accessible, high-quality services in a timely and respectful manner
- To address today's needs while proactively planning for the future
- To maintain public trust through responsible use of public resources, accountability, and openness of government



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Executive Summary

The Metropolitan Council projects Washington County's population to grow by 55 percent or 128,842 between 2008 and 2030. Based on this estimate, the county would grow by an average of 5,856 per year or 58,565 per decade, about the same amount as during the high growth years of the 1990s. Population in the unincorporated area is expected to grow by 68 percent or 9,340 people during that same time frame.

The Washington County Land Use Plan describes how the county will guide the growth in unincorporated areas. The Land Use Plan is an official document, adopted by the Washington County Board; it sets the broad policy that guides decisions about the physical development of the county. The Metropolitan Land Planning Act (Minn. Stat. 473), requires the county to update its plan every ten years to be consistent with the policies of the Metropolitan Council's Regional Development and Investment Framework (Framework). The Land Use Plan is the legal basis for land use controls.

The Land Use Plan is general and long term; the zoning ordinance and map are short range and precise. The Land Use Plan sets the general guidelines and policies for reviewing and evaluating development proposals; the zoning map and ordinance are tools to implement the general guidelines and policies. The Land Use Plan delineates the general land use areas by type; the zoning ordinance and map define the zoning districts and the permitted uses and requirements for each use within specific land use zones.

The Land Use Plan provides for logical development patterns that preserve the existing natural resources, retain the existing character of the county and provide a high quality of life. The planned development attempts to meet current needs without placing environmental, economic, and social burdens on future generations to meet their needs.



Washington County administers several ordinances that control land use and protect the unique and varied natural resources of the county. All county ordinances are enforceable only in the unincorporated areas. Cities are responsible for establishing and enforcing ordinances within their boundaries. Townships may adopt ordinances that are as restrictive or more restrictive than county regulations.

The overall vision of the Washington County Land Use Plan is to accommodate the county's projected population growth of 128,842 people by 2030 while incorporating sustainable urban growth and preserving the natural, cultural, and historic characteristics of the county.

To achieve this vision, the county has set the following land use goals:

Goal 3-1 – Utilize land and related natural resources so they are conserved for future generations.

Goal 3-2 – Support the growth of attractive urban communities while preserving rural functions and appearances.

Goal 3-3 – Design the land use plan to support economic development.

This plan sets policies and strategies that support these goals. It summarizes the current land uses in the county and it presents an implementation plan for future land use decisions for the unincorporated territory.

Existing Conditions

Washington County's diverse land use patterns include historic river towns and villages along the St. Croix River, rural fringes, exurban residential communities, and growing suburban communities. These areas are interspersed with natural areas, wetlands, lakes, bluffs, and agricultural areas. The variety of developed and open space areas provides a mixture of visual landscapes unique to Washington County.

Existing Land Use Pattern

Figure 3-1 shows the existing land use pattern in Washington County in 2005. The major locations of development are in the western suburbs, the eastern river cities, and the northwestern corner of the county. Large portions of the county are devoted to agriculture and large-lot rural residential. Most of the semi-rural and large-lot suburban housing is located in the mid-section of the county.

Suburban development exists on the western side of the county. Sewered development extends from the small communities around White Bear Lake, south through Oakdale, Woodbury, Cottage Grove, Newport, and St. Paul Park. The cities around White Bear Lake are predominantly single-family residential. The remaining suburbs have a mix of housing types, commercial and industrial activities, and public facilities. Heavy industry, such as oil refining, is located in Cottage Grove, Newport, and St. Paul Park.

Woodbury and Cottage Grove have large undeveloped areas to the east. Woodbury has developed from the northwest to the southeast and has the most extensive commercial retail areas of the suburbs. Cottage Grove has designated the eastern portion of the city for long-term agriculture and plans for staged suburban development for the remainder.

The northern cities in Washington County all include historic downtown centers surrounded by rural and agricultural lands

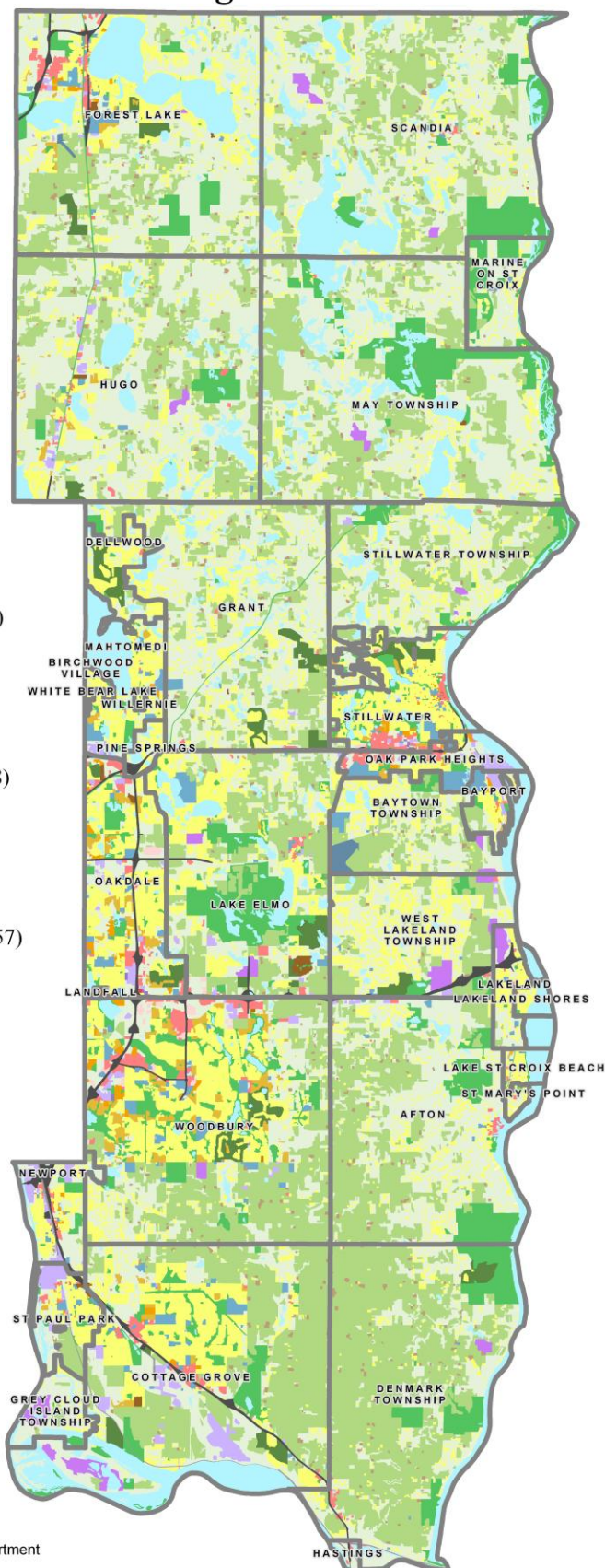
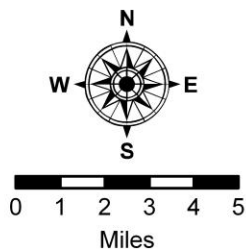


Figure 3-1

Generalized Land Use 2005

Land Use (area in acres)

-  Farmstead (2,055)
-  Seasonal/Vacation (252)
-  Single Family Detached (44,297)
-  Manufactured Housing Park (303)
-  Single Family Attached (2,369)
-  Multifamily (724)
-  Retail and Other Commercial (2,993)
-  Office (347)
-  Mixed Use Residential (42)
-  Mixed Use Industrial (37)
-  Mixed Use Commercial and Other (8)
-  Industrial and Utility (2,659)
-  Extractive (1,684)
-  Institutional (3,597)
-  Park, Recreational or Preserve (19,257)
-  Golf Course (3,473)
-  Major Highway (2,851)
-  Railway (251)
-  Airport (315)
-  Agricultural (68,708)
-  Undeveloped (88,691)
-  Water (25,842)



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Metropolitan Council - 2005

with scattered locations of non-farm houses. May Township, without a commercial center, is predominantly rural large-lot residential and agricultural development. A preponderance of the county's lakes, streams, and wetlands are located in the northern communities, creating a defining characteristic of the northern landscape.

The central communities of Grant, Stillwater, West Lakeland, and Baytown townships, have non-farm, large-lot residential developments. The typical parcel size in Stillwater Township and Grant is 5 and 10 acres; a typical parcel size in Baytown and West Lakeland townships is 2 ½ acres. These communities have little commercial and industrial development. Lake Elmo has a mix of land uses ranging from the commercial and small-lot residential located in the historic city center to large-lot residential and agricultural uses surrounding the city center. Much of the city's rural residential is in clusters of houses surrounded by protected open space.

The eastern urban area of Stillwater, Oak Park Heights, and the river cities from Baytown to Afton contain a mix of residential, commercial, and industrial land uses. Stillwater's historic downtown, once a vibrant center of logging, is on the Register of Historic Places. It is a popular tourist attraction, capitalizing on its well-preserved turn of the century architecture, historic charm, and magnificent natural features. Commercial and light industrial activity is located along Highway 36.

The southern communities of Afton and Denmark Township, having the best farmland in the county, are characterized by large areas of active farming and relatively low-density non-farm housing. Afton has a historic town center and marina on the St. Croix River. Lakeland, Lakeland Shores, Lake St. Croix Beach, and St. Mary's Point are small, unsewered communities that lie along the St. Croix River. These cities have small commercial areas surrounded by single-family houses on small lots. Grey Cloud Island Township is located along the Mississippi River in the southeast corner of the county. It contains large-lot residential development, one major rock quarry, and farm fields.



Metropolitan Urban Service Area

Figure 3-2 shows the Metropolitan Urban Service Area (MUSA), the area in the seven-county metropolitan region that contains regional facilities such as roads and sewers, as planned for by the Metropolitan Council. Locations within the MUSA are expected to continue to accommodate staged serviced residential, commercial, and industrial growth. Traditional urban growth areas were Oakdale, Stillwater, Woodbury, and Cottage Grove. While Woodbury and Cottage Grove will continue to accommodate suburban growth, Oakdale and Stillwater have little room for further growth. Hugo, Lake Elmo, and Forest Lake are expected to become the future growth areas. Rural and exurban growth will continue in the rural towns and cities.

Land Use Changes

Platted Land Changes

Platted land is an indicator of the amount of land being converted from vacant and agricultural uses to residential uses. Figure 3-3 shows the history of platting in Washington County. The first plats were in the early settlements of Stillwater, St. Paul Park, Forest Lake, Afton, and Mahtomedi. Today, only 32 percent of the land area, or 78,522 acres, of the county are platted.

Table 3-1 shows the acreage platted per year between 1879 and 2007. The pace of platting has mirrored the population growth rate and location. The greatest amount of platting occurred during the highest growth era between 1990 - 2000, and is located in the greatest growth areas of Cottage Grove, Oakdale, Hugo, Forest Lake, and Woodbury.

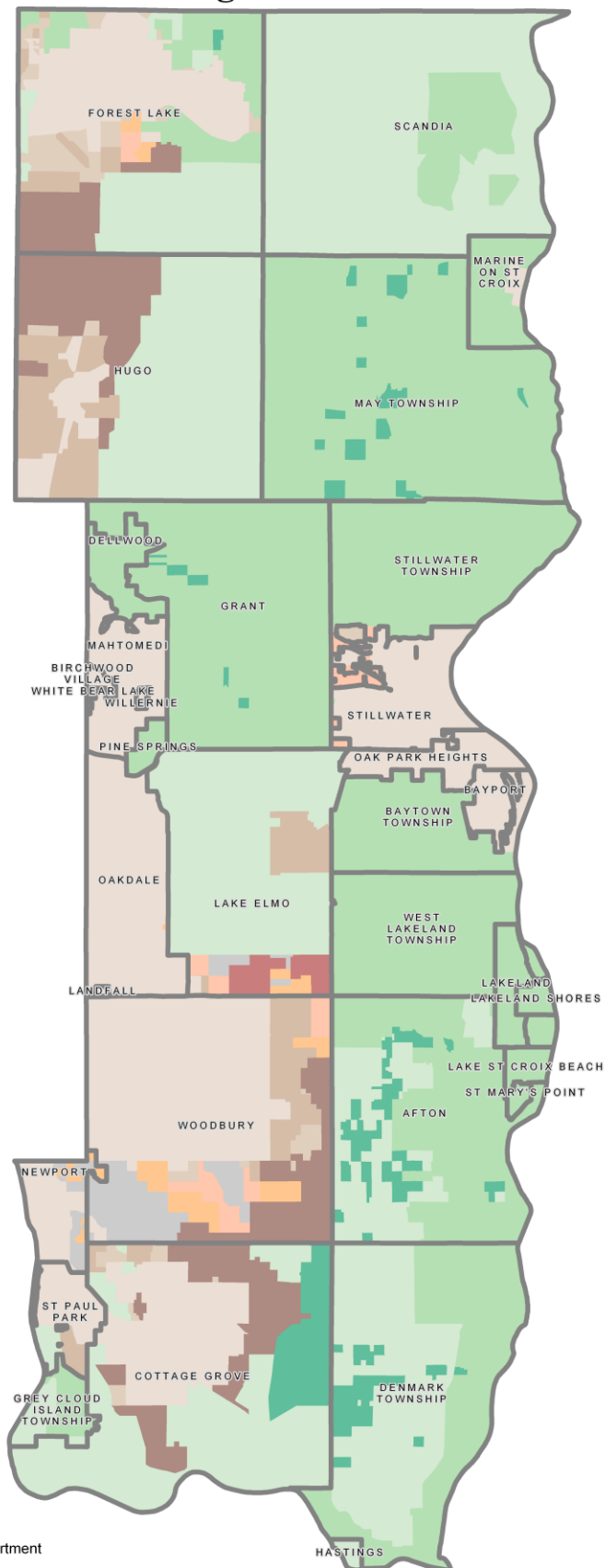
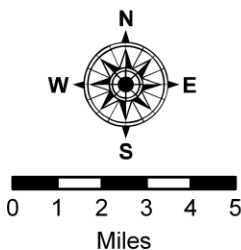
Figure 3-4 more closely examines platting in the years 1995–2008. High growth in Common Interest Community (e.g., condominiums, cooperatives, planned communities, etc.) plats in recent years pushed total platting to its peak in 2005–2006. In 2007, platting fell to a rate not seen since 1995.

Figure 3-2

Metropolitan Urban Service Areas (MUSA)

-  2000 MUSA
-  2005 MUSA Staging
-  2010 MUSA as of 10/12/06
-  Undesignated MUSA
-  2015 MUSA Staging
-  2020 MUSA
-  2025 MUSA Staging
-  2030 MUSA
-  2040 Urban Reserve
-  Permanent Agriculture
-  Permanent Rural
-  Rural Residential
-  Unsewered Urban

This map is not a legal document. The Metropolitan Urban Service Areas (MUSA) shown are compiled from each community's comprehensive plan. It may or may not include amendments to the comprehensive plan. Also, this map shows areas of 'Undesignated MUSA' found in some communities. An agreed upon acreage within these areas are to be added to the 2010 MUSA and will be updated by the community on an annual basis. For exact MUSA information, please contact the community.



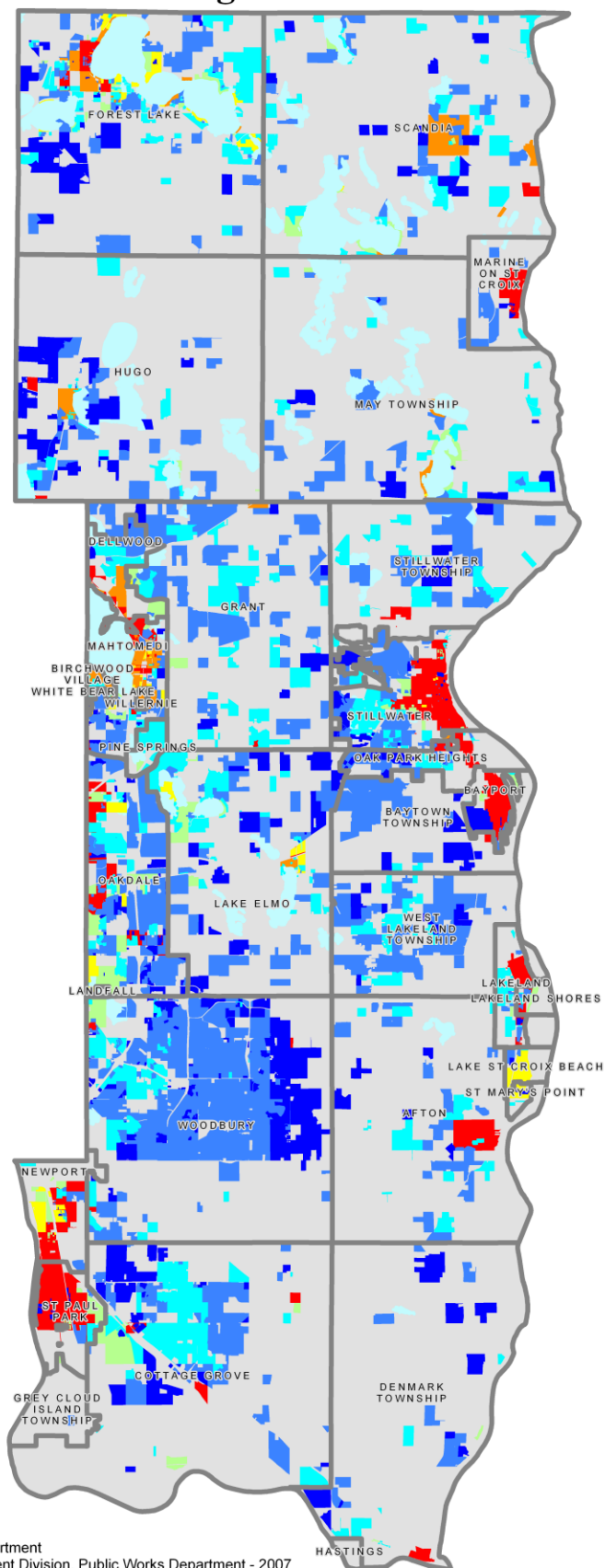
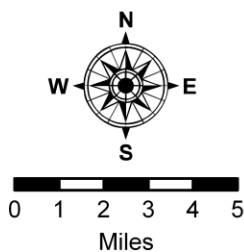
Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Metropolitan Council - 2007



Figure 3-3

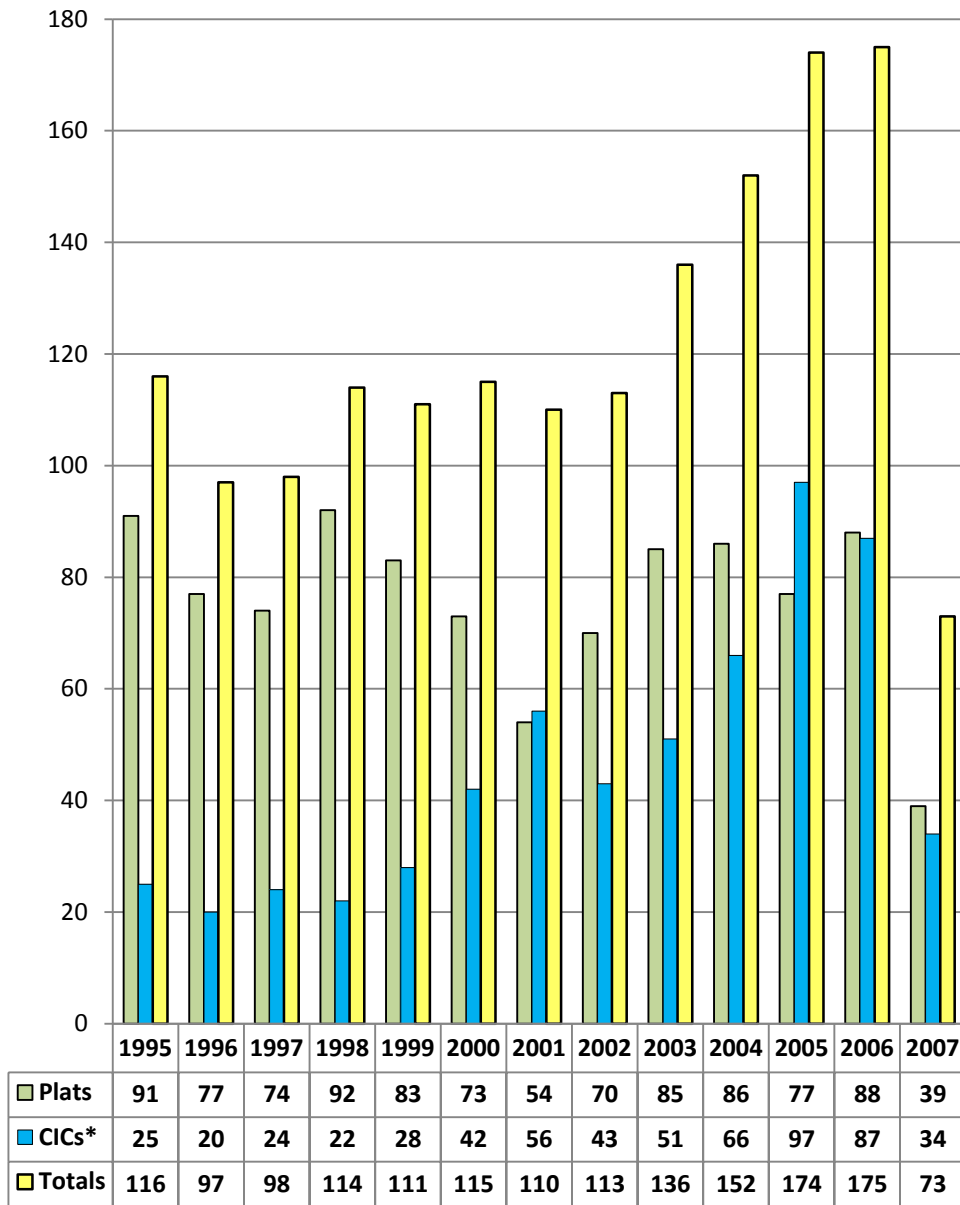
Platted Land 1879-2007

	Plat Date	# of Plats	Acres
	1879 - 1899	130	5,769
	1900 - 1919	67	2,017
	1920 - 1939	66	1,454
	1940 - 1959	154	3,133
	1960 - 1979	593	16,469
	1980 - 1999	1,549	34,985
	2000 - 2007	971	14,638



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County Survey & Land management Division, Public Works Department - 2007

**Figure 3-4
Platted Land 1995 to 2008
Washington County**



* Common Interest Community Plats

Source: Washington County, Survey and Land Management



Table 3-1 Platted Land 1879 to 2007 Washington County		
	Platted Acreage	Acreage Per Year
1879–1899	5,760	
1900–1979	23,073	288
1980–1989	13,109	1,310
1990–1999	21,896	2,189
2000–2007	14,638	2,091

Source: Washington County, Survey and Land Management

Land Use Types

Table 3-2 shows existing land use changes by land use type. The acreage in residential, commercial, and industrial land uses nearly doubled from 29,825 acres in 1980 to 58,337 acres in 2005. Parks and recreational land more than doubled from 10,104 acres in 1980 to 22,731 acres in 2005. Non-urbanized land uses decreased from 75 percent of the land base in 1980 to 61 percent in 2005.

The rapid change in land use occurred mostly in areas where municipal urban services were provided and in areas where traditional farming became less viable under development pressure.

Table 3-3 shows the existing land use changes by land use type in the unincorporated townships. Residential and parks and recreational land uses in the townships increased faster than the overall county rate while increasing by 72 percent countywide. Residential land use increased by 122 percent and parks and recreational land use increased by 16 percent. Commercial and industrial land uses decreased in the townships.

Table 3-2
Land Use Changes 1980 to 2005
Washington County

	1980		2000		2005		1980 to 2005 % Change
	Acres	% of Total*	Acres	% of Total*	Acres	% of Total*	
Residential—Total	25,005	9.3	45,374	16.7	50,042	17.3	100.1
Single-family – Subtotal	24,512		42,948		46,908		91.4
Single-family—Detached			40,017		44,297		
Manufactured Housing Park			299		303		
Multi-family – Subtotal	493		2,426		3,135		535.9
Single-family—Attached			1,637		2,369		
Multi-family			784		724		
Mixed-use Residential			5		42		
Farmstead	2,168		2,357		2,055		-5.2
Commercial—Total	1,270	.5	2,991	1.1	3,349	1.2	163.7
Retail			2,775		2,993		
Office			209		347		
Mixed-use commercial			7		8		
Industrial—Total	3,550	1.3	5,032	1.9	5,452	1.9	53.6
Industrial and Utilities			2,399		2,660		
Extractive			1,538		1,684		
Mixed-use Industrial			20		37		
Airports **	1,067		820		820		-23.1
Railways			255		251		
Institutional/Recreational—Total	12,226	4.5	23,665	8.7	26,328	9.1	115.3
Institutional	2,122		3,379		3,598		68.5
Parks and Recreational	10,104		20,286		22,731		123.6
Parks			16,990		19,257		
Golf Courses			3,296		3,473		
Major 4-lane Highways – Total	1,743	.7	2,466	.9	2,851	1.0	63.6
Non-urbanized Land—Total	202,583	75	165,931	61.2	175,402	60.6	-22.3
Wetlands			15,753		15,257		
Areas w/18% or greater slope			3,562		3,437		
Undeveloped and Ag-Subtotal			146,617		138,707		
Undeveloped			74,774		71,078		
Agricultural			71,843		67,629		
Open Water Bodies	23,602	8.7	25,549	9.4	25,843	8.9	9.5
Total	269,979		271,008		289,267		

Source: Metropolitan Council

*Percentages may not add to 100 due to rounding

** Reduction in acreage is due to the closing of the Northport Airport in Grant



**Table 3-3
Land Use Changes for Townships 1980–2005
Washington County**

	1980		2000		2005		1980 to 2005
	Acres	% of Total*	Acres	% of Total*	Acres	% of Total*	% Change
Residential—Total	3,747	5	7,355	10.2	8,316	11.7	121.94%
Single-family – Subtotal	3,747		7,355		8,314		121.88%
Single-family – Detached			6,548		7,607		
Manufactured Housing Park			9		9		
Seasonal/vacation			106		88		
Multi-family – Subtotal			21		4		
Single-family—Attached			18		2		
Multi-family			3		2		
Mixed-use Residential							
Farmstead	650		673		610		-6.15%
Commercial—Total	131	.2	91	.1	100	.1	-23.66%
Retail			87		100		
Office							
Mixed-use commercial							
Industrial—Total	1,389	1.9	1,609	2.2	1,547	2.2	11.38%
Industrial and Utilities			80		99		
Extractive			642		751		
Mixed-use Industrial							
Airports **	1,067		820		640		
Railways			67		57		
Institutional/Recreational—Total	2,522	3.4	5,010	7.0	5,916	8.4	134.58%
Institutional	359		171		149		-58.50%
Parks and Recreational - Subtotal	2,163		4,837		5,766		166.57%
Parks			4,447		5,374		
Golf Courses			390		392		
Major 4-lane Highways	145	.2	207	.3	245	.3	68.97%
Non-urbanized Land—Total	60,233	80.7	51,055	71.1	48,575	68.7	-19.35%
Wetlands			2,134		2,029		
Areas w/18% or greater slope			1,448		1,401		
Undeveloped and Ag-Subtotal			47,474		45,145		
Undeveloped*			21,619		20,772		
Agricultural			25,855		24,374		
Open Water Bodies	6,510	8.7	6,475	9.0	6,422	9.1	-1.35%
Total	74,677		71,802		71,121		

Source: Metropolitan Council

* Percentage may not add to 100 due to rounding

** The reduction in acreage in 2000 is due to the closing of the Northport Airport in Grant Township and in 2005 due to the merger of the Forest Lake Township with the City of Forest Lake in 2001.

Residential Land Use Changes

Residential land use doubled between 1980 and 2005, increasing from a total of 25,004 acres in 1980 to 50,042 acres in 2005, an average of 1,000 acres per year (Table 3-4). The greatest percent change in residential land use was multi-family housing which increased more than six-fold from 493 acres in 1980 (2 percent of residential acreage) to 3,135 acres in 2005 (6 percent of residential acreage). The greatest growth years for residential development occurred between 1990 and 2000 with an average of 1,379 acres per year converted to residential use. Since 2000, the growth has slowed to rates not seen since before 1980. Between 2005 and 2030, Washington County could add 11,650 acres of residential land under a slow- growth scenario and 34, 475 acres under a high-growth scenario.

The townships experienced a similar growth pattern for residential development. Between 2005 and 2030, the townships could add 4,800 acres of residential land under a slow-growth scenario or 6,275 acres under a high-growth scenario.

Table 3-4
Residential Land Use Changes 1980 to 2005
Washington County

	1980	1980– 1990	1990– 2000	2000– 2005	1980– 2005 Increase
Countywide					
Residential Acres	25,005	31,580	45,374	50,042	25,037
Acres Per Year		657	1,379	466	1,001
Townships					
Residential Acres	3,747	4,846	7,355	8,316	4,569
Acres Per Year		110	251	192	183

Source: Metropolitan Council

Commercial and Industrial Land Use Changes

Commercial and industrial land use increased 72 percent from 4,820 acres in 1980 to 8,295 in 2005, an average increase of 145 acres per year (Table 3-5). Commercial land use accounted for the majority of this growth, increasing nearly two and one-half times from 1,270 acres in 1980 to 3,349 acres in 2005. The



amount of land being added to the commercial land base each year since 2000 is one-quarter that of the 1990s. However, the amount of land being added to the industrial land base each year is four times that of the 1990s. Between 2005 and 2030, Washington County could add 2,200 acres of commercial and industrial land under a slow-growth scenario and 4,350 acres under a high-growth scenario.

The townships lost an average of two acres per year of commercial land and 16 acres per year of industrial land between 1980 and 2000. Between 2000 and 2005 the townships experienced an annual growth of two acres for commercial land and 23 acres for industrial land. Townships could add 625 acres of commercial and industrial land between 2005 and 2030.

Table 3-5 Commercial/Industrial Land Use Changes 1980 to 2005 Washington County					
	1980	1990	2000	2005	1980– 2005 Change
Countywide					
Commercial Acres	1,270	1,677	2,991	3,349	2,079
Acres Per Year		41	313	72	83
Industrial Acres	3,550	4,323	4,529	4,946	1,396
Acres Per Year		77	21	83	56
Total Acres	4,820	6,118	7,854	8,295	3,614
Townships					
Commercial Acres	131	119	91	100	-31
Acres Per Year		-1.2	-2.8	1.8	-1.2
Industrial Acres	1,389	1,278	1,063	1,180	-209
Acres Per Year		11.0	-21.5	23.4	-8.4
Total Acres	1,520	1,397	1,154	1,280	-240

Source: Metropolitan Council

Historically, retail uses in the county have developed in two distinct formations:

1. Independent growth centers which service local community retailing demand and population, such as Hugo, downtown Forest Lake, and the river communities.

2. Major retail development located along primary automobile routes that connect the population centers and serve the broader region. This development has occurred along Interstate 94 in Woodbury, Highway 36 in Stillwater and Oak Park Heights, Highway 61 in Cottage Grove, and Highway 61 in Forest Lake.

Agricultural Land Use Changes

According to the Metropolitan Council's land use analysis, undeveloped and agricultural land is the only land use type that is decreasing in the county. A more precise picture of the extent of the decline can be seen by examining data on the amount of land that is classified deeded farmland for tax purposes. The strength of the agricultural land base can also be gauged by the enrollment in the Metropolitan Agricultural Preserves Program and the Green Acres Program. Table 3-6 identifies the acreage of land in deeded farmland, in the Agricultural Preserves Program, and in the Green Acres Program.

Between 1984 and 2000, Washington County lost 49,521 acres of deeded farmland (farmland identified on a deed) or 3,095 acres per year. After that, the rate of deeded farmland decline slowed to 2,413 acres per year. The amount of deeded farmland as of 2008 was 91,976 acres.

The Metropolitan Agricultural Preserves Program protects agricultural land by preventing the land from being used for other purposes. It was created by 1980 legislation enacted to maintain viable farm operations in the metropolitan area. Voluntary enrollment results in land being placed in an agricultural preserve. While owners may initiate expiration at any time, the expiration timeframe must be at least eight years. The amount of land in the Agricultural Preserves Program decreased steadily from its peak in 1984. From 1984–1995, approximately 59 acres were removed per year. The rate then increased between 1995 and 2000, when 326 acres were removed per year. After 2000, the rate slowed considerably to approximately 28 acres per year. In 2008, 42 percent of the land enrolled in this program was located in the townships.



Figure 3-5 shows the location of the land enrolled in the Agricultural Preserves Program.

The Green Acres Program protects agricultural lands by equalizing tax burdens for qualifying agricultural landowners. Land in the Green Acres Program fell from 89,151 acres in 1984 to 60,248 acres in 2008, a decrease of 1,204 acres per year. Recent legislative changes are expected to significantly reduce the amount of land in the Green Acres Program. In 2008, 37 percent of the land enrolled in the Green Acres Program was located in townships.

Appendix 3-A contains detailed data by community on enrollment in the Agricultural Preserves and Green Acres programs.

Table 3-6 Acres in Deeded Farmland, Agriculture Preserves Program, and Green Acres Program Washington County							
	1984	1995	2000	2005	2007	2008	24-Year Change
Deeded Farmland	159,853	126,613	110,332	99,360	94,534	91,976	-67,877
Agriculture Preserves Program	11,637	10,926	9,295	9,099	9,054	9,013	-2,624
Green Acres	89,151	78,076	64,354	59,643	59,007	60,248	-28,903

Source: Property Records and Taxpayer Services (PRTS), Washington County

Mineral Resources

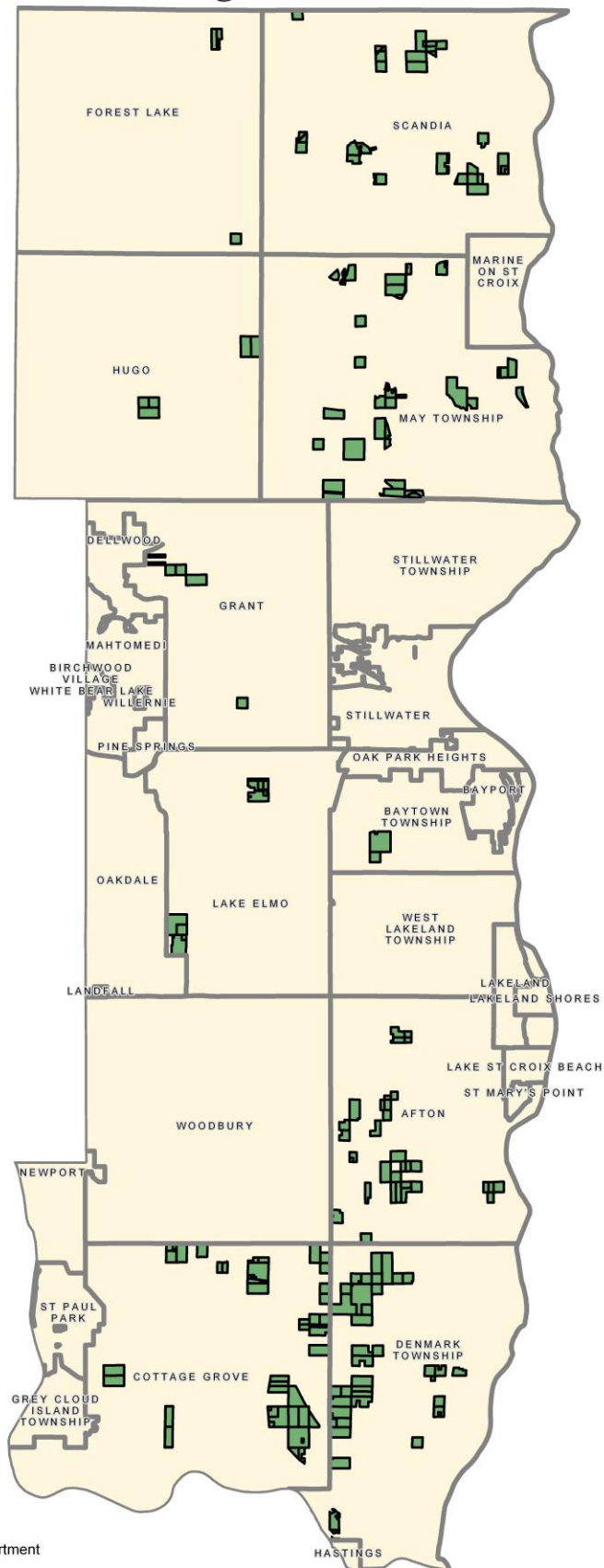
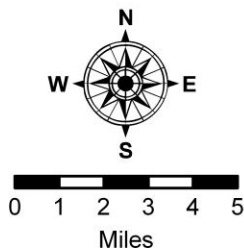
Mining is an important industry for Washington County due to the abundance of sand and gravel deposits, specifically minable bedrock and gravel. In 1980, Washington County produced 46 percent of the crushed rock used in the region and roughly one half of the sand and gravel (more recent data is unavailable). Current permitting processes in the county have been able to satisfy the demand during the past high-production years.

According to the report Aggregate Resources Task Force, Final Report to the Minnesota Legislature (2001), current mining permits in the seven county metropolitan area have reserves lasting about thirteen years based on the current demand.

Figure 3-5

Agricultural Preserve Sites

 Agriculture Preserves



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Metropolitan Council - 2006



The Minnesota Legislature has directed each local government in the metropolitan area to address issues related to aggregate when such resources are present in the community. The Natural Resources section of this plan identifies these resources and contains the county's policies regarding mineral extraction.

Presently, Washington County regulates nine mining operations in Grey Cloud, Denmark, West Lakeland, Baytown, Stillwater, and May townships (see Figure 3-6). Other mining operations are located in the cities of Woodbury, Cottage Grove, and Scandia.

Airports

Washington County is responsible for the Lake Elmo Airport zoning for West Lakeland and Baytown townships. The county is not responsible for the airport zoning for the Daniel Deponti Municipal Airport in Forest Lake.

The Lake Elmo Airport is located one mile east of downtown Lake Elmo, within Baytown Township, and is bordered by West Lakeland Township and the city of Lake Elmo. The airport is owned and operated by the Metropolitan Airports Commission. It functions as a general aviation reliever for the Minneapolis-St. Paul International Airport, and is planned to continue to function as a minor airport in the regional system.

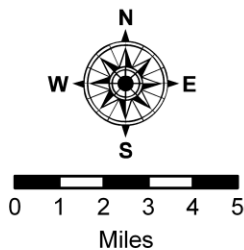
Lake Elmo Airport serves the business sector with high performance single- and twin-engine aircraft and an occasional small jet aircraft. The facility is served by a fixed-base operator and an aircraft maintenance provider.

The airport consists of approximately 640 acres of land—560 acres in Baytown Township and 80 acres in West Lakeland Township. The original tract of 148 acres was purchased for the airport in 1949. The airport first opened for operation in 1951 and now has two paved runways. The primary runway (14-32) is 2,850 feet long and the crosswind runway (4-22) is 2,497 feet long. Both runways are 75-feet wide.

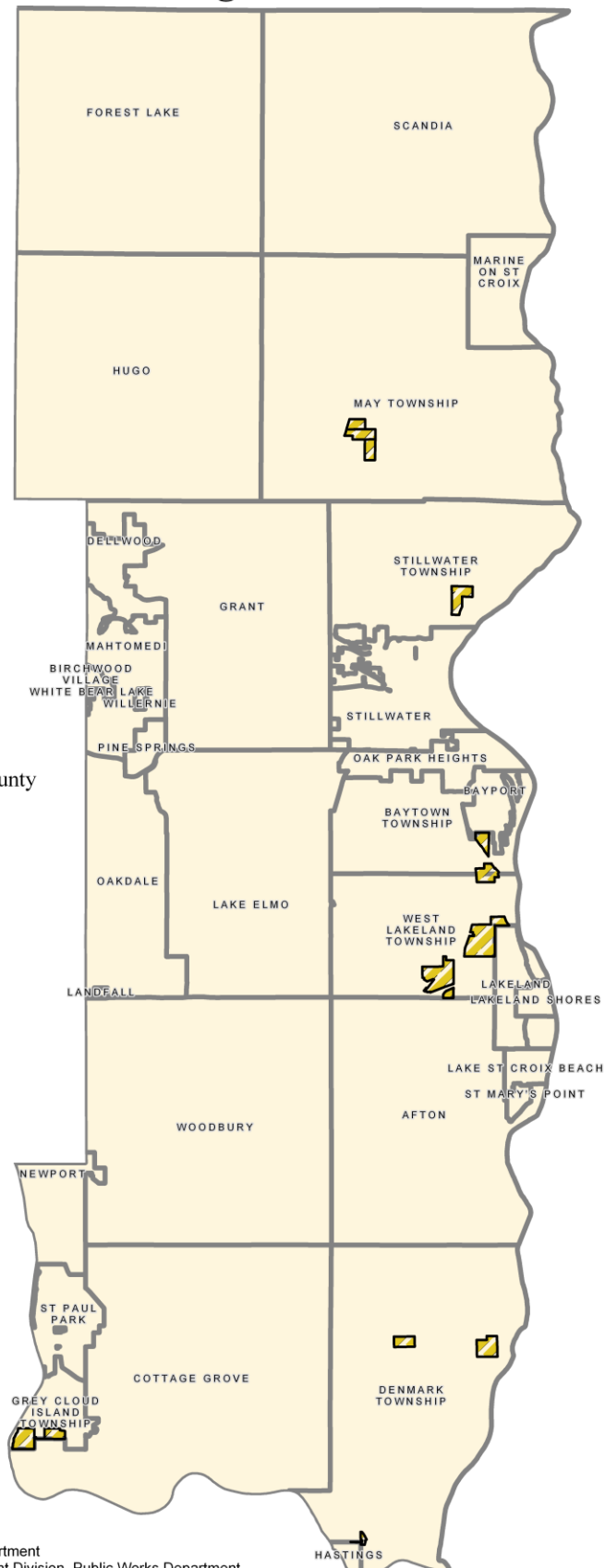
Figure 3.6

Mining Sites

 Gravel Mining Regulated by The County



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County, Survey & Land Management Division, Public Works Department





The Metropolitan Airports Commission (MAC) completed a 2025 airport plan in June 2008. Major elements of the plan include relocating the primary runway, building a new hanger, extending and lighting the crosswind runway, and constructing a compass calibration pad. The plan also discusses non-aeronautical land use areas available on airport property but does not specifically identify those uses. The plan also recommends identifying steps for installation of sanitary sewer and water services at the airport and conducting a cost-benefits analysis of providing those services.

There are two types of land use controls in and around airports: airspace zones and land use safety zones. These are illustrated in Figure 3-8A.

Airspace zones are imaginary surfaces around the airport into which no structure or tree is permitted to penetrate. The imaginary surfaces include approach surfaces, primary surfaces, horizontal surfaces, and conical surfaces.

Land use safety zones are established to control land use near public airports for the safety of airport users and person in the vicinity of airports. There are three safety zones: A, B, and C. Figure 3-8B shows the location of the land use safety zones.

Safety zone A extends outward from the end of the runway for a distance equal to two-thirds of the length of the existing or planned runway. Uses permitted include agriculture, cemeteries, and non-spectator outdoor recreation. No buildings, transmission lines, or uses which would cause an assembly of persons are permitted.

Safety zone B extends outward from safety zone A, a distance equal to one-third the runway length or planned runway length. Each use requires a three-acre minimum. Building plots on the site are limited and must not bring together large groups of people. Uses specifically prohibited include churches, schools, hospitals, and campgrounds.

Safety zone C contains all land within an arc drawn with a 6,000 foot radius from the ends of all runways, excluding the areas in zones A and B. Uses are only subject to general restrictions

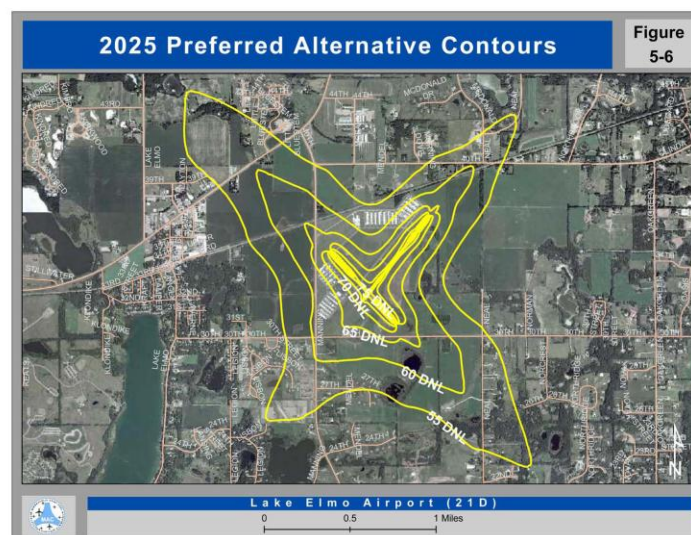
regarding interference with electronic communications, airport lighting, and the impairment of visibility in the vicinity of the airport.

A joint airport zoning board will prepare a zoning ordinance for adoption by the local units of government. In the meantime, the county and local zoning ordinances will apply.

As per the Metropolitan Systems Statement, the county's ordinances must include regulations to control height of structures. As required by the Federal Aviation Administration (FAA) code of federal regulations CFR Part 77, the county must inform the FAA of any obstructions to air navigation using FAA Form 7460-1 "Notice of Proposed Construction or Alteration".

The MAC has adopted the 2025 Preferred Alternative Contours for noise, shown in Figure 3-7. The figure shows the 70, 65, and 60 decibel noise level (DNL) contours required by the FAA. It also shows the 55 DNL contour required by the Metropolitan Council for airports lying mostly outside of the Metropolitan Urban Services Area.

Figure 3-7
Lake Elmo Airport Noise Contours



Source: Metropolitan Airports Commission, Lake Elmo Airport 21D Long-term Comprehensive Plan, Final Adoption December 2008.

Land Use Regulations

Washington County provides for the orderly growth and renewal of the county by regulating land uses in the unincorporated areas. Washington County administers eight ordinances, adopted as the Washington County Development Code, that regulate land uses and development. All ordinances are enforceable only in unincorporated areas of the county. Cities are responsible for establishing and enforcing their own ordinances and implementing their own comprehensive plans.

The following is a summary of the Washington County Development Code.

Zoning Ordinance

The county's zoning ordinance protects the health, safety, and general welfare of residents and allows wise use of the land, while protecting and conserving its natural resources, its ecological systems, and its economic stability. The zoning ordinance has replaced the traditional minimum lot size with a more flexible approach using maximum density. Density is the number of dwelling units permitted per acre of land. Townships, through their own policies and land use ordinances, may permit a higher density in one location in exchange for a lower density in another location provided the average density with the township does not exceed the density allotted. Within a density district, the allowable housing density is applied on an ownership basis. Within each ownership, the allowable maximum housing density is calculated over a quarter-quarter section (approximately 40 acres).

The county's zoning ordinance contains open space design standards that allow for grouping of residential structures on smaller lots than those allowed in the specific zoning district, while leaving some land undivided for common use by all residents of the development, for lease to a farmer, or for conveyance to a public or an open space conservancy organization. The purpose of these standards is to provide a more efficient use of the land while preserving good agricultural land, open space, scenic views, natural drainage systems, and other desirable features of the natural environment. They also



relieve nearby lands of development pressure, allow housing to take advantage of sites that have low agricultural potential and/or high natural housing appeal (such as wooded areas), and create small neighborhoods with distinct identities and sense of community.

The unincorporated areas of the county are divided into land use districts. Each district has primary uses, uses allowed with a certificate of compliance, and uses allowed with a conditional use permit. The boundaries of the specific land use districts are designated on the Official Zoning Map of the county.

Subdivision Ordinance

The subdivision ordinance establishes procedures and standards for the division of land in the townships in which the county administers plat and land split review.

Shoreland Ordinance

Through the shoreland ordinance, the county regulates the subdivision, use, and development of shorelands of public waters in order to preserve and enhance the quality of surface waters, conserve the economic and natural environmental values of the shorelands, and provide for wise use of waters and related land resources. Public waters are designated as natural environment or recreational development, tributaries, transition rivers, and streams.

St. Croix River Bluffland and Shoreland Management Ordinance

This ordinance regulates land development and natural resource management to protect the scenic, natural, historic, cultural, and recreational aspects of the Lower St. Croix Wild and Scenic River corridor (see Figure 3-9). The St. Croix River, in Washington County, is part of the Lower St. Croix National Scenic Riverway. The upper 10-mile stretch of river is classified as a scenic district, while the lower 42 miles from Marine on St. Croix to Prescott are classified as a recreational district. The riverway is managed jointly by the National Park Service, the Minnesota Department of Natural Resources, and Washington County.

Floodplain Ordinance

Washington County regulates flood hazard areas within those unincorporated areas that are subject to periodic inundation. The floodplain ordinance regulates new development as well as the extension, conversion, or structural alteration of buildings in the floodway, flood fringe, or general floodplain districts (see Figure 3-10). These regulations prevent or limit building or expanding structures in floodplains in order to protect the public health, safety, and general welfare and to conserve and enhance natural resources by preserving the capacity of floodplains to carry and discharge regional floods. Washington County participates in the Flood Insurance Program. The Federal Emergency Management Agency Flood Insurance Rate Maps currently are being revised. These maps are used by insurance companies and mortgage companies to determine the need for flood insurance on properties.

Subsurface Sewage Treatment System (SSTS) Ordinance

This ordinance regulates the design, installation, use, and maintenance of community and subsurface sewage treatment systems to provide for orderly development of areas of the county which are not serviced by central public wastewater systems. See the Natural Resources and Environmental Protection Plan chapter for more detail on this ordinance.

Mining Ordinance

Washington County has identified mineral deposits having significant economic potential and discourages encroachment of development in those areas. All mining is conducted in accordance with the county's mining ordinance in order to provide for orderly, economic, and safe removal and processing of sand, gravel, rock, and soil and reclamation of the mined sites. Mining is allowed in commercial, agricultural, and rural residential zones through a conditional-use permit. This approach makes available a large number of high-quality mining sites, while not requiring excessively detailed or prescriptive exclusive use districts or overlay zones.



Official Map Ordinance

Washington County has adopted an ordinance setting up a process to allow the county to designate land needed for future public purposes such as roads, parks, and land use. The county has an ordinance adopting the official map designating the boundaries of the Big Marine Lake Regional Park.

Mississippi Critical Area

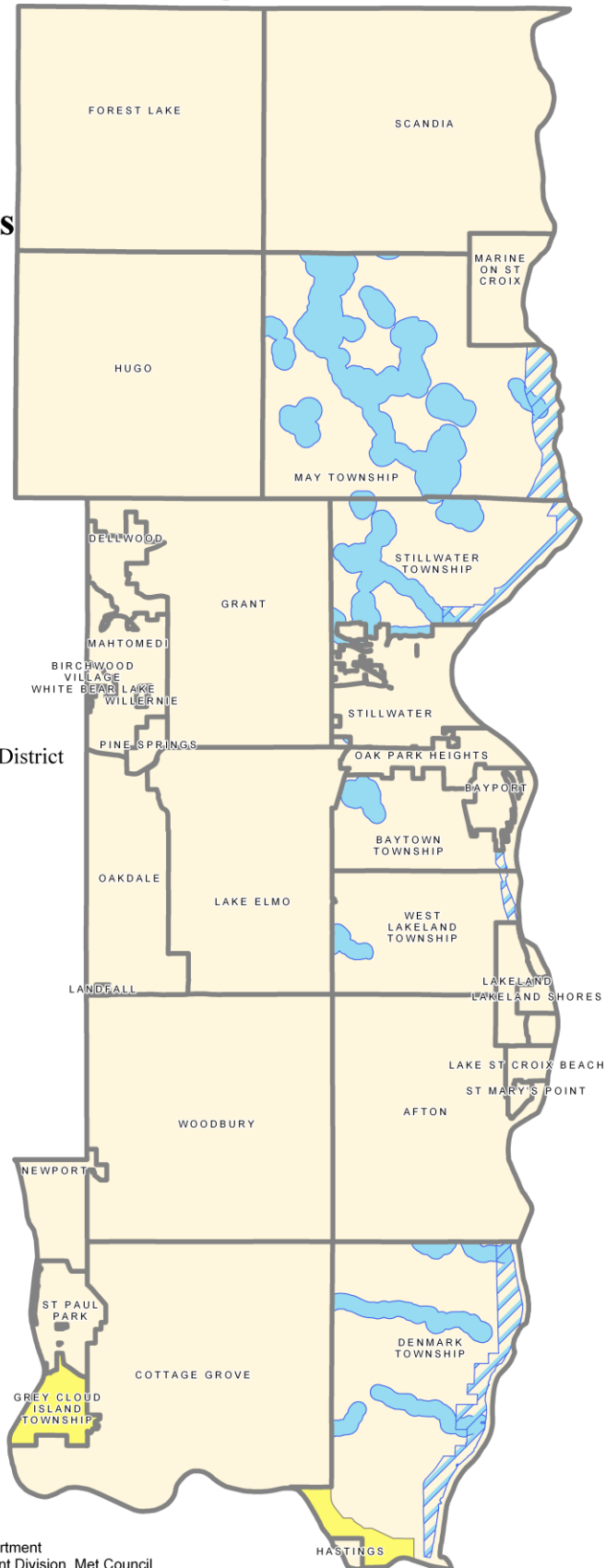
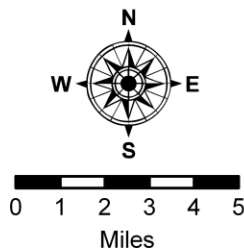
The Mississippi Critical Area Act of 1973 and Executive Order No. 79-19 promote the preservation and enhancement of the Mississippi River. The area extends from Anoka and Hennepin counties to the southern border of Washington County (see Figure 3-9). The lands and waters within the Critical Area are to be managed to conserve and protect the existing and potential recreational, scenic, natural, and historic resources and uses for the use and enjoyment of the surrounding region. Open space is to be provided in the open river valley lands for public use and the protection of unique natural and scenic resources. All local governments in the river corridor are required to have a plan that meets the Critical Area Act requirements. Washington County adopted the Critical Area Plan by reference. Grey Cloud Island and Denmark townships are within the Critical Area and are classified as a rural open space district; Washington County has land use authority in these townships. The shoreland area of Grey Cloud Island Township is zoned as parkland and rural residential. River terraces in this area include bluffs and steep slopes and floodplain that form narrow corridors along the river and backwater lakes, greatly limiting the development potential. In Denmark Township, the best sites for rural residential development within the Critical Area are already developed. The remaining areas lack good road access or have steep slopes that limit their development potential.

The county manages the Mississippi River Critical Area consistent with the Critical Areas Act and the Governor's Executive Order No. 79-19.

Figure 3-9

**Shoreland & River Districts
and Mississippi River
Critical Areas**
(Unincorporated Areas)

-  Lakeshore Districts
-  St. Croix National Scenic Riverway District
-  Mississippi River Critical Area -
Rural Open Space District

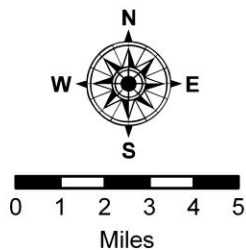


Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County, Survey & Land Management Division, Met Council



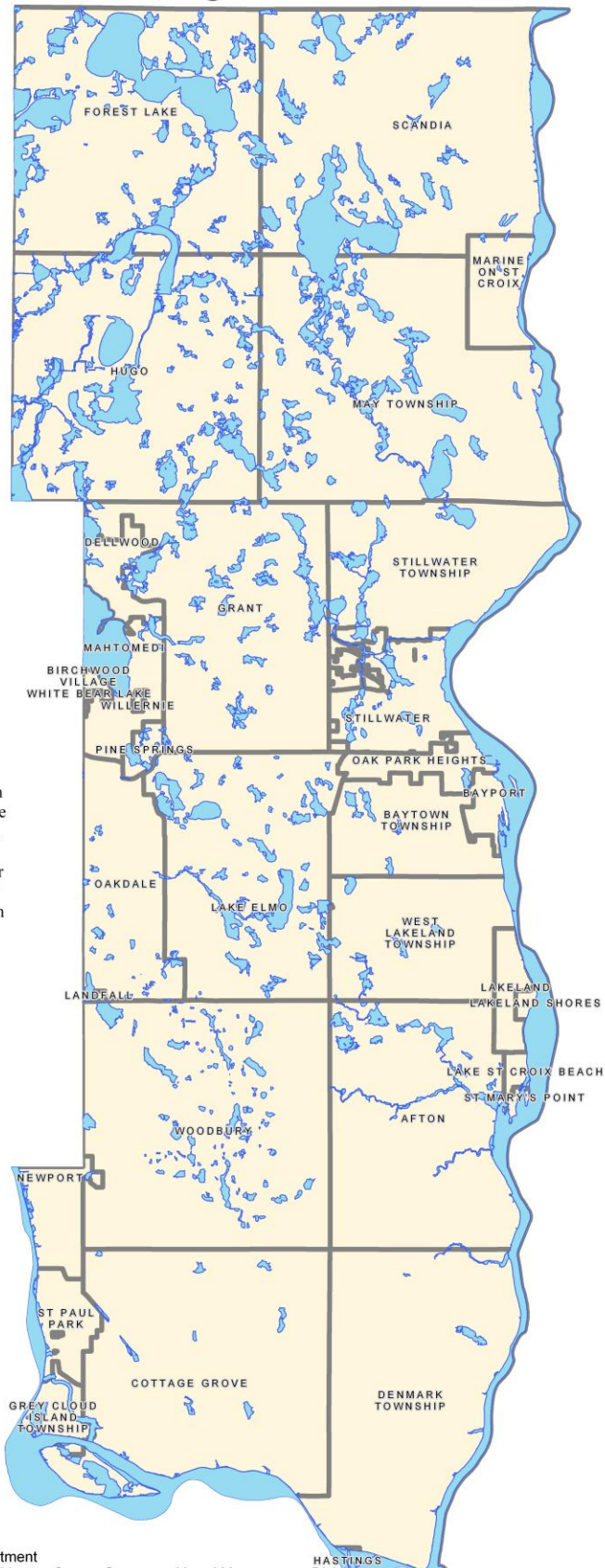
FEMA Preliminary Flood Hazard Areas

This data represents the preliminary flood hazard areas that was produced by Washington County for FEMA's map modernization project. FEMA provided this data for review and comments by the Washington County Survey and Land Management Division and local municipalities. Revisions to this data will be processed by FEMA and incorporated in the final DFIRMs to be released a year from now. A number of communities have already successfully petitioned to remove several of the flood hazard areas contained in this shapefile.



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Federal Emergency Management Agency, Washington County Survey and Land Management Division

Figure 3-10



Goal 3-1

Land Use Plan

Goals and Policies

Utilize land and related natural resources so they are conserved for future generations.

Policies:

- 3-1: Regulate land use for the health, safety, and welfare of the residents of Washington County.
- 3-2: Promote the proper management of natural and cultural resources for future generations.
- 3-3: Preserve the natural and open landscapes of the county's unincorporated areas.
- 3-4: Conserve long-term land use options.
- 3-5: Maintain and encourage sustainable agriculture as a land use and a viable economic activity in the county.
- 3-6: Help maintain financially healthy governments through the wise planning of land and public facilities such as roads, parks, and buildings.
- 3-7: Minimize incompatible land use relationships through planning and design.

Goal 3-2

Support the growth of attractive urban communities while preserving rural functions and appearances.

Policies:

- 3-8: Through the preservation of natural resources and landscapes, maintain a distinction between urban and rural areas.
- 3-9: Foster a low-density, truly rural land use pattern in areas without public sewer and water.
- 3-10: Encourage transit-oriented development (TOD), pedestrian-oriented, neotraditional, suburban-style



growth that uses land in an efficient manner in locations that connect to transportation and transit systems.

- 3-11: Recognize and plan for the county's share of metropolitan growth.
- 3-12: Promote land uses throughout the county that encourage active and sustainable living.
- 3-13: Encourage land uses that promote a full spectrum of life cycle housing types for all incomes, ages, and races.

Goal 3-3

Design the land use plan to support economic development

Policies:

- 3-14: Locate commercial and industrial growth where urban services are available; continue to prohibit commercial and industrial land use in unsewered areas.
- 3-15: Promote commercial and industrial development in planned clusters such as business parks and mixed-use developments.
- 3-16: Provide for the removal and processing of sand and gravel, rock, soil and other aggregate materials vital to the economic well being of the region, while protecting adjacent land uses from adverse impacts.
- 3-17: Allow home businesses, provided they are accessory to the residential use and do not impact nearby properties.
- 3-18: Support land use patterns that efficiently connect housing, jobs, transportation, transit, and retail and commercial centers.

Plan Overview

General Development Philosophy

The Washington County Land Use Plan guides the location of housing, businesses, and industry in the county's unincorporated townships; sets the number of housing units per quarter-quarter section of land; and establishes the policy framework for the Washington County Development Code and zoning map. The Land Use Plan has been prepared to coordinate with both township and city plans.

The cities conduct their own land use planning and zoning. In these locations, the county has little direct control over land use. Washington County recognizes that the serviced cities are central to accommodating the county's share of metropolitan growth while protecting the character and function of the rural areas. The county will work with the cities to achieve this vision and implement the goals and objectives of the Land Use Plan.

The intent of the county's Land Use Plan is to reduce sprawl and preserve openness in rural areas. Rural areas are characterized by crop farms, livestock farms, generally unobstructed natural views, wooded areas, wetlands, equestrian trails, an absence of public utilities or streetlights, and no more than three or four houses per quarter-quarter section on the average. (A quarter-quarter section is generally 40 acres.)

Characteristics of the Land Use Plan include:

- Large lot sizes and low average densities in rural areas.
- Settlement around existing cities and rural centers, with the majority of new residential, commercial, and industrial growth in the cities.
- Clustering of homes in rural areas in order to preserve open space and natural features.
- Gradual expansion of the urban service area to meet demand.

Washington County, in cooperation with the townships and cities, seeks to preserve and accentuate the difference between the serviced urban/suburban areas and the unserved rural or



semi-rural areas. Cities should be compact, efficient, and walkable, while the rural areas are to be open and agricultural. The great majority of new residential, commercial, and industrial growth should be attracted to the cities through provision of public facilities and services. Land use regulations should direct growth away from townships and unserved areas of cities. The areas designated as developing communities should be the locations of serviced development and should continue to accommodate the great majority of the county's residential growth.

The Metropolitan Council's Regional Department and Investment (Development Framework) Framework emphasizes the need for intensified development in centers with access to transportation corridors and in rural centers that want to grow and that lie along major highways. The Development Framework states: "Regional investments can create a transportation system that includes transit solutions that support attractive, walkable neighborhoods with homes, green space, public places, and other amenities. Over the longer term, the region can improve accessibility by encouraging development and reinvestment in centers that combine transit, housing, offices, retail, services, open space, and connected streets that support walking and bicycle use. Such development enables those who wish to reduce their automobile use to meet their daily needs and makes it possible for those who are unable to drive to live more independently."

Although it will be difficult for transit to efficiently serve many suburban destinations, Washington County supports the Regional Framework strategies that encourage transit-friendly development throughout the region. These include:

Strategy 4a. Accessibility: The Council will promote land use planning and development practices that maximize accessibility to jobs, housing, and services.

Strategy 4b. Alternative Modes: Transportation investments and land development will be coordinated to create an

environment supportive of travel by modes other than the automobile, including travel by transit, walking, and bicycling.

Strategy 4c. Increased Jobs and Housing Concentrations:

Transportation investments and land development along major transportation corridors will be coordinated to intensify job centers, increase transportation links between job centers and medium-to-high density residential developments, and improve the jobs/housing connections.

Strategy 4d. Transit as Catalyst for Development: Transitways and the arterial bus system should be catalysts for the development and growth of major employment centers and residential nodes to form an interconnected network of higher density nodes along transit corridors. Local units of government are encouraged to develop and implement local comprehensive plans, zoning and community development strategies that ensure more intensified development along transitways and arterial bus routes.

Strategy 4e. Local Comprehensive Plans: Local comprehensive plans must conform to the Transportation Policy Plan and should recognize the special transportation opportunities and problems that various Development Framework planning areas present with regard to transportation and land uses.

Strategy 4f. Local Transportation Planning: Local governments should plan for and implement a system of interconnected arterial and local streets, pathways, and bikeways to meet local travel needs without using the regional highway system. These interconnections will reduce congestion, provide access to jobs, services, retail, and support transit.

Strategy 4g. Metropolitan Urban Service Area (MUSA): Local governments within the MUSA should plan for a prospective 20 years and stage their transportation infrastructure to meet the needs of forecast growth. Outside the Metropolitan Urban Service Area transportation plans and facilities and land use



patterns must be compatible with the region's need for future sewered development and protection of agriculture.

The Comprehensive Plan must have an element addressing the protection and development of access to direct sunlight for solar energy systems. The biggest obstacle to solar energy use is the lack of protected access to direct sunlight. Such access can be assured through local planning and zoning. In the unincorporated areas of Washington County, solar access protection should not be difficult due to the large lots.

Maximum Housing Density

The county divides unincorporated areas into land use districts. The boundaries of the specific land use districts are designated on the Official Zoning Map of the county. Each district has an associated density of dwelling units permitted per acre of land. Townships, through their planning and zoning, can plan for a higher density in one location in exchange for a lower density in another location provided the average density within a particular land use district does not exceed the density allotted.

Subdivision Design Options

Washington County regulates the development of residential land through the use of density, not minimum lot size and width zoning as found in traditional zoning ordinances. The permitted density is established by the zoning ordinance, but developers have flexibility as to how the density is applied. Within a density district, the allowable housing density is applied on an ownership basis. Within each ownership, the allowable maximum housing density is calculated over a quarter-quarter section (approximately 40 acres).

Developers can choose from three types of subdivision design. These options allow developers to respond more creatively to variations in the landscape and preserve elements of the rural environment.

The conventional subdivision divides property into uniformly-sized lots according to the minimum lot size and width

requirements for the zoning district without exceeding the maximum density requirements for the district.

Lot averaging allows the property owner to create parcels that are both smaller and larger than those of a conventional subdivision plan, provided the density does not exceed the maximum density permitted for the zoning district as determined by a yield plan.

Open space design allows the housing to be clustered on lots that are much smaller than those in conventional subdivisions while complying with certain design standards and keeping a substantial percentage of the property as permanently protected open space. The purpose of clustering houses is to provide a more efficient use of the land while preserving good agricultural land, open space, scenic views, natural drainage systems, and other desirable features of the natural environment. A conventional subdivision plan or yield plan is required to determine the base density permitted on a site.

2030 Future Land Use Map

Figure 3-9 shows the 2030 Future Land Uses for the unincorporated areas of the county for which Washington County has planning and zoning authority. Table 3-7 shows the acreages of each land use type.

Long-term Agricultural District: This district is established to preserve agriculture as a viable long-term land use and significant economic activity within the county. Land within this district may be eligible for inclusion in the Metropolitan Agricultural Preserves Program. Dwelling unit density in this district is 1 or 2 per 40 acres.

General Rural District: This district is established to preserve land for interim agricultural uses and to preserve the rural character of the county. Dwelling unit density per acre in this district is 4 per 40 acres.

Rural Residential: This district is established to provide areas for rural low-density housing in agricultural/rural areas on lands not capable of supporting long-term agricultural activities. The



purpose of this district is to retain the rural character of the county. Dwelling unit density in this district is 8 per 40 acres.

Semi-Rural District: This district provides residential areas in developing rural areas. The purpose of this district is to provide lots large enough to maintain a semi-rural setting, but lots not large enough to support long-term agricultural activities. Dwelling unit density in this district is 16 per 40 acres.

Conservancy: This district is established to provide special regulatory protection for areas that either contain a valuable natural resource or other similar resource, and to foster, preserve, and promote sensitive development. Land within this district may be unsuitable for agricultural production or development due to wetlands, woodlands, steep slopes, scenic views, bedrock formations, or other physical features of unique natural and biological characteristics.

Transition Zone: The purpose of this district is to preserve lands immediately adjacent to areas served with public utilities which over time could ultimately become urban or suburban in nature.

Commercial/Industrial Rural: The purpose of this district is to provide an area for a general mix of commercial and light industrial businesses that are non-threatening to the environment. Public sanitary sewer is not available in this district.

The West Lakeland Township plan shows three areas, totaling 180 acres, along Interstate 94 as planned for commercial industrial development; this is inconsistent with the county's residential planned land use for the area. Washington County's policy (3-14) is to locate commercial and industrial development where urban services are available. The I-94 corridor may be suitable for commercial or office development once sewer and water become available. The exact location and the appropriate density of the commercial or office development will not be known until the planned I-94 transitway corridor study is completed. High density residential development may be needed nearby to provide a buffer between the transit-oriented development and the nearby large lot, rural residential

developments. Policy 3-10 addresses the issue of planning transit-oriented development near locations that connect to the transit systems. Following completion of the I-94 transitway corridor study, the county will review the future planned land use designations in this township, along I-94 to ensure that the land uses in the area are appropriate for the planned transit options.

Parks: The purpose of this district is to depict the boundaries of the county and regional parks. These parks provide for outdoor activities such as fishing, swimming, boating and canoeing, hiking, biking, picnicking, camping, cross-country skiing and environmental education. The parks also include open space features such as ecologically sensitive lands, groundwater recharge areas, forests and woodlands, prairie remnants, and lands containing unique or endangered species of plants or animals. The underlying zoning for any private lands within the park is the same as that of the adjacent lands outside the park boundary. See the Park and Open Space Chapter of this plan for more information.

Table 3-7 Planned Land Use Acreages Washington County Townships	
Land Use Type	Acres
Agriculture, Long-term	8,536
Agricultural Preserves	3,310
Conservancy	1,250
General Rural	30,000
Rural Residential	8,295
Semi Rural	13,209
Transition Zone	742
Commercial/Industrial, Rural	290
Parks	2,179
Total	67,811

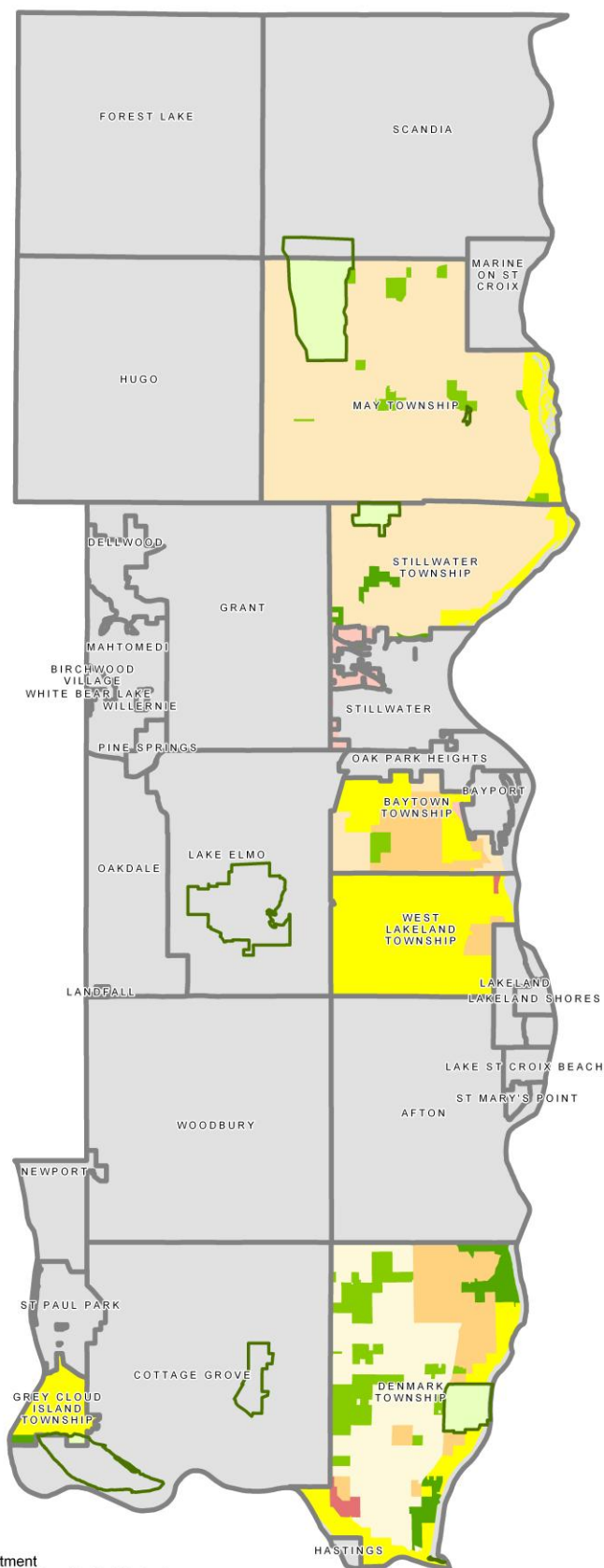
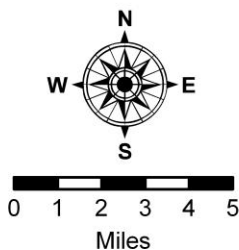
Source: Figure 3-11 2030 Future Land Use



Figure 3-11

Future Land Use

-  Agriculture, Long-term
-  Agriculture Preserves
-  Commercial / Industrial - Rural
-  Conservancy
-  General Rural
-  Parks
-  Rural Residential
-  Semi Rural
-  Transition Zone
-  Planned Park Master Plan Boundary



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County, Survey & Land Management Division, Public Works Department

Relationship Between the Land Use Plan and Regional Systems

Regional Development Framework

The state legislature authorizes the Metropolitan Council to prepare plans for the seven-county metropolitan area to provide the overall guidance, coordination, and spending authority for transportation, sewers, parks, and airports. The council also has prepared plans and guidelines for surface and groundwater resources. The Regional Development and Investment Framework establishes the Metropolitan Council's policies. Local or agency plans must be consistent with this framework and the companion Metropolitan Development Guide.

The Washington County Land Use Plan is generally consistent with the Metropolitan Council's policies. The county Land Use Plan contains policies that recognize the importance of and maintain a distinction between the Metropolitan Urban Service Area and the Rural Service Area. Land use types are regulated via zoning in the Washington County Development Code.

Geographic Planning Areas

The Metropolitan Council designates most of the unincorporated area of Washington County as a Diversified Rural Service Area. The Metropolitan Council's policies for the various policy elements of the Development Framework that affect the unincorporated areas are summarized below and shown in Figure 3-12.

Diversified Rural: are the sparsely developed parts of the region that host the widest variety of farm and non-farm land uses at densities of 1 unit per 10 acres or greater. They include a mix of a limited amount of large-lot residential and clustered housing, agriculture, and facilities and services requiring a rural location. Only limited growth is forecast for this planning area. These areas should be preserved for post-2030 development. Public services and facilities are to be kept to a minimum, consistent with the rural character. Wastewater services to these areas will be reviewed on a case-by-case basis to determine feasibility.

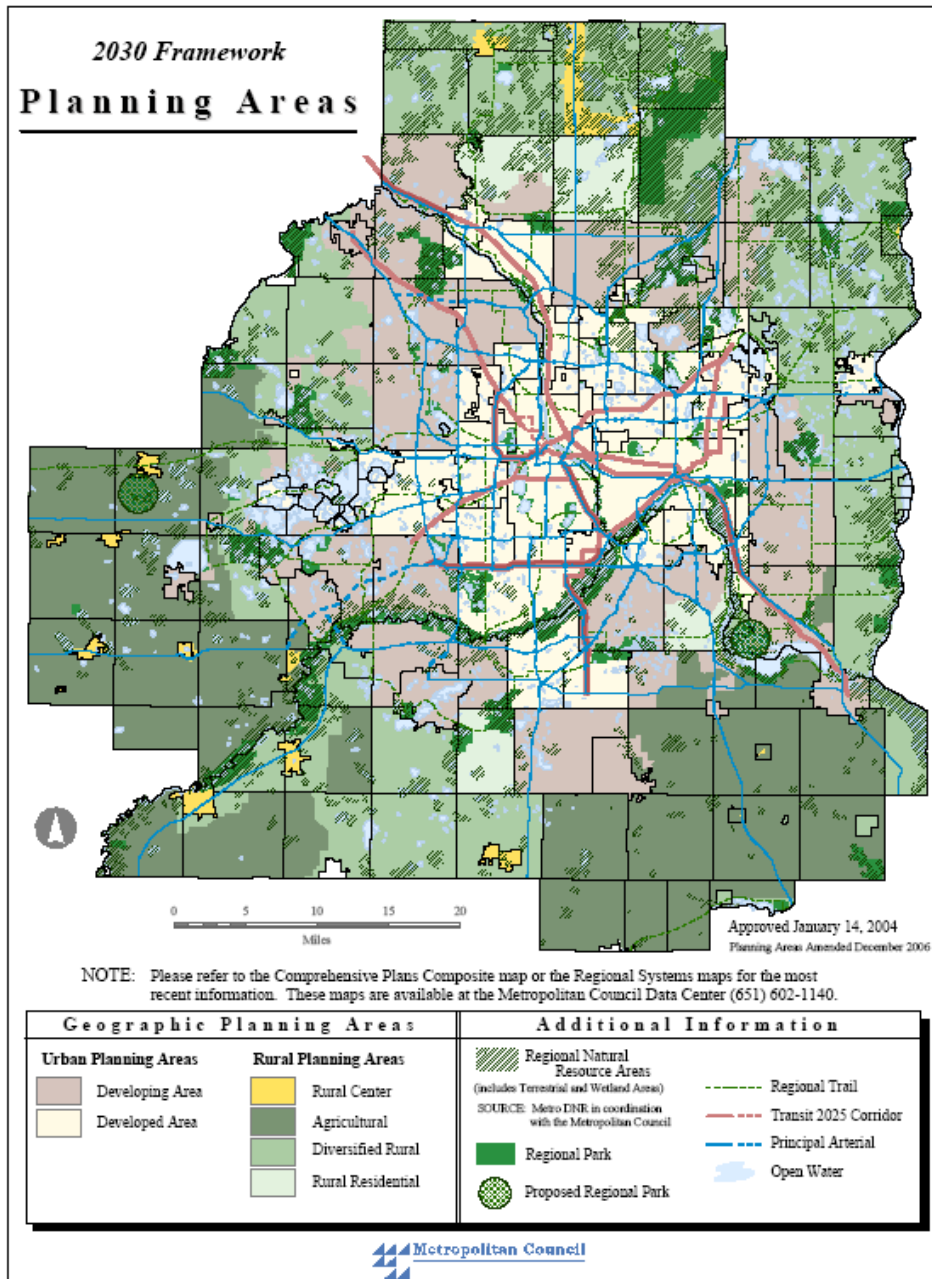


The Development Framework designates all of Grey Cloud Island, portions of Baytown, Denmark, May, Stillwater, and West Lakeland townships as Diversified Rural communities. The county's land use densities in May, Stillwater, and portions of Denmark and Baytown townships are consistent with this designation. The county's land use densities in West Lakeland, Grey Cloud Island, and portions of Baytown townships allow for greater density.

Agricultural Areas: are large contiguous land areas planned and zoned to maintain agriculture as the primary land use. The Development Framework does not identify any areas in the townships as Agricultural Areas; however, the county has designated portions of western Denmark Township as agricultural.

Rural Residential and Semi-Rural: These two districts allow 8 and 16 dwelling units per 40 acres with no plans to provide urban infrastructure such as centralized wastewater treatment. These development patterns should be limited to infill or within communities where this development pattern is predominant. The Development Framework does not designate these districts in any township; however, the county has designated these districts in portions of Baytown, Denmark, Grey Cloud Island, and West Lakeland townships.

Figure 3-12
Metropolitan Council's 2030 Framework Planning Areas





Implementation

The implementation section discusses the various activities and resources that Washington County will use in an effort to meet the goals and objectives of the Land Use Plan.

Strategies

Goal 3-1

Utilize land and related natural resources so they are conserved for future generations.

Policy 3-1: Regulate land uses for the health, safety, and welfare of the residents of Washington County.

Implementation Strategies

- Maintain land use regulations that provide for the orderly growth and renewal of the county; allow wise use of the land; protect and conserve the county's natural resources and ecological systems; and provide for economic stability.
- Maintain the Washington County Development Code and Official Zoning Map that: identify densities and land uses for the unincorporated areas of the county; allow townships to prepare an alternative zoning map with average densities consistent or more restrictive than the county's; and allow townships to prepare ordinances with more restrictive standards.
- Continue the county's regulatory approach that uses an average zoned density rather than a minimum lot size to allow developers to respond more creatively to the variations in the landscape and to offer more variety in housing. Density is the number of dwelling units permitted per acre of land.
- Encourage redevelopment of substandard residential areas, brownfields, and other underutilized properties

Policy 3-2: Promote the proper management of natural and cultural resources for future generations.

Implementation Strategies

- Implement a variety of strategies to protect the groundwater and surface water quality, and sensitive

natural features such as wetlands, steep slopes, and native plant communities when making land use decisions.

- Where practical, encourage the extension of sewer and water lines to well advisory areas and areas that have been identified with groundwater contamination.
- Protect groundwater through the Subsurface Sewage Treatment System Ordinance.
- Plan land use patterns that will facilitate groundwater recharge to protect the region's water supply.
- Follow the Lower St. Croix Riverway land development regulations.
- Observe present floodplain rules while anticipating reduced assistance for flood protection.
- Identify, acknowledge, and seek alternatives to preserve, rehabilitate, and restore important cultural sites, structures, and landscapes during the development process. Specific policies and strategies are contained in the Cultural Resources Chapter.
- Collaborate with local governments and watershed management organizations when setting their policies and regulations and when making land use decisions.
- Follow the policies and strategies contained in the Natural Resources and Environmental Protection Plan Chapter.

Policy 3-3: Preserve the natural and open landscapes of the county's unincorporated areas.

Implementation Strategies

- Establish land use regulations that allow open space developments whereby residential structures are clustered on small lots, leaving some land undivided for common use by all residents of the development, for lease to a farmer, or for conveyance to a public or a conservancy organization.
 - Require the common open land to be preserved as agricultural land, open recreation space, or for the preservation of natural or scenic resources.
 - Require the common open land to be protected in perpetuity through a development agreement, deed restriction, covenant, or conservation easement that is recorded against the land.



- Establish by ordinance the minimum percent of land to be designated as permanent open space.
- Require all sewage system and water well location, design, and installation requirements to be met, including space for replacement drainfield sites. Allow portions of the sewage system to be located on the commonly-owned land and not on the individually-owned lot.
- Allow shared or collector septic systems for small groupings of houses.
- Provide density bonuses as incentives for developers to cluster houses in open space developments.
- Encourage developers to: implement the open space design development approach to maintain open views; keep larger tracts available for farming or livestock operations; protect trees, hillsides, and water quality; and engender a sense of community.
- Encourage developers to provide additional setbacks from county roads, and provide buffers, landscaping, and site amenities to preserve rural and scenic views.
- Require adequate buffers from mining operations in order to preserve viewsheds from road corridors.
- Support programs to promote and manage roads that have significant scenic and/or historic value.
- Promote sensitive road design, bicycle-facility planning, signage, and regulations addressing building setbacks, site planning, and clearcutting along roadways designated as scenic.
- Encourage communities to identify important natural areas that will be preserved during the development process.

Policy 3-4: Conserve long-term land use options.

Implementation Strategies

- Regulate land uses and densities in townships adjacent to developing communities to preserve the option for future urban development.
- Gradually expand the urban service area to meet demand.
- Support staged growth areas within communities, orderly annexation agreements, and joint powers agreements

developed cooperatively between cities and townships in defined future metropolitan urban service areas.

Policy 3-5: Maintain and encourage sustainable agriculture as a land use and a viable economic activity in the county.

Implementation Strategies

- Adopt land use regulations that allow agricultural uses, particularly in prime farmland areas.
- Adopt land use regulations that locate incompatible uses away from agricultural areas to minimize conflicts.
- Take actions to ensure farmers' abilities to maintain their farms and to provide a variety of farming opportunities.
- Support using sound scientific methods to assess agriculture and turf management impacts to groundwater resources and to develop education and best management practices programs.

Policy 3-6: Help maintain financially healthy governments through the wise planning of land and public facilities such as roads, parks, and buildings.

Implementation Strategies

- Encourage communities to request expansions of the Metropolitan Urban Service Area in a gradual manner based upon analyses of available land, forecasted growth, and the capacity of regional systems.
- Keep development densities low in rural areas not served by public waste treatment facilities so as to preclude the need for untimely extension of public sewer or water lines.
- Coordinate county road improvement plans and land uses.
- Provide access to the county road system according to the county access standards.
- During the subdivision and development review process, identify, dedicate, or acquire future trail easements if they are identified on the county master plan system or provide a community link.
- Coordinate the Recreation and Open Space System Plan (see Chapter 5) with land uses and recreational facilities in local communities.



- Plan and site county facilities (e.g., service centers, libraries, roads, and parks) to support designated land uses.

Policy 3-7: Minimize incompatible land use relationships through planning and design.

Implementation Strategies

- Assure that wireless telecommunication facilities are: constructed and placed in a manner that is compatible with surrounding land uses; protect the rural character, historic landscapes, architectural features, and general attractiveness of the county; protect public views; and minimizes visual impacts.
- Collaborate with the Metropolitan Airports Commission on policies and plans related to the Lake Elmo Airport. For lands adjacent to the airport, adopt land uses and performance standards that do not affect the safety of aviation.
- Provide opportunities to integrate new technologies and innovative approaches to communication facilities and sustainable and green building (e.g., wind energy conversion systems, solar access, and telecommunication services) into development while respecting property rights and preserving natural resources and scenic views.
 - Adopt regulations that allow for communication, sustainable, and green building systems.
 - Collaborate with the public, other agencies, and communities on such practices.
 - Coordinate with adjacent communities and counties on development of such systems.
- Encourage all new subdivisions and planned unit developments to be designed to accommodate use of passive and active solar energy systems with special attention given to street, lot, and building orientation.
- Encourage new residential development to include solar energy systems.

Goal 3-2

Support the growth of attractive urban communities while preserving rural functions and appearances.

Policy 3-8: Through the preservation of natural resources and landscapes, maintain a distinction between urban and rural areas.

Implementation Strategies

- Adopt land use regulations that are generally consistent with the policies of the Metropolitan Council's Development Framework.
- Adopt land use regulations that maintain a clear distinction between the Metropolitan Urban Service Area and the Rural Service Area.
 - Keep housing relatively low in the Rural Service Area and encourage cities to adopt higher densities in the Metropolitan Urban Service Area.
 - Plan housing densities in the Rural Service Area at two units per quarter-quarter section in areas of prime farmland and four units per quarter-quarter section elsewhere.
 - Plan densities of 8 or 16 units per quarter-quarter section in areas where past regulations have allowed higher densities and existing development patterns are established at the higher density.
- Encourage the rural centers and small cities along the St. Croix River to grow slowly in a manner that respects their established character and the limitations of their subsurface sewage treatment systems and community sewage disposal systems.

Policy 3-9: Foster a low-density, truly rural land use pattern in areas without public sewer and water.

Implementation Strategies

- Continue the county's regulatory approach to development of residential land through the use of density rather than the traditional minimum lot size and width.
- Provide developers with multiple design options to allow developers to respond more creatively to variations in the landscape and to preserve elements of the rural environment.



- Support the extension of utilities and expansion of the Metropolitan Urban Service Area to strategically influence development patterns and safeguard the region's rural character.

Policy 3-10: Encourage transit-oriented development (TOD), pedestrian-oriented, neotraditional, suburban-style growth that uses land in an efficient manner in locations that connect to transportation and transit systems.

Implementation Strategies

- Encourage communities to adopt higher densities and mixed land uses within the Metropolitan Urban Service Area that support multimodal transportation, transit-oriented development.
- Encourage communities to revitalize or expand traditional commercial districts in keeping with their present function and appearance.
- Encourage communities to approve developments that have a pedestrian orientation, civic focus, and preserve historic structures and districts.
- Encourage communities to keep local streets interconnected and relatively narrow so as to disperse and slow traffic.
- Encourage communities to efficiently reuse land through infill development, rehabilitation, and selective redevelopment.
- Review future planned land use designations to ensure that options for high-density development in the county's planned transitways, transit corridors, and nodes are retained.

Policy 3-11: Recognize and plan for the county's share of metropolitan growth.

Implementation Strategies

- Adopt land use regulations that are generally consistent with the policies of the Metropolitan Council's Regional Development Framework.
- Encourage communities within the Metropolitan Urban Service Area to plan for staged, serviced residential, commercial, and industrial growth to the limits of the area.

Policy 3-12: Promote land uses throughout the county that encourage active and sustainable living.

Implementation Strategies

- Encourage cities to plan residential, commercial, office, and industrial developments that support transit, especially along identified transit corridors.
- Encourage cities and developers to create development patterns, including mixed land uses that provide good pedestrian and non-motorized circulation to provide the opportunities for residents to be more physically active.

Policy 3-13: Encourage land uses that promote a full spectrum of life cycle housing types for all incomes, ages, and races.

Goal 3-3

Design the land use plan to support economic development

Policy 3-14: Locate commercial and industrial growth where urban services are available; continue to prohibit commercial and industrial land use in unsewered areas.

Implementation Strategies

- Zone commercial and industrial development in areas with urban services and with access to transportation systems capable of supporting the land uses.
- Encourage the extension of sanitary sewer lines and water mains to previously unserved areas in order to accommodate imminent demand for office, industrial, retail, or service businesses that appear to have potential for significant numbers of jobs and increases in the tax base.

Policy 3-15: Promote commercial and industrial development in planned clusters such as business parks and mixed-use developments.

Implementation Strategies

- Review the Development Code to ensure that it allows for this type of development.



Policy 3-16: Provide for the removal and processing of sand and gravel, rock, soil, and other aggregate materials vital to the economic well-being of the region, while protecting adjacent land uses from adverse impacts.

Policy 3-17: Allow home businesses, provided they are accessory to the residential use and do not impact nearby properties.

Implementation Strategies

- Continue to collaborate with townships to define uses that would be appropriate as home businesses.
- Allow for uses that fit into the character of the neighborhood and do not have negative impacts to the area.

Policy 3-18: Support land use patterns that efficiently connect housing, jobs, transportation, transit, and retail and commercial centers.

Implementation Strategies

- Support development that accommodates non-motorized travel and provides connections to housing, services, jobs, and open space.

Natural Resources and Environmental Protection

The specific natural resource policies are contained in the Natural Resources and Environmental Protection Chapter of the 2030 Comprehensive Plan. The sections below provide a general summary of the content of those policies.

Surface Water

Washington County requires surface water to be controlled to reduce erosion and the incidence of flooding. Land use regulations are in place to control overland runoff, erosion of natural drainage routes and river banks, and obstruction of natural drainage.

The county will adopt zoning and other land use controls to minimize point and nonpoint sources of pollution and require stormwater runoff to be treated to remove pollutants before entering surface waters. Wetlands will be used to pretreat surface water runoff. Wise and efficient use, storage, handling, and disposal of pesticides and fertilizers will be encouraged.

Floodplains

The county uses its Floodplain Ordinance to reduce the severity and extent of flooding by controlling new development as well as the extension, conversion or structural alteration of existing structures in the Floodway, Flood Fringe, or General Floodplain Districts. Two major regulations pertain to all new development in the flood plain.

1. The minimum lowest floor elevation must be two feet above the 100-year storm event or natural outlet elevation, whichever is greater. Where this is not feasible, the landowner may provide an outlet or mitigate with other acceptable methods.
2. Prior to subdivision approval, the county requires a 100-year flood elevation to be established around all wetlands, lakes, and rivers.



Groundwater

Washington County will regulate land development so that groundwater quality and quantity is protected from degradation and depletion and maintained in a safe condition for the benefit of all citizens. Pollution prevention will be the top priority. Standards to prevent the contamination of ground water will be established and enforced. More stringent standards will be adopted to protect areas of significant ground water recharge.

The county will encourage landowners to manage potential sources of contamination within the areas that provide water to wells or wellfields. Water supply wells will be protected from contamination through the proper design, location, installation, and maintenance of individual sewage treatment systems. Landowners are required to seal abandoned wells.

Soils and Mineral Resources

There is a need to provide for the economic viability, removal and processing of sand, gravel, rock, soil, and other aggregate materials vital to the economic well being of the region, while protecting adjacent land uses and natural resources against adverse impacts. The county will work with land owners and local communities to reserve enough potentially productive aggregate areas from development to meet long-term regional needs. All mining is conducted in accordance with the provisions of the Washington County Mining Ordinance to provide for the orderly, economic, and safe removal and processing of sand, gravel, rock, and soil including the reclamation of mined sites.

Waste Management

The county regulates the location, design, installation, use, and maintenance of on-site sewage treatment systems to prevent contamination of the surface and groundwaters within the county. Septic tank and drainfield systems are the preferred on-site sewage treatment system for new development. Exceptions may be made when housing is clustered as part of an open space design development. To the extent authorized by state law, alternative systems may be allowed if they can be

designed, located, installed, and maintained to prevent contamination of surface and groundwater and public water supplies within the county, and if adequate administrative procedures are in place to ensure accountability.

Community sanitary sewer systems may be installed when all other options fail to correct septic system problems in areas of high-housing density. Consideration will be given to allowing these systems to serve small groups of houses in a cluster development. These systems are regulated by the Washington County Subsurface Sewage Treatment System Ordinance or, if larger than 10,000 gallons per day for experimental systems, the Minnesota Pollution Control Agency regulations apply. Operating licenses are required.

Natural Features

The county will protect important natural features during the development process. Landowners and developers are encouraged to avoid developing important natural communities when platting and developing land. If areas cannot be avoided, the county encourages the use of best management practices to mitigate the potential damage. The county will explore the use of a conservation overlay district ordinance to protect high priority natural areas. This ordinance would include stewardship guidelines and certain restrictions on development and other disturbances. Natural areas, as identified on the Minnesota Department of Natural Resources (DNR) Natural Communities and Rare Species map, are given highest priority for avoidance.

Shorelands

The uncontrolled use of shorelands of Washington County affects the public health, safety, and general welfare by contributing to pollution of public waters, and potentially decreasing property value. All lands within the designated shoreland areas of lakes and rivers in the unincorporated areas of the county are governed by the Washington County Shoreland Management Ordinance.



Priority Actions

1. Amend the county zoning ordinances to implement the 2030 Land Use Plan. Revisions will include, among other items:
 - Revise zoning district maps for each township and establish minimum land use standards. The townships may prepare alternative zoning maps with average densities consistent or more restrictive than the county.
 - Amend the Zoning Ordinance to provide for wind energy conversion systems, solar access, telecommunication services, and similar uses.
 - Update floodplain maps and amend the Floodplain Ordinance based on the updated Flood Insurance Rate Maps as published by the Federal Emergency Management Agency.
 - Amend the Shoreland Ordinance as required by Minnesota Rules.
 - Amend the Lower St. Croix River Bluffland/Shoreland Ordinance as required by Minnesota Rules.
2. Continue working with townships to revise their land use plan to conform to the overall county plan and policies. Summaries of the proposed 2030 Land Use Plans are in Appendix 3-B.
3. Encourage cities to revise their land use plans to be compatible with the county's policies and plans.
4. Monitor the pace of land development through subdivision platting and variance and land use development applications.
5. The Planning Advisory Commission and the Board of Commissioners will continue to monitor land use policies throughout the county as they relate to the environment, transportation, transit, parks, and open space.



APPENDIX 3-A

Agricultural Lands Analysis by Community Green Acres and Agricultural Preserves Programs - 2008 Green Acres Program

Data was compiled prior to changes in the enrollment criteria in 2008.

Enrollment

- Two thirds (21 out of 33) of Washington County communities have some land enrolled in the Green Acres Program.
- About 60 percent of the acres are in communities located south of Highway 36.
- One-half of all land enrolled in Green Acres Program is located in four communities – Denmark and May townships, Scandia, and Hugo.
- Except for a few communities, the rank order for the number of acres enrolled in the Green Acres Program as a percent of total acres is generally the same as the rank order for the number of acres enrolled in the program.

Acres and Parcels Enrolled in Green Acres Program – 2008 Washington County				
Rank	Community	Acres #	Parcels #	Enrollment as % of Total Acres
1	Denmark Township	9,308.00	293	51.63
2	May Township	8,662.31	253	39.51
3	Scandia	7,272.37	276	32.43
4	Hugo	6,609.01	216	30.92
5	Cottage Grove	4,650.22	117	22.69
6	Afton	3,976.91	113	24.98
7	Forest Lake	3,867.09	105	20.24
8	Woodbury	3,745.52	100	18.18
9	Stillwater Township	3,293.77	97	32.56
10	Grant	3,134.97	113	18.98
11	Lake Elmo	3,020.21	110	21.56
12	West Lakeland Township	1,035.19	36	13.63
13	Baytown Township	858.04	32	17.01
14	St. Paul Park	510.75	55	31.33
15	Newport	129.78	4	6.52
16	Dellwood	61.63	6	3.67
17	Oakdale	27.74	4	0.43
18	Marine On St. Croix	41.6	2	1.72
19	Mahtomedi	21.61	2	1.04
20	Grey Cloud Island Township	20.00	1	1.24
21	Lakeland	1.74	2	0.15
	Total	60,248.46	1,937	25.07



APPENDIX 3-A

Shielded Value

- 2.3 percent of Washington County's total Estimated Market Value in 2008 is shielded by enrollment in the Green Acres Program.
- Denmark and May townships have the largest percent of total value shielded by the Green Acres Program.
- There is not a strong correlation between the rank orders of the percent of Estimated Market Value shielded and the dollar amount of value shielded by the Green Acres Program.
- The four communities of Hugo, Woodbury, and May and Denmark townships, contain nearly one-half of the total dollar value shielded by the Green Acres Program.

Value Shielded by Green Acres Program Assessment Year 2008 Washington County				
Community	Estimated Market Value Shielded by Green Acres		Amount of Value Shielded by Green Acres	
	Rank	% of Total EMV	Rank	\$
Denmark Township	1	14.597	4	75,136,600
May Township	2	10.910	2	89,599,800
Scandia	3	7.498	8	56,731,600
Afton	4	6.960	9	47,319,100
Stillwater Township	5	6.175	11	29,916,700
Hugo	6	5.622	1	91,659,800
Lake Elmo	7	4.531	6	64,582,900
Grant	8	4.196	10	38,702,800
Baytown Township	9	2.785	12	9,802,100
Forest Lake	10	2.458	7	62,415,300
Cottage Grove	11	1.924	5	67,507,600
West Lakeland Township	12	1.362	13	9,105,400
St. Paul Park	13	1.357	14	6,188,500
Woodbury	14	1.028	3	85,003,000
Dellwood	15	0.455	15	1,700,500
Newport	16	0.393	16	1,442,500
Marine on St. Croix	17	0.283	19	548,100
Mahtomedi	18	0.074	17	922,000
Oakdale	19	0.025	18	694,400
Lakeland	20	0.006	20	14,200
Grey Cloud Island	?	?	?	?
Total		2.261		\$738,992,900



APPENDIX 3-A

Agricultural Preserves Program

- Nearly one-half of the acres enrolled in the Agricultural Preserves Program are located in Cottage Grove and Denmark Township.
- Over 10 percent of the land in Cottage Grove and Denmark Township is enrolled in the program.
- Over one-half of the valuation of land enrolled in the program is located in Cottage Grove and Denmark Township.

Enrollment in Agricultural Preserves Program – 2008 Washington County					
Rank	Community	Acres	Parcels	Enrollment as % of Total Acres	Valuation of Enrolled Land
1	Cottage Grove	2,052.64	46	10.01	\$7,109,000
2	Denmark Township	2,011.10	36	11.16	\$7,065,500
3	May Township	1,563.26	32	7.13	\$4,329,400
4	Afton	1,156.57	34	7.26	\$3,648,500
5	Scandia	988.95	26	4.41	\$2,815,000
6	Lake Elmo	417.48	11	2.98	\$1,227,100
7	Hugo	322.00	5	1.51	\$ 560,400
8	Grant	236.72	6	1.43	\$ 471,300
9	Baytown Township	194.51	2	3.86	\$ 615,200
10	Forest Lake	70.32	2	0.37	\$ 131,800
	Total	9,013.55	200	3.75	\$27,973,200



APPENDIX 3-B

Township 2030 Land Use Plan Summaries

Baytown Township 2030 Land Use Plan

Baytown Township continues exurban residential development, small farms, and commercial farming. It plans for a slow, orderly growth of population, supports open space design developments, and allows extension of municipal urban services at specific sites along the perimeter of the town. The extension of regional sewer service will occur where it can be done in an efficient manner, and when mutually agreed upon by the municipalities involved and the Metropolitan Council. The location of the Lake Elmo Airport in the southwestern corner of the community places some development restrictions on adjacent lands in Baytown Township. A small area of the township is within the St. Croix Riverway District.

The township proposes to redesignate land use in its 2030 Land Use Plan from Rural Residential (RR) to Single Family Estates (SFE). The Metropolitan Council maintains that the land area requested to be redesignated must remain available for consideration during the Metropolitan Council's St. Croix Valley Wastewater Treatment Plant Study study. This study will review unsewered areas in communities proximal to the treatment plant to determine if and where sewer services will be extended to meet regional capacity needs after 2030. Communities included in the study are the city of Grant, Stillwater Township, and Baytown Township. The council staff indicated that redesignating that land area now, instead of after completion of the study, may result in development before the council has the opportunity to identify the future service area and may preclude the extension of sewer services in the future. The township has agreed to participate in the study to be completed by 2012.

The Metropolitan Council requires that the township include an overlay district on the 2030 Land Use Map for the area in question. The overlay district will be subject to the flexible development guidelines established by the Metropolitan Council. Implementation of the overlay district permits the township to redesignate this land area to SFE and put its plan into effect without further modifications at this time. The Flexible Development Overlay District will be in effect until completion of the study, but no later than December 31, 2012. This ordinance will regulate development within the overlay district.

The township is committed to its vision that the central part of Baytown Township will remain rural and without urban services. The township also recognizes that the Metropolitan Council is seeking information from the wastewater treatment capacity study before it allows the township to implement standard SFE zoning for this area. The



APPENDIX 3-B

township is willing to compromise by using flexible development standards in the redesignated SFE area until the study is completed.

The Flexible Residential Development Overlay Ordinance must meet the following guidelines:

1. Provide a purpose within the ordinance that describes the need to reserve land resources for efficient future urbanization when appropriate infrastructure is available to support that development.
2. Describe the characteristics of the land required for future urbanization and seek to reserve tracts of land in a size and configuration capable of supporting future development (for example, non-hydric soils, location in relation to existing development, etc.).
3. Allow no more than 25 percent of the developable land in a project to be developed. For the purposes of future urbanization, larger future urbanization parcels should be reserved, limiting the cluster to a development area that covers a minority of the area.
4. Require that the parcel(s) set aside for future urbanization be covered by a temporary development agreement or deed restriction, rather than a permanent conservation easement or other permanent restriction.
5. Provide for the rezoning of the future urbanization parcel to a residential zoning classification at densities consistent with council policy at such time that urban services are available to the parcel
6. Encourage the use of community wastewater treatment systems to serve the temporary cluster and to allow for smaller lot sizes within the development.

Denmark Township 2030 Land Use Plan

Denmark Township has the most productive farmland and is the least densely populated community in Washington County. Its land use plan designates the western two-thirds of the township as agricultural, which allows two houses per 40 acres. Approximately 20 percent of the township is planned for rural residential use, which allows one house per five acres. Three-acre lots are allowed within the St. Croix Riverway District along the townships eastern border and within the Mississippi Critical Area along the western



APPENDIX 3-B

border. Significant areas of open space are located within the Carpenter Nature Center, St. Croix Bluffs Regional Park, and Afton State Park. Slow residential growth is desired and anticipated.

Two significant land use changes should be noted:

1. An area of 64 acres located immediately north of the rural commercial/industrial area and south of 120th street is reguided from agriculture to rural residential, in order to be consistent with the character of existing development in the area.
2. The plan adds 54.3 acres to the existing commercial/industrial rural zoning district, extending east to Morgan Avenue, south to 127th Street, and north approximately 510 feet south of 122nd Street. This district allows for a mix of commercial and light industrial businesses by conditional use permit that are non-threatening to the environment when served by individual wells and wastewater treatment systems.

Grey Cloud Island Township 2030 Land Use Plan

The goal of the Grey Cloud Island Township Plan is to protect its semi-rural nature and preclude the premature demand for municipal services. The minimum residential lot size is 2.5 acres. Continuation of the limestone mining is encouraged. Grey Cloud Island Township consists of portions of two islands; most of the lower island is in Cottage Grove. The township has a significant amount of floodplain and shoreline, including many small islands, peninsulas, and backwaters on the Mississippi River. The township is in the Mississippi River Critical Area. No land use changes are proposed.

May Township 2030 Land Use Plan

May Township will continue to develop as a rural community with emphasis on preservation of a "rural lifestyle." The Land Use Plan has an Agricultural District limited primarily to farming and a Rural Residential District which allows 10-acre lots. Smaller lots are allowed around the lakes and along the St. Croix River. No land is designated for future commercial or industrial development. Preservation of the scenic nature and rural character of the community is also important. Square Lake Park and Big Marine Park Reserve are located in the township. The eastern border of the township is within the St. Croix River District. The National Park Service has acquired scenic easements on properties along the St. Croix River to prevent them from being developed.



APPENDIX 3-B

Stillwater Township 2030 Land Use Plan

Stillwater Township will continue to allow urban growth outward from the city of Stillwater to Highway 96, as outlined in the orderly annexation agreement with the city. Commercial and high-density housing development is restricted to areas where urban services can be easily provided. The rural character will continue through low-density residential development and protection of existing agricultural land and agricultural operations. Development is restricted to a 10-acre density in the agricultural and environmentally sensitive areas.

West Lakeland Township 2030 Land Use Plan

The goal of West Lakeland Township Plan is to continue its rural lifestyle by protecting the environment, preserving the character and quality of the land, and avoiding the need for complex and costly urban services. The minimum allowable lot size is 2.5 acres. Community sewer and water services, parks, and similar costly public facilities are discouraged. Six commercial and industrial businesses are located within the township. Three new areas are planned for commercial development: approximately 70 acres east of CSAH 15 on the north side of I-94; 46 acres on the south side of I-94 west of CSAH 21; and 64 acres east of CSAH 21. West Lakeland Township is within the planning area for the transit study along the I-94 corridor, to begin in 2009. The study may identify transportation options and infrastructure needs that may impact future land uses along the corridor.

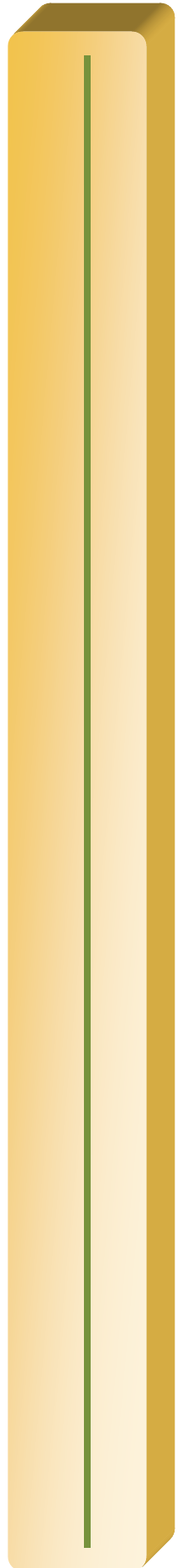


2030 Comprehensive Plan A Policy Guide to 2030

Transportation

**Approved by Board of Commissioners
May 26, 2009**

**Adopted by Board of Commissioners
September 7, 2010**





Washington County Mission

To provide quality public services in a cost-effective manner through innovation, leadership, and the cooperation of dedicated people.

Washington County Values

Fiscal Responsibility - to provide good stewardship of public funds

Ethics and Integrity - to maintain the public trust

Openness of the Process - to promote citizen participation

Our Heritage and Natural Resources - to conserve and preserve them

The Individual - to promote dignity and respect

Washington County Goals

- To promote the health, safety, and quality of life of citizens
- To provide accessible, high-quality services in a timely and respectful manner
- To address today's needs while proactively planning for the future
- To maintain public trust through responsible use of public resources, accountability, and openness of government



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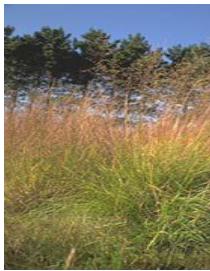


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Key Acronyms

Americans with Disabilities Act	ADA
Average Daily Traffic	ADT
County State Aid Highways	CSAH
Federal Highway Administration.....	FHWA
Federal Intermodal Surface Transportation Equity Act of 1991	ISTEA
Light Rail Transit	LRT
MN/DOT 2008-2030 Transportation System Plan	TSP
Metropolitan Transportation Services	MTS
Minnesota Department of Transportation	MN/DOT
Traffic Analysis Zones	TAZs
Trunk Highways.....	TH
Transportation Policy Plan	TPP
Volume to Roadway Capacity	v/c ratio

Executive Summary

Washington County's transportation system encompasses highways, identified transitway facilities, and a network of trails that are used to move people and goods to their destinations. Integrating and coordinating these transportation modes is critical to maintaining a high level of mobility and safety for the system users.

Washington County's system of highways was largely developed between the 1920s and 1980s. It was during this period that many township roads were accepted as county routes, state highways were transferred to the county, and new roads were built to serve the developing areas of the county. The highway system grew as the population grew, providing mobility throughout the county and the region.

Transitway corridors serving the county were established in the late 1990s. These transitways are located along or adjacent to major roadway arterials in the more densely-populated areas of the county. They lay the framework for developing mass transit in the future.

Providing a network of trail corridors for non-motorized transportation modes is another option for providing high levels of mobility and safety throughout the county. When connecting housing to employment locations, these corridors can be used for commuting. These corridors can serve both transportation and recreation purposes when connecting neighborhoods to parks and other trails.

Continued growth in Washington County, and in the region as a whole, poses important challenges in maintaining and expanding an adequate transportation system that accommodates multi-modal needs. Decisions about the transportation system are closely tied to the land use policies of the county and its communities. The policies can have a



significant impact on the ability of the transportation system to safely and efficiently serve the public.

Washington County has set the following goals for transportation.

- Goal 4-1 Develop and maintain a roadway system that accommodates the safe and efficient movement of people and goods.
- Goal 4-2 Promote the development and utilization of a transit system that meets existing and future travel needs of the public.
- Goal 4-3 Use effective transportation planning to accommodate existing and planned land uses, while preserving natural, cultural, and historic resources.
- Goal 4-4 Develop a non-motorized transportation system to provide mobility and recreational options to the public.

This chapter sets policies and implementation strategies that support these goals. It describes a plan of action to address the identified needs and deficiencies for the various parts of the transportation system.

Existing Conditions

To accurately identify future transportation needs and prepare a plan to meet those needs, the county studied the existing condition of the transportation facilities and the travel behavior of current users. This analysis included examining functional and jurisdictional classifications, traffic volumes and capacity deficiencies, system continuity, safety, river crossings, transit systems and corridors, scenic roads, freight, railroads, airports, and non-motorized facilities.

Highways and Roads

Maintaining a safe and reliable highway system is a core responsibility of the county. The county's roadway infrastructure, along with state and local roads, forms a seamless and integrated network that supports intra-county movements as well as cross-county trips. The highway system supports alternative transportation modes, such as buses, bicycles, and pedestrians. Washington County contains 2,046 centerline miles of roadways, including all state, county, and local roads. Washington County maintains 303 centerline miles of roadway (See Figure 4-1). Centerline mileage is the distance measured along the center line of the roadway. It does not consider the number of lanes for each roadway.

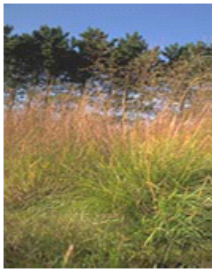
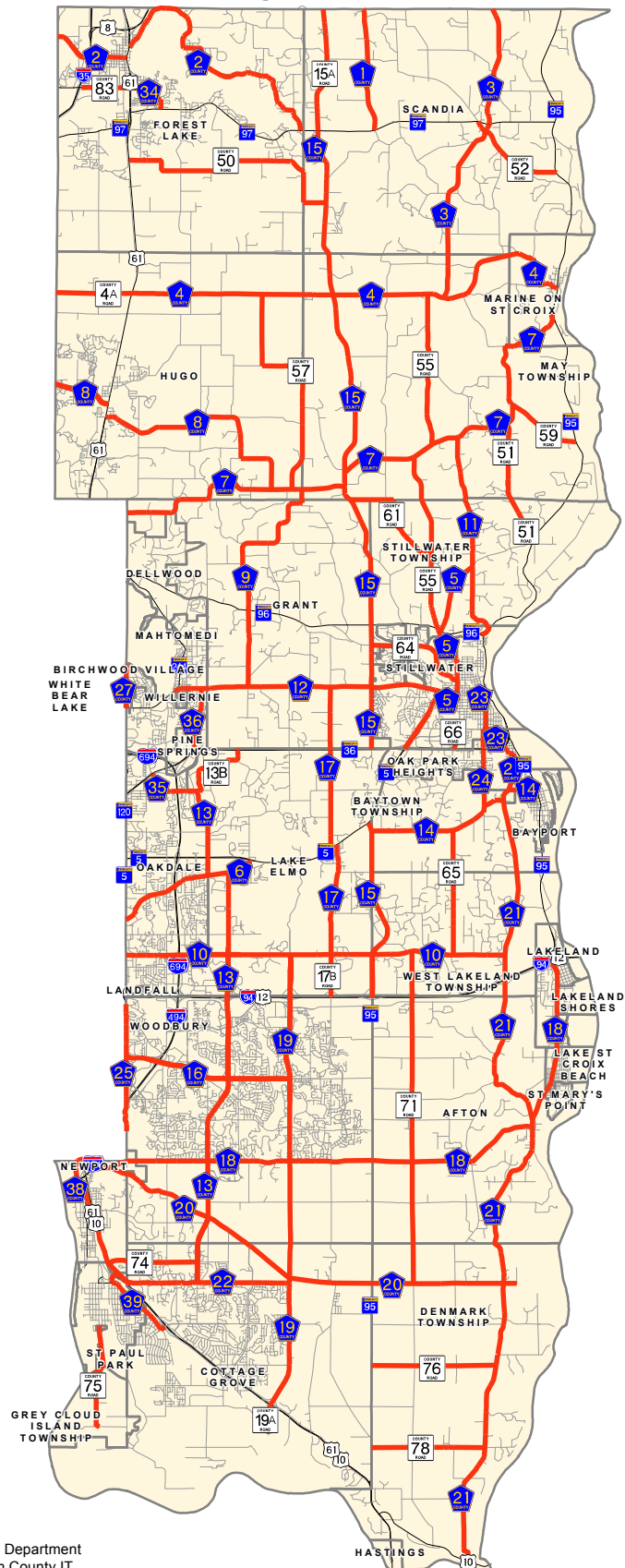
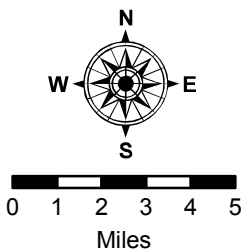


Figure 4-1

Existing County Roadways

 County Roadways

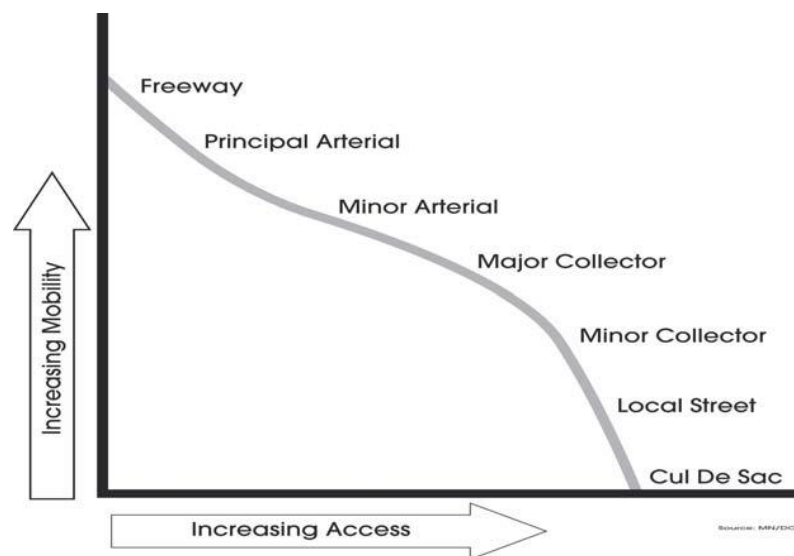


Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007, Washington County IT

Existing Functional Classification

The functional classification defines a roadway's purpose, use, and the attributes necessary for it to provide safe and efficient movement of vehicles. The Metropolitan Council's Transportation Policy Plan establishes a functional classification system for roadways based on the transportation service provided (i.e., degree of mobility) and the relationship to adjacent land uses (i.e., degree of access). This system creates a hierarchy of roadways that: provide direct access to local streets; collect traffic from local streets; and distribute traffic to the state highway system. Each roadway type is critical to providing a roadway network that meets the needs of all users. If an area lacks a robust collector roadway system, then the minor and/or principal arterial roadway system will not only need to provide mobility for those moving through the area, but also direct access to adjacent land uses. This may result in roadways that serve too many functions and have safety and capacity problems. Figure 4-2 shows the relationship of mobility to access for each functional classification.

Figure 4-2
Relationship of Mobility to Access





Below is a general description of each of the four classifications in the Functional Classification System. Appendix F of the Metropolitan Council 2030 Transportation Policy Plan provides more information on the functional classification criteria. The functional classification and corresponding mileage of each roadway is shown in Figure 4-3.

Principal Arterial Roadways

Principal arterial roadways typically have the highest traffic volumes and are considered part of the metropolitan highway system. These roadways are intended to connect metropolitan centers of regional importance with one another, including major business concentrations, important transportation terminals, and large institutional facilities. They are typically spaced 3-6 miles apart in developed and developing areas and 6-12 miles apart in rural areas. The principal arterial roadways in Washington County are all owned and operated by the Minnesota Department of Transportation (MN/DOT). They include Interstates 94, 494/694, and 35, and Trunk Highways 61, 8, and 36.

Minor Arterial Roadways

Minor arterial roadways place a priority on mobility and higher speeds while providing managed access to the local system. These roadways connect important locations within the county to the metropolitan highway system. In addition, they connect locations within the metropolitan urban service area to cities and towns outside of the metropolitan region and they connect freestanding cities to each other. Minor arterial roadways are typically spaced one-half to one mile apart in developed areas and one to two miles apart in developing areas. Within Washington County, the minor arterial roadways are mostly owned and operated by the state as trunk highways (TH) or by the county as county state aid highways (CSAH). Examples of these roadways in Washington County are Trunk Highway 96, Valley Creek Road (CSAH 16), 70th Street South (CSAH 22), Manning Avenue (CSAH 15), and Broadway Avenue (CSAH 2). The Metropolitan Council has established subcategories for

minor arterials including expander, reliever, connector, and augments.

Collector Roadways

Collector roadways serve shorter trips and allow more direct access from local streets and driveways. These roadways collect and distribute traffic to the arterial system from neighborhoods as well as commercial and industrial areas. Collector roadways are typically spaced one-fourth to three-fourths mile apart in developed areas and one-half to one mile apart in rural areas. The collector roadways in Washington County are owned and operated by the county, cities, and townships. Examples of these roadways are North Shore Trail (CSAH 2), County Road (CR) 57, Hadley Avenue, and 30th Street North. The Metropolitan Council further defines collector roadways as major and minor collectors.

Local Streets

Local streets connect blocks within residential neighborhoods and land parcels within commercial and industrial developments. They serve short trips typically at low speeds favoring land access over mobility. Local streets occur every block in urban areas but may be spaced up to one mile apart in rural areas. Local streets are owned and operated by cities and townships.

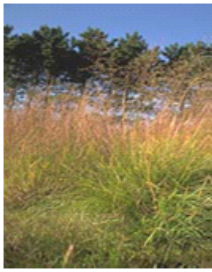


Figure 4-3

Existing Road Functional Classification

Principal Arterial (131 miles, 19%)

 Principal Arterial

A Minor (326 miles, 48%)

 A Minor Augmentor

 A Minor Reliever

 A Minor Expander

 A Minor Connector

B Minor (29 miles, 4%)

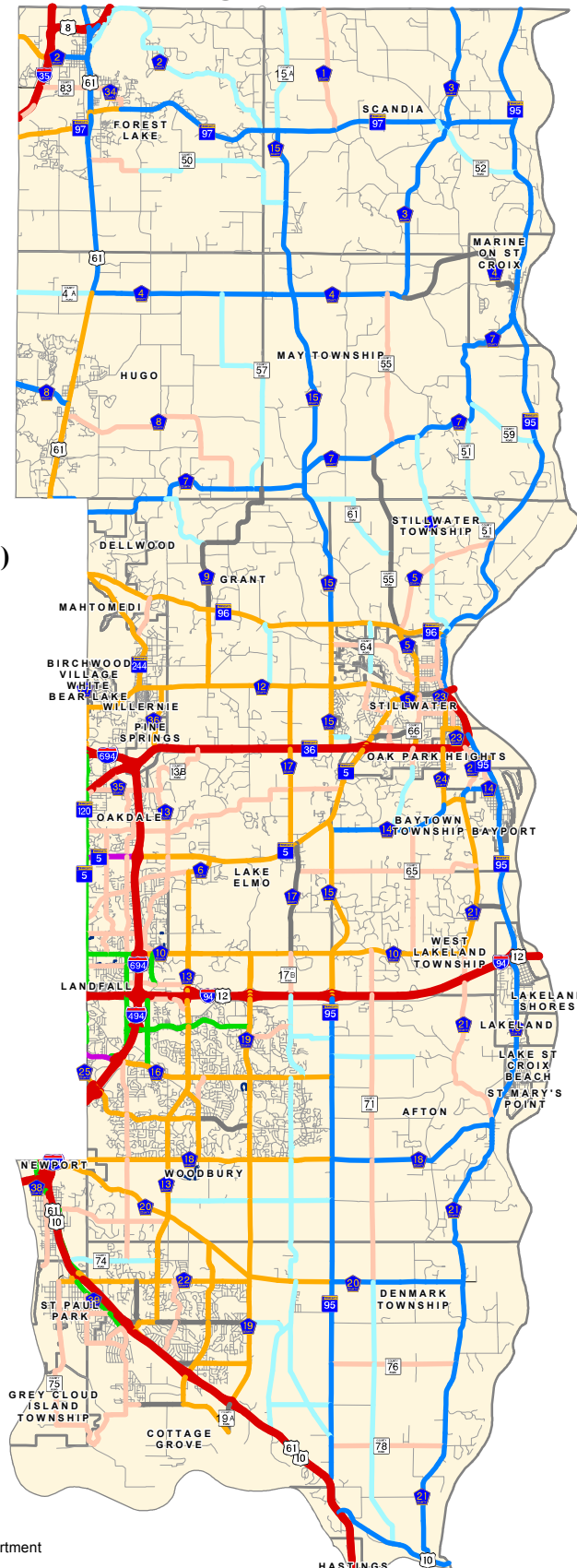
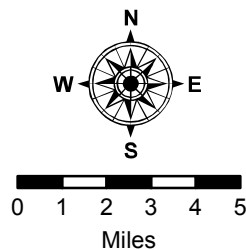
 B Minor

Collector (200 miles, 29%)

 Major Collector

 Minor Collector

Mileages are approximate.



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007

Existing Jurisdictional Classification

Roadways are classified by the level of government that is responsible for operating and maintaining the roadway. The jurisdictional classification is directly related to the roadway functional classification and the roadway design type. In general, roadways that serve local transportation needs are owned and maintained by the local government. Roadways that serve regional, inter-county and statewide transportation needs are owned and maintained by the State of Minnesota. Roadways that provide connections to major activity locations within the county and to the metropolitan highway system are typically owned and maintained by the county.

The federal government, which has jurisdiction over the interstate highway system, has delegated its authority for operating and maintaining that system to the state with oversight provided by the Federal Highway Administration (FHWA). The MN/DOT has jurisdiction over the trunk highway system. Washington County has jurisdiction over the county state aid highway (CSAH) and county road systems. The cities and townships have jurisdiction over the remaining streets and roadways.

Figure 4-4 shows the jurisdictional classifications and current mileages. Over the past 12 years, 18 roadway jurisdictional changes have occurred to better align the responsible level of government with the functional classification of the roadway. These are shown on Figure 4-5.

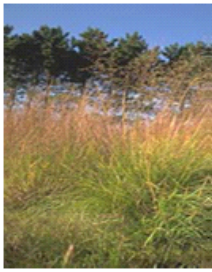
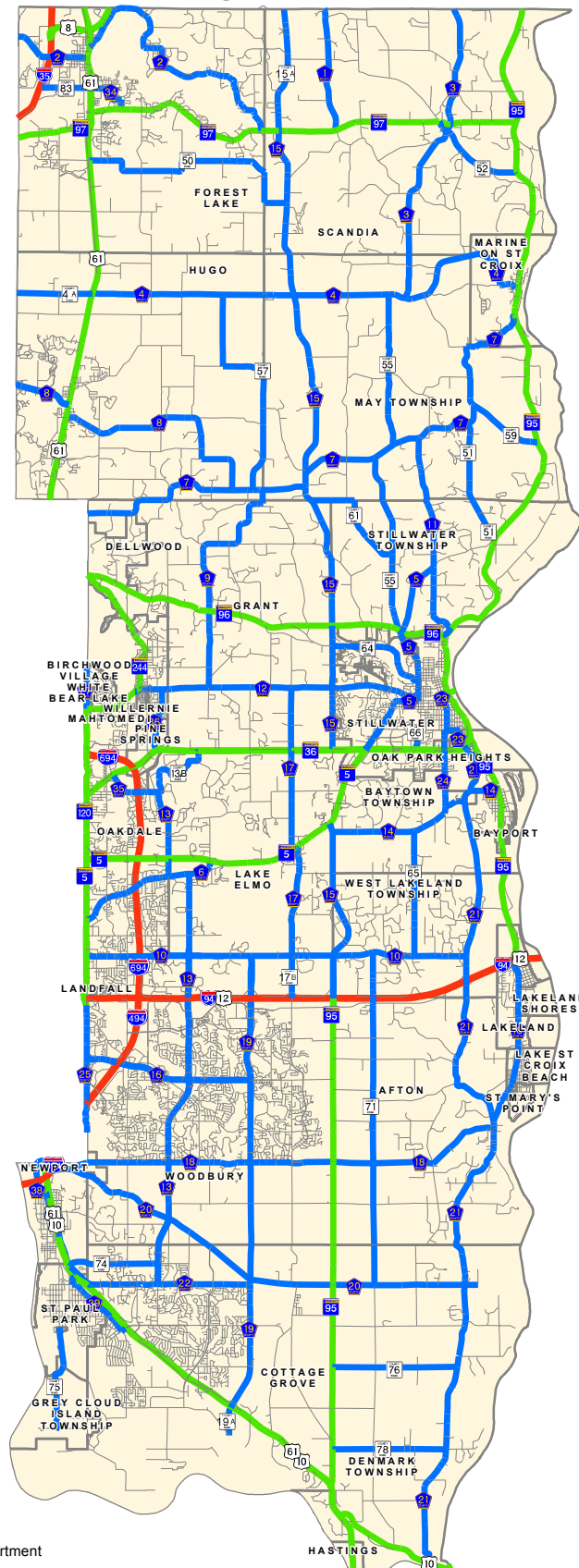
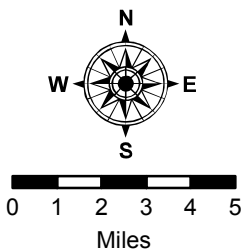


Figure 4-4

Existing Jurisdictional Classification

-  Federal (50mi., 2%)
 -  State (162mi., 8%)
 -  County (303mi., 15%)
 -  Municipal (1,531mi., 75%)
- Mileages are approximate.

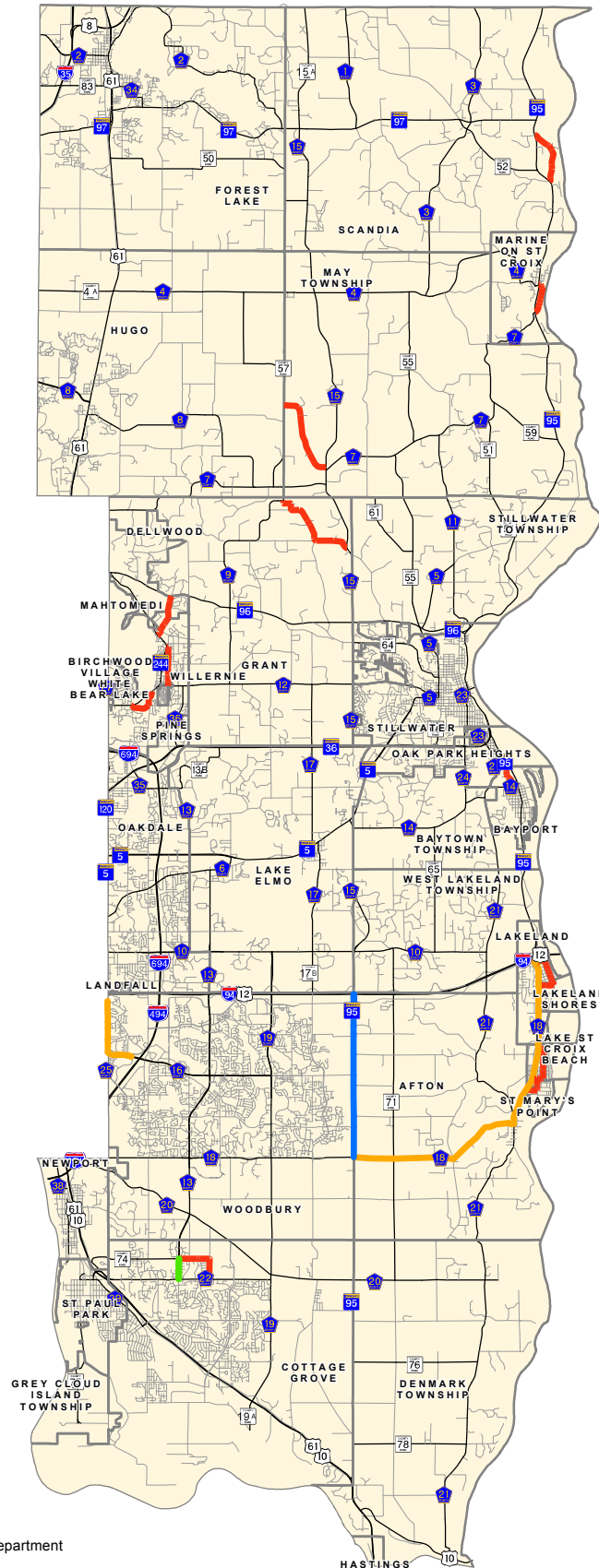
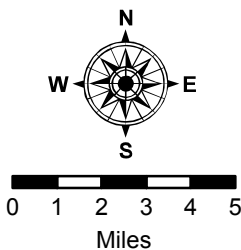


Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007

Figure 4-5

Jurisdictional Classification Changes Since 1996

-  County to Local (14.6 miles)
 -  County to State (5.1 miles)
 -  Local to County (0.5 miles)
 -  State to County (10.2 miles)
- Mileages are approximate.



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007



Traffic Volumes and Capacity Deficiencies

Volume to Capacity Ratio

The ratio of traffic volume to roadway capacity (v/c ratio) provides a measure of congestion along a roadway segment. It can help determine where roadway improvements, access management, transit services, or demand management strategies could be implemented. It does not, however, provide a basis for determining the need for specific intersection improvements. Congestion on the roadway system is determined to exist when the v/c ratio approaches or exceeds 1.0.

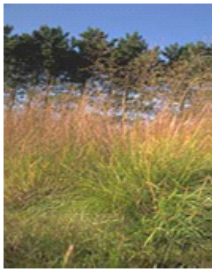
Table 4-1 shows the roadway capacity for roadway types. It lists the typical planning-level average daily traffic (ADT) capacity volume thresholds for each facility type. These volume thresholds are based on guidelines from the *Highway Capacity Manual*, discussions with the Metropolitan Council, and professional engineering judgment. The maximum capacity of any roadway design ($v/c = 1$) is a theoretical measure that can be affected by its functional classification, traffic peaking characteristics, access spacing, speed, intersection node geometry, and other roadway characteristics. A segment of roadway is said to be “approaching capacity” when the observed ADT equals or exceeds 85 percent of ADT ($v/c > 0.85$).

The existing 2005 traffic volumes and existing number of lanes are presented in Figures 4-6 and 4-7 respectively.

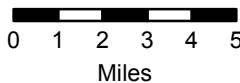
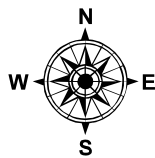
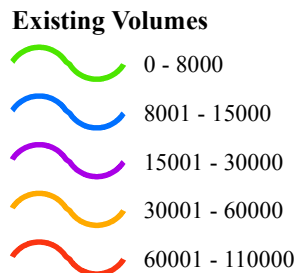
Table 4-1 Planning Level Roadway Capacities by Facility Type Washington County		
Roadway Type¹	Planning Level Daily Capacity (ADT)²	Approaching Capacity (85% of ADT)
Two-lane undivided urban	10,000	8,500
Two-lane undivided rural	15,000	12,750
Three-lane urban(two-lane divided with turn lanes)	17,000	14,450
Four-lane undivided urban	22,000	18,700
Five-lane urban (four-lane divided with turn lanes)	32,000	27,200
Four-lane divided rural	38,000	32,300
Four-lane expressway	60,000	51,000
Four-lane freeway	80,000	68,000
Six-lane freeway	120,000	102,000

¹ The terms urban and rural describe typical section design (e.g., curb and gutter for urban, and ditch drainage for rural) not geographic areas.

² ADT is the average daily traffic count.

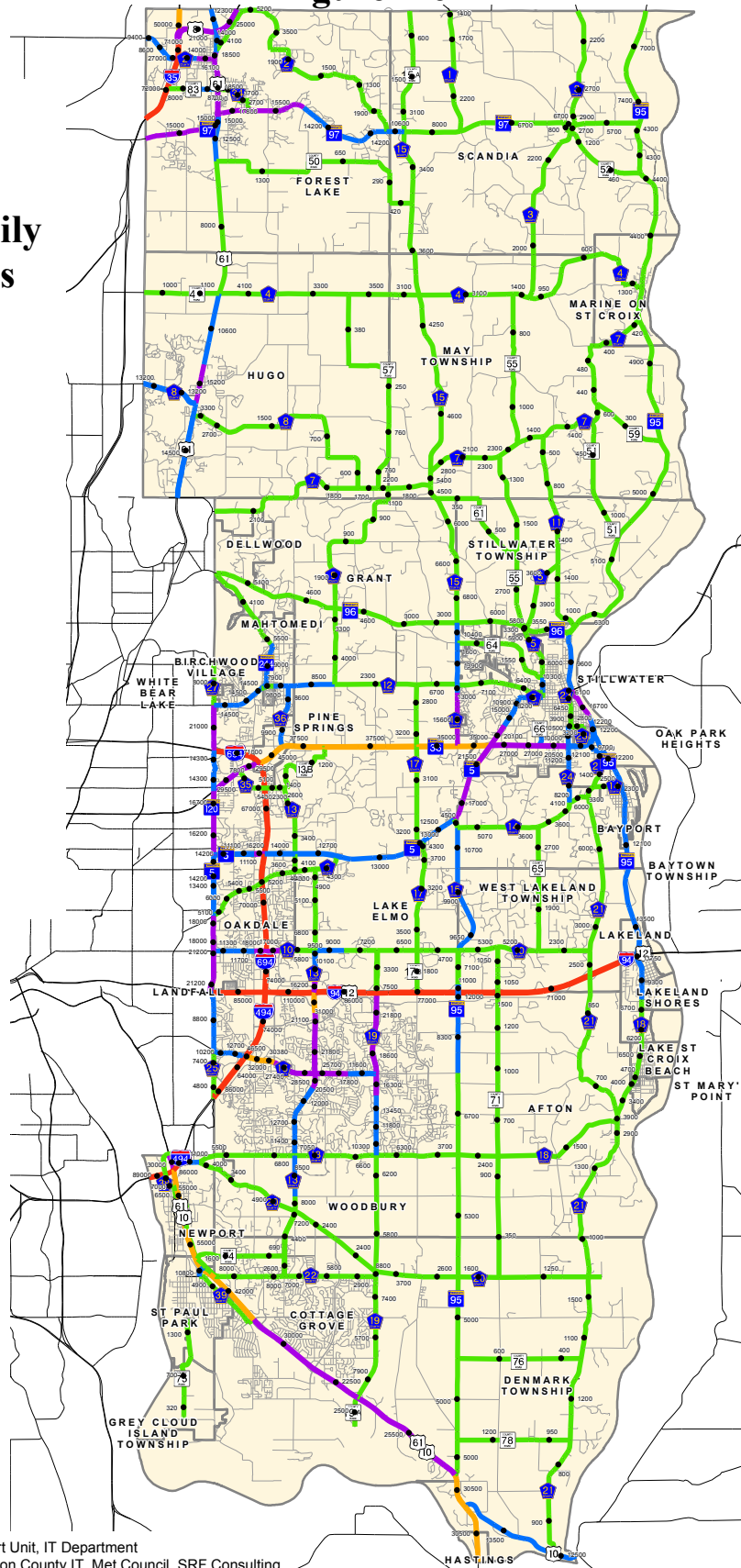


2005 Average Daily Traffic Volumes

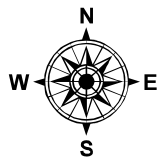
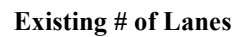


Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group, Washington County IT, Met Council, SRF Consulting

Figure 4-6



2005 Lanes by Roadway



0 1 2 3 4 5
Miles

Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group, Washington County IT, Mn/DOT, SRF Consulting



Roadway Congestion

Existing capacity deficiencies were identified by comparing existing ADT volumes to the thresholds in Table 4-1. This methodology does not account for traffic conditions that do not fit the average daily traffic criteria (e.g., weekend travel, holiday travel, special events) because they tend to produce atypical congestion. These conditions are likely to produce different congestion levels. Also, the methodology does not take into account factors such as geometric conditions at the intersection nodes, potential peaking characteristics, or directional flow disparities. These features can greatly impact the order of magnitude of the deficiency (i.e., there is no deficiency or the deficiency is greater than what the ADT indicates). Despite its limitations, this methodology is widely accepted and applicable for transportation planning purposes.

Figure 4-8 presents the current capacity issues on highways in Washington County. Roadway segments, having observed volumes exceeding their design capacity, are shown as red lines. Roadway segments “approaching capacity” (v/c ratio between 0.85 and 1.0) are shown as yellow lines.

Mobility Deficiency Rankings on the Regional Highway System

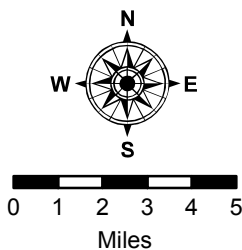
The MN/DOT 2008-2030 Transportation System Plan (TSP) identifies Trunk Highway 36 and Interstate 494 in Washington County as having a high mobility deficiency rating and portions of Interstate 94, Interstate 694 and U.S. Highway 61 as having medium deficiency ratings. Corridors with a high deficiency rating are targeted for mobility improvements between 2008 and 2014 and corridors with a medium deficiency rating are targeted for mobility improvements between 2015 and 2023. MN/DOT’s goal is to lower congestion to 33 percent on the metro freeway and arterial trunk highway system by year 2030.

Figure 4-8

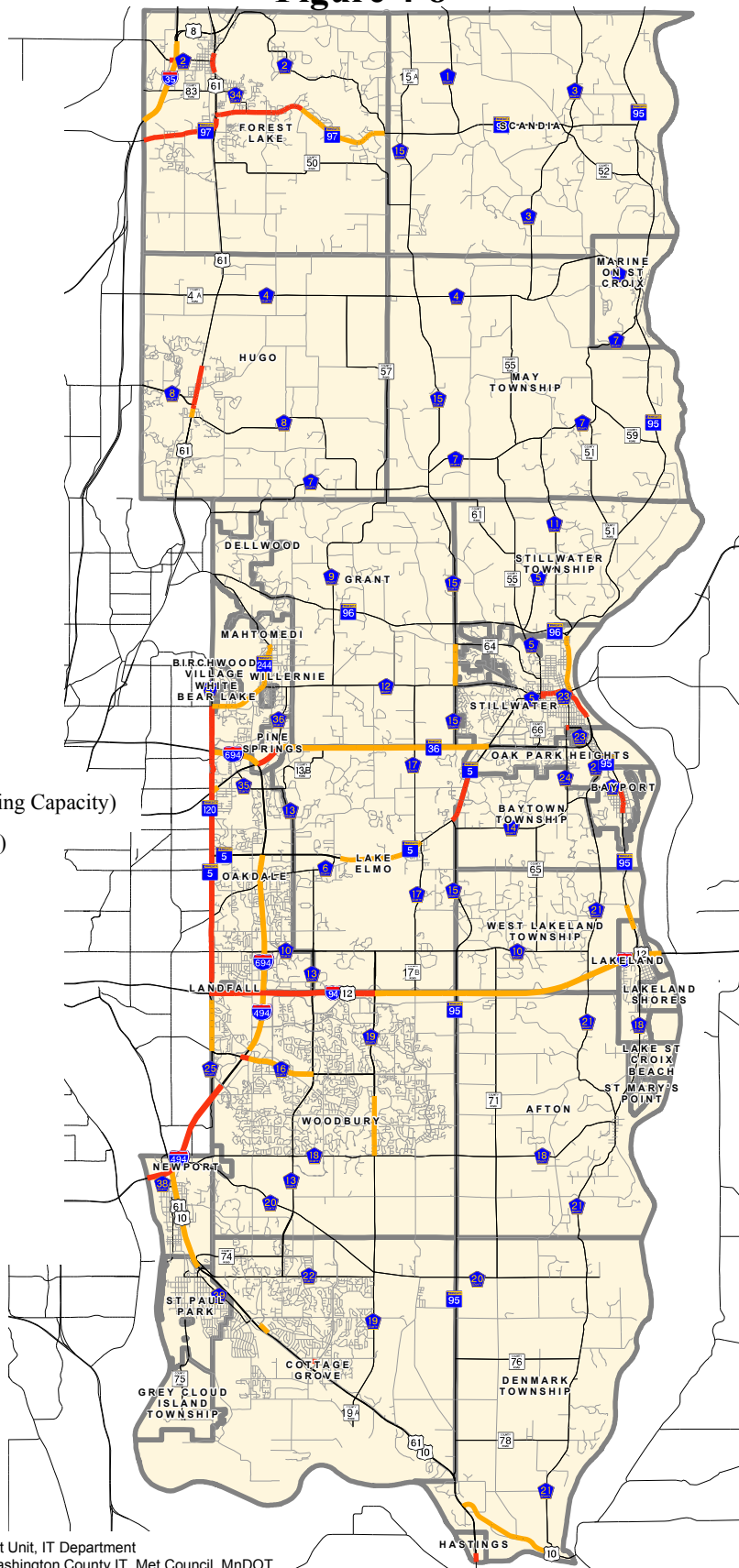
2005 Congestion

Volume/Capacity Ratio

-  0.85 - 1.00 (Approaching Capacity)
-  1.01 + (Over Capacity)



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007, Washington County IT, Met Council, MnDOT





The TSP also identifies roadway expansion investments to meet congestion/mobility targets. Capacity improvements to Interstate 694 between Interstate 35E and Trunk Highway 36 and Trunk Highway 36 between Trunk Highways 5 and 95 are identified as needed projects in the 2024-2030 timeframe. Trunk Highway 95 between Interstate 94 and U.S. Highway 61 and between Interstate 94 and Trunk Highway 36 is identified as a needed safety improvement with a recommendation to increase from a two-lane to a four-lane roadway by 2030.

System Continuity

Some roadways have discontinuous alignments with opportunities for more logical connections. The county's 2020 Comprehensive Plan identified seven opportunities for improving travel continuity through realignment or connection of roads. These include:

- East-west corridor between Interstate 494 and Manning Avenue (TH 95), south of Interstate 94 and north of Bailey Road (CSAH 18) in Woodbury and Afton.
- North-south corridor from the Manning Avenue (CSAH 15) and Trunk Highway 5 intersection to Trunk Highway 36 in Lake Elmo.
- Access to Interstate 35 from Washington County Road 4A and Anoka County Road 140 in Hugo and Lino Lakes.
- Access to Interstate 35 between Trunk Highway 97 and Broadway Avenue (CSAH 2) in Forest Lake.
- North-south connection between the south end of Century Avenue (CSAH 25) and Bailey Road (CSAH 18) in Woodbury.
- North-south connection from the Inwood Avenue (CSAH 13) and Stillwater Boulevard (CSAH 6) intersection to Trunk Highway 5 in Lake Elmo.
- North-south connection on County Road 13A from Military Road (CSAH 20) to 65th Street South (CR 74) in Woodbury and Cottage Grove.

During the past 12 years, the city of Woodbury and Washington County have developed a collector and arterial road system that provides east-west connections through most of the city of

Woodbury. It includes Tamarack, Valley Creek (CSAH 16), and Lake roads. A new north-south connection was constructed connecting Military Road (CSAH 20) and 65th Street South (CR 74) along the Radio Drive/Hinton Avenue (CSAH 13) alignment.

Safety

A comprehensive, system wide and data-driven analysis was conducted for crashes occurring within Washington County. It followed the guidance in the Minnesota Strategic Highway Safety Plan and the Toward Zero Deaths program to reduce fatal and life-changing (incapacitating) injury crashes. This analysis acknowledged that, while the total number of severe crashes may be significant, the actual number of severe crashes occurring at any given location is very low.

Figure 4-9 shows the severe crashes based on the county's fatal and life-changing injury crash data for the three-year period between 2005 and 2007, as analyzed by the Minnesota Crash Mapping Analysis Tool (MnCMAT). Table 4-2 provides additional information on the characteristics of these crashes.

The findings and conclusions of the crash analysis are summarized below.

- A total of 135 fatal and life-changing/incapacitating injury crashes occurred on all roadways within the county (47 fatal and 88 incapacitating injury crashes).
- A total of 51 fatal and life-changing/incapacitating injury crashes occurred on the Washington County roadway system (11 fatal and 40 incapacitating injury crashes).
- The following types of fatal and life-changing/incapacitating injury crashes occurred most frequently on the county roadway system: lane departure crashes including run off road crashes particularly on the right side of the roadway; crashes with trees and shrubbery; intersection-related crashes including right angle and rear-end crashes; motorcycle crashes; and crashes occurring under dark and low-light conditions at locations without roadway lighting.

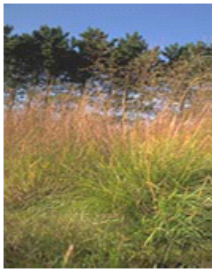
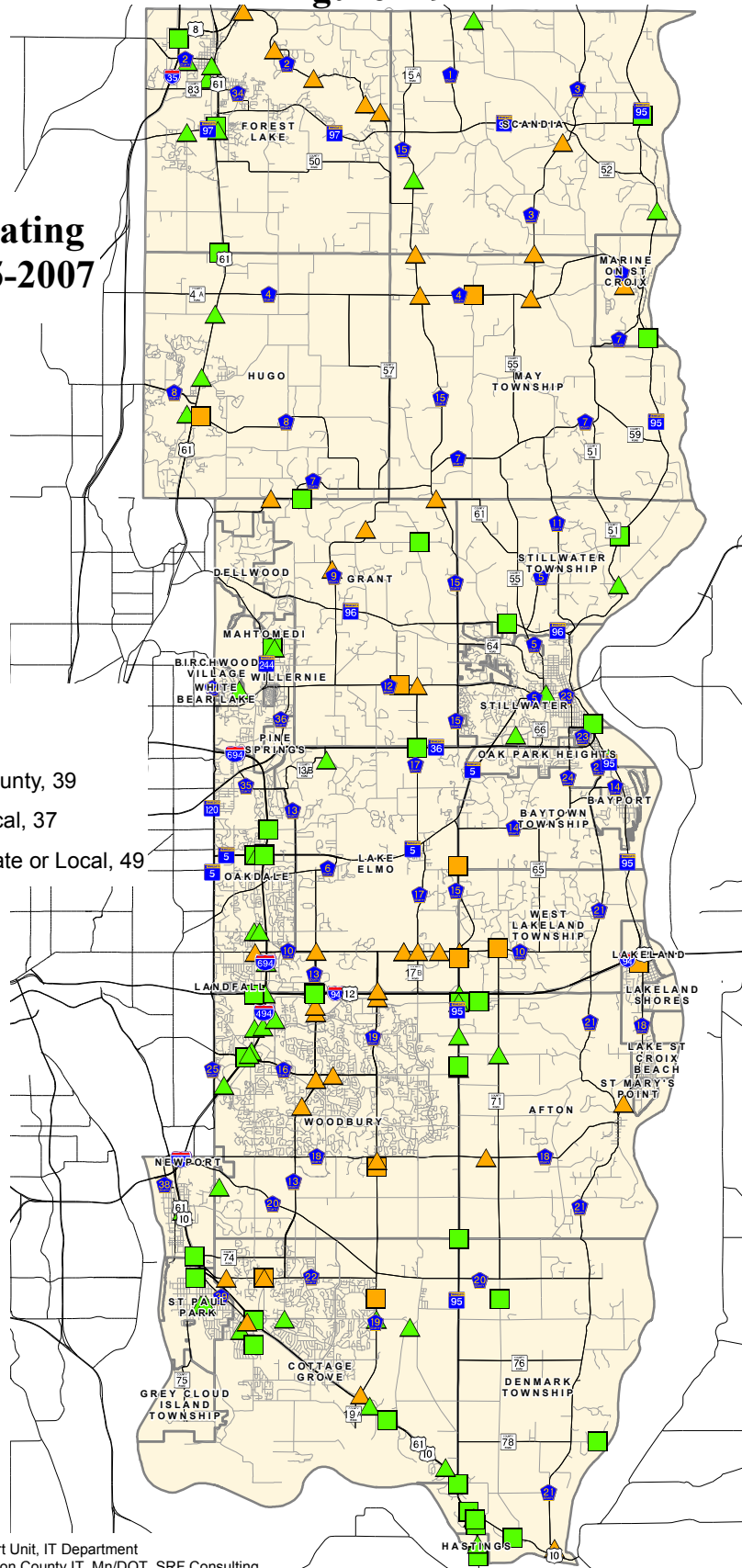
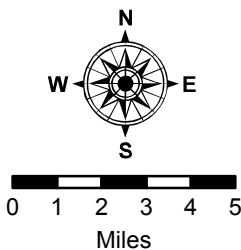


Figure 4-9

Fatal and Incapacitating Injury Crashes 2005-2007

Severity, System, Count

- Fatal, County, 10
- ▲ Incapacitating, County, 39
- Fatal, State or Local, 37
- ▲ Incapacitating, State or Local, 49



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group, Washington County IT, Mn/DOT, SRF Consulting

**Table 4-2
Systemwide Fatal and Incapacitating Injury Crash Data 2005 to 2007
Washington County**

Crash Type		Washington County System Only		State and Local System in Washington County		Combined System Totals	
		Number	Percent	Number	Percent	Number	Percent
Fatal Crashes		11	22%	36	43%	47	35%
Incapacitating Injury Crashes		40	78%	48	57%	88	65%
Total Crashes		51	100%	84	100%	135	100%
DETAIL							
Lane Departure Crashes	Ran off road - right side	13	62%	18	47%	31	53%
	Ran off road - left side	5	24%	7	18%	12	20%
	Sideswipe - opposing direction	2	10%	3	8%	5	8%
	Head-on	1	5%	10	26%	11	19%
	Sideswipe - same direction	0	0%	0	0%	0	0%
	Total Lane Departure Crashes	21	100%	38	100%	59	100%
Intersection Related Crashes	Right angle	12	48%	19	70%	31	60%
	Rear end	10	40%	7	26%	17	33%
	Left turn	3	12%	1	4%	4	8%
	Right turn	0	0%	0	0%	0	0%
	Total Intersection Related Crashes	25	100%	27	100%	52	100%
Other Crashes	Not reported, not applicable and other	5		19		24	
Other Crash Types and Characteristics of Interest	Trees/shrubbery	13	25%	6	7%	19	14%
	Motorcycle	10	20%	21	25%	31	23%
	Dark - no roadway lighting	10	20%	18	21%	28	21%
	Slippery pavement conditions	9	18%	16	19%	25	19%
	Overturn/rollover	2	4%	12	14%	14	10%
	Pedestrian	2	4%	8	10%	10	7%
	Embankment/ditch/curb	2	4%	3	4%	5	4%
	Pedicycle (bicycles/wheeled devices)	0	0%	4	5%	4	3%

Source: Minnesota Department of Transportation



River Crossings

Because it is bounded on the east by the St. Croix River and on the southwest by the Mississippi River, river bridge crossings are critical components of Washington County's transportation system. Their ability to adequately serve the needs of the transportation system is crucial. All of the active river bridge crossings are on the state highway system and not directly under county control. The Trunk Highway 36 lift bridge at Stillwater and the Interstate 94 bridge at Lakeland and the Trunk Highway 10 bridge at Point Douglas in Denmark Township cross the St. Croix River. The Interstate 494 Wakota Bridge at Newport and the Trunk Highway 61 bridge at Hastings cross the Mississippi River.

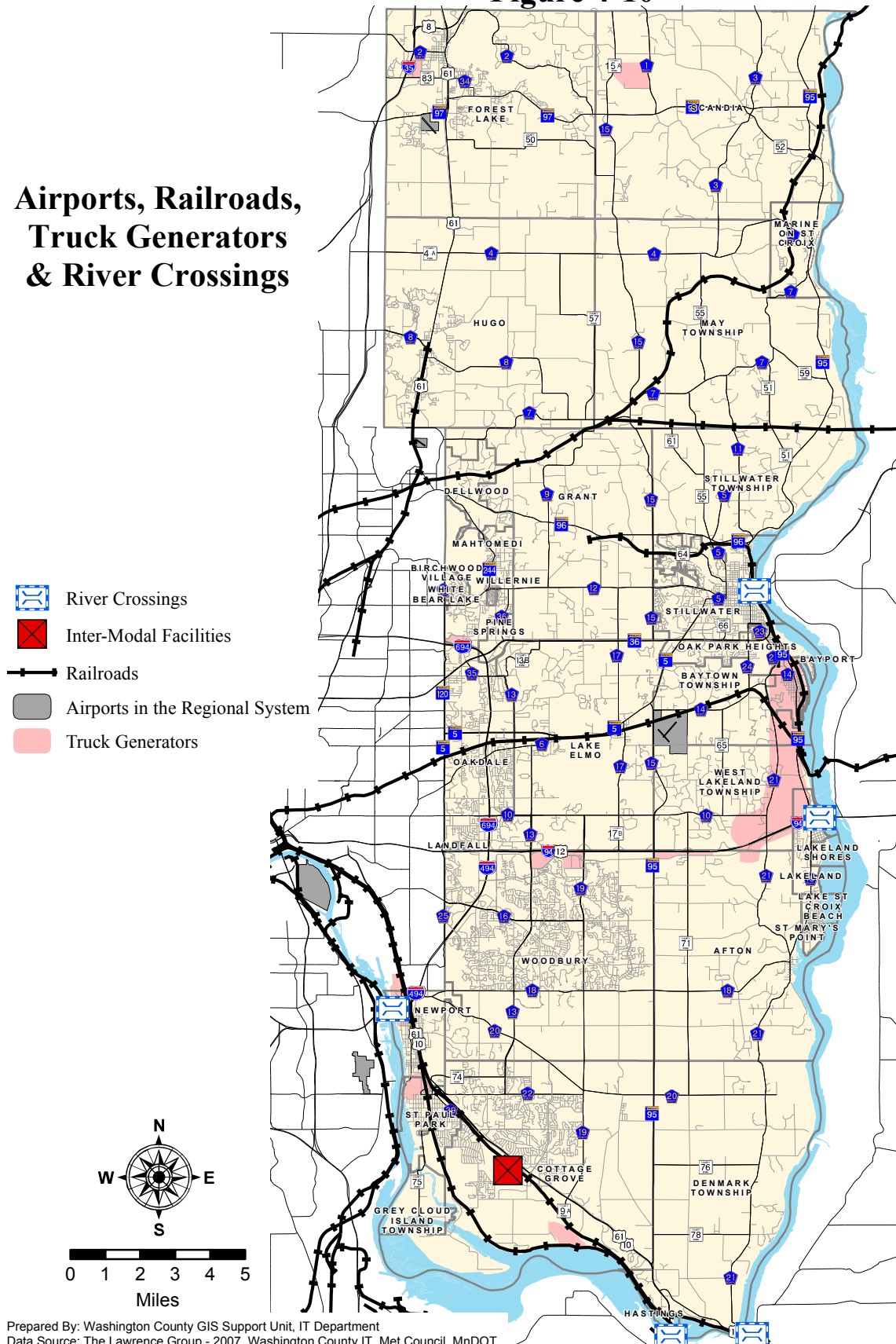
The following river bridge improvements are currently underway or scheduled.

- Construction of a new Trunk Highway 36 crossing of the St. Croix River is currently scheduled to begin in 2013. MN/DOT is the lead agency.
- Construction of the Trunk Highway 61 bridge is scheduled to begin in 2010. The reconstruction schedule of this bridge has been accelerated due to its fracture-critical structure and low sufficiency rating. MN/DOT is the lead agency.
- Construction of the Interstate 494 Wakota Bridge is currently underway and is scheduled for completion in 2010. MN/DOT is the lead agency.
- Bridge 5600 was closed to traffic in 1999 due to safety concerns and was removed in winter of 2009.

Figure 4-10 shows the river bridge crossing locations in the county.

Figure 4-10

Airports, Railroads, Truck Generators & River Crossings



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007, Washington County IT, Met Council, MnDOT



Scenic Byways and Natural Preservation Routes

The Scenic Byways and Natural Preservation Route designations could be regarded as overlay designations that distinguish roads that have special scenic, historic, cultural, or natural characteristics.

Scenic Byways

The Federal Intermodal Surface Transportation Equity Act of 1991 (ISTEA) created a National Scenic Byways Program to designate and protect roads that provide an enjoyable travel experience. The St. Croix Scenic Byway parallels the St. Croix River along CSAHs 18 and 21 south of Interstate 94 and along Trunk Highway 95 north of Interstate 94 in Washington County and then continues north through Chisago and Pine counties north to Pine City. The Great River Road runs along TH 61 and TH 10 in the southwestern portion of the county

Natural Preservation Routes

The east-west section of CSAHs 18 and 21 within the city of Afton are designated as a Type III Natural Preservation Route as part of the Minnesota County State Aid Highway system. This designation allows road designs to be more compatible with their natural surroundings than would typically be allowed under state-aid standards. The purpose of the program is to protect the unique scenic or environmental characteristics along CSAH roads.

Freight

Trucking

Commercial trucking is a primary mode of transportation for the movement of goods within and through the county. Washington County highways are designated trucking routes, designed and constructed to accommodate and support the transport of

freight by truck. The sites that generate significant truck volumes are listed below and are shown on Figure 4-10.

- Andersen Windows in Bayport.
- Truck terminal in Afton near Interstate 94 and Neal Avenue (CR 71).
- Gravel quarries along Stagecoach Trail (CSAH 21) from 30th Street North to Division Street.
- Federal Express truck terminal in Mahtomedi near Interstate 694 and Century Avenue (TH 120).
- Aggregate Industries in Grey Cloud Island Township.
- Marathon Refinery in Newport near Trunk Highway 61 and 70th Street South.
- Jamaica Avenue truck terminal in Cottage Grove.
- Distribution centers in Woodbury.
- Commercial areas in Forest Lake.

With the exception of the gravel quarries and aggregate industries, these major truck generators have close proximity and access to the state trunk highway system, thereby reducing their impact on county and local roads.

Railroads

Railroads are a significant element in the country's transportation system, moving freight to and between ports and major urban areas. Railroads have an impact on land use, the physical and social environment, and other components of the transportation system.

Figure 4-10 shows the location of the five railroads that operate in Washington County. These railroads are Burlington Northern Santa Fe (BNSF), Canadian National (CN, former Wisconsin Central), Canadian Pacific (CP, former Soo Line), Minnesota Commercial (MNNR), and Union Pacific (UP).



Railroad companies are divided into three classes based on operating revenues and status as defined by the federal Surface Transportation Board. Class I railroads are the largest, long-haul carriers and have annual gross operating revenue of at least \$346.8 million. These railroads provide important connections to national and international freight markets. Class I railroads operating in Washington County are BNSF, CN, CP, and UP.

Class II railroads, also referred to as regional short line railroads, have annual gross operating revenue between \$27.8 million and \$346.8 million. No Class II railroads operate in Washington County.

Class III railroads, also referred to as short line or local railroads, have annual gross operating revenue of less than \$27.8 million. These are primarily local railroads with traffic that originates or terminates on the line; they provide local businesses with connections to the national railroad network. MNNR is the only Class III railroad operating in Washington County. It operates on right-of-way owned by BNSF and the Washington County Regional Railroad Authority. This railroad line, known as the Rush Line, formerly ran north to Duluth. The line is abandoned between Hugo and North Branch; its right-of-way is being preserved by the Regional Railroad Authority as the Hardwood Creek Trail and Sunrise Prairie Trail. This corridor offers the potential for future use by freight, commuter rail, or high speed rail service.

The Minnesota Zephyr is a privately owned local railroad in Stillwater that ceased operations in January, 2009.

Intermodal facilities are locations where bulk commodities are transferred from rail to other modes of transportation. MN/DOT's intermodal facilities database lists one major freight rail transloading terminal in Washington County. This facility is an auto reloading terminal in Cottage Grove where automobiles are transferred from rail cars and onto trucks for regional distribution. Washington County is in close proximity to major intermodal facilities in St. Paul and Minneapolis on the BNSF, CP,

and UP railroad systems. These facilities connect the greater Twin Cities region with national and international markets.

The Red Rock Corridor Commuter Rail line would share tracks with the existing freight lines along the Trunk Highway 61 corridor currently owned by BNSF and CP. (See the Transit Section for more details on this rail line.)

Amtrak's Empire Builder long distance passenger train service between Chicago and Seattle and Portland utilizes CP and BNSF tracks in Washington County, though there is no station stop within the county. The closest station stops are in St. Paul-Minneapolis and Red Wing, MN. There is potential to upgrade this service to high-speed rail between the Twin Cities Metropolitan Area and Chicago, Illinois, as part of the Midwest Regional Rail Initiative (MWRRI).

Aviation

Commercial aviation service to national and international destinations is available through the Minneapolis-St. Paul (MSP) International Airport. Business and private aviation service is available at the St. Paul downtown airport. Washington County also is served by two publicly-owned airports located within the county. The Lake Elmo Airport is located in Baytown Township and is owned and operated by the Metropolitan Airports Commission (MAC). The Daniel Deponti Municipal Airport is located in and owned and operated by the city of Forest Lake. Figure 4-10 shows the location of the airports within the county.

Lake Elmo Airport

The Lake Elmo Airport, located on 640 acres in Baytown and West Lakeland townships, is a general aviation airport. The Metropolitan Council classifies it as a minor airport. The airport serves as a secondary reliever to the MSP airport and is used for air taxi, business aviation, flight training, personal use, recreation, and military purposes. The airport facility consists of: two main building areas and operational and maintenance buildings; two paved runways, one of which is equipped with



medium intensity runway lights, neither has instrument approaches; and over 50 hangar structures plus a private hangar.

Daniel Deponti Airport, Forest Lake

The Daniel Deponti Airport, located on 180 acres in Forest Lake, is a general aviation airport. The airport consists of a single 2,725-foot turf runway on approximately 180 acres. Take-offs and landings at the airport are accomplished by visual approach; no instrument approach procedures are currently available. In 2000, the city of Forest Lake completed a facility plan. It also completed an Alternative Urban Area wide Review (AUAR) to study the environmental effects of the proposed improvements.

The Daniel Deponti Airport will play an expanding role in the regional aviation system by providing both local and non-local general aviation facilities and services. The FAA has identified this airport as a potential reliever airport in the future.

The city of Forest Lake has identified improvements to the airport, including a 3,300 foot-long paved runway, runway lights, and a non-precision instrumentation approach.

Seaplane Operations

Special state rules regulate seaplane operations on all public waters in the Twin Cities Metropolitan Area. In Washington County, seaplane operations are only permitted on Big Carnelian Lake, Big Marine Lake, Clear Lake, Forest Lake, Lake Elmo, Oneka Lake, the Mississippi River, and the St. Croix River. On White Bear Lake, seaplane operations are permitted, but with additional restrictions on weekend and holiday operations.

Transit

Meeting the transportation needs of Washington County residents requires a complete transportation system incorporating a variety of transportation modes. Affordable and convenient transit is an essential characteristic of urban and

suburban communities. The growing demand and opportunity for convenient and reliable transit service is fueled not only by the aging of the county's population but also by its increasing growth and densification. Providing convenient, reliable, and robust transit service can play a vital role in supporting mobility, access, and economic development.

Transit Market Areas

The Metropolitan Council's 2030 Transportation Policy Plan (TPP) identifies five transit market service areas within the Twin Cities Metropolitan Area. Market areas represent expected demand for transit and are defined by population, employment, aggregate vehicle availability, and land uses. Table 4-3 displays the Metropolitan Council's recommended service options for each market area. Existing Washington County transit service delivery is generally consistent with these guidelines. Highly developed areas of Washington County, including portions of Woodbury, Oakdale, Cottage Grove, and Stillwater are primarily in Market Area III. Developing areas are primarily in Market Area IV. Rural areas are primarily in Market Area V.

Table 4-3 Transit Market Area Service Options Washington County	
Transit Market Area	Suggested Service Type
Area I	Primary emphasis on regular route service. Downtown area circulators possible.
Area II	Primary emphasis on regular route service. Cross-town routes and limited stop services link major destinations.
Area III	A mix of regular route and community circulator service complemented by dial-a-ride service in specific cases. Community circulators tie into regular route regional service at a transfer point.
Area IV	Peak period express service, if potential demand for service is sufficient to support at least three peak-period trips. General public dial-a-ride services.
Area V	Primary emphasis on general public dial-a-ride services.

Source: Metropolitan Council 2030 Transportation Policy Plan, Appendix G



Fixed-Route Transit

The Metropolitan Council's Metro Transit and Metropolitan Transportation Services (MTS) provide the fixed-route transit service in Washington County, including express, local, and reverse commute. Existing fixed-route service transit service is shown in Figure 4-11.

Express Service

Express service operates during peak periods and serves commuters living in the suburbs and working in the downtowns of Minneapolis and St. Paul. Table 4-4 lists the express routes operating in Washington County. Each of the commuter corridors is a candidate for fixed-guideway transit, discussed later in this chapter.

Table 4-4 Express Bus Service Washington County		
Commuter Corridor	Route	Description
Interstate 35W	288	Forest Lake–Minneapolis
Trunk Highway 36	270 294	Mahtomedi–Maplewood–Minneapolis Stillwater–Oakdale–St. Paul
Interstate 94	350 351 353 355 375	Maplewood (Century Avenue)–St. Paul Woodbury–St. Paul Woodbury–St. Paul–Minneapolis Woodbury–Minneapolis Oakdale–Minneapolis
Trunk Highway 61/Red Rock	361 364 365	Cottage Grove–St. Paul St. Paul Park–Newport–St. Paul Cottage Grove–Minneapolis

Source: Metropolitan Council Transit

Local Service

Local service provides short trips within a community or to adjacent communities throughout the day. Metro Transit routes 70 and 74 terminate at or just inside the county border. Metro Transit route 219 connecting Maplewood Mall to the Sun Ray

Transit Center via Century Avenue serves the city of Landfall. The remainder of the county is not served by local bus service.

Reverse Commute Service

Reverse commute service serves residents of the central cities who use transit to travel to suburban employment centers. These routes typically operate during peak hours and travel in the opposite direction of the peak hour express routes. Metro Transit provides reverse commute service on routes 294, 351, and 361.

Demand Responsive Transit

Demand responsive transit service in Washington County consists of complementary services that are compliant with the Americans with Disabilities Act (ADA) and two kinds of public dial-a-ride services.

Complementary ADA Services

In compliance with the ADA, Metro Mobility provides demand responsive service for persons with disabilities that prevent them from using the regular route system. Within the Metropolitan Transit Taxing District (a portion of the metropolitan area in which all taxable property is assessed a tax to be used for payment of transit and para-transit services), the Metropolitan Council contracts with Human Services Inc., (HSI) to provide additional ADA services. The HSI ADA service area covers the following communities: Bayport, Baytown Township, Birchwood Village, Cottage Grove, Dellwood, Grey Cloud Island Township, Lake Elmo, Mahtomedi, Newport, Oak Park Heights, Pine Springs, St. Paul Park, Stillwater, Willernie, and Woodbury.

General Dial-a-Ride Programs

The HSI Transporter provides general public shared ride dial-a-ride service throughout the entire county. Service by HSI to the non-disabled, senior, and general population is provided weekdays from 8 a.m. to 5 p.m. In some areas, HSI provides regular dial-a-ride service on an as-needed basis as early as 5:30



a.m. and as late as 8 p.m. HSI estimates its Washington County customer base to be 1,200 persons.

Two community-based systems operate dial-a-ride transit service in portions of Washington County. These services originally formed to meet a specific mobility need for elderly or disabled but are now available to the general public. Northeast Suburban Transit (NEST) provides general dial-a-ride service in Oakdale and a few key destinations outside of Oakdale weekdays between 6 a.m. and 6 p.m. Lake Area Bus provides general dial-a-ride service in White Bear Lake, Willernie, Mahtomedi and Birchwood weekdays between 6 a.m. and 6 p.m.

Contracted Dial-a-Ride Programs

The MTS funds three additional dial-a-ride services in Washington County. Woodbury Dial-a-Ride provides service in and around the city of Woodbury and to Sun Ray Shopping Center, weekdays between 7 a.m. and 6 p.m. St Croix Valley Dial-a-Ride (Route 246) provides service in Stillwater, Bayport and Oak Park Heights weekdays between 8 a.m. and 5 p.m. South County Circulator Dial-a-Ride (Route 320) provides service in Cottage Grove, Newport, and St. Paul Park, weekdays between 5:30 a.m. and 6:30 p.m.

Transit Facilities

Park-and-Ride Facilities

Eight park-and-ride facilities anchor the county's express bus service. The majority of these facilities are joint-use lots. The Forest Lake Transit Center and the Cottage Grove Park-and-Ride serve only transit purposes. Table 4-5 shows the capacity and usage at each facility in October 2008. The joint-use facility at Guardian Angels Catholic Church is expanding to 435 vehicles to accommodate high park-and-ride demand in Oakdale and Woodbury.

Table 4 - 5 Park and Ride Capacity and Usage, October 2008 Washington County				
Facility	City	Capacity	Usage	Utilization
Cottage Grove	Cottage Grove	525	284	54%
Forest Lake Transit Center	Forest Lake	308	81	26%
Walton Park	Oakdale	58	37	64%
Guardian Angels Catholic Church	Oakdale	200	229	115%
St. Croix Valley Recreation Center	Stillwater	100	40	40%
Christ Episcopal Church	Woodbury	50	70	140%
Woodbury Theatre	Woodbury	550	573	104%
Woodbury Lutheran Church	Woodbury	90	85	94%
Total		1,881	1,399	74%

Source: 2008 Annual Regional Park-and-Ride System

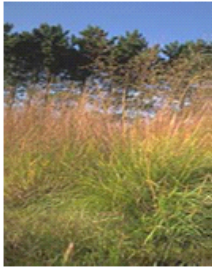
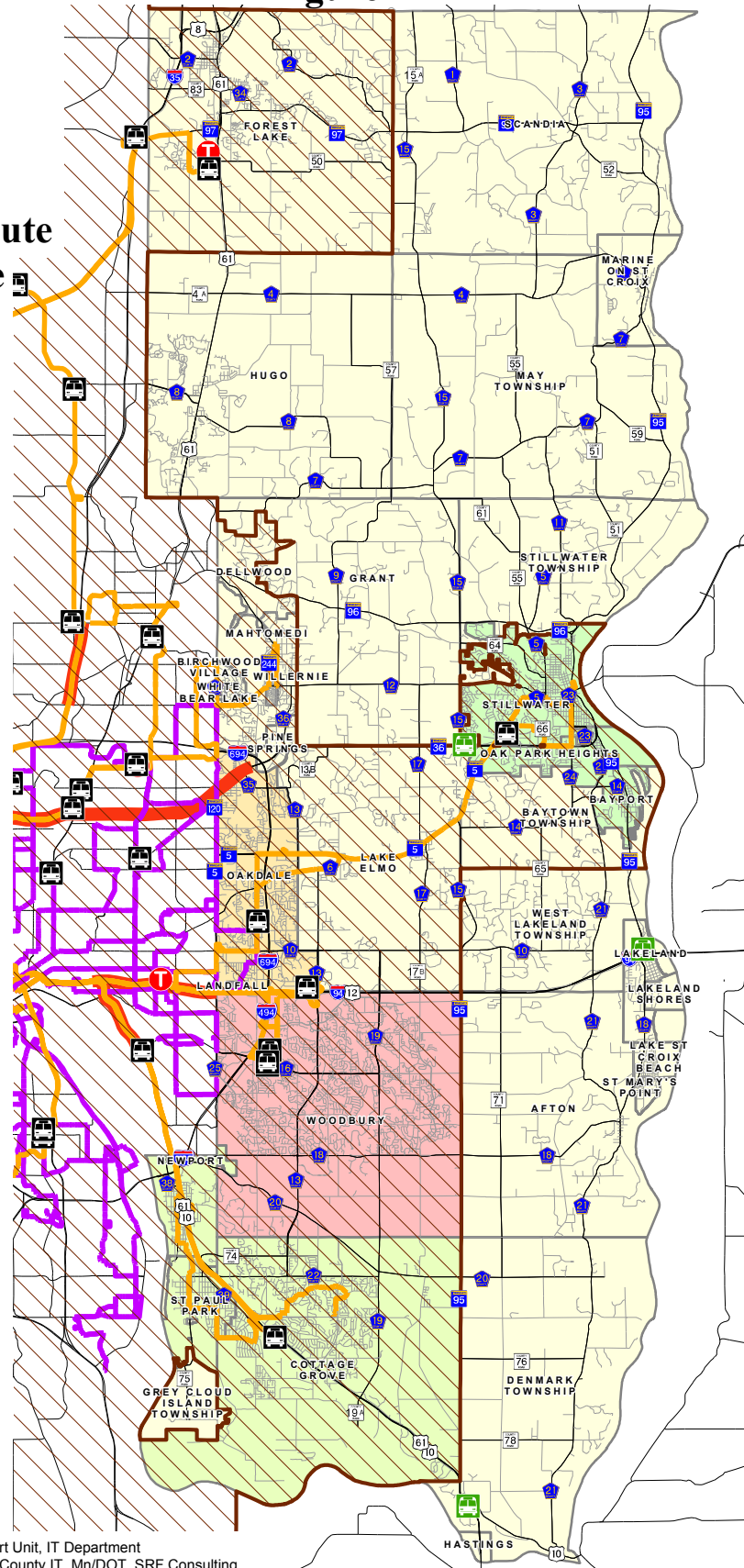
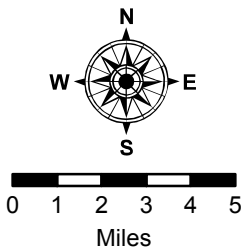


Figure 4-11

Existing Fixed Route Transit Service

- Transit Center
 - Active Park & Ride
 - Active Park & Pool
 - Transit Capital Levy Area
 - Express Bus Service
 - Local Bus Service
 - Bus Only Shoulder Lane
- Local Transit Services**
- HSI Transporter
 - Northeast Suburban Transit
 - South County Circulator
 - St. Croix Circulator
 - Woodbury Dial-a-Ride



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: TLG, Met Council, Washington County IT, Mn/DOT, SRF Consulting

Park-and-Pool Facilities

Park-and-pool facilities serve people who participate in an organized carpool activity; they are not served by regular-route transit. Two park-and-pool lots are located within Washington County, both in the northern half of the county. Table 4-6 shows the capacity and usage for these facilities in October 2008.

Table 4-6 Park-and-Pool Capacity and Usage, October 2008 Washington County				
Facility	City	Capacity	Usage	Utilization
State Highway 36 & Manning Avenue	Stillwater	15	3	20%
Interstate 94 & State Highway 95	Lakeland	48	42	88%
Total		63	45	71%

Source: 2008 Annual Regional Park-and-Ride System Survey, Metro Transit

Transit Advantages

Transit advantages are physical features that provide a travel time advantage over automobiles using the same facility, thereby increasing the attractiveness of transit. These include bus-only shoulders, high occupancy vehicle lanes and ramp meter bypasses. Bus-only shoulders are the only form of transit advantage within Washington County. They are located on Trunk Highway 36 west of Interstate 694. Bus-only shoulders allow buses to use the roadway shoulder to bypass automobiles in the general flow of traffic during heavily congested times.

Transitways

Described below and shown on Figure 4-12 are the five transitways included in the Metropolitan Council's TPP for Washington County. Implementation of transit in these transitway corridors will be achieved by providing travel-time advantages for transit vehicles, improving transit service reliability and increasing the convenience and attractiveness of transit service. Each has been identified as a corridor in need of additional studies to determine the most appropriate transit mode and alignment.



Red Rock Corridor

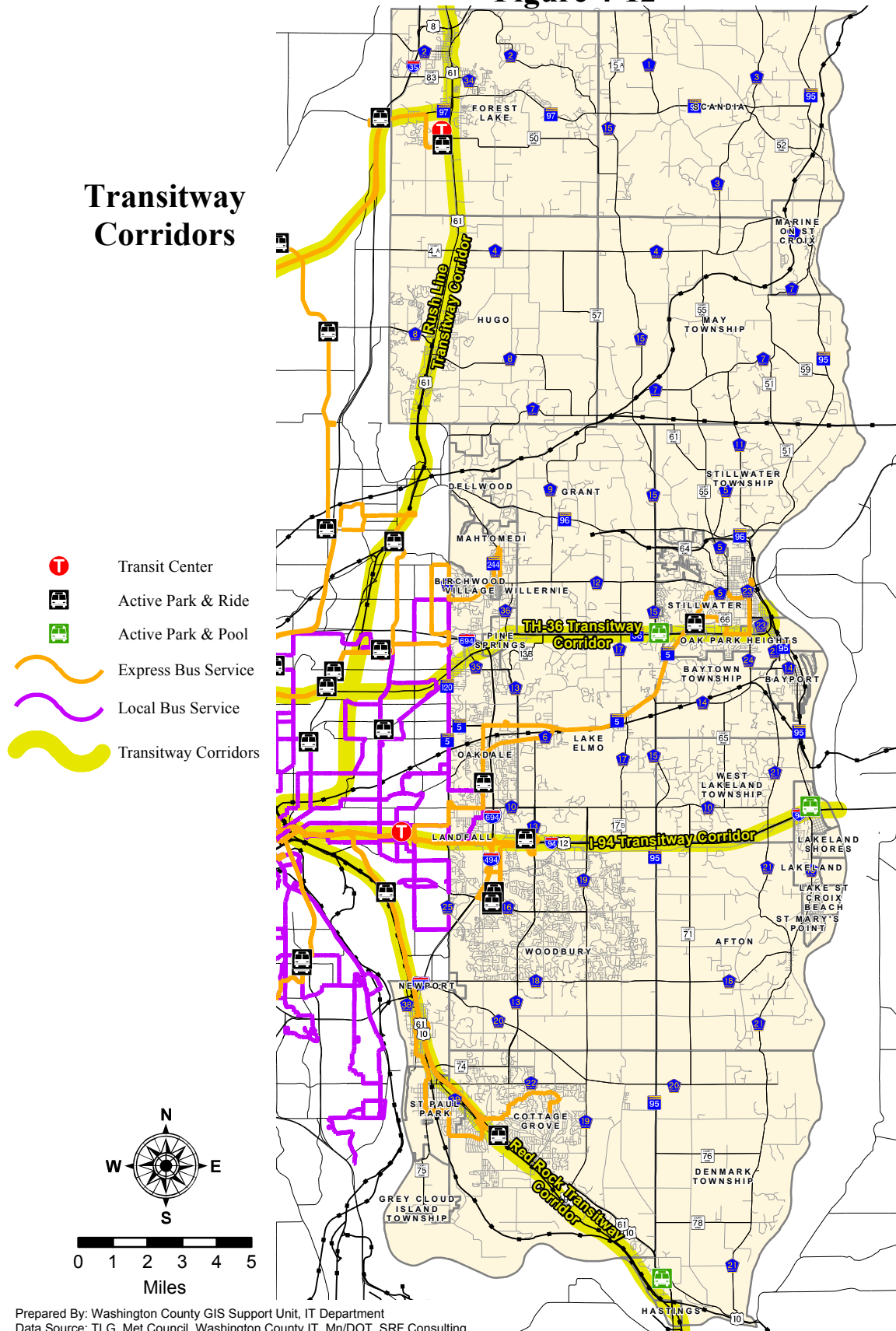
The 30-mile Red Rock Corridor originates in Hastings and follows Trunk Highway 61 and Interstate 94 through St. Paul (Union Depot) and on to Minneapolis with connections to Central Corridor Light Rail Transit (LRT), Northstar Commuter Rail, and Hiawatha LRT.

The Red Rock Corridor Commission was established in the late 1990s to begin advocating, promoting, and planning for this transitway. This commission is made up of Dakota, Hennepin, Ramsey, and Washington counties and all of the communities along the corridor. The Red Rock Corridor Commission has completed several studies for this corridor. The November 2007 alternatives analysis identified a phased approach to implementing commuter rail as the recommended approach for the corridor. The TPP supports the recommendation from the alternatives analysis if high-speed rail is also developed in the corridor. Options for a phased improvement with enhanced bus service are currently under review.

Rush Line Corridor

The 80-mile Rush Line Corridor begins in downtown St. Paul (Union Depot) and follows Trunk Highway 61 and Interstates 35E/35 through Ramsey, Anoka, Washington, Chisago, and Pine counties to Hinckley. The Rush Line Corridor Task Force was established in the late 1990s to begin advocating, promoting, and planning for this transitway. This task force is made up of Ramsey, Anoka, Washington, Chisago, and Pine counties and the communities along the corridor. Several studies have been completed for the corridor. The 2001 Rush Line Corridor Transit Study concluded that commuter rail and/or bus rapid transit were viable in the corridor and recommended that both advance into the project development phase. An alternatives analysis is scheduled for completion in mid-2009. An intermediate commuter bus service in the corridor is also under review.

Figure 4-12



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: TLG, Met Council, Washington County IT, Mn/DOT, SRF Consulting



Interstate 94 Corridor

The 20-mile Interstate 94 Corridor extends from St Paul and to the St Croix River with connections to Minneapolis to the west and Wisconsin to the east. An I-94 East Corridor Commission was recently established to begin advocating, promoting, and planning for this transitway. An alternatives analysis to identify ridership, mode, alignment, and costs for this transitway will begin in mid-2010.

Trunk Highway 36/NE and Interstate 35W North Corridors

The Trunk Highway 36/NE transitway runs from Stillwater to Minneapolis along Trunk Highway 36 and the northeast diagonal alignment. The Interstate 35W North transitway begins in Minneapolis and follows Interstate 35W to Forest Lake. Planning for improved transit in these corridors has not yet begun.

High Speed Rail Corridor

The Federal Railroad Administration has designated ten high speed rail corridors throughout the country (see Figure 4-13). This designation allows a corridor to receive specially targeted funding for highway-rail grade crossing safety improvements, and recognizes the corridor as a potential center of high speed rail activity. Included in these corridors is the Chicago Hub Network, which includes a 400-mile corridor from Chicago, Illinois, to Milwaukee, Wisconsin, and the Twin Cities Metropolitan Area. Within Minnesota, the designated route runs along the Mississippi River from La Crescent, to the Twin Cities utilizing tracks owned and operated by BNSF and CP Rail. The section of this high speed rail corridor from Hastings to St Paul would utilize the same tracks as the Red Rock Corridor Commuter Rail.

**Figure 4-13:
Federally-Designated High Speed Rail Corridors**



Non-Motorized Facilities

Washington County operates trail corridors that serve both recreational and transportation purposes. In addition to bicycle commuters, these trails are commonly used by walkers/runners, recreational bicyclists, inline skaters, and, on some trails, cross-country skiers and snowmobilers. Where separated trails do not exist, road shoulders provide an interim facility for non-motorized travel. Washington County does not designate shoulders as trails or bicycle routes.

The Park and Open Space Chapter describes the three categories of regional trails including regional destination trails, regional linking trails, and county linear parks, trail corridors, and parkways. In addition to the regional trails, many county road rights-of-way contain trails that provide mobility within the community, access to the regional trails, or access to communities in neighboring counties. Figure 4-14 shows the trail system for Washington County.

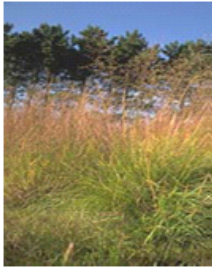
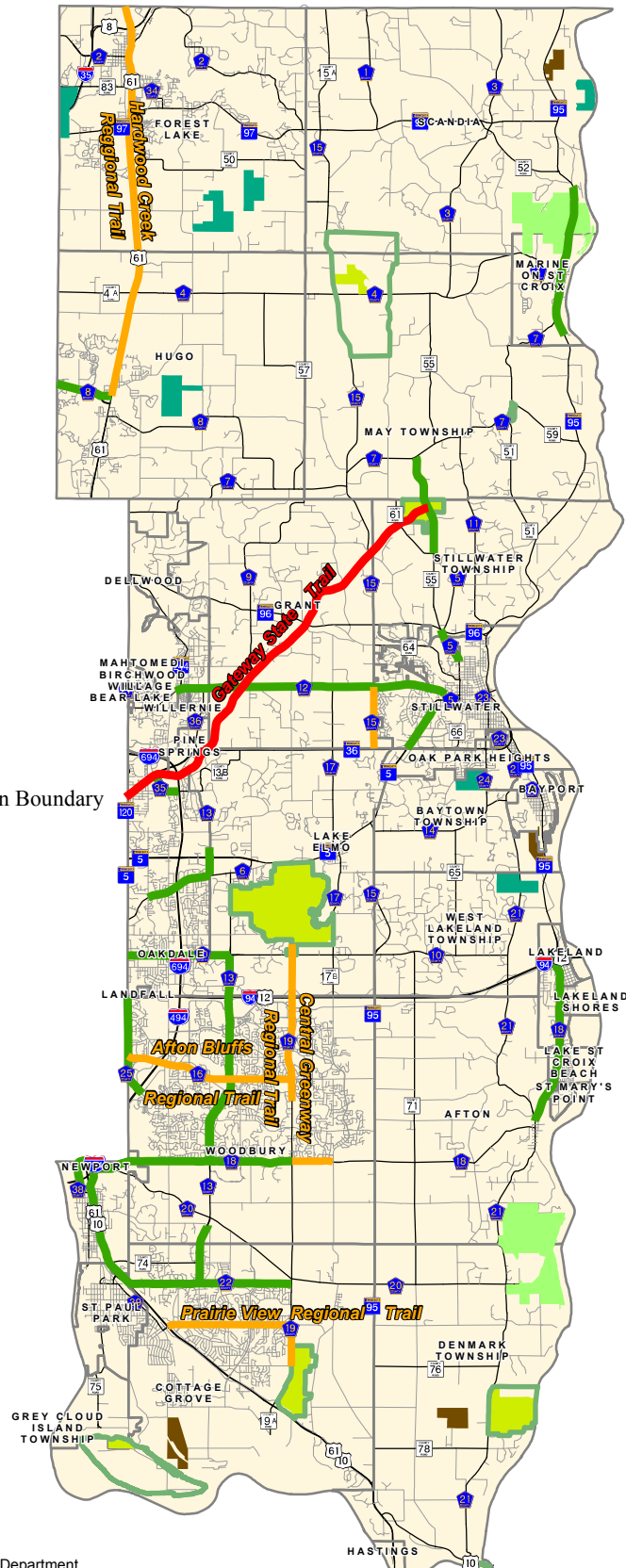
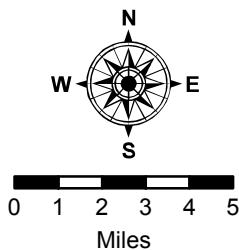


Figure 4-14

Existing Trail System

-  Existing County Trail
-  Existing Regional Trail
-  Existing State Trail
-  State Park
-  County Park Planned Master Plan Boundary
-  County Park
-  Scientific and Natural Area
-  Wildlife Management Area



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Metropolitan Council - 2007, Washington County GIS Support Unit - 2007

Management Tools

Access Management

Access management guidelines are used to enhance safety and maintain the capacity and mobility of important transportation corridors. They balance these needs with the need to access private property. Standardized guidelines communicate the expectations of the permitting agencies to the developer, landowner, or organization that is requesting access to the roadway. The guidelines promote good access practices such as:

- Aligning access with other existing access points.
- Providing adequate spacing to separate and reduce conflicts.
- Supporting indirect access rather than direct access on high-speed, high-volume arterial routes.
- Aligning operations with the functional classification.

Washington County has adopted, as part of its zoning ordinance, the access spacing guidelines shown in Table 4-7. These guidelines are similar to the Minnesota Department of Transportation standards, but differ in details to address the unique needs of county roadways. These guidelines guide decisions about the proper location and type of access to the county road system as development or redevelopment occurs adjacent to county roadways or when county roadways are widened or reconstructed.



Table 4-7
Access Spacing Guidelines ⁽¹⁾
Washington County

Type of Access	Functional Classification of County Highway				
	Principal Arterial	Minor Arterial ⁽²⁾		Collector	Local
		> 7,500 ADT	< 7,500 ADT		
Private residential driveways	No direct access	No direct access	variable ⁽³⁾	variable ⁽³⁾	variable ⁽³⁾
Commercial driveways or non-continuous commercial streets	No direct access	No direct access	1/8 mile	1/8 mile	variable ⁽³⁾
Non-continuous residential streets ⁽⁴⁾	No direct access	1/8 mile with no median opening	1/8 mile	1/8 mile	variable ⁽³⁾
Continuous local streets and collector streets	½ mile	¼ mile	¼ mile	1/8 mile	1/8 mile
Minor arterials	½ mile	½ mile	½ mile	½ mile	½ mile

- (1) Distances shown are minimums. The county reserves the right to increase the minimum distances based on other criteria. The type of traffic control, turn lanes and bypass lanes required are determined based upon the projected traffic volumes on the type of access requested.
- (2) ADT is the 20-year forecast for average daily traffic.
- (3) Spacing is based on criteria such as sight distance, speed, traffic volumes, etc.
- (4) Cul de sac or short-length streets (less than ½ mile) that do not cross a county highway.

Right-of-Way Preservation Methods

When future expansion or realignment of a roadway is proposed, but not immediately programmed, agencies should consider right-of-way preservation strategies to reduce costs and maintain the feasibility of the proposed improvement. The most common strategies used to preserve right-of-way for future construction include advance purchase, zoning and subdivision, and official mapping. Before implementing any right-of-way preservation programs, local agencies should weigh the risks of proceeding without environmental documentation

prior to purchase. If environmental documentation has not been completed, agencies risk preserving a corridor or parcel that has associated environmental issues.

Advanced Purchase

One of the best ways to preserve right-of-way is to purchase it. Unfortunately, agencies rarely have the necessary funds to purchase right-of-way in advance, and the public benefit of purchasing right-of-way is not realized until a roadway or transportation facility is built. Typically, local jurisdictions use other corridor preservation methods prior to roadway construction and then purchase the right-of-way at the time of design and construction.

Planning and Zoning Authority

Under local planning and zoning authority, jurisdictions have a number of tools for preserving right-of-way for transportation projects. These tools include:

Zoning: If the property is in a very low-density area (e.g., agricultural district), local agencies should try to maintain the existing zoning classification. A lower zoning classification limits the risk for significant development to occur before funding becomes available for roadway construction.

Platting and Subdivision Regulations: Local platting and subdivision regulations give jurisdictions the authority to consider future roadway alignments during the platting process. Communities can regulate land development to influence plat configuration and the location of proposed roadways. In most instances, planning and engineering staff work with developers to develop a plat that accommodates the landowners' and developers' desires and conforms to a long-term community vision and/or plans. Communities can require right-of-way dedication as part of the platting and subdivision process.

Transfer of Development Rights: Some jurisdictions allow increased development densities on portions of the parcel if the developer transfers right-of-way to the jurisdiction for the future roadways needed by the development. This enables the



developer to get the same number of lots or units and also enables the jurisdiction to obtain the needed right-of-way.

Official Mapping

A jurisdiction can adopt an official map that identifies the centerline and right-of-way needed for a future roadway. After a public hearing, the jurisdiction can incorporate the official map into its thoroughfare or community facilities plan. The official mapping process allows agencies to control proposed development within an identified area and to influence development on adjacent parcels. If an affected property owner requests to develop his/her property, jurisdictions have six months to initiate acquisition of the property to prevent its development. If not purchased, the owner is allowed to develop in conformance with current zoning and subdivision regulations. The official mapping process should only be used for preserving key corridors in areas with significant growth pressures. In some cases, official mapping of key parcels/corridors may increase the agency's ability to find sources of funds to purchase at-risk parcels.

Cost Participation Policy

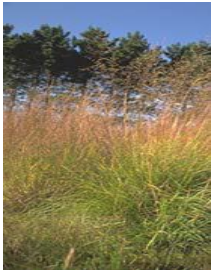
Washington County adopted policies for determining the appropriate division of cost participation in funding cooperative roadway projects, traffic signals, and bridge construction projects with the Minnesota Department of Transportation, municipalities, and other agencies. For roadway and bridge projects, the costs splits differ for cities with populations greater than 5,000 and for those with populations less than 5,000. The primary purpose for this difference is the absence of direct State Aid funding to municipalities with less than 5,000 residents. The policy also guides the county's cost participation when communities use Tax Increment Financing (TIF) and for jurisdictional changes or turnbacks. The county is working collaboratively with local communities to revise and update the cost-participation policy to address current needs.

Pavement Condition Index

Through the Pavement Management System the county monitors the condition of the roadway surface of every segment of the county highway system. The Pavement Condition Index (PCI) is used to determine the surface quality of the pavement; it is a 100-point scale with 100 being the smoothest pavement. Pavement smoothness is widely recognized as important for user satisfaction and long-term performance of the roadway. A smoother pavement provides a more comfortable ride for the motorist or bicyclist. A roadway free of cracks and potholes requires less maintenance and is expected to have a longer life expectancy. The county has established the minimum PCI threshold to be 72. Roadway segments that have a PCI below this rating are targeted for pavement rehabilitation in the county's capital improvement program.

Intersection Control Ranking System

The Intersection Control Ranking System (ICRS) policy guides the prioritization of traffic control changes at intersections on county highways. Increased traffic control typically includes installation of an all-way stop or a traffic signal, construction of a roundabout or some other intersection geometric improvement. The policy provides a clear and documented process for prioritizing and making decisions on intersection improvements based on need. The evaluation criteria in the policy include traffic-signal warrants contained in the Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD), crash history, and intersection level of service (LOS) or delays. Intersections are included in the ICRS by either a recommendation by county staff based on experience or through a request by a local community.



TRANSPORTATION PLAN

A well planned, designed, constructed, and maintained transportation system is one of the factors in making Washington County a healthy, economically vibrant, and safe community. To accurately forecast its transportation needs to 2030, Washington County studied the existing transportation system, socioeconomic profiles of the community, and travel behaviors. The examination of the transportation system included a review of the functional classification system, jurisdictional classifications, current and historic traffic volumes, existing and projected capacity deficiencies, programmed roadway improvements, and crash locations. The county also performed a systematic analysis of the transit system, including the various transit providers, their routes and service priorities, transit centers, and trail corridors. This section describes the identified needs of the future transportation system and establishes goals and policies to address those needs.

Goals and Policies

Goal 4-1

Develop and maintain a roadway system that accommodates the safe and efficient movement of people and goods.

Policies

- 4-1: Plan for, design, and construct roadways to accommodate existing and future traffic growth.
- 4-2: Collaborate with municipalities and the Minnesota Department of Transportation to assign roads to their proper jurisdiction.
- 4-3: Define the hierarchy of the road system by appropriately assigning functional classifications to all roads in the county system.

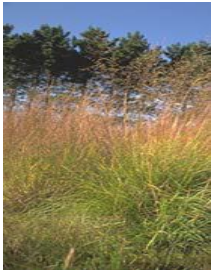
- 4-4: Manage access from local roads and state highways to the county system appropriately for each functional class.
- 4-5: Develop and implement a pavement preservation program to maintain the structural integrity of the roadway system.
- 4-6: Develop and implement an ongoing safety review process that promotes proactive and reactive treatments to reduce crashes on the roadway system.
- 4-7: Utilize traffic management techniques to improve the operations and safety and extend the life of the county roadways.

Goal 4-2

Promote the development and utilization of a transit system that meets the existing and future travel needs of the public.

Policies

- 4-8: Support the delivery of appropriate levels and types of transit service to match the specific needs of the county, based on its unique values, geography, economy, and socio-economic profile.
- 4-9: Coordinate investment in transit infrastructure with land use and transportation planning.
- 4-10: Provide information on the availability and use of transit to encourage greater use of the system.
- 4-11: Advocate and promote long-term investments in transit infrastructure that increase operating efficiency, lower operating costs, and increase ridership.
- 4-12: Support land use policies and densities that promote the development of transit supportive districts to focus transit service and capital investment.



Goal 4-3

Use effective transportation planning to accommodate existing and planned land uses, while preserving natural, cultural, and historic resources.

Policies

- 4-13: Develop and implement a cost participation policy that equitably distributes the cost of transportation projects.
- 4-14: Develop a collaborative process with local municipalities to identify fiscally responsible system improvements that are consistent with county priorities and meet the needs of municipalities.
- 4-15: Coordinate with other agencies to promote a well balanced transportation system.
- 4-16: Coordinate with communities and provide feedback on development and redevelopment proposals.
- 4-17: Avoid or minimize impacts to natural, cultural and historic features. Where impacts are unavoidable, mitigate impacts through replacement and restoration of features disturbed by construction.
- 4-18: Promote techniques to improve the water quality of runoff from the roadway system.
- 4-19: Develop and implement techniques for road maintenance to minimize chemical and particulate runoff.

Goal 4-4

Develop a non-motorized transportation system to provide mobility and recreational options to the public.

Policies

- 4-20: Integrate trails and pedestrian and bicycle uses into the design of roadway and transit facilities as appropriate.
- 4-21: Identify and support trail connections that provide links to parks, cultural and historic resources, and community destinations.
- 4-22: Provide safe and appropriate trail crossings and access to the county roadway system.
- 4-23: Comply with the American with Disabilities Act (ADA) and guidelines for new and reconstructed trail and roadway projects.

Future Transportation Needs

Highways and Roads

Proposed Functional Classification

The roadway functional classification system provides guidelines for designing a roadway network for safe and efficient movement of people. The functional classification defines a roadway's purpose and use and assists in evaluating operations. It is crucial, when soliciting federal funds, that the roadway is correctly classified so that it competes with roadways having similar characteristics.

The county reviewed the functional classification of all county roadways in March 2007. Changes proposed at that time were approved by the Metropolitan Council and are included in Figure 4-3 Road Functional Classification in the Existing Conditions section. These proposed changes include:

- CSAH 35 from Trunk Highway 36 to CSAH 13 and CSAH 13 from CSAH 35 to Trunk Highway 5: Change from a major collector to a minor arterial.
- CSAH 2 from Trunk Highway 61 to Trunk Highway 97: Change from a minor collector to a major collector.



Proposed Jurisdictional Classification

Figure 4-15 shows the candidate for changes in jurisdiction for roadways within the county. The changes represent a closer alignment between the level of government owning and maintaining the roadway and the manner in which the roadway functions to meet local, county, regional, or statewide needs. Factors that are considered when determining potential jurisdictional transfers include historical practices, legal requirements, type of trips served (purpose and length), funding, traffic volumes, access controls, maintenance issues, and functional classification. Additional information regarding jurisdictional classifications transfer decisions is available in Appendix 4-A.

Table 4-8 lists the recommended changes and shows the approximate roadway mileage for each roadway segment. Washington County is recommending a transfer of 40.9 miles from MN/DOT to Washington County, 4.6 miles from local to Washington County, and 24.3 miles from county to local, for a total net gain of 27.9 miles in county jurisdiction.

2030 Forecasts and Capacity

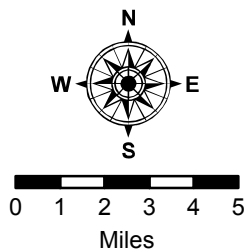
Year 2030 Base Traffic Model

The 2030 traffic model projects the traffic forecasts for the county's roadways. The traffic forecasts are an essential analytical tool to approximate the adequacy of the road system to handle planned future development. The model uses community land use plans and development objectives to project 2030 household, population, and employment data for sub-areas of the county called traffic-analysis zones (TAZs). Appendix 4-B contains a summary of the methodology used to develop the traffic forecasts and Appendix 4-C contains a map of and the data for the TAZs.

Figure 4-15

Candidate Jurisdictional Classification Changes

-  County to Local (24.3 miles)
 -  Local to County (4.6 miles)
 -  State to County (40.9 miles)
- Mileages are approximate.



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007

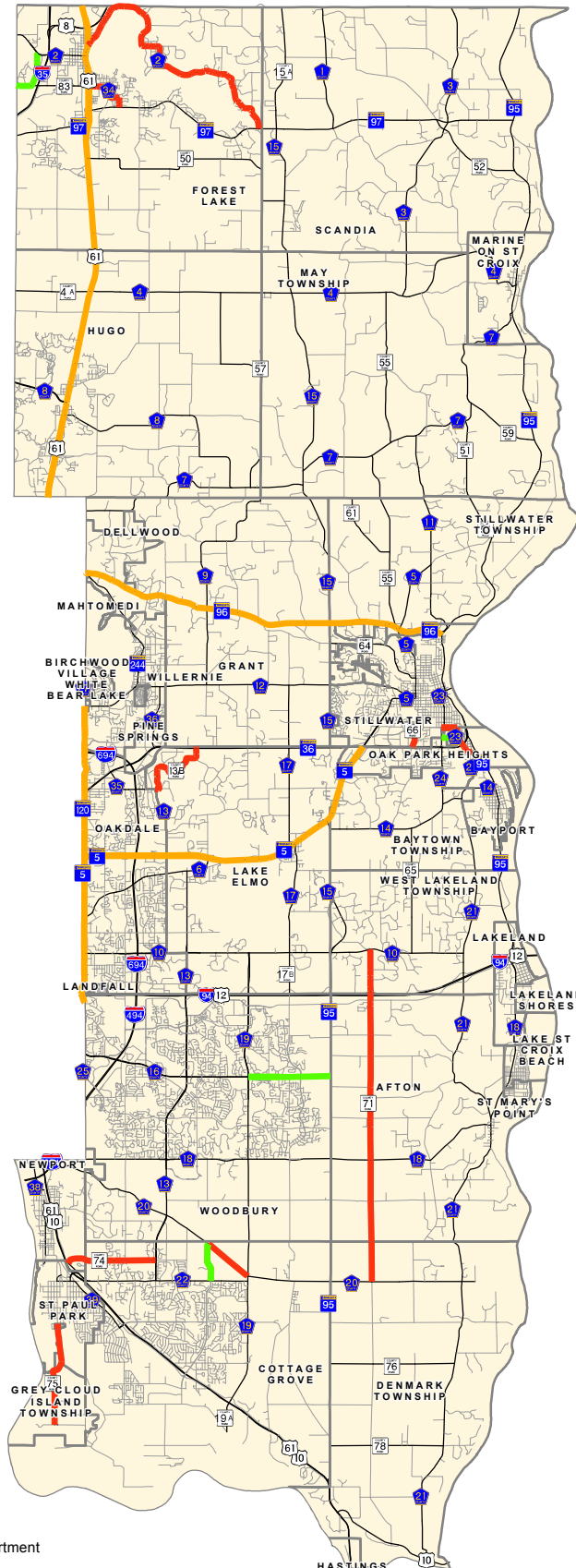




Table 4-8 Candidate Jurisdictional Changes Washington County				
Roadway	From	To	Local Community	Length (miles)
MN/DOT to Washington County				
Trunk Highway 5	West county line	Trunk Highway 36	Oakdale, Lake Elmo	8.8
Trunk Highway 61	South county line in Hugo	North county line in Forest Lake	Hugo, Forest Lake	13.0
Trunk Highway 96	West county line	Trunk Highway 95	Dellwood, Grant, Stillwater Township, Stillwater	9.5
Trunk Highway 120 (1)	Woodbine Avenue	Trunk Highway 244	Maplewood, Oakdale, North St Paul, Mahtomedi, White Bear Lake	9.6
Total Miles				40.9
Local to Washington County				
Jamaica Avenue South	CSAH 20	CSAH 22	Cottage Grove	0.9
Valley Creek Road	CSAH 19	Trunk Highway 95	Woodbury	2.0
Everton Avenue North	220 th Street N	CSAH 2	Forest Lake	0.8
220 th Street North	West county line	Everton Avenue North	Forest Lake	0.4
62 nd Street North	CSAH 24	Panama Avenue	Oak Park Heights	0.3
Oxboro Avenue	TH 36 N Frontage Road	62 nd Street N	Oak Park Heights	0.2
Total Miles				4.6
Washington County to Local				
CSAH 2	Trunk Highway 61	Trunk Highway 97	Forest Lake	7.0
CSAH 34	Trunk Highway 61	Trunk Highway 97	Forest Lake	1.2
CSAH 20	Jamaica Avenue S	CSAH 19	Cottage Grove	1.2
CR 66	TH 36	Orleans Street W	Stillwater	0.5
County Road 71	CSAH 20	CSAH 10	Afton, West Lakeland Township	6.0
County Road 74	Hastings Avenue	CSAH 13	Newport, Cottage Grove	2.2
CR 75	105 th Street S	14 th Avenue	St Paul Park and Grey Cloud Island Township	2.5
CSAH 23	CSAH 24	CSAH 21	Stillwater, Oak Park Heights	1.4
CSAH 28	Stagecoach Trail N	TH 95	Oak Park Heights, Bayport	0.2
County Road 13B	CSAH 13/CSAH 35	Trunk Highway 36	Lake Elmo	2.1
Total Miles				24.3

- (1) Jurisdiction will be jointly held with Ramsey County
 (2) Jurisdiction will be with Anoka County and/or Washington County.

The traffic forecast model takes into account future planned and programmed improvements identified in MN/DOT's 2008-2030 Transportation System Plan, Washington County's 2009-2013 Capital Improvement Program and the Metropolitan Council's Transportation Policy Plan. Various roadway projects are currently under construction or programmed for completion in the next few years. These were considered part of the future roadway system because they will likely be in place during the 2030 planning horizon. Other projects in the planning stage have been identified as needing improvements but funding has not yet been allocated. These projects were not included in the future roadway system because the time table for implementation of the improvements is uncertain. Appendix 4-D contains a list of roadway improvements that were included in the 2030 base traffic model.

The 2030 base traffic volume forecasts were prepared using the socio-economic data, existing roadway lanes, and programmed roadway improvements. They are shown on Figure 4-16.

Future (Year 2030) Capacity Deficiencies

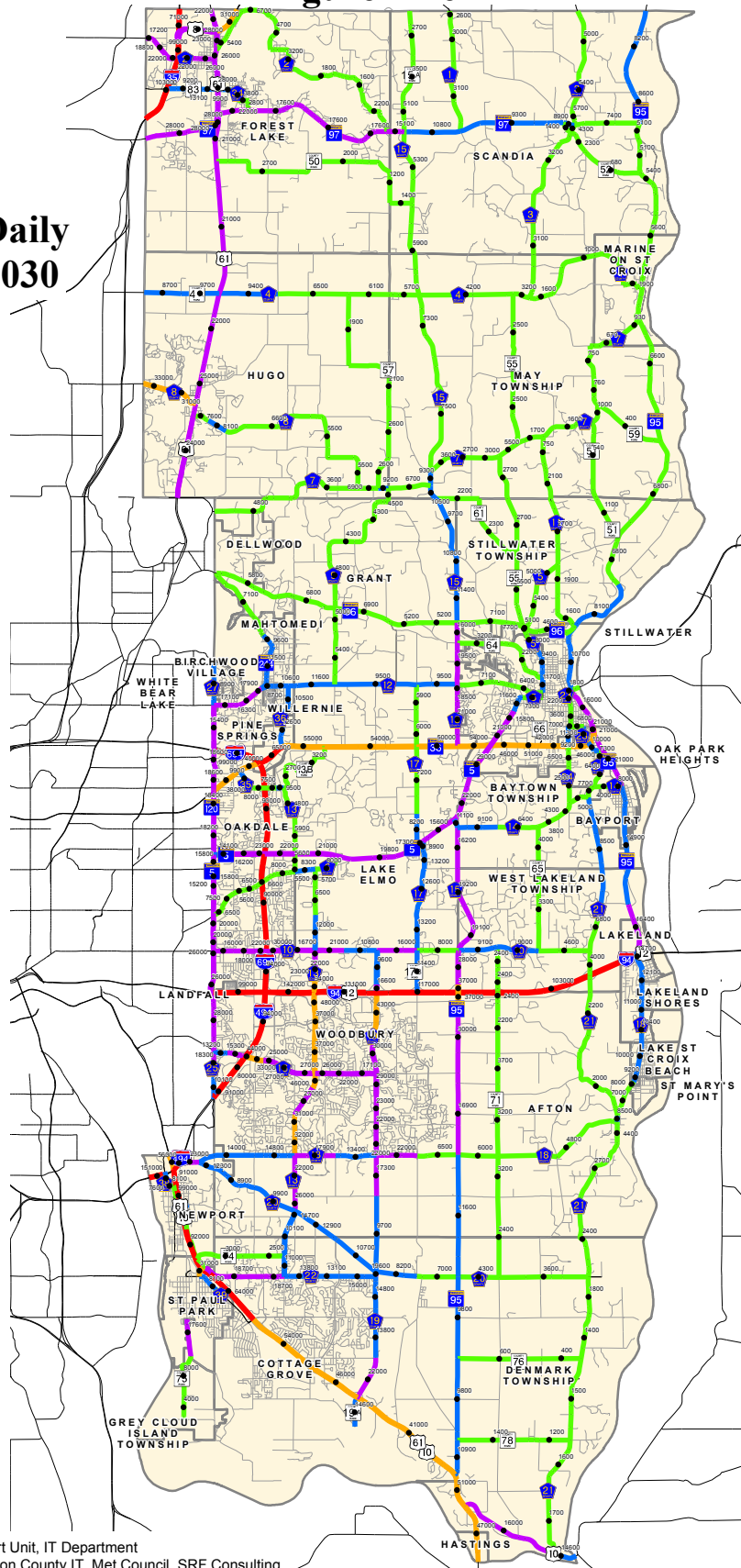
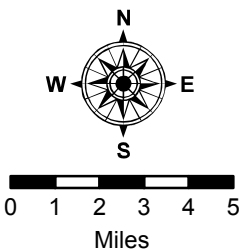
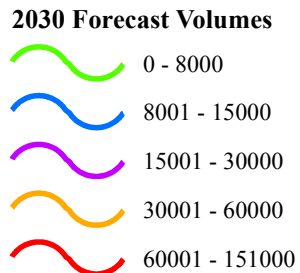
A planning-level analysis, performed to identify locations where capacity problems are expected to occur in the planning horizon, identified 16 county roadway segments that are expected to exceed the capacity of the roadway with the 2030 projected traffic volumes. It identified an additional 16 separate county roadway segments that would approach the capacity of the roadway with the 2030 projected traffic volumes. Figure 4-17 shows the projected capacity deficiencies.

Proposed System Continuity

Some roadways have discontinuous alignments or are not able to connect to logical destinations because of environmental features, development patterns, and jurisdictional boundaries. The following areas have been identified as opportunities for improving travel continuity through realigning roadways, connecting across county boundaries, and accessing a freeway.

Figure 4-16

Forecast Average Daily Traffic Volumes 2030



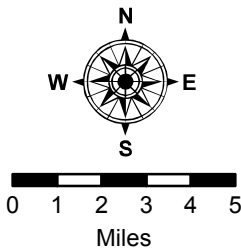
Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group, Washington County IT, Met Council, SRF Consulting

Figure 4-17

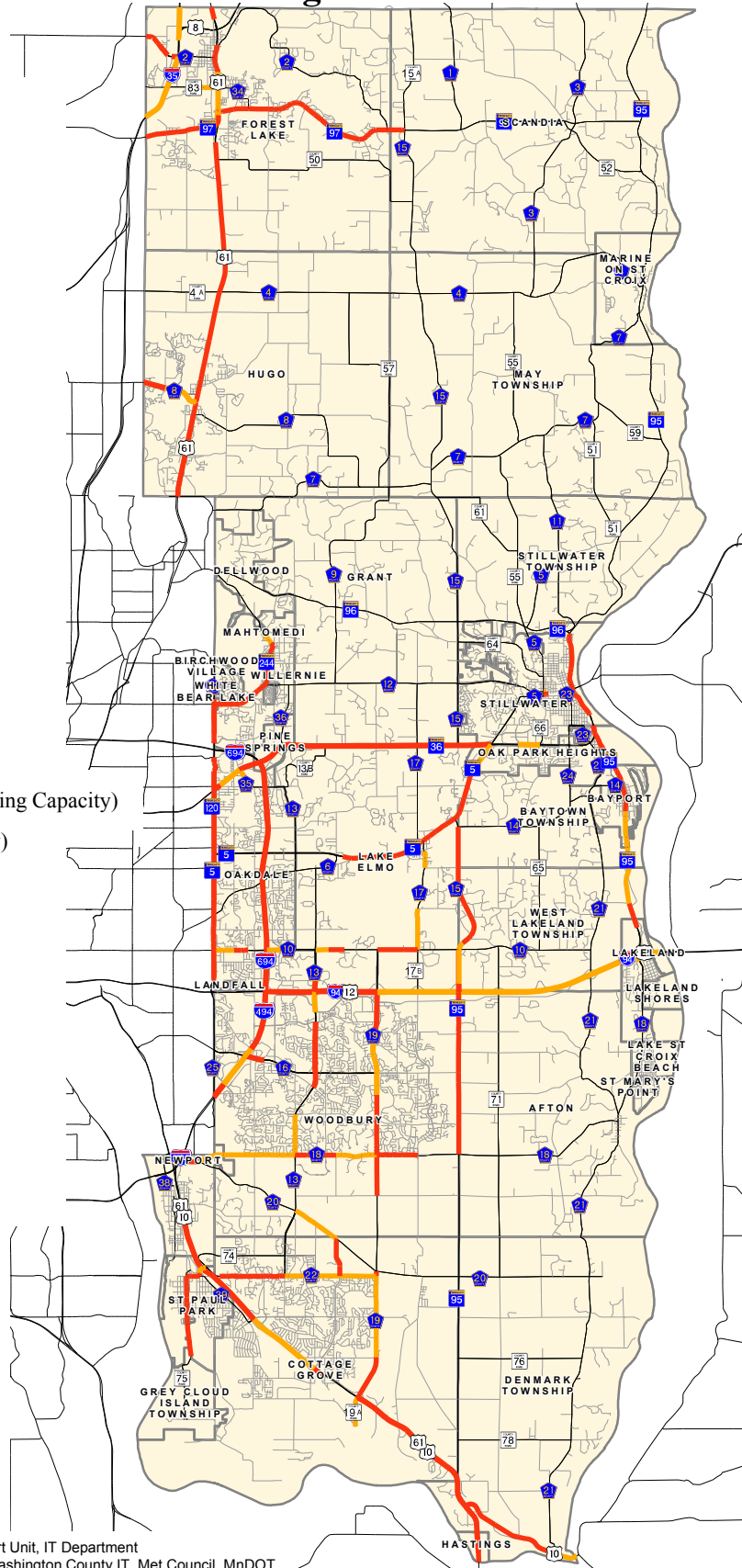
Future 2030 Congestion

Volume/Capacity Ratio

-  0.85 - 1.00 (Approaching Capacity)
-  1.01 + (Over Capacity)



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007, Washington County IT, Met Council, MnDOT





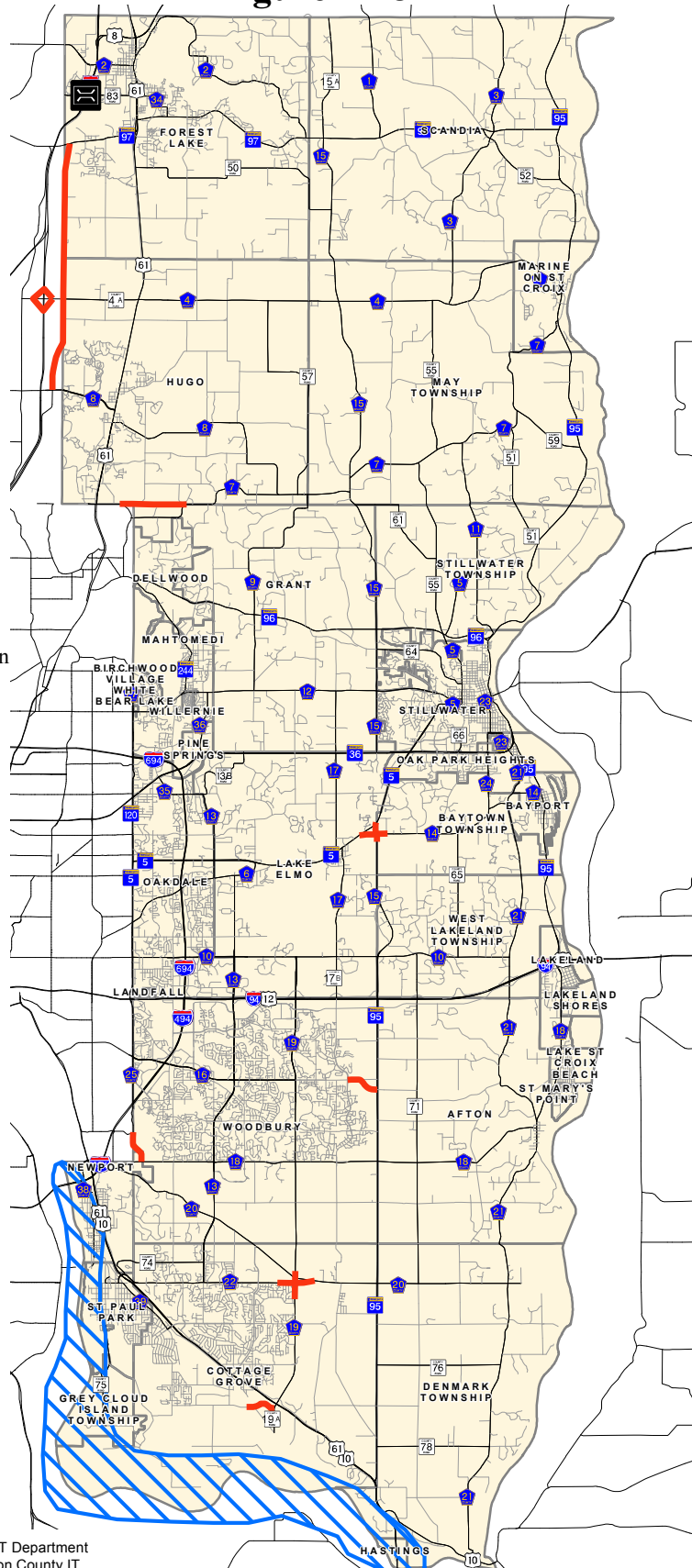
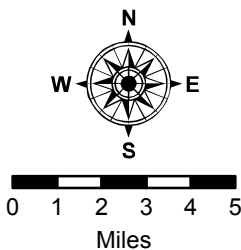
System continuity improvement opportunities are shown on Figure 4-18.

- CSAH 20 realignment with Jamaica Avenue South in Cottage Grove.
- County Road 83/220th Street North/Howard Lake Drive overpass of Interstate 35 and new connection in Forest Lake and Columbus. A 2008 study recommended new overpass and connection of roadways.
- Trunk Highway 5/CSAH 15/CSAH 14 intersection realignment in Lake Elmo and Baytown Township.
- County Road 19A southwesterly extension to 100th Street South in Cottage Grove. A 2008 study recommended a new county road connection.
- Access to Interstate 35E from Washington County Road 4A/Anoka County Road 140 in Hugo and Lino Lakes.
- North-south connection between southern terminus of Century Avenue (CSAH 25) and Bailey Road (CSAH 18) in Woodbury.
- Realignment of CSAH 7 to north of Fish Lake.
- East/west realignment of the CSAH 22/CSAH 20 intersection.
- North-south connection generally along the Elmcrest Avenue North alignment from CSAH 8 to Trunk Highway 97 in Hugo, Forest Lake, Columbus, and Lino Lakes.
- Alignment of east and west junctions of CSAH 17 at Trunk Highway 5 in Lake Elmo.
- Mississippi River crossing between the Wakota and Hastings Bridges.

Figure 4-18

Proposed System Continuity Opportunities

-  Overpass
-  Proposed System Continuity Location
-  River Crossing Study



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007, Washington County IT



Right-of-Way Preservation

Right-of-way is a valuable public asset that needs to be managed in a way that respects its intended function while serving the greatest public good. Washington County, with its anticipated growth, will need to reconstruct, widen, and construct new roadway alignments to meet future capacity and connectivity demands. Such improvements will require that adequate right-of-way be maintained or secured. To assure consistency and wise use of taxpayer dollars, the county has established proposed right-of-way guidelines by functional classification and the future facility type of the roadway (see Table 4-9). Right-of-way widths may be greater based on the community's desire for trails on both sides of the road, landscaping, and placement and number of private and public utilities.

Figure 4-19 shows the right-of-way requirements for the county roadway system. Use of these guidelines during the right-of-way acquisition or preservation process will, over time, reduce costs and streamline project development.

The ability to preserve right-of-way will be a criterion for ranking a project's readiness to be built. Where right-of-way must be acquired, it will be acquired under the provisions of the county's Cost Participation Policy. The Management Tools section of Existing Conditions contains information regarding right-of-way preservation methods.

Safety

Roadway safety is a central concern of transportation professionals. In response to the number of traffic-related fatalities and severe injuries and concerns about the effectiveness of safety efforts, the Minnesota Departments of Public Safety and Transportation established the Strategic Highway Safety Plan (SHSP) and Towards Zero Deaths (TZD) programs to guide safety planning efforts.

Table 4-9 Minimum Right-of-Way Widths for County Roads* Washington County		
Functional Classification	Right-of-Way Width **	Facility Type
Minor Arterial	220 feet	6-lane divided
	184 feet	4-lane divided
	150 feet	3-lane undivided
	120 feet	2-lane urban
Collector	150 feet	3-lane undivided
	120 feet	2-lane undivided
	100 feet	2-lane undivided, urban

* Widths are total width of corridor and assume the road is centered in the corridor.

** Due to particular development conditions, physical features of the site or highway corridor, special traffic control needs, or other conditions, Washington County may require more right-of-way width than shown in these guidelines.

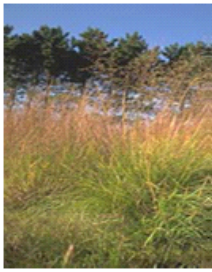
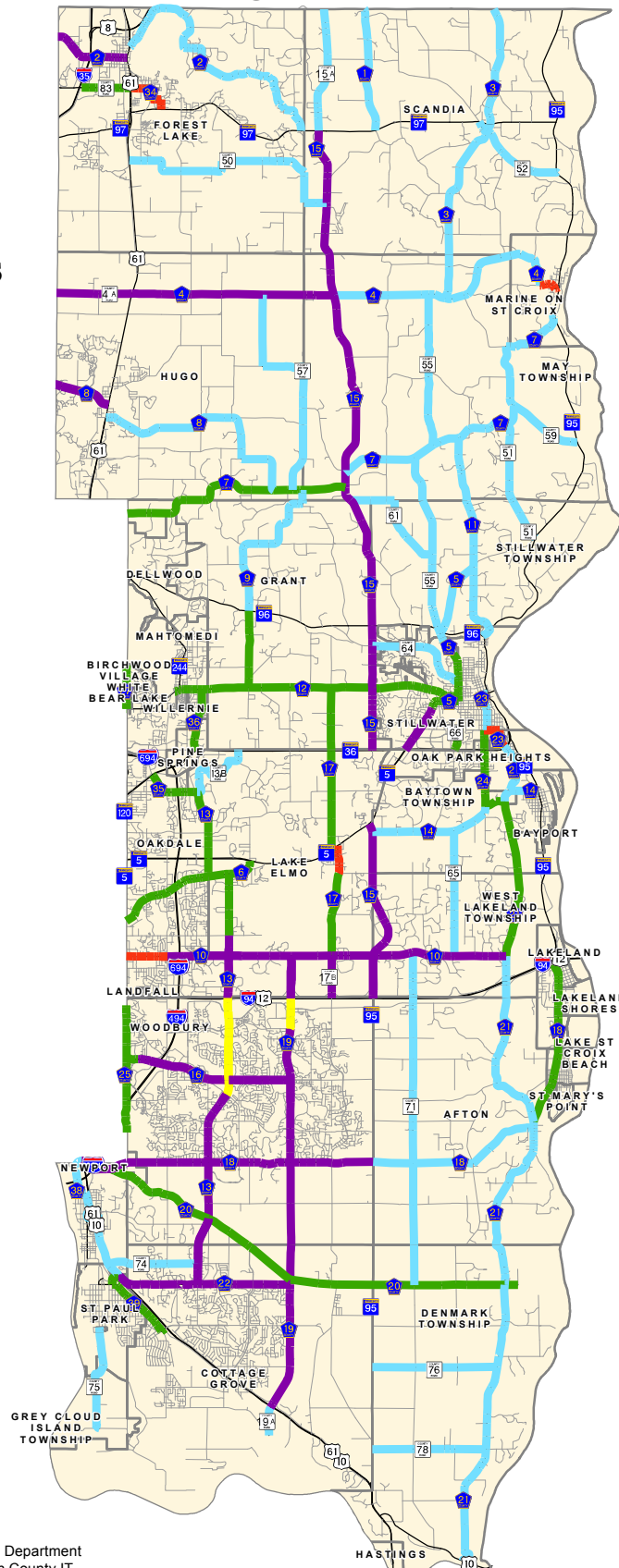
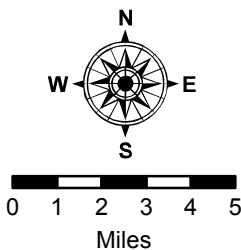


Figure 4-19

Minimum Right-of-Way Widths For County Roads

Right-of-Way Required

-  100 feet
-  120 feet
-  150 feet
-  184 feet
-  220 feet



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007, Washington County IT

The TZD program works to eliminate fatal and life-changing injury crashes by establishing severe crashes as the key statewide safety performance measure, by taking advantage of synergies available when agencies work together, and by including local road authorities, law enforcement, community leaders, and public health officials as integral partners in statewide safety planning efforts.

In accordance with this guidance, the county's safety improvement program identifies Critical Emphasis Areas (CEAs) and critical strategies to improve safety. These strategies address the infrastructure-based safety emphasis areas, including single vehicle road departure, head-on and sideswipe, intersection, and access density related crashes.

The CEAs were selected based on the crash analysis and the predominant crash types and characteristics occurring on the Washington County roadway system. The CEAs, and critical strategies appropriate to address each area, are listed below.

CEA 1 – Keeping Vehicles on the Roadway

- Review roadway delineation, i.e., wider/paved shoulders, enhanced lane and edge lines, horizontal curve signing/delineation, and shoulder rumble strips/stripes.
- Review horizontal and vertical sight distance.

CEA 2 – Minimizing the Consequences of Leaving the Roadway

- Review reaction/recovery and clear zone areas, i.e., wider shoulder, safety edge, remove, protect, or delineate roadside fixed objects (trees, poles, etc.) in clear zone.
- Minimize roadside slopes and driveway approaches.

CEA 3 – Improving the Design and Operation of Intersections

- Review intersection traffic control type, i.e., stop sign, traffic signal, or roundabout.
- Review intersection traffic signal phasing and timing, particularly clearance intervals.



- Review the need for turn lanes, bypass lanes, acceleration/deceleration lanes, channelization, intersection lighting, enhanced signs and markings.
- Review horizontal and vertical-sight distance.

CEA 4 – Implementing as Access Management Program

- Review and reduce access density, i.e., divided roadways, restricted turns, indirect turns, frontage/service roads, combined access driveways.

Transit

This section discusses options that Washington County can pursue to continue development of the transit system serving the county. The objective of the system is to provide a high level of accessibility and mobility to residents and businesses in the most cost-effective manner while achieving positive economic impacts. The five types of transit services discussed below include express, local bus, transit advantages, demand responsive, and transitways.

Express Bus Service Expansion

Approximately 1,300 Washington County residents currently commute to the St. Paul and Minneapolis downtowns using transit. Table 4-10 summarizes the number of county residents that commute to downtown and the percentage of those commuters that used the express bus services in 2006. These estimates showed that transit captured 13 percent of the commuter market, 21 percent of commuters to downtown Minneapolis and 5 percent of commuters to downtown St. Paul.

Table 4-10			
Commuter and Transit Usage, 2006			
Washington County	Minneapolis	St. Paul	Total
Downtown Commuters	4,730	5,562	10,291
Park-and-Ride Users	995	301	1,296
Downtown Transit Commute Mode Share	21%	5%	13%

Source: Metropolitan Council, June 2008

Future Demand

Express bus services will continue to be a focus of the transit system in Washington County. The market for downtown-oriented express bus services are county residents who work in either downtown Minneapolis or downtown St. Paul (currently, over 10,000). Despite rapidly-changing conditions in recent years, the current use figures provide a baseline from which future demand can be estimated. Future express bus ridership by county residents is expected to increase due to growth in the county population, future employment growth in downtown Minneapolis and St Paul, and a likely increase in mode split.

Between 2006 and 2030, the Metropolitan Council forecasts that transit's share of the downtown commuter markets from Washington County will double, from 5 to 10 percent for St. Paul and from 21 to 42 percent for Minneapolis. During this period, total Washington County resident employment in both downtowns is expected to increase by over 8,400 employees. Park-and-ride usage by Washington County residents is expected to increase by over 3,000 users, bringing the express bus ridership to nearly 5,000.

Express Service

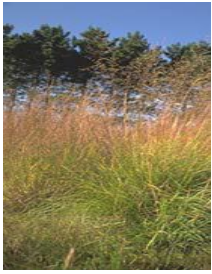
An increase of over 3,000 park-and-ride users would require 60 to 75 additional peak-period express trips serving Washington County, depending upon the mix of vehicles used and assuming the average peak-period express bus carries 40 to 50 riders. The addition of these bus trips would double the number of trips available in the county today.

Express Facility Expansion

Future expansion of express bus services will depend on the continued development of transit infrastructure, including park-and-ride facilities and transit advantages.

Park-and-Ride Facilities

Park-and-ride facilities are an integral part of providing express bus service and are a critical component of fixed-guideway transit. Future park-and-ride facilities should be accessible to



residents driving to the lots, accessible to major freeways for quick access by bus, and accessible by trails and other pedestrian accommodations. Along identified transitway corridors, park-and-ride lots will be used first to support express bus operations. However, as transitways are developed with a more robust transit system, these lots will most likely become transit stations that support fixed guideway transit and are an integral part of the land use development surrounding the lot.

The future park-and-ride system will include expanding some facilities, creating new facilities, and eliminating smaller, older facilities. The goal of the system is to accommodate the 3,000 additional park-and-ride users projected for 2030. The Metropolitan Council's current plans for expanding the park-and-ride system in Washington County are described below and shown in Figure 4-20. Corridor studies for Interstate 94 and Trunk Highway 36 will help determine potential locations for other park-and-ride facilities.

Cottage Grove: Expansion of this facility is not expected until after 2020. The Red Rock Corridor Commission will conduct station area and site planning in 2009, which could result in the relocation of the lot should a different station site be chosen.

Forest Lake: The recently-opened Forest Lake Transit Center was constructed and is operated by Washington County.

Newport: Construction of a new park-and-ride in Newport would be coordinated with the implementation of service on the Red Rock Corridor. The Red Rock Corridor Commission will conduct station area master and site planning in 2009 which will determine the station site location in Newport.

Oakdale: The lot at Guardian Angels Catholic Church recently was expanded by 200 spaces. Metro Transit is looking for potential new sites near the intersections of Trunk Highway 120 and Interstate-94 and Trunk Highway 36 and Interstate 694; no obvious opportunities currently exist.

Stillwater: Metro Transit and the Stillwater Community Center have discussed constructing a deck concurrent with a community center expansion; no firm plans are in place. Metro Transit would consider relocating the Stillwater Community Center facility to a site near the Trunk Highway 36 and CSAH 15 interchange if a new river crossing is constructed and transit advantages are extended along Trunk Highway 36 to Stillwater.

Woodbury: Metro Transit plans to build a deck at the Woodbury Theatre lot by 2020, resulting in a potential doubling of the capacity. With this expansion the small park-and-ride lots at Woodbury Lutheran and Christ Episcopal churches would be closed. Metro Transit is also working with a developer to construct a 600-space ramp at the intersection of Interstate 94 and Manning Avenue. This facility is expected to be operational by 2013.

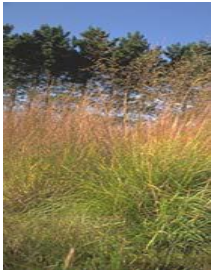
Anoka County: The Metropolitan Council has plans to construct a 200-space lot to open in 2010 with the construction of a new interchange at Interstate 35E and CSAH 14. This facility would serve residents of northwestern Washington County.

Transit Advantages

Planning, development, and implementation of bus-only shoulders, ramp-meter bypasses, and high occupancy vehicle (HOV) lanes are primarily the responsibility of MN/DOT and the Metropolitan Council. The Metropolitan Council's Transportation Policy Plan has planned bus-only shoulders for Interstate 35E north of County Road 96, Interstate 35W north of Radisson Road, Interstate 94 east to Wisconsin, and southbound on Trunk Highway 61 in Cottage Grove. No ramp meter bypasses or HOV facilities are planned within Washington County.

Local Bus Service

Although local transit service is desirable, the density and character of the land use in the county makes the economical provision of local service challenging. The grid-like pattern of local routes that is effective in central cities does not match well with suburban land use and roadway network. The current



strategy for meeting local transit service demand in Washington County is through demand responsive service. This service is not typically considered an economical way to attract choice transit riders because of the high per-ride costs and limited service hours. A more practical option for providing local service is through local circulator networks with coverage in the developed areas of the county. A local network would focus on a community transit center which would serve as the timed transfer point for two to four local circulator routes.

Demand Responsive Transit Service

ADA complementary dial-a-ride services are federally mandated and provided by the Metropolitan Council. Future demand for demand responsive transit service will be tied to the number of residents that are dependent upon transit for their transportation. Although hard to predict, the number of transit-dependent residents can be estimated by the number of residents over 65 years of age. Even though people over 65 continue to drive for many years, the need for local and demand responsive transit services rises with age. Washington County's population over 65 years of age is expected to triple by 2030 while the number of young people is not expected to increase. This suggests increasing demand for transit services, particularly demand responsive transit. General public dial-a-ride services are usually only provided in areas not served by local bus service. Expanding the local bus service area would allow a reduction in the general public dial-a-ride services.

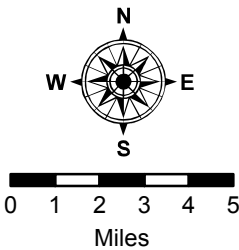
Transitway Development

Each of the five major transit corridors in Washington County is a candidate for transitway development. These include Red Rock, Rush Line, Interstate 94, Interstate 35W, and Trunk Highway 36 corridors; each is shown on Figure 4-20. Of these corridors, only the Red Rock Corridor has completed an alternatives analysis to determine the transit mode, potential ridership, alignment, and capital, operating, and maintenance costs.

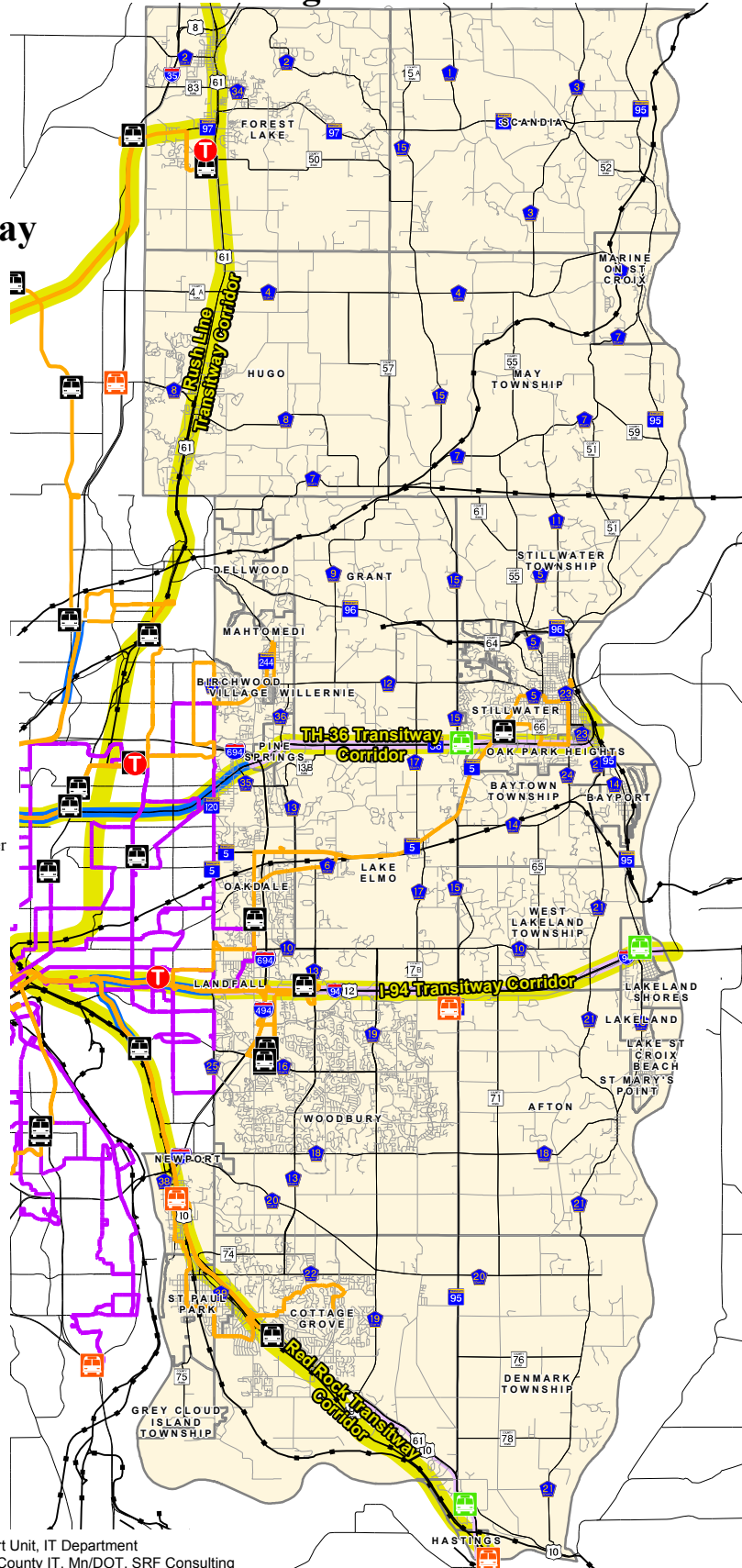
Figure 4-20

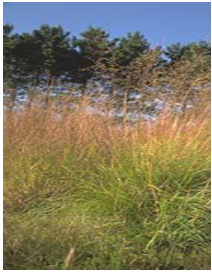
Future Transitway Corridors

-  Existing Transit Center
-  Active Park & Ride
-  Active Park & Pool
-  Planned Park & Ride
-  Express Bus Service
-  Local Bus Service
-  Existing Bus Only Shoulder
-  Future Bus-Only Shoulder
-  Transitway Corridors



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: TLG, Met Council, Washington County IT, Mn/DOT, SRF Consulting





Red Rock Corridor

An alternatives analysis identified station locations at downtown Minneapolis, northeast Minneapolis, University of Minnesota, Snelling Avenue, Rice Street, St. Paul Union Depot, Lower Afton Road, Newport, Cottage Grove, and Hastings. The analysis suggests that expanding bus service in the corridor is one of the first steps towards building a stronger transit base for eventual commuter and high-speed rail in the corridor. A summary of the recommended strategies is described below.

Short-Term Strategies

Conduct a bus-feasibility study to evaluate the costs and benefits of additional bus service in the corridor. This study is currently underway. Continued exploration of options to provide efficient and reliable bus service in this corridor, especially during peak periods, is needed. The express bus ridership forecasts indicate that as peak period frequency increases ridership increases by over two-fold. To better serve the proposed express bus routes from Hastings to the two downtowns, local feeder bus networks should be studied and developed. Increasing transit service and commuting options will serve to build the transit base towards future commuter rail service.

Work with municipalities in the corridor so that land use planning accommodates future transit improvements. Continue working with communities to provide the planning foundation for transit-oriented development in the corridor.

Pursue additional park-and-ride facilities. Expanding, siting, and acquiring additional right-of-way for new or expanding park-and-ride facilities would benefit both express bus and future commuter rail service. Constructing park-and-ride facilities to first service express/commuter buses, followed by commuter rail service, is a successful model used in the Northstar Corridor.

Evaluate extending the corridor to Red Wing and the Prairie Island Indian Community. Goodhue County, the city of Red

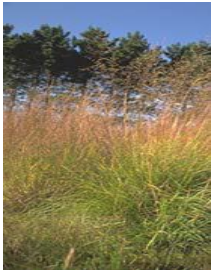
Wing, and the Prairie Island Indian community continue to express a strong interest in extending commuter rail service to their communities to serve activity centers. The bus feasibility study includes an analysis of extending bus service to these areas. The feasibility of the commuter rail extension should be studied in greater detail in the next phase of analysis.

Advocate for high speed rail service from Chicago to the Twin Cities. It is acknowledged that the purpose of high-speed rail is to efficiently move patrons between metropolitan areas like the Twin Cities and Chicago with few stops. Commuter rail is intended to move commuters to and from the southeast suburbs to downtown St. Paul and Minneapolis. While the two transportation modes do not serve the same transit purpose they can and most likely would utilize the same track. Implementing high-speed rail through the Red Rock Corridor could reduce the capital costs of commuter rail. The continued partnership with the respective railroads (BNSF and CP) and Amtrak is critical to making both high-speed rail and commuter-rail service a reality.

Intermediate Strategies

Re-evaluate commuter rail ridership and costs data after the Northstar Commuter Rail is in operation. Once the Northstar Commuter Rail is operational, the region will have actual ridership data to incorporate into the regional model. The existence of the Hiawatha LRT increased ridership on the Central Corridor LRT by 5,000. The Northstar will likely increase ridership on the Red Rock Commuter Rail in a similar manner.

Conduct the appropriate environmental and engineering work for commuter rail service. Planning and engineering for a major transit project such as commuter rail service typically takes several years. The Red Rock Corridor Commission recognizes that the Federal Transit Administration (FTA) New Starts process is a competitive process and one that is ever changing in terms of requirements. To enter into the federal environmental and engineering process the proposed action must receive a favorable rating by the FTA. This rating is currently based on the



cost effectiveness index (CEI) rating, which takes into account ridership and costs. By continuing to build transit service, planning for transit supported land uses, and working with the stakeholders to manage costs, the corridor will be well positioned to continue to move forward with the environmental and engineering work for commuter rail service.

Implement the recommendations of the bus feasibility study. Implementing these recommendations will continue to build the transit base to better position its competitiveness for ultimate commuter rail service.

Long-Term Strategies

Open service for high-speed rail.

Construct Red Rock Commuter Rail. Implementing Red Rock Commuter Rail service is part of the overall regional transit system network outlined by MNDOT and the Metropolitan Council studies.

Rush Line Corridor

The Rush Line Corridor Commission is conducting an alternatives analysis that includes review of ridership forecasts, transit modes, alignments, and costs. The analysis will be completed in fall 2009. The mode and alignment recommended by the alternatives analysis will determine the future transit station locations. Three alignments are being reviewed, including Interstate 35E and 35, along the Regional Railroad Authority right-of-way and U.S. Highway 61, and along the existing CP and Minnesota commercial tracks. Three transit modes are being analyzed, including light-rail transit (LRT), commuter rail, and bus-rapid transit (BRT). Future transit station locations will be identified when the mode and alignment have been determined.

It is anticipated that this analysis will suggest many of the same strategies as the Red Rock Corridor study. An early strategy will be to build a stronger transit base in the corridor to help the corridor move towards the more robust LRT, commuter rail, or

BRT transit system. Expanding, siting, and constructing new or existing park-and-ride facilities to support expanded bus service will also be a key short-term strategy.

I-94 Corridor

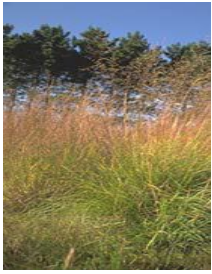
The Metropolitan Council conducted a metrowide analysis of potential transitway corridors as part of the development of the 2030 TPP. That analysis determined that the Interstate 94 East corridor has potential for expanded transit service and recommended that further analysis be conducted to determine the characteristics of that service. Washington and Ramsey County Regional Railroad Authorities have allocated funding to conduct an alternatives analysis for this corridor. It is expected to begin in fall 2009. The alternatives analysis will help to determine the recommended mode, alignment, ridership, and costs. Short-term strategies for this corridor are expected to include advocacy, public outreach, and coordination with Metropolitan Council for park-n-ride locations, coordination with MN/DOT on highway improvements or studies, and coordination with local communities on land-use planning in the corridor.

TH 36 and I-35W North Corridors

The TPP includes the Trunk Highway 36 and Interstate 35W North corridors as corridors in need of further analysis for transit improvements. Bus service currently operates in the Interstate 35W North corridor. Only limited bus service operates in the Trunk Highway 36 corridor. There are no immediate plans to examine expanded transit service in these corridors.

Transit-Oriented Development

One of the key factors in providing for an efficient and robust transit system is to create an environment that brings potential riders, shoppers, and businesses closer to the proposed transitway. Transit-oriented development (TOD) is a term that is used to represent several design principles that emphasize the interrelationship of transit facilities and the surrounding land-use pattern. The characteristics that typify TOD include transit



service, compact development, mixed use developments, pedestrian oriented, attractive and friendly design, and intermodal facilities. Each TOD differs depending on the priority placed on each characteristic.

Planning for TOD is primarily the responsibility of the cities where land use and zoning authority resides. Cities can apply TOD in areas that can support a robust transit service while providing attractive areas for people to live, work, and shop. Through its involvement in transitway coalitions, Washington County supports and encourages local communities to plan for TOD along the five planned transitway corridors in the county.

Appendix 4-E provides more information on TOD and the characteristics that are typically part of this style of development.

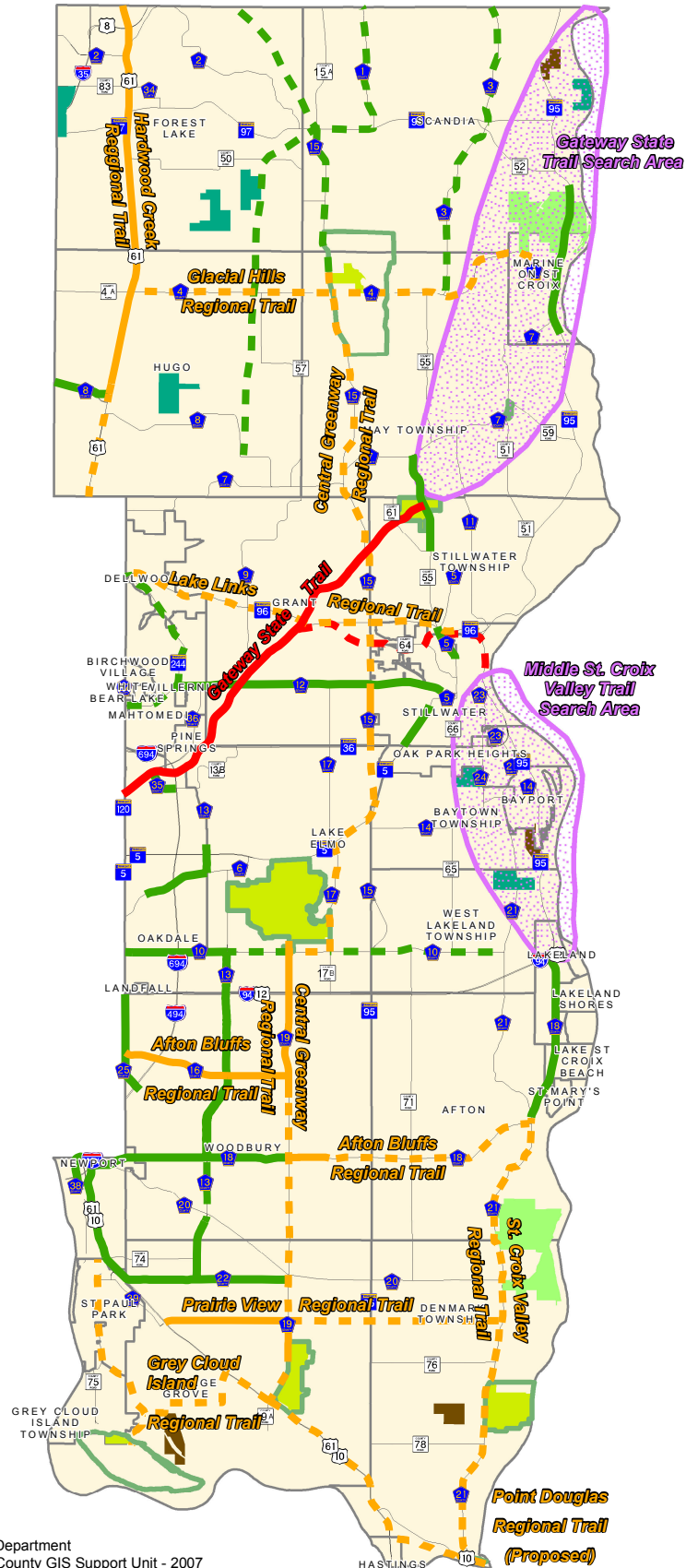
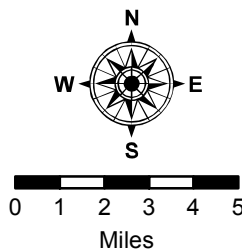
Non-Motorized Facilities

Non-motorized facilities consist mainly of off-road trails along county roads which provide opportunities for both recreational use and commuting to and from work. Enhancing these non-motorized facilities, as part of the overall transportation system, is a key element to providing a transportation system that is sustainable, links destinations and attractions, and encourages healthy and active lifestyles. Connectivity of the facilities includes connections within neighborhoods, between neighborhoods, to activity centers, to other regional trail facilities, and to transit facilities. This connectivity forms a seamless integration for users to be able to utilize this transportation mode to meet their needs. Much of the neighborhood connectivity occurs at the local level in land use planning of neighborhoods and commercial areas. This planning lays the foundation for how the community provides these local connections to these areas and supports walking and bicycling. At the county level, the focus is more on connecting to the local trail/sidewalk network and providing connections to destinations and attractions. Figure 4-21 shows the county's proposed trail system.

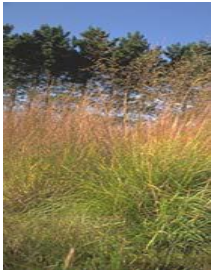
Figure 4-21

Planned Trail System

-  Existing County Trail
-  Planned County Trail
-  Existing Regional Trail
-  Planned Regional Trail
-  Existing State Trail
-  Planned State Trail
-  Trail Search Area
-  State Park
-  Planned Master Plan Boundary
-  County Park
-  Scientific and Natural Area
-  Wildlife Management Area



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Metropolitan Council - 2007, Washington County GIS Support Unit - 2007



2030 Highway System Needs Summary

The future long-term needs of the county's highway system are shown on Figure 4-22 and summarized below.

Jurisdictional classification changes: Includes roadways that are candidates for transfer of ownership, maintenance, and operations. The transfer agreements will be negotiated for each roadway.

Preservation: Includes crackseal, sealcoat, overlay, cold in-place recycling, and minor drainage improvements. These improvements focus mainly on improving the roadway surface and drivability of the roadway

Management: Includes reconstruction of the roadway with no added through lanes. These improvements could include access management improvements, construction of turn lanes, horizontal and vertical curve corrections, and the installation of traffic signals, roundabouts or other intersection treatments.

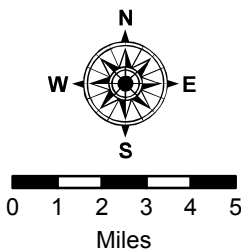
Expansion: Includes reconstruction with added through lanes, turn lanes at intersections, access management, and installation of traffic signals, roundabouts, or other intersection treatments.

Interchange: Includes new or reconstructed interchange or overpass.

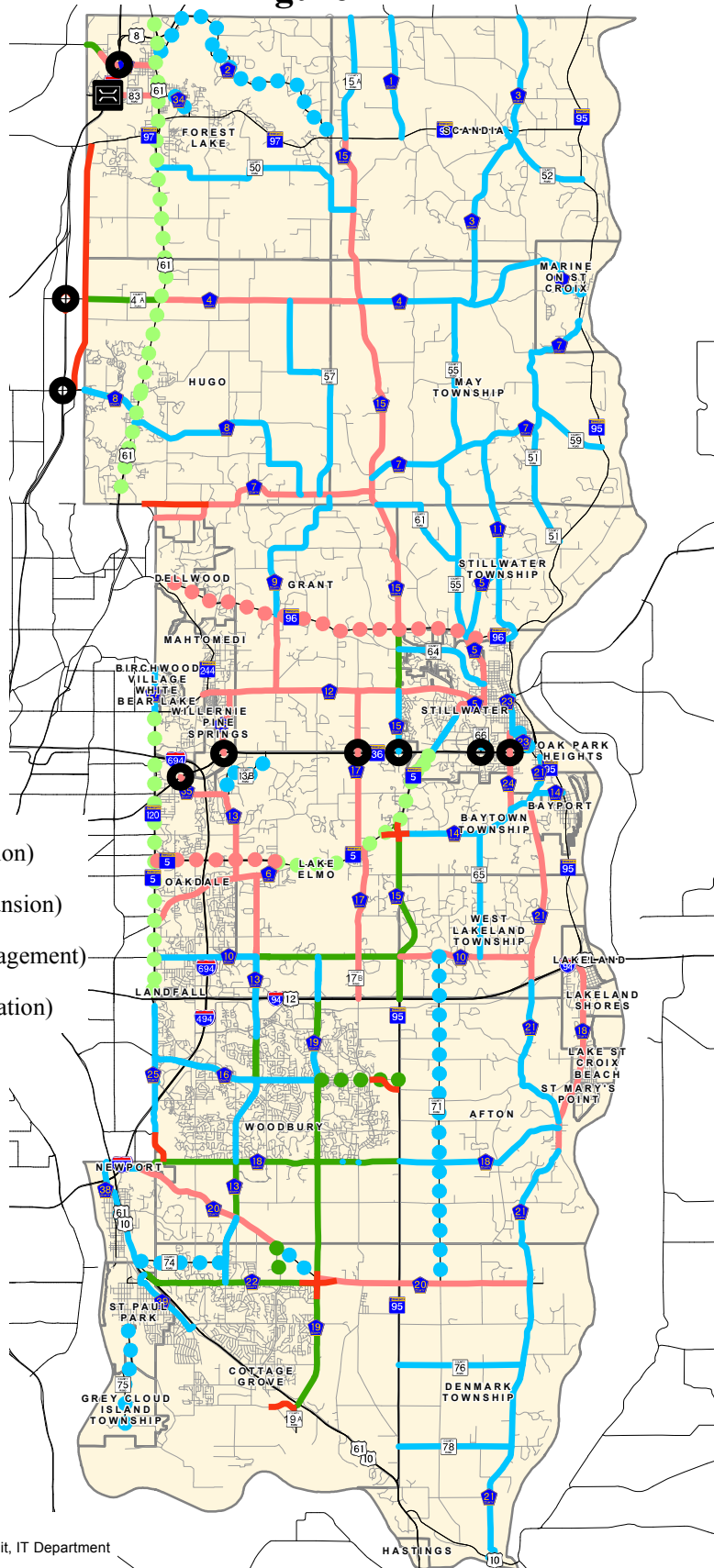
Figure 4-22

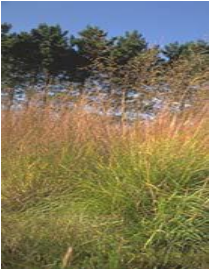
2030 Future Highway System Summary

-  Interchange
-  Overpass
-  System Continuity
-  Expansion
-  Management
-  Preservation
- Jurisdictional Change**
 -  Local to County (Expansion)
 -  MnDOT to County (Expansion)
 -  MnDOT to County (Management)
 -  County to Local (Preservation)



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007





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Goal 4-1

Implementation

Develop and maintain a roadway system that accommodates the safe and efficient movement of people and goods.

Strategies

Policy 4-1: Plan for, design, and construct roadways to accommodate existing and future traffic growth.

Implementation Strategies

- Collect average daily traffic volume counts on County State Aid Highways.
 - Develop process for data collection to meet requirements of MN/DOT State Aid for local transportation office.
- Update 2030 forecast average daily traffic volumes for county roadways.
 - Periodically review and update the forecast traffic model, as necessary, to incorporate changes in socio-economic data.
 - Periodically review existing and future volume-to-capacity deficiencies.
 - Develop capital improvement program that includes a review of volume to capacity deficiencies.
- Coordinate roadway planning and design activities with local communities, adjacent counties, and MN/DOT.
- Develop a ten-ton highway reconstruction plan to accommodate truck traffic using the county road system.
 - Design new or reconstructed roads to a 10-ton standard.
- Pursue federal, state, regional, and local funding.
- Identify railroad crossing protection needed on roadways that cross rail lines.
 - Coordinate any new road construction/alignment or reconstruction projects with the applicable railroad and



Mn/DOT to determine the appropriate crossing protection.

Policy 4-2: Collaborate with municipalities and the Minnesota Department of Transportation to assign roads to their proper jurisdiction.

Implementation Strategies

- Develop a process to identify and implement jurisdictional transfers.
 - Review roadway system in Washington County.
 - Coordinate with local communities and MN/DOT to implement potential jurisdictional transfer candidates.
- Include jurisdictional transfers in county five-year capital improvement program.

Policy 4-3: Define the hierarchy of the road system by appropriately assigning functional classifications to all roads in the county system.

Implementation Strategies

- Periodically review county road system for potential functional classification changes.
- Coordinate with the Metropolitan Council to assign roads to their proper functional class.

Policy 4-4: Manage access from local roads and state highways to the county system appropriately for each functional class.

Implementation Strategies

- Utilize the county's Access Management Guidelines.
 - Review development proposals for consistency with these guidelines.
 - Review construction/reconstruction plans for consistency with these guidelines.
 - Require consistency with access management guidelines prior to issuance of access permit.

- Proactively coordinate with the communities to develop an access management plan for specific county roadways.
 - Identify existing and future access locations along each corridor.
 - Develop memoranda of understanding with cities on these corridors to streamline project development process.

Policy 4-5: Develop and implement a pavement preservation program to maintain the integrity of the roadway system.

Implementation Strategies

- Utilize the Pavement Condition Index rating to identify potential roadways for preservation needs.
- Coordinate with State Aid to determine needs and identification.
- Conduct yearly field reviews to visually inspect roadway conditions.
- Coordinate with communities to identify issues/concerns.

Policy 4-6: Develop and implement an ongoing safety review process that promotes proactive and reactive treatments to reduce crashes on the roadway system.

Implementation Strategies

- Conduct ongoing analysis and review of crashes on county road systems.
- Review MN/DOT's Strategic Highway Safety Plan for strategies that could apply to Washington County.
- Develop a strategic highway safety plan specifically for Washington County.
- Utilize the county's Access Management Guidelines to promote safety along the county road system.
- Utilize the Intersection Control Ranking System to identify intersections where improved traffic control is justified.
 - Collect intersection approach counts.



- Review intersection delays.
- Examine historic intersection crash data.
- Utilize the traffic signal warrant analysis found in the Minnesota Manual on Uniform Traffic Control Devices.
- Coordinate with the railroad companies and MN/DOT to identify the need for improved crossing control at railroad-highway crossing locations.
- Participate in the Washington County Safe Community Coalition.

Policy 4-7: Utilize traffic management techniques to improve the operations and safety and extend the life of the county roadways

Implementation

- Develop and implement coordinated signal timing plans on select corridors to reduce delays and travel times on the roadway system.
- Review the need for geometric improvements at intersections.
- Review the need for improved or revised traffic control at intersections.
- Identify the need for improved railroad crossing protection at highway-railroad crossings.

Goal 4-2

Promote the development and utilization of a transit system that meets the existing and future travel needs of the public.

Strategies

Policy 4-8: Support the delivery of appropriate levels and types of transit service to match the specific needs of the county, based on its unique values, geography, economy, and socio-economic profile.

Implementation Strategies

- Partner with the communities, transit providers and coalitions to expand transit services in the county.

- Monitor the level of ridership and usage of park-and-rides, with the cooperation of Metro Transit, to ensure that sufficient resources are provided to support the demand.
- Partner with communities and transit providers to remove barriers to transit use.
- Support and advocate for the county's transit needs through local, regional, and state coalitions.
- Conduct transit-related studies to identify the needs, opportunities, and benefits for transit.
- Incorporate a multi-modal approach to all transportation studies conducted by the county.
- Update the county's transit plan.
- Work with the Metropolitan Council to ensure a base level of service for rural areas not served by regular route service is provided through the regional dial-a-ride program.
- Partner with the Metropolitan Council and adjoining communities to ensure coverage between jurisdictions.
- Support development of life-cycle housing near transit corridors and within transit-oriented development areas, specially targeting youths, seniors, and special needs individuals.

Policy 4-9: Coordinate investment in transit infrastructure with land use and transportation planning.

Implementation Strategies

- Partner with communities and transit providers to promote land use and economic development that supports transit services and facilities.
- Connect land use, transit, and transportation decisions to further identify and develop transit-corridor needs and opportunities.
- Collaborate with communities and transit providers to develop and provide pedestrian and bicycle access to transit services and facilities.
- Encourage the Metropolitan Council to expand the capacity of buses to carry bikes.
- Support the implementation of transit advantages infrastructure to provide a reliable, efficient transit system.



- Prioritize projects that include a multi-modal approach to moving people and goods.

Policy 4-10: Provide information on the availability and use of transit to encourage greater use of the system.

Implementation Strategies

- Publicize planned transitways, transit provider's information, and supportive materials and services through the county's website.
- Develop materials to promote transit ridership in the county.
- Update the county web site on a regular basis to ensure that the information is up to date.
- Establish collaborative relationships with the communities and transit providers to develop communication and outreach plans for transit use.

Policy 4-11: Advocate and promote long-term investments in transit infrastructure that increase operating efficiency, lower operating costs, and increase ridership.

Implementation Strategies

- Advocate for appropriate transit funding at the local, regional, state, and federal level.
- Maximize county transit investments by focusing resources on priority corridors.
- Identify county funding resources and needs to support transit capital and operations costs through short and long term commitments.
- Identify and research alternative funding options for development of transitways.

Policy 4-12: Support land use policies and densities that promote the development of transit supportive districts to focus transit service and capital investment.

Implementation Strategies

- Encourage communities to develop land-use policies that incorporate transit-oriented development opportunities near identified transit stations and transitway corridors.
- Partner with communities and coalitions to develop a transit-oriented development plan for the identified transitways corridors in the county.
- Partner with communities and state agencies to promote and advance transit-oriented development that is compatible with transit and community planning goals.
- Plan and design future transit facilities to be an integral part of larger transit-oriented development areas.

Goal 4-3

Use effective transportation planning to accommodate existing and planned land uses, while preserving natural, cultural, and historic resources.

Strategies

Policy 4-13: Update and implement a cost-participation policy that equitably distributes the cost of transportation projects.

Implementation Strategies

- Review the county's cost-participation policy for roadway construction and reconstruction projects.
- Utilize the cost-participation policy in identifying projects for inclusion in the capital improvement program.
- Leverage available funding.
 - Seek funding from federal and state agencies to reduce costs for the county and the local community.
- Maintain a capital improvement program for implementing the prioritized projects.

Policy 4-14: Develop a collaborative process with local municipalities to identify fiscally responsible system improvements that are consistent with county priorities and meet the needs of municipalities.



Implementation Strategies

- Coordinate with communities to identify transportation needs within their community.
 - Coordinate transportation needs with existing and future land uses.
- Develop a process for review of the county roadways system to identify projects for inclusion in the capital improvement program.
- Determine right-of-way needs for county highways.
 - Amend the county's right-of-way ordinance to include right-of-way preservation policies.
 - Work with communities to acquire right-of-way for future expansion of county roadways.
 - Identify future roadway expansion needs.
 - Acquire the necessary right-of-way through the platting/replatting process for developments that occur adjacent to the county roadway.
 - Coordinate with communities to identify future county roads and acquire the necessary right-of-way based on the functions of the future road.
 - Maintain the integrity of the county's rights-of-way by enforcing applicable state laws and county ordinances.

Policy 4-15: Coordinate with other agencies to promote a well balanced transportation system.

Implementation Strategies

- Coordinate roadway and transit planning and design activities with local communities, adjacent counties, MN/DOT, and other state agencies.
- Coordinate with the Metropolitan Airports Commission (MAC) and the private airport operator regarding any expansion of the airport facilities or activities.
 - Monitor airport activities to ensure that improvements proceed as planned and in concert with county development projects.

Policy 4-16 Coordinate with communities and provide feedback on development and redevelopment proposals.

Implementation Strategies

- Review development/redevelopment plans that are adjacent to county roads.
 - Provide comments to local communities on development plans and potential impacts to the county road system.
 - Develop guidelines for the use of traffic impact studies, as part of development reviews to determine appropriate accommodations for development-generated traffic.
- Support transit-oriented development adjacent to transit stations and along transitways.
- Collaborate with the Metropolitan Airports Commissioner on policies and plans related to the Lake Elmo and Daniel Deponti airports for county roadways within the airport influence area.

Policy 4-17: Avoid or minimize impacts to natural features; where impacts are unavoidable, mitigate impacts through replacement and restoration of natural features disturbed by construction.

Implementation Strategies

- Identify natural areas in the planning stage of project development and implementation.
 - Consult with the Washington County Conservation District and water management organizations.
- Follow federal and state guidelines for replacement and restoration of natural features.
- Utilize best-management practices to avoid or minimize impacts to natural resources when feasible.
 - Review research and studies to identify latest best management practices and techniques.



- Utilize context sensitive design principles to minimize impact to natural, cultural, or historic features.
- Utilize the design guidelines for roadways that are identified as a Natural Preservation Route as part of the Minnesota County State Aid Highway system.
 - Upon request, review guidelines for inclusion of roads into the Natural Preservation Route designation.

Policy 4-18: Promote techniques to improve the water quality of runoff from the roadway system.

Implementation Strategies

- Review research and studies to identify latest best-management practices and techniques.
 - Design and implement best-management practices for water and runoff where cost beneficial.
- Consult with the Washington County Conservation District, watershed management organizations, the Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and other agencies, as appropriate, in the review of project designs.
- Follow Storm Water Pollution Prevention Plan (SWPPP) requirements during roadway construction or reconstruction.
 - Develop a SWPPP during project design.
 - Incorporate stormwater runoff mitigations in construction plans and specifications.
 - Perform inspections of installed materials/equipment used to minimize or reduce the impacts of stormwater runoff during construction.

Policy 4-19: Develop and implement techniques for road maintenance to minimize chemical and particulate runoff.

Implementation Strategies

- Review research and studies to identify latest best-management practices and techniques.

- Review and consider new products that perform as well as salt and are cost beneficial.
- Review application techniques used by county staff.
- Identify new equipment or practices to more efficiently remove snow and ice from the county roadways.
- Annually review salt and other deicing material usage on the county roadways.
 - Compare county practices with those of other metro counties.
- Provide training for maintenance staff on application and use of deicing materials.

Goal 4-4

Develop a non-motorized transportation system to provide mobility and recreational options to the public.

Strategies

Policy 4-20: Integrate trails and pedestrian and bicycle uses into the design of roadway and transit facilities, as appropriate.

Implementation Strategies

- As part of roadway-widening projects, construct a separated paved trail on, at minimum, one side of the roadway. Where feasible, construct a separated paved trail on both sides of the roadway.
- Include shoulders along roadways for the usage of bicyclists.
- Identify gaps in the trail system.
- Identify and include trail construction on major bridge reconstruction plans.
- Pursue federal, state, and regional funding for trail projects.
- Update and implement the county's trail-system plans.

Policy 4-21: Identify and support trail connections that provide links to parks, cultural and historic resources, and community destinations.



Implementation Strategies

- Work with communities to identify destinations within their community.
- Provide connections between regional, county, and state parks.
- Coordinate with adjacent counties and cities to provide trail connections across county boundaries.
- Support construction of trails to transit corridors and facilities.
- Monitor possible future abandonment of railroad trackage for potential use as bicycle and pedestrian trails.

Policy 4-22: *Provide safe and appropriate trail crossings and access to the county roadway system.*

Implementation Strategies

- Discourage uncontrolled pedestrian and bicycle trail crossings.
- Provide pedestrian/bicyclists features at signalized intersections.
- When justified by an engineering study, provide consistent signing and pavement markings for pedestrian/bicyclist crossings.
- When feasible, provide grade separation for pedestrian and bicycle crossings.

Policy 4-23: *Comply with the American with Disabilities Act (ADA) and guidelines for new and reconstructed trail and roadway projects.*

Funding

Many different funding sources are used to acquire, construct, maintain, and operate the transportation system. Some of these funding sources can be used for any mode (highways and roads, transitways, and non-motorized trails) of the transportation

system, while other sources can be used only for specific modes and sometimes only for a subcategory within a specific mode (e.g., safety improvement). Table 4-11 lists potential funding sources and the mode for which the funding could be used.

Table 4-11 Transportation Funding Sources Washington County			
Funding Source	Transportation Mode		
	Highways and Roads	Transitways	Pedestrian / Bicycle Trails
County Levy	X	X	X
Regional Railroad Authority Levy		X	
Federal Regional Solicitation			
Surface Transportation Program (STP)	X		X
Transportation Enhancements (TE)			X
Congestion Mitigation and Air Quality (CMAQ)	X	X	X
Highway Safety Improvement Program (HSIP)	X		X
Safe Routes to School (SRST)			X
Local Road Improvement Program (LRIP)	X		
High Risk Rural Road (HRRR) Program	X		
Municipal Agreement Program – MN/DOT	X		X
Counties Transit Improvement Board (CTIB)		X	
County State Aid Highway (CSAH) Funding	X		X
High Priority Projects (HPP)	X	X	X
Federal Appropriations	X	X	X
State Bonding	X	X	X
Right-of-Way Acquisition Loan Fund	X		

Five-Year Capital Improvement Program

Figure 4-23 shows the transportation projects contained in the county's 2009-2013 Capital Improvement Program.



Priority Actions

1. Design and construct projects included in the capital improvement program (CIP).
2. Develop a formalized process for jurisdictional transfers.
3. Coordinate with communities on development proposals adjacent to county roadways.
4. Coordinate with communities to develop an access management plan for specific county roadways.
5. Revise the Intersection Control Ranking System (ICRS) to better prioritize intersections in need of increased traffic control.
6. Participate in the Washington County Safe Community Coalition.
7. Complete the bus feasibility study for the Red Rock Corridor.
8. Conduct station area planning and design for the Red Rock Corridor.
9. Coordinate with the Metropolitan Council, MN/DOT and local communities on the development of the Alternatives Analysis for the I-94 Corridor.
10. Participate in the transitway corridor coalitions.
11. Update the county cost-participation policy for highway improvement projects.

Figure 4-23

2009-2013 Transportation Capital Improvement Program

*Approved December 2008

2009 Project # Description

- 2215 CSAH 15 - Gateway Trail Bridge over Manning Ave.
- 2314 CSAH 18 - Reconstruction from TH 95 to CSAH 21
- 2504 CSAH 18 - N/S Landscaping
- 2523 CSAH 17 - Railroad Crossing safety project north of 33rd St. N.
- 2533 CSAH 15 - Railroad Crossing safety project @ CR 64

2010 Project # Description

- 2201 CSAH 4 @ TH 61 - Traffic Signal
- 2318 CR 83 - Overpass
- 2502 NEW CSAH - Jamaica Ave. S. from CSAH 22 to CSAH 20, transfer to County
- 2545 CR 99 - Reconstruction of Government Center Streets
- 2546 CSAH 6 @ TH 5/Jamaica - Roundabout
- 2547 CR13B - Reconstruction of Demontreville Tr.
- 2548 CSAH 24 - Trail/Sidewalk from 50th St. N. to 62nd St. N.
- 2550 CSAH 4 @ TH 61 - Intersection Improvements

2011 Project # Description

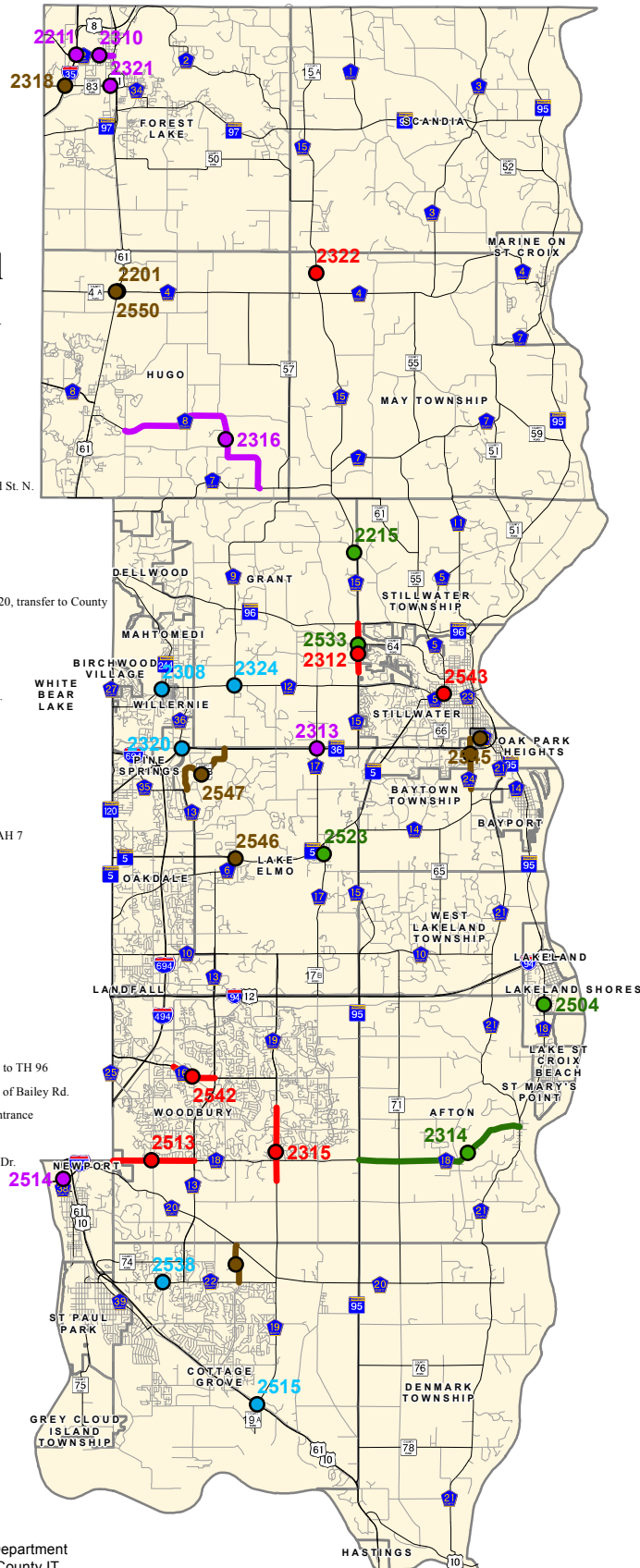
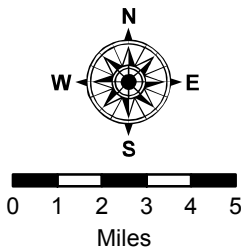
- 2211 CSAH 2 - Interchange reconstruction at I-35
- 2310 CSAH 2 - Reconstruction from 12th st. to TH 61
- 2313 CSAH 17 - Bridge over TH 36
- 2316 CSAH 8 - Reconstruction from Goodview Ave. N. to CSAH 7
- 2321 CR 83 - Hardwood Creek Trail Bridge over CR 83
- 2514 CSAH 38 - Ramp Signals @ I-494

2012 Project # Description

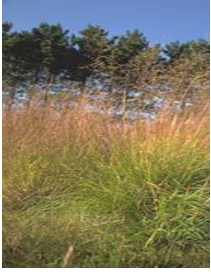
- 2308 CSAH 12 - Reconstruction from TH 244 to East Ave.
- 2320 CSAH 36 - Interchange @ TH 36
- 2324 CSAH 12 @ CSAH 9 - Intersection Improvements
- 2515 CSAH 19 - Interchange @ TH 61
- 2538 CSAH 22 - Traffic Signal @ Hardwood Ave.

2013 Project # Description

- 2312 CSAH 15 - Reconstruction from 1/2 mile N. of CSAH 12 to TH 96
- 2315 CSAH 19 - Reconstruction from Park Xing to 1/2 mile S. of Bailey Rd.
- 2322 CSAH 15 - Improvements at Big Marine Park Reserve Entrance
- 2513 CSAH 18 - Reconstruction from Bailey Hill to CSAH 13
- 2542 CSAH 16 - Reconstruction from Radio Dr. to Bielenberg Dr.
- 2543 CSAH 5 & 12 - Intersection Improvements



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007, Washington County IT



Appendix 4-A

Jurisdictional Transfer Guidelines

Issues and factors, which must be considered when determining potential jurisdictional change include historical practices, type of trips served (purpose and length), connectivity, traffic volumes, access controls, functional classification, legal requirements, and funding and maintenance issues. The following guidelines were developed to provide a basis to review the routes in Washington County for potential jurisdictional transfers. These guidelines will not determine if the jurisdictional transfer is politically acceptable, nor do they establish a timeframe under which transfers may occur. However, they define an approach for arriving at logical jurisdictional designations.

Once there is agreement on how the jurisdictional designations should be established, an ongoing jurisdictional transfer process will need to be developed to address issues such as the financial implications for construction and maintenance of the facility, operational implications (perceived level of service, ability to maintain), perceived fairness in the distribution of route responsibilities, and timing of transfer.

It is not anticipated that all guideline criteria must be met in order for a jurisdictional change to be recommended. However, the more criteria a route addresses, the stronger the case for recommending it as a transfer.

State Jurisdiction

Normally state jurisdiction routes are characterized as follows:

- Classified as either a principal or minor arterial.
- Typically longer routes serving statewide and interstate trips that connect larger population and business centers.
- Spaced at intervals that are consistent with population density, such that all developed areas of the state are within reasonable distance of an arterial. (As a guide, rural arterial routes are considered to “serve” a community if it is within 10 miles or 20 minutes travel time on a minor arterial).

Appendix 4-A

- Typically have design features (such as properly spaced access points) that are intended to promote higher travel speeds. They also accommodate more truck movements.
- Typically carry the major portion of trips entering and leaving urban areas as well as the majority of trips bypassing central cities.

County Jurisdiction

Typically, county jurisdiction routes are characterized as follows:

Rural Areas

- Functionally classified as a minor arterial, major collector, or minor collector.
- Provide essential connections and links not served by the principal and other minor arterial routes. They serve adjacent larger towns that are not directly served by principal and minor arterial routes and they provide service to major traffic generators that have intra-county importance.
- Spaced at intervals that are consistent with population density so as to provide reasonable access to arterial or collector routes in developed areas.
- Provide links between local traffic generators and outlying rural areas.

Within Urban Boundaries

- Classified as either principal or minor arterial routes.
- Carry higher-traffic volumes or provide access to major regional traffic generators (shopping centers, education centers, major industrial complexes).
- Provide connections and continuity to major rural collector routes accessing the urban area and provide continuity within the urban area, but do not divide homogeneous neighborhoods.
- Emphasize higher mobility features than other local minor arterial routes (i.e., some form of access management or access control).



Appendix 4-A

City Jurisdiction

Arterial routes within the urban area should be considered for city jurisdiction if they are characterized as follows:

- Short segments (less than three miles) with a moderate volume of traffic (3,000 to 8,000 ADT).
- Higher local land access needs and close intersection spacing (promotion of local land access over mobility).
- Close spacing with other arterial routes and shorter trip lengths such as found in central business district (CBD) areas
- Provide no, or very limited, continuity to outlying rural areas. Urban arterials tend to have shorter trip lengths than rural arterials or collectors.
- Serve small geographic travelsheds.
- Provide on-street parking or other amenities that discourage the use of the route as a regional route (promotion of local access and adjacent land use activities at the street edge).

Collectors and local streets that provide property access and local traffic circulation are normally under city jurisdiction. These streets typically constitute 65 to 80 percent of the entire urban system mileage and are characterized as follows:

- Shorter in length (less than 1.5 miles) and carry low to medium volumes of traffic (500 to 3,000 ADT).
- Provide land access and traffic circulation to residential neighborhoods and to commercial and industrial areas (high access low mobility functions).
- Divide homogeneous residential neighborhoods to distribute trips to arterial street system or their final trip destination.

Township Jurisdiction

Customarily, township jurisdiction rural routes are characterized as follows:

- Low traffic volumes (less than 500 ADT).

Appendix 4-A

- Classified as local roadways on the functional classification system.
- Provide access to adjacent property.
- Link outlying rural areas to county roads (CR) or County State Aid Highways (CSAH); the route length is usually less than five miles between CR or CSAHs.
- Primarily serve farmsteads, small rural subdivisions, rural churches/cemeteries, and agricultural facilities.
- Irregular access spacing, but most often provide access to farms, field entrances, and they sometimes “T” with other roadways or dead-end.



Appendix 4-B

Transportation Analysis Zone (TAZ) Information

Table A-1 Socio-economic Data by Transit Analysis Zone by Community Washington County										
			2005				2030			
CITY	Washington County TAZ	Met Council TAZ	Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
AFTON	1111	1111	73	28	1	81	77	28	30	81
AFTON	1193	1193	272	103	0	0	404	140	20	11
AFTON	1194	1194	54	21	38	134	74	26	39	153
AFTON	1224	1111	692	263	2	105	1420	622	31	108
AFTON	1267	1193	297	113	0	0	432	150	0	0
AFTON	1268	1194	252	97	0	0	334	117	0	0
AFTON	1269	1194	491	189	0	39	582	208	5	92
AFTON	1270	1194	411	158	0	0	471	169	0	0
AFTON	1271	1194	184	71	5	55	232	82	5	55
AFTON	1272	1194	7	3	0	0	24	8	0	0
BAYPORT	1131	1131	3097	763	98	4887	5726	1392	193	5834
BAYPORT	1196	1196	71	29	7	266	274	108	7	266
BAYTOWN TOWNSHIP	1195	1195	284	100	0	0	327	113	0	0
BAYTOWN TOWNSHIP	1196	1196	284	100	0	0	415	147	0	0
BAYTOWN TOWNSHIP	1231	1130	1032	363	0	178	1418	500	0	120
BIRCHWOOD	1146	1146	900	358	0	18	930	370	0	0
COTTAGE GROVE	1080	1080	85	29	0	62	1610	718	0	62
COTTAGE GROVE	1081	1081	193	67	0	31	5154	2216	244	354
COTTAGE GROVE	1082	1082	5735	1675	0	0	5950	1913	0	0
COTTAGE GROVE	1083	1083	3987	1163	29	299	3840	1220	29	398
COTTAGE GROVE	1084	1084	65	20	10	16	800	307	17	49
COTTAGE GROVE	1085	1085	2897	927	7	153	3520	1250	7	153
COTTAGE GROVE	1086	1086	2534	901	208	273	2585	1000	292	324
COTTAGE GROVE	1087	1087	0	0	196	139	0	0	196	139
COTTAGE GROVE	1088	1088	802	269	-	528	4831	1,967	189	1,535
COTTAGE GROVE	1089	1089	550	224	2	36	518	228	9	112

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Table A-1
Socio-economic Data by Transit Analysis Zone by Community
Washington County

CITY	Washington County TAZ	Met Council TAZ	2005				2030			
			Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
COTTAGE GROVE	1090	1090	38	13	30	374	35	13	30	631
COTTAGE GROVE	1184	1184	4716	1453	-	-	4708	1580	-	478
COTTAGE GROVE	1185	1185	1306	471	30	377	1209	471	30	377
COTTAGE GROVE	1204	1080	50	17	1	1	429	189	1	1
COTTAGE GROVE	1205	1080	147	50	-	-	1668	739	-	-
COTTAGE GROVE	1206	1081	196	68	12	30	1839	784	116	169
COTTAGE GROVE	1207	1082	195	57	431	67	181	57	441	560
COTTAGE GROVE	1208	1084	798	243	-	-	3703	1393	-	-
COTTAGE GROVE	1209	1087	5395	1858	330	641	5025	1870	330	644
COTTAGE GROVE	1210	1088	83	28	57	768	77	28	119	1184
COTTAGE GROVE	1212	1090	763	259	98	35	776	288	239	35
COTTAGE GROVE	1213	1090	1515	514	29	905	1610	600	29	1105
COTTAGE GROVE	1262	1185	2193	791	49	141	2262	891	161	690
COTTAGE GROVE	1278	1080	310	106	21	-	670	278	21	-
DELLWOOD	1144	1144	502	185	-	65	502	185	-	65
DELLWOOD	1149	1149	456	200	10	240	468	205	10	105
DENMARK TOWNSHIP	1079	1079	447	158	407	156	599	230	391	17
DENMARK TOWNSHIP	1088	1088	158	56	38	438	154	57	38	531
DENMARK TOWNSHIP	1279	1079	428	151	13	-	587	226	13	-
DENMARK TOWNSHIP	1280	1079	642	227	108	-	1210	477	100	-
FOREST LAKE	1159	1159	3928	1487	56	204	4076	1487	56	205
FOREST LAKE	1160	1160	1378	484	20	469	4775	1708	43	469
FOREST LAKE	1161	1161	103	37	11	96	107	37	214	96
FOREST LAKE	1162	1162	874	343	417	38	1284	488	681	38
FOREST LAKE	1163	1163	2222	1041	1447	1316	3767	1591	1447	1316
FOREST LAKE	1164	1164	688	274	472	1167	1181	444	472	1189
FOREST LAKE	1165	1165	256	112	-	-	266	112	-	-
FOREST LAKE	1199	1199	843	359	91	16	875	359	508	16
FOREST LAKE	1257	1160	1586	557	1	88	1646	557	21	88



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Table A-1
Socio-economic Data by Transit Analysis Zone by Community
Washington County

			2005				2030			
CITY	Washington County TAZ	Met Council TAZ	Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
FOREST LAKE	1258	1161	1616	585	58	140	9590	4,218	655	1,569
FOREST LAKE	1259	1162	3	1	113	10	3	1	113	10
FOREST LAKE	1260	1164	55	22	-	-	57	22	-	-
FOREST LAKE	1261	1165	2255	988	120	226	5509	2223	120	226
FOREST LAKE	1276	1200	222	98	-	225	230	98	-	225
FOREST LAKE	1277	1200	804	355	385	238	834	355	385	238
GRANT	1142	1142	1097	376	50	92	1279	442	50	92
GRANT	1143	1143	357	136	140	96	358	136	140	96
GRANT	1149	1149	452	156	-	-	453	156	-	-
GRANT	1150	1150	1612	566	-	115	1615	566	-	115
GRANT	1237	1143	656	250	40	96	795	300	40	97
GREY CLOUD ISLAND TWP	1089	1089	316	116	1	24	6800	2500	20	220
HASTINGS	1079	1079	0	1	52	206	0	-	-	-
HUGO	1153	1153	1981	834	110	392	4398	1774	343	755
HUGO	1154	1154	1023	367	26	5	1512	544	109	5
HUGO	1155	1155	964	363	30	617	3055	1119	547	607
HUGO	1156	1156	2506	990	174	258	15014	5997	394	1184
HUGO	1244	1153	644	271	8	39	4256	1680	8	39
HUGO	1245	1153	261	110	8	35	1466	580	8	35
HUGO	1246	1154	1550	556	14	45	3010	1086	14	45
HUGO	1247	1155	704	265	20	386	2794	1021	20	386
HUGO	1248	1156	109	43	-	-	2478	992	-	-
HUGO	1249	1156	94	37	-	1	2017	807	-	1
LAKE ELMO	1115	1115	567	219	66	267	2454	944	398	817
LAKE ELMO	1116	1116	979	332	-	133	5577	557	-	160
LAKE ELMO	1117	1117	1325	531	26	260	2756	2630	400	8228
LAKE ELMO	1118	1118	171	55	-	-	913	335	-	-
LAKE ELMO	1128	1128	2016	712	-	-	2930	950	-	-

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Table A-1
Socio-economic Data by Transit Analysis Zone by Community
Washington County

CITY	Washington County TAZ	Met Council TAZ	2005				2030			
			Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
LAKE ELMO	1129	1129	58	20	95	603	833	173	363	803
LAKE ELMO	1228	1115	633	246	-	89	3461	310	-	92
LAKE ELMO	1229	1118	16	5	117	202	2215	1,650	839	1,800
LAKE ELMO	1230	1129	1148	392	-	80	1922	661	-	80
LAKE ELMO	1274	1197	531	195	-	14	939	517	-	20
LAKE ST CROIX BEACH	1113	1113	5	2	1	3	5	2	-	1
LAKE ST CROIX BEACH	1225	1112	844	375	-	12	848	377	-	21
LAKE ST CROIX BEACH	1226	1112	227	101	13	46	227	101	30	78
LAKELAND	1113	1113	573	286	25	20	600	297	34	68
LAKELAND	1227	1113	1137	404	47	286	1160	413	66	432
LAKELAND SHORES	1113	1113	320	120	5	13	320	120	15	35
LANDFALL	1121	1121	716	307	14	12	700	300	50	40
MAHTOMEDI	1145	1145	3065	1323	120	687	3338	1448	130	1528
MAHTOMEDI	1146	1146	1302	387	0	0	1718	527	0	0
MAHTOMEDI	1147	1147	1447	530	101	329	1545	569	111	595
MAHTOMEDI	1148	1148	1275	507	5	10	1399	556	9	127
MARINE ON ST CROIX	1157	1157	270	116	-	-	435	186	-	-
MARINE ON ST CROIX	1203	1157	239	103	24	82	404	173	54	184
MARINE ON ST CROIX	1250	1157	165	71	6	53	161	71	6	136
MAY TOWNSHIP	1152	1152	670	267	-	13	917	366	-	9
MAY TOWNSHIP	1239	1152	387	154	-	13	462	184	-	8
MAY TOWNSHIP	1240	1152	440	175	-	12	690	275	-	8
MAY TOWNSHIP	1241	1152	1178	469	-	12	1678	669	-	8
MAY TOWNSHIP	1242	1152	30	12	-	12	105	42	-	8
MAY TOWNSHIP	1243	1152	78	36	-	10	148	64	-	9
NEW SCANDIA TOWNSHIP	1158	1158	905	352	-	4	1288	501	-	45
NEW SCANDIA TOWNSHIP	1251	1158	316	123	5	-	332	128	1	-
NEW SCANDIA TOWNSHIP	1252	1158	548	213	7	-	1056	413	3	-
NEW SCANDIA TOWNSHIP	1253	1158	1383	538	19	5	1776	689	20	47



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Table A-1
Socio-economic Data by Transit Analysis Zone by Community
Washington County

			2005				2030			
CITY	Washington County TAZ	Met Council TAZ	Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
NEW SCANDIA TOWNSHIP	1254	1158	260	101	19	-	272	105	14	-
NEW SCANDIA TOWNSHIP	1255	1158	157	61	-	-	183	71	-	-
NEW SCANDIA TOWNSHIP	1256	1158	239	93	37	298	493	193	42	438
NEWPORT	1093	1093	675	265	-	221	864	340	-	764
NEWPORT	1094	1094	778	317	41	264	916	370	108	394
NEWPORT	1095	1095	0	-	-	280	0	-	-	280
NEWPORT	1096	1096	607	291	147	516	1139	528	335	1980
NEWPORT	1214	1096	1078	494	154	481	1971	892	307	2332
OAK PARK HEIGHTS	1130	1130	1404	521	952	200	1484	550	1126	610
OAK PARK HEIGHTS	1132	1132	1086	569	210	1300	1991	982	394	2569
OAK PARK HEIGHTS	1134	1134	738	360	40	104	740	360	40	104
OAK PARK HEIGHTS	1197	1197	0	-	113	100	0	-	157	100
OAK PARK HEIGHTS	1231	1130	1350	558	0	0	1485	608	0	0
OAKDALE	1119	1119	749	372	-	3	826	412	49	3
OAKDALE	1120	1120	5262	1911	232	544	5914	2170	232	857
OAKDALE	1121	1121	2067	1142	316	931	3636	1801	408	931
OAKDALE	1122	1122	5307	2542	219	1239	5722	2760	219	1936
OAKDALE	1123	1123	1766	632	193	521	2288	840	216	521
OAKDALE	1124	1124	2871	1277	10	415	3024	1,350	18	714
OAKDALE	1125	1125	3399	1505	30	431	4519	2,010	74	460
OAKDALE	1126	1126	1127	503	256	331	1231	550	459	530
OAKDALE	1127	1127	1444	518	-	1781	1826	668	207	2867
OAKDALE	1128	1128	421	144	-	65	437	151	-	65
OAKDALE	1201	1119	517	257	264	665	577	288	418	716
PINE SPRINGS	1128	1128	51	20	-	-	51	20	-	-
PINE SPRINGS	1148	1148	306	119	-	19	309	120	-	-
ST MARY'S POINT	1112	1112	85	34	2	2	77	31	4	2
ST MARY'S POINT	1225	1112	262	119	3	3	263	119	1	3

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Table A-1
Socio-economic Data by Transit Analysis Zone by Community
Washington County

CITY	Washington County TAZ	Met Council TAZ	2005				2030			
			Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
ST PAUL PARK	1091	1091	1981	708	91	114	2147	782	91	136
ST PAUL PARK	1092	1092	1254	575	56	1018	3509	1489	56	986
ST PAUL PARK	1185	1185	1766	672	20	81	1751	672	20	81
ST PAUL PARK	1211	1089	99	39	2	25	2993	1207	13	317
STILLWATER CITY	1133	1133	20	17	178	111	20	17	178	111
STILLWATER CITY	1134	1134	1292	558	-	585	1552	671	-	745
STILLWATER CITY	1135	1135	2703	1,67	194	1972	2762	1,207	194	2379
STILLWATER CITY	1136	1136	3	1	1086	1991	3	1	1,276	2,341
STILLWATER CITY	1137	1137	0	-	30	129	0	-	30	132
STILLWATER CITY	1138	1138	3825	1651	32	260	4018	1761	37	264
STILLWATER CITY	1139	1139	2310	997	32	311	3139	1347	32	411
STILLWATER CITY	1140	1140	322	139	374	1216	317	139	545	1609
STILLWATER CITY	1141	1141	102	44	219	285	101	44	290	294
STILLWATER CITY	1232	1134	40	17	109	840	74	31	109	862
STILLWATER CITY	1233	1136	105	45	75	259	103	45	99	361
STILLWATER CITY	1234	1137	2261	976	1	130	2312	1010	1	217
STILLWATER CITY	1235	1139	241	104	-	-	2511	1018	-	7
STILLWATER CITY	1236	1140	3032	1,309	189	841	2988	1309	209	867
STILLWATER TOWNSHIP	1151	1151	907	341	3	45	366	122	5	38
STILLWATER TOWNSHIP	1198	1198	813	306	-	47	1205	454	-	39
STILLWATER TOWNSHIP	1235	1139	407	153	-	-	1533	592	-	-
STILLWATER TOWNSHIP	1275	1198	191	72	-	45	246	92	-	38
WEST LAKELAND TWP	1114	1114	762	273	78	124	1229	440	14	65
WEST LAKELAND TWP	1195	1195	1101	412	0	0	1155	432	0	0
WEST LAKELAND TWP	1196	1196	1450	510	0	0	1501	529	0	0
WEST LAKELAND TWP	1273	1196	111	39	14	90	305	109	11	10
WHITE BEAR LAKE	1146	1146	368	245	44	118	450	300	55	115
WILLERNIE	1148	1148	572	252	7	65	590	260	80	70
WOODBURY	1097	1097	1033	398	-	153	3679	1,490	50	110



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Table A-1
Socio-economic Data by Transit Analysis Zone by Community
Washington County

			2005				2030			
CITY	Washington County TAZ	Met Council TAZ	Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
WOODBURY	1098	1098	342	124	-	24	13725	5,740	-	50
WOODBURY	1099	1099	117	35	-	43	10051	4,145	5	120
WOODBURY	1100	1100	1163	437	-	101	4044	1,630	-	86
WOODBURY	1101	1101	2069	795	-	-	2083	795	-	-
WOODBURY	1102	1102	3980	1,408	-	26	4101	1,445	20	400
WOODBURY	1103	1103	3112	1699	-	33	3136	1,700	20	710
WOODBURY	1104	1104	627	320	197	1425	644	325	180	1320
WOODBURY	1105	1105	837	519	124	1495	847	520	1140	895
WOODBURY	1106	1106	776	358	139	403	774	355	139	1042
WOODBURY	1107	1107	99	65	1,375	1484	100	65	1290	1490
WOODBURY	1108	1108	0	-	1,259	81	0	-	2019	98
WOODBURY	1109	1109	1267	633	8	865	1281	635	16	737
WOODBURY	1110	1110	1295	610	623	50	1403	655	1462	2061
WOODBURY	1186	1186	1610	586	-	201	1619	585	90	530
WOODBURY	1187	1187	3880	1444	4	185	3910	1445	-	127
WOODBURY	1188	1188	4015	1714	24	1172	4045	1715	-	1100
WOODBURY	1189	1189	619	225	-	704	623	225	25	1175
WOODBURY	1190	1190	1605	650	191	148	1616	650	32	182
WOODBURY	1191	1191	2877	1131	414	450	2894	1130	425	475
WOODBURY	1192	1192	3387	1204	-	73	3413	1205	-	75
WOODBURY	1202	1109	0	-	786	1450	0	-	1844	2204
WOODBURY	1215	1100	1663	625	3	12	2397	925	8	-
WOODBURY	1216	1100	3858	1450	142	20	4390	1660	7	48
WOODBURY	1217	1101	1067	410	-	16	1074	410	150	2950
WOODBURY	1218	1106	2627	1213	37	611	2638	1210	41	1238
WOODBURY	1219	1108	1042	542	253	370	1044	540	62	3
WOODBURY	1220	1108	490	255	326	1240	493	255	919	119
WOODBURY	1221	1110	132	62	-	-	2456	1120	-	-

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Table A-1
Socio-economic Data by Transit Analysis Zone by Community
Washington County

			2005				2030			
CITY	Washington County TAZ	Met Council TAZ	Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
WOODBURY	1222	1110	17	8	-	103	1097	500	300	4126
WOODBURY	1223	1110	2459	1158	-	19	2853	1330	207	2618
WOODBURY	1263	1187	1075	400	12	283	1309	490	-	73
WOODBURY	1264	1190	158	64	434	268	162	65	464	299
WOODBURY	1265	1190	101	41	-	-	99	40	-	-
WOODBURY	1266	1190	0	-	175	308	0	-	304	339
TOTAL			213153	83727	19489	56692	36559	145527	31711	99658

* Overall employment increased by 650 based on a Metropolitan Council's technical correction in Denmark Township.

** Woodbury total was adjusted by city of Woodbury. Note: this does not reflect the current Metropolitan Council estimates.



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Table A-2
Socio-economic Data by Transit Analysis Zone (TAZ)
Washington County

Met Council TAZ	2005				2030*			
	Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
1079	1517	537	580	362	2396	933	504	17
1080	592	202	22	63	4377	1924	22	63
1081	389	135	12	61	6993	3000	360	523
1082	5930	1732	431	67	6131	1970	441	560
1083	3987	1163	29	299	3840	1220	29	398
1084	863	263	10	16	4503	1700	17	49
1085	2897	927	7	153	3520	1250	7	153
1086	2534	901	208	273	2585	1000	292	324
1087	5395	1858	526	780	5025	1870	526	783
1088	1043	353	95	1734	5062	2052	346	3250
1089	965	379	5	85	10311	3935	42	649
1090	2316	786	157	1314	2421	901	298	1771
1091	1981	708	91	114	2147	782	91	136
1092	1254	575	56	1018	3509	1489	56	986
1093	675	265	0	221	864	340	0	764
1094	778	317	41	264	916	370	108	394
1095	0	0	0	280	0	0	0	280
1096	1685	785	301	997	3110	1420	642	4312
1097	1033	398	0	153	3679	1490	50	110
1098	342	124	0	24	13725	5740	0	50
1099	117	35	0	43	10051	4145	5	120
1100	6684	2512	145	133	10831	4215	15	134
1101	3136	1205	0	16	3157	1205	150	2950
1102	3980	1408	0	26	4101	1445	20	400
1103	3112	1699	-	33	3136	1700	20	710
1104	627	320	197	1425	644	325	180	1320
1105	837	519	124	1495	847	520	1140	895
1106	3403	1571	176	1014	3412	1565	180	2280
1107	99	65	1375	1484	100	65	1290	1490

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Table A-2 Socio-economic Data by Transit Analysis Zone (TAZ) Washington County								
Met Council TAZ	2005				2030*			
	Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
1108	1532	797	1838	1691	1537	795	3000	220
1109	1267	633	794	2315	1281	635	1860	2941
1111	765	291	3	186	1497	650	61	189
1112	1418	629	18	63	1415	628	35	104
1113	2035	812	78	322	2085	832	115	536
1114	762	273	78	124	1229	440	14	65
1115	1200	465	66	356	5915	1254	398	909
1116	979	332	-	133	5577	557	-	160
1117	1325	531	26	260	2756	2630	400	8228
1118	187	60	117	202	3128	1985	839	1800
1119	1266	629	264	668	1403	700	467	719
1120	5262	1911	232	544	5914	2170	232	857
1121	2783	1449	330	943	4336	2101	458	971
1122	5307	2542	219	1239	5722	2760	219	1936
1123	1766	632	193	521	2288	840	216	521
1124	2871	1277	10	415	3024	1350	18	714
1125	3399	1505	30	431	4519	2010	74	460
1126	1127	503	256	331	1231	550	459	530
1127	1444	518	-	1781	1826	668	207	2867
1128	2488	876	-	65	3418	1121	-	65
1129	1206	412	95	683	2755	834	363	883
1130	3786	1442	952	378	4387	1658	1126	730
1131	3097	763	98	4887	5726	1392	193	5834
1132	1086	569	210	1300	1991	982	394	2569
1133	20	17	178	111	20	17	178	111
1134	2070	935	149	1529	2366	1062	149	1711
1135	2703	1167	194	1972	2762	1207	194	2379
1136	108	46	1161	2250	106	46	1375	2702
1137	2261	976	31	259	2312	1010	31	349
1138	3825	1651	32	260	4018	1761	37	264



Appendix 4-B

Table A-2
Socio-economic Data by Transit Analysis Zone (TAZ)
Washington County

Met Council TAZ	2005				2030*			
	Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
1139	2958	1254	32	311	7183	2957	32	418
1140	3354	1448	563	2057	3305	1448	754	2476
1141	102	44	219	285	101	44	290	294
1142	1097	376	50	92	1279	442	50	92
1143	1013	386	180	192	1153	436	180	193
1144	502	185	-	65	502	185	-	65
1145	3065	1323	120	687	3338	1448	130	1528
1146	2570	990	44	136	3098	1197	55	115
1147	1447	530	101	329	1545	569	111	595
1148	2153	878	76	94	2298	936	89	197
1149	908	356	10	240	921	361	10	105
1150	1612	566	-	115	1615	566	-	115
1151	907	341	3	45	366	122	5	38
1152	2783	1113	-	72	4000	1600	-	50
1153	2886	1215	126	466	10120	4034	359	829
1154	2573	923	40	50	4522	1630	123	50
1155	1668	628	50	1003	5849	2140	567	993
1156	2709	1070	174	259	19509	7796	394	1185
1157	674	290	30	135	1000	430	60	320
1158	3808	1481	87	307	5400	2100	80	530
1159	3928	1487	56	204	4076	1487	56	205
1160	2964	1041	21	557	6421	2265	64	557
1161	1719	622	69	236	9697	4255	869	1665
1162	877	344	530	48	1287	489	794	48
1163	2222	1041	1447	1316	3767	1591	1447	1316
1164	743	296	472	1167	1238	466	472	1189
1165	2511	1100	120	226	5775	2335	120	226
1184	4716	1453	-	-	4708	1580	-	478
1185	5265	1934	99	599	5222	2034	211	1148

Appendix 4-B

Table A-2 Socio-economic Data by Transit Analysis Zone (TAZ) Washington County								
Met Council TAZ	2005				2030*			
	Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
1186	1610	586	-	201	1619	585	90	530
1187	4955	1844	16	468	5219	1935	-	200
1188	4015	1714	24	1172	4045	1715	-	1100
1189	619	225	-	704	623	225	25	1175
1190	1864	755	800	724	1877	755	800	820
1191	2877	1131	414	450	2894	1130	425	475
1192	3387	1204	-	73	3413	1205	0	75
1193	569	216	0	0	836	290	20	11
1194	1399	539	43	228	1717	610	49	300
1195	1385	512	-	-	1482	545	0	-
1196	1916	678	21	356	2495	893	18	276
1197	531	195	113	114	939	517	157	120
1198	1004	378	-	92	1451	546	-	77
1199	843	359	91	16	875	359	508	16
1200	1026	453	385	463	1064	453	385	463
TOTAL	213153	83727	19489	56692	365590	145527	31711	99658



Appendix 4-B

Table A-3
Summary of Socio-economic Data by Community
Washington County

City	Population		Households		Retail Employment		Non-retail Employment		Total Employment	
	2005	2030	2005	2030	2005	2030	2005	2030	2005	2030
Afton	2,733	4,050	1,046	1,550	46	130	414	500	460	630
Bayport	3,168	6,000	792	1,500	105	200	5,153	6,100	5,258	6,300
Baytown Twp	1,600	2,160	563	760	0	0	178	120	178	120
Birchwood	900	930	358	370	0	0	18	0	18	0
Cottage Grove	34,553	53,000	11,203	20,000	1,540	2,500	4,876	9,000	6,416	11,500
Dellwood	958	970	385	390	10	10	305	170	315	180
Denmark Twp	1,675	2,550	592	990	566	542	594	548	1,160	1,090
Forest Lake	16,833	34,200	6,743	13,700	3,191	4,715	4,233	5,685	7,424	10,400
Grant	4,174	4,500	1,484	1,600	230	230	399	400	629	630
Grey Cloud Island Twp	316	6,800	116	2,500	1	20	24	220	25	240
Hastings	0	0	1	0	52	0	206	0	258	0
Hugo	9,836	40,000	3,836	15,600	390	1,443	1,778	3,057	2,168	4,500
Lake Elmo	7,444	24,000	2,707	8,727	304	2,000	1,648	12,000	1,952	14,000
Lake St. Croix Beach	1,076	1,080	478	480	14	30	61	100	75	130
Lakeland	1,710	1,760	690	710	72	100	306	500	378	600
Lakeland Shores	320	320	120	120	5	15	13	35	18	50
Landfall	716	700	307	300	14	50	12	40	26	90
Mahtomedi	7,089	8,000	2,747	3,100	226	250	1,026	2,250	1,252	2,500
Marine on St Croix	674	1,000	290	430	30	60	135	320	165	380
May Township	2,783	4,000	1,113	1,600	0	0	72	50	72	50
New Scandia Twp	3,808	5,400	1,481	2,100	87	80	307	530	394	610
Newport	3,138	4,890	1,367	2,130	342	750	1,762	5,750	2,104	6,500
Oak Park Heights	4,578	5,700	2,008	2,500	1,315	1,717	1,704	3,383	3,019	5,100
Oakdale	24,930	30,000	10,803	13,000	1,520	2,300	6,926	9,600	8,446	11,900
Pine Springs	357	360	139	140	0	0	19	0	19	0
St Mary's Point	347	340	153	150	5	5	5	5	10	10
St Paul Park	5,100	10,400	1,994	4,150	169	180	1,238	1,520	1,407	1,700
Stillwater City	16,256	19,900	7,025	8,600	2,519	3,000	8,930	10,600	11,449	13,600
Stillwater Twp	2,318	3,350	872	1,260	3	5	137	115	140	120
West Lakeland Twp	3,424	4,190	1,234	1,510	92	25	214	75	306	100
White Bear lake	368	450	245	300	44	55	118	115	162	170
Willernie	572	590	252	260	71	80	65	70	136	150
Woodbury	49,399	84,000	20,583	35,000	6,526	11,219	13,816	26,800	20,342	38,019
Washington County Total	213,153	365,590	83,727	145,527	19,489	31,711	56,692	99,658	76,181	131,369

Appendix 4-C

2030 Base Traffic Forecast Model Methodology

Travel demand models forecast the amount of travel on transportation facilities given assumptions of future development and transportation system improvements. Travel demand forecasts developed for this planning process were based on the modified Twin Cities regional travel demand model released by the Metropolitan Council in 2004. The base year used in the model is 2000 because U.S. Census data and travel behavior data was available for that year.

Zonal Data Representation

The travel demand model uses development activity as expressed by population, household, retail employment, and non-retail employment to estimate travel activity. The model is represented by transportation analysis zones (TAZs). The Metropolitan Council regional model is divided into geographical zones that cover the seven-county Twin Cities Metropolitan Area. In order to capture the appropriate level of detail for a local travel demand model, the TAZs were divided into smaller areas to better reflect the location of development within the county. Local communities provided guidance and feedback on the allocation of development data into the TAZs.

Roadway Network Representation

The base year roadway system is a representation of attributes such as area type, facility type, length, speed, number of lanes, and capacity. The level of detail in the highway network was expanded to include all principal arterials, minor arterials, and key collector roadways.

Travel Demand Modeling Process

The main components of the travel forecasting process are illustrated in Figure B-1 and are described below. As noted above, the travel demand forecasts are based on the Twin Cities regional travel demand model. The Metropolitan Council and MN/DOT have established guidelines for the appropriate use of the Twin Cities regional model. More detailed documentation of



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the model parameters is available from the Metropolitan Council.

The model was calibrated through multiple iterations until the travel patterns and choices of modes and routes reflected the current traffic patterns. Then, future socioeconomic and future roadway-system data was incorporated into the model to generate the various forecast scenarios.

Highway Network: Roadways are described in terms of attributes, such as area type, facility type, length, free-flow speed, number of lanes, and capacity. The level of detail in the highway network was expanded to include all appropriate local roadways as specified by the project scope.

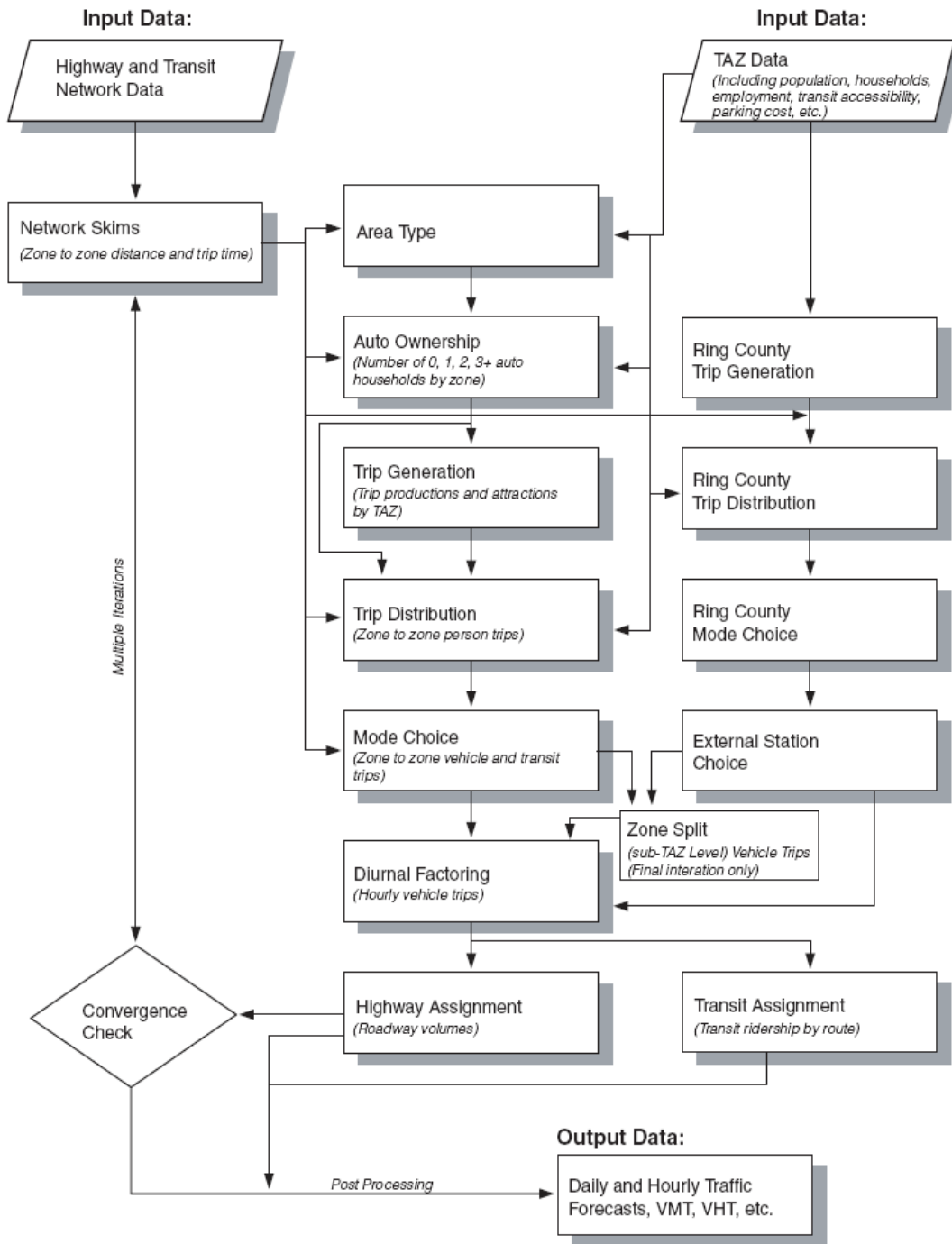
Zonal Data: The TAZ structure of the regional model was expanded to better reflect the location of local development. The extra zones were subdivisions of regional model zones. Specific allocation of future development and socioeconomic assumptions are further described in the report.

Trip Generation: Trip generation is the process by which the number of trips attributed to a zone is estimated based on the amount and type of socioeconomic activity in that zone (i.e., population, households, and employment). The end result of trip generation estimation is the total number of trips produced by and attracted to each zone.

Destination Choice: The destination-choice trip distribution process converts the person-trips estimated in the trip generation process to movements between pairs of zones based on the amount of travel activity in a zone and a generalized travel time between the producing zone and other zones.

Appendix 4-C

Figure C-1:
Travel Demand Forecasting Model





Appendix 4-C

Mode Choice: The mode choice process takes the number of person-trips between each pair of zones and determines whether the trips are made by single-occupant vehicles, carpools, or transit.

Highway Assignment: Highway trips for each of the 24 periods were routed from zone-to-zone along the roadway system using an equilibrium-assignment process. This process reflected congested conditions at appropriate times of the day for any given portion of the highway system. The hourly assignments were summed to produce a daily traffic volume.

Validation: For the purpose of this study, model validation is defined as the degree to which the travel demand model replicates known ground counts. A model was run for the 2005 highway network and socioeconomic data in order to compare the modeled daily volumes with actual ground counts. In general, most model parameters should not be altered in the course of preparing a travel-demand forecast because they are based on collected travel behavior data. Furthermore, adjustments to a model solely for the purpose of matching ground counts leads to a condition where a model matches well against existing ground counts, but is not appropriately (or reliably) sensitive to future-year changes in roadway or development characteristics. Consequently, a forced validation negates the very purpose of a travel demand model – to determine the effects of roadway scenarios and long-range development. This model used a minimum of model adjustments designed to correct systematic errors in the model (as opposed to spot-specific adjustments) and a systematic process for reconciling any residual errors in the model.

Model Adjustment Process: The final step in model development is to establish a process for adjusting the future modeled volumes to account for the error in the base model. The National Cooperative Highway Research Program Special Report 255 suggests methods of adjusting models based on the difference between model and count, the ratio of the model to

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count, and the magnitude of growth between existing and future.

Table C-1 shows the conditions under which each of these methods is appropriate. A fourth method, manual adjustment using engineering judgment, may also be appropriate under certain conditions. The modeling datasets identify which adjustment methods were used.

Table C-1 Model Adjustments Process		
Condition	Implications of Condition	Method Used
$\frac{FutureVolume}{BaseVolume} > 3$	High model growth may cause the ratio method to result in unreasonably high adjusted volumes.	Difference Method
$\frac{BaseCount}{BaseVolume} > 1.5$	A large underestimation by the model in the base year may cause the ratio method to result in unreasonably high adjusted volumes.	Difference Method
$\frac{BaseVolume}{BaseCount} > 1.5$	A large overestimation by the model in the base year may cause the ratio method to result in unreasonably low adjusted volumes.	Difference Method
All Other Cases		Average Method



Appendix 4-D

Roadway Improvements Included in 2030 Base Traffic Model

MN/DOT's 2008 to 2030 Transportation System Plan (TSP) identifies the following programmed regional roadway improvements within Washington County for the 2030 planning time period. These improvements were assumed in the base 2030 roadway system model for Washington County.

- St. Croix River Bridge – Reconstruct and expand river bridge crossing (2024-2030).
- TH 36 (TH 5 to Stillwater Bridge) – Convert to freeway (2024-2030).
- I-694 (I-35E to TH 36) – Add lanes (2024-2030).

MN/DOT

- TH 64 in Wisconsin (TH 95 in Stillwater to New Richmond) upgraded to freeway.
- Overpass at CSAH 23 in Stillwater and TH 35 in Wisconsin.
- Interchange at TH 95 in Stillwater and CR E in Wisconsin.
- 10-lane Wakota Bridge and interchange reconstruction.
- U.S. 61 bridge reconstruction in Hastings – expand to four-lanes.
- TH 36 and McKnight Road Interchange.

County/City (Local)

- CSAH 25 (Century Avenue) upgraded to a four-lane divided roadway from I-94 to Lake Road (Woodbury).
- Tamarack Road upgraded to a continuous four-lane from I-494 to Woodbury Drive (Woodbury).
- Valley Creek Road upgraded to a four-lane divided from Woodcrest to Settler's Ridge Parkway (Woodbury).
- Extension of Mile Drive South to Jamaica Avenue and realignment with Pioneer Road to north (Woodbury).
- CSAH 13 reconstruct to four-lane divided roadway from Glen Road to Pioneer Road (Woodbury).

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- CSAH 13 add lane to bridge at I-94 NB (Woodbury/Lake Elmo).
- Lake Road continuous four-lane from CSAH 19 to TH 95 (Woodbury).
- CSAH 15 reconstruction to four-lane roadway from TH 36 to TH 96 (Grant/Stillwater).
- CSAH 17 half diamond interchange to the west at TH 36 (Lake Elmo).
- CSAH 18 from CSAH 20 to I-494 upgrade to undivided four-lane facility (Newport).
- Anoka County CSAH 14 to four-lane from Anoka CSAH 21 to I-35W.

Several regional roadway system needs were also identified in MN/DOT's 2008-2030 TSP but remain unfunded. Since these regional improvements are not currently funded (programmed), they were not incorporated into the base model as part of the future roadway system. However, upon review of the county's anticipated future land use, the 2030 traffic forecasts will document whether there is a need for these improvements during the 2030 planning horizon.

- I-94 (I-494 to TH 95) – Expand to eight-lanes.
- TH 36 (TH 120 to TH 5) – Convert to freeway.
- TH 97 (US 61 to TH 95) – Expand to four-lanes.
- US 61 (TH 97 to North County Border) – Add lane.
- TH 120 (I-494 to TH 244) – Expand to four-lanes.
- I-494 (I-94 to West County Border) – Expand to six-lane freeway.
- TH 5 in Lake Elmo/Bayport – Add turn lanes.
- TH 95 (Bailey Road to US 61) – Add turn lanes.
- TH 97 (I-35 to US 61) – Expand to four-lanes.
- TH 95 (TH 36 to I-94) – Expand to four-lanes.
- TH 95 (I-94 to US 61) – Expand to four-lanes.
- TH 95 (TH 97 to TH 96) – Add turn lanes/shoulders.



Appendix 4-E

Transit Oriented Development

Efforts to implement all-day two direction fixed-guideway transit in these corridors are inhibited by low ridership forecasts that are due to a large extent to the lack of density and walkability in the immediate vicinity of the proposed guideway.

How do communities like Washington County create the conditions necessary to justify the investment in fixed-guideway transit? One of the most effective ways is to create an environment that brings potential riders closer to the proposed transitway line. A land use pattern that is compatible with transit promotes efficient energy use, more active, stronger, and safer communities, and more efficient delivery of public services. Ridership on fixed guideway transit is increased when a compatible land-use pattern exists around stations.

The Transportation/Land Use Relationship

Urban geography and transportation technology are closely interdependent. Before motorized transport, cities were compact. Workers lived closed to their places of employment. Commercial activities were small and decentralized and densities were high. The stratification of land uses into separate residential, commercial, and industrial areas did not occur until the development of early non-motorized transit systems. With the invention and widespread adoption of the streetcar, commercial areas became even more concentrated at the center and city residents were able to live farther away from where they worked. Yet, the necessity of walking to and from the streetcar stops still kept the city relatively compact.

Since the development of the automobile and its ultimate adoption as the primary mode of personal transportation, cities have become more dispersed and land use patterns, particularly in areas that have developed since the early 1960's, have become 'auto-oriented.' Wide streets, large parking lots, and often the absence of sidewalks are indicators of this influence. Suburban communities in particular exhibit land-use patterns that favor movement by automobile.

Attempts to provide traditional local bus service outside of the core city often results in routes with poor ridership and with limited

Appendix 4-E

funding available, these routes are often the first to be cut when funding constraints cause routes to be eliminated. To date, the most successful transit services in suburban areas are the peak hour express routes to/from the central cities that typically originate at large centrally located park and rides. These are supplemented in some areas with circulator services that are focused on a community transit center.

Despite the difficulty in establishing transit services in suburban areas, there is a widespread desire to reverse this trend and increase the range of transportation options available to suburban residents. The reasons for this are varied; traffic congestion, energy prices, public health, and an aging population all contribute to the demand for more and better transit service, bicycle facilities, and walkable neighborhoods. The fact that suburban development patterns inhibit the establishment of an efficient transit system and that popular sentiment for better transit is not universal, presents challenges to the transit planner.

Definition of Transit Oriented Development

Transit Oriented Development (TOD) is a term used to represent several design principles that emphasize the interrelationship of transit facilities and the surrounding land use pattern. Like many such concepts, there are a variety of formal definitions.

The Metropolitan Council presents the following TOD definition in the Council's Guide for Transit Oriented Development:

Transit-Oriented Development (TOD) refers to residential and commercial centers designed to maximize access by transit and non-motorized transportation and with other features to encourage transit ridership. A TOD neighborhood has a center with a rail or bus station, surrounded by relatively high-density development with progressively lower density spreading outwards.

Embedded within this definition are several key characteristics that typify TOD style development.



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- Transit – The essential ingredient for successful TOD neighborhoods is good transit service, usually in the form of BRT, LRT, commuter rail or heavy rail transit (i.e., subway, metro, or underground). The transit station is at the center of the neighborhood.
- Compact development – Medium- to high-density residential and employment within easy walking distance of the transit station, from one-fourth to one-half mile radius.
- Mix of uses – Diverse and complementary high-activity uses within the central area of a TOD and adjacent to transit. This includes retail, professional services, housing, and employment.
- Pedestrian orientation – A network of pedestrian-scaled streets connecting the transit stops or station with the mixed uses that comprise the TOD neighborhood.
- Design – A higher level of design detail is necessary to create a pedestrian focused scale, an attractive ‘friendly’ environment and a sense of ‘place.’
- Intermodal facilities – Besides good walk connections to the neighborhood, the station area would include bicycle storage, and automobile parking.

TOD is not a specific design but a set of design principles that need to be adapted to specific situations. Transit arterials with frequent local bus service will look different than a suburban TOD development focused on a transitway.

The foundation of a TOD development is frequent, five- to seven-day a week transit service. A transit stop or station should be near the center of the development. TOD developments do not necessarily need to be on a fixed guideway transit line. Local bus routes on urban arterials with high-frequency service will also benefit from TOD neighborhoods, though fixed guideway transit lines are more attractive to private developers because of the higher public investment and increased access to potential customers. The objective is to create a synergy between the transit service and the surrounding land use.

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Compact Development

The transit service depends, upon and is supported by, the transit users within easy walking distance of the transit line. Higher densities within a 10-minute walk, about one-fourth to one-half mile, will provide the critical mass to support the high quality transit service being provided. Beyond the one-fourth to one-half mile radius, residents will benefit from the presence of the transit line even if they are not regular users.

Mix of Uses

TOD neighborhoods require a diverse and complementary integration of high-activity uses, such as retail, professional services, housing, and employment within the central area and adjacent to the transit station. The design and composition of TOD neighborhoods not only provide a focus on transit, the mix of uses promote shorter trips and more walking trips, reducing the overall level of automobile travel. A balance between housing, jobs, and compatible uses allows for developments that are active at all times of the day, creating a lively, safe atmosphere and providing opportunities for shared parking.

Pedestrian Orientation

TOD neighborhoods also require an attractive pedestrian environment, with street-facing buildings and a network of pedestrian-scaled streets connecting the transit stop or station with commercial, civic, and residential areas. Pedestrian-oriented design includes some or all of the following features:

- Reduced right-of-way and pavement width.
- On-street parking.
- Sidewalks on both sides of the street.
- Boulevard trees.
- Alleys and roundabouts.
- Trails and bicycle paths.
- Bus stops/park-and-rides.

Pedestrian-oriented design is really a focus on people rather than automobiles and includes all the elements of the built environment.



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A safe, pleasant environment encourages walking. While a one-half mile or ten-minute walk is considered an easy walk, comfortable surroundings will make even longer walks seem reasonable. Bicycle access is also important and accommodations for bicycle movement, parking, and storage need to be provided.

Design

The design of TOD developments includes not just the buildings but also the sidewalks, streets, bus zones, and parks in the station area. Good design encourages interaction and comfort through the incorporation of amenities such as street furniture, lighting, landscaping, public art, and open space. But just as important are wider sidewalks, street-level orientation of buildings, and grid style street systems.

Intermodal Facilities

While reducing automobile travel is an objective of TOD, TOD developments still require parking. Eliminating automobile access is not desirable and can lead to the failure of the types of businesses needed to support TOD. The key is to maintain automobile accessibility without losing the qualities that promote walkability. This means carefully assessing the number of parking spaces required, providing on-street parking for access to street level businesses, and in many cases, structured parking for longer term needs that is accessible while still being screened from view or designed in a complementary manner.

What-If Scenario: Analysis of Potential Land Use Changes

To determine if the effort to modify land use in these corridors would have a significant effect on the feasibility of fixed-guideway transit, a “what-if” exercise was devised to test the impact of modifying the land use intensity in these corridors. The I-94 Corridor between TH 120 (Century Avenue) and TH 95 (Manning Avenue) was selected as the initial corridor for this purely-hypothetical analysis.

Between now and 2030, substantial increases in households and employment are expected along the I-94 Corridor. Although the Metropolitan Council forecasts that approximately 40 percent of the

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county's total growth during this time will occur within communities adjacent to I-94, this level of growth is only marginal for supporting fixed-guideway transit in the corridor.

To model a future scenario of intensified land use in the I-94 service area, 20 percent of the county's total households and employees projected between now and 2030 were redistributed to appropriate areas with available capacity within one mile of I-94. As a result, the ridership forecast for the I-94 Corridor increased from 9,500 per day to 14,000 per day, increasing the feasibility of implementing fixed-guideway transit.

In order for ridership forecasts to warrant implementation of LRT, local communities would need to make adjustments in their comprehensive plans to not just allow, but to encourage the level of development required to support the forecast ridership levels. The same land use adjustments made in the TH 36, I-35W, Rush Line, and Red Rock Corridors should have a similar impact on the feasibility of fixed-guideway transit in those corridors.



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2030 Comprehensive Plan
A Policy Guide to 2030

Parks and Open Spaces

Approved by Board of Commissioners
May 26, 2009

Planned Adoption by Board of Commissioners
Fall 2010



Washington County Mission

To provide quality public services in a cost-effective manner through innovation, leadership, and the cooperation of dedicated people.

Washington County Values

Fiscal Responsibility - to provide good stewardship of public funds

Ethics and Integrity - to maintain the public trust

Openness of the Process - to promote citizen participation

Our Heritage and Natural Resources - to conserve and preserve them

The Individual - to promote dignity and respect

Washington County Goals

- To promote the health, safety, and quality of life of citizens
- To provide accessible, high-quality services in a timely and respectful manner
- To address today's needs while proactively planning for the future
- To maintain public trust through responsible use of public resources, accountability, and openness of government



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Executive Summary

The county park system plays an important role filling a niche between the smaller community parks and the larger state parks. Because of their size and dispersed locations, county parks showcase the diversity of the county's natural and cultural resources and meet the needs of diverse populations. The county park system provides large open space that preserves the county's unique and sensitive natural resources, and provides recreational experiences not available by local, state, or federal parks. The county park and open space system is meant to complement, not compete with or duplicate, services provided by other organizations.

Washington County adopted the following vision for its park and open space system to guide future acquisition, development, and programming priorities:

The Washington County Park and Open Space System adds value to all peoples' lives and contributes to the well-being of local and regional communities by providing public enjoyment and education and maintaining and restoring high quality natural areas. By virtue of its size, high quality facilities, and dispersed locations, the county Park and Open Space System preserves and showcases the county's heritage and provides a place for users to find solitude, green space, clean water, and a place to recreate.

This Washington County Park and Open Space Plan sets the overall goals and policies that guide the development of the county-controlled sites and facilities. Master plans provide more detailed information about the development plans for individual park facilities.

The county is preserving important natural resources and open spaces through its Land and Water Legacy Program, a voter-approved referendum that authorizes the County Board to issue bonds to acquire land and interests in land to protect high priority natural areas. The strategies to implement this program



are contained in the Natural Resources and Environmental Protection Chapter of the 2030 Comprehensive Plan.

The purpose of the Washington County Park and Open Space Plan is to present a direction for land preservation, development, and use of the various resources of the county's park system.

The goal of the Park and Open Space Plan is to preserve features of the county for present and future uses. The plan:

1. Provides background information, policies, rationale, and guidelines for making decisions regarding recreation and open space in Washington County.
2. Charts a course for future acquisition and development of recreation and open space.
3. Clarifies the role of the county and others in providing recreation and open space.
4. Informs residents and others of the county's plan for recreation and open space.

To achieve the vision, the county has set the following park and open space goals:

Goal 5-1 — Showcase the county's heritage through conservation, restoration, and interpretation of cultural and natural resources.

Goal 5-2 — Improve personal and community health by providing natural resource-based park features that encourage structured and unstructured active outdoor recreation opportunities for youth, adults, and families.

The following chapter sets policies and implementation strategies that directly support these goals. It documents existing and intended uses for all elements of the park system, outlines a vision for the future of the park system, and sets out policies and strategies for implementation.

Existing Conditions

Washington County is endowed with natural resources that are aesthetically attractive and diverse. It has high-quality lakes, woodlands, agricultural areas, wetlands, and two nationally significant river valleys. Washington County's large regional parks have preserved some of the best land in the county, including high-quality ecosystems and scenic vistas.

With the addition of the St. Croix Bluffs Regional Park in 1996, the Washington County Park and Open Space System grew to eight parks. Today, most of the land acquisition is complete for six of the eight parks, and facilities are open in seven of the eight parks. The county's park system has grown from a cinder block changing room and vault toilets at Square Lake Park in 1983 to modern rest facilities at seven parks today; from 2,680 acres of county-owned park land in 1983 to 4,357 acres today; from 38 percent of the park system acquired in 1983 to 62 percent acquired today; from four maintenance workers in 1983 to five permanent and twenty seasonal park positions today; and from an operations and maintenance budget of about \$230,000 in 1983 to \$1.9 million today.

In addition to the parks and trails under the jurisdiction of Washington County, many parks, trails, historic sites, and other recreation sites are provided by other units of government and by the private sector. While these facilities are not covered in this plan, they are important in meeting the needs of the county's residents and are taken into consideration when planning the county's parks and open spaces. Other park facility providers are described below:

- The National Park Service manages scenic areas and some use areas on the St. Croix River in the northern part of the county. It also coordinates recreational facilities in the Mississippi National River and Recreation Area along the Mississippi River.



- The following state park and open space units provide outdoor recreation opportunities and natural resource conservation for the public and are considered part of the regional recreation open space system: Afton and William O'Brien state parks; Gateway State Trail; Falls Creek, St. Croix Savanna, Grey Cloud Dunes, and Lost Valley Prairie scientific and natural areas; and Hardwood Creek, Paul Hugo Farm, and Bayport wildlife management areas.
- Cities and townships provide outdoor recreation facilities, most frequently as community parks or athletic fields. These parks provide active recreation in smaller spaces that meet neighborhood needs.
- The private sector provides some outdoor recreation facilities that are generally available only to members or to sponsored groups. They include Belwin, Carpenter Nature Center, 3-M Tartan Park, Warner Nature Center, and Wilder Forest. Some private recreation facilities, such as resorts, campgrounds, and tubing centers, are open to the general public for a fee.

Park Functions

Washington County parks preserve resources and provide related recreational opportunities. Different kinds of needs require different types of parkland and facilities.

Park functions can be classified in the following manner:

- *Protection Open Spaces* include ecologically-sensitive lands, groundwater recharge areas, forests and woodlands, lands containing unique or endangered species of plants or animals, educationally-valuable features, sites with exceptional aesthetic value, and scenic roadways.
- *Recreation Open Spaces* provide outdoor activities such as fishing, swimming, boating, canoeing, hiking, biking, picnicking, camping, cross-country skiing, and environmental education.
- *Special Use Facilities* provide specialized activity areas that require logistics, management, or resources that are not compatible or available with other recreational activities. Examples would be a downhill skiing area, an arboretum, or a zoo.

- *Trail Corridors* provide safe paths for a variety of travel modes including hiking, biking, horseback riding, and cross-country skiing.

Classification System for Local and Regional Park Facilities

Regional parks system legislation directs the Metropolitan Council to take the leading role in providing for a regional park system that will complement the recreational open space opportunities provided by federal, state, and local units of government. It limits the council's planning and capital improvement funding to lands acquired and managed by counties, cities, and special park districts, which together with state facilities will reasonably meet the outdoor recreation needs of the people of the Twin Cities Metropolitan Area.

The Metropolitan Council's 2030 Regional Parks Policy Plan (adopted June 29, 2005, and amended June 28, 2006) contains a classification system for determining what facilities warrant regional status. Generally, regional facilities emphasize high-quality natural resources, contain major special features, provide for activities that tend to require large areas of land or water, and often extend into several political jurisdictions. Local recreational open space facilities provide for recreational activities that do not usually require large areas like those offered by the regional system. The local units of government provide facilities relatively close to where people live and are able to respond to the differing needs of small groups, like neighborhoods or communities. The classifications that apply to existing Washington County facilities are summarized below.

County Park

Use: Area of natural or ornamental quality for outdoor recreation such as walking, viewing, sitting, picnicking; could have some field and court games.

Service area: County

Size: 25–100 acres



Site attributes: Affords natural features with varied physiographic interest.

Site location: Proximity to community facilities and resources and/or where resource occurs.

Regional Park

Use: Area of natural or ornamental quality for nature-oriented outdoor recreation such as picnicking, boating, fishing, swimming, camping, and trail uses.

Service area: 3–5 communities

Size: 200–500 acres (100 acre minimum)

Site attributes: Complete natural setting contiguous to water bodies or watercourses where possible.

Site location: Where natural resource occurs, particularly water.

Regional Park Reserve

Use: Area of natural quality for nature-oriented outdoor recreation such as viewing and studying nature or wildlife habitat, conservation, swimming, picnicking, hiking, boating, camping, and trail uses.

Service area: County, multi-county area.

Size: 1000 + acres; sufficient area to encompass the resource envisioned for preservation, an optimum size exceeds 2,000 acres.

Site attributes: Diversity of unique resources, such as topography, lakes, streams, marshes, flora, and fauna.

Site location: Where resource occurs.

Special Features

Use: Area that preserves, maintains, and provides specialized or single-purpose recreational activities such as a golf course, nature center, marina, zoo, conservatory, arboretum, display gardens, arena, gun club, downhill ski area, and sites of historic or archeological significance.

Service area: Local (municipalities, townships) and regional.

Size: Specific standard applicable to desired feature.

Site attributes: Appropriate to particular special feature.

Site location: Where most advantageous for the special feature and the overall park system.

Regional Destination Trail

Use: Area developed for one or more varying modes of non-motorized recreational travel such as hiking, biking, horseback riding, cross-country skiing, and canoeing.

Service area: The entire metropolitan region.

Size: Sufficient corridor width to protect natural resources and can safely accommodate trail use. Sufficient length to be a destination itself, or to serve as a link between regional parks system units.

Site attributes: When feasible, off-road trails that utilize human-made and/or natural linear resources such as utility corridors, railroad and highway rights-of-way, stream/river valleys, or at the edges of forest or prairie. On-road trails are acceptable when off-road trails are not feasible.

Site location: Preferably adjacent to high quality natural areas. The trail tread way should be placed where it has no adverse impact on the natural resource base.

Regional Linking Trail

Use: Area developed for one or more varying modes of non-motorized recreational travel such as hiking, biking, horseback riding, cross-country skiing, and canoeing.

Service area: The entire metropolitan region.

Size: Sufficient corridor width to protect natural resources and safely accommodate trail use. Sufficient length to link regional park system units.

Site attributes: When feasible, off-road trails that utilize human-made and/or natural linear resources such as utility corridors, railroad and highway rights-of-way, stream/river valleys, or



edges of forest or prairie. On-road trails are acceptable when off-road trails are not feasible.

Site location: Linkages between components of the regional parks system. When feasible, linking trails should attempt to connect to population, economic, and social centers along its route. The trail tread way should be placed where it has no adverse impact on the natural resource base.

County Linear Parks, Trails, Corridors, and Parkways

Use: Area developed for one or more varying modes of recreational travel such as hiking, biking, snowmobiling, horseback riding, cross-country skiing, canoeing, and driving.

Service area: Several cities and/or townships in a county.

Size: Traverses one or more municipalities. Width and length minimums vary by county.

Site attributes: On or off-road trails that may or may not traverse scenic areas while assuring the trail tread way has no adverse effect on the natural resource base.

Site location: Often found adjacent to major roadways within the county. Other locations are needed to link cities to components of the local or regional recreation system and/or community facilities such as schools, libraries, commercial areas, and adjacent counties.

Inventory of Current Facilities

Table 5-1 lists the facilities available today in each of the county's parks. Figure 5-1 and 5-2 display the current and proposed facilities within the park system.

The Washington County Park and Open Space System ranges in development from little land acquired to fully developed.

- Fully developed parks include Point Douglas County Park and Square Lake Park.
- Developed parks that have some land to be acquired and some facilities to be built include Lake Elmo Regional Park Reserve, Pine Point Regional Park, St. Croix Bluffs Regional Park, and Cottage Grove Ravine Regional Park.

- Planned parks that have a significant amount of land to be acquired include Grey Cloud Island Regional Park and Big Marine Park Reserve.
- Trail corridors are in various stages of development. Only 30 miles of the 142.5 mile trail system has been acquired.

In 1995, Washington County prepared its first linear park plan as part of the 2015 Comprehensive Plan. The Linear Park Plan proposed a countywide system of trails that provides non-motorized and enhanced motorized links to the federal, state, and county recreational facilities and to city or township trail networks. The following content summarizes components of that system. Figure 5-2 shows a map of existing and proposed trails.

Appendix 6-A contains a summary of the development plans for each park and trail corridor.

County Parks Use and User Satisfaction Statistics

Park Visits

The Metropolitan Council estimates 992,800 people visited Washington County parks in 2007. Lake Elmo Regional Park Reserve received the most visits.

According to the Metropolitan Council Parks and Trails Survey (2008), 55 percent of the park visitors were Washington County residents. Cottage Grove Ravine Regional Park had the greatest percentage of visits from county residents (80 percent) and Pine Point Park had the greatest percentage of visits from non-residents (67 percent). Non-resident visitors came from St. Paul, Ramsey County, and other places both within and outside of the state.



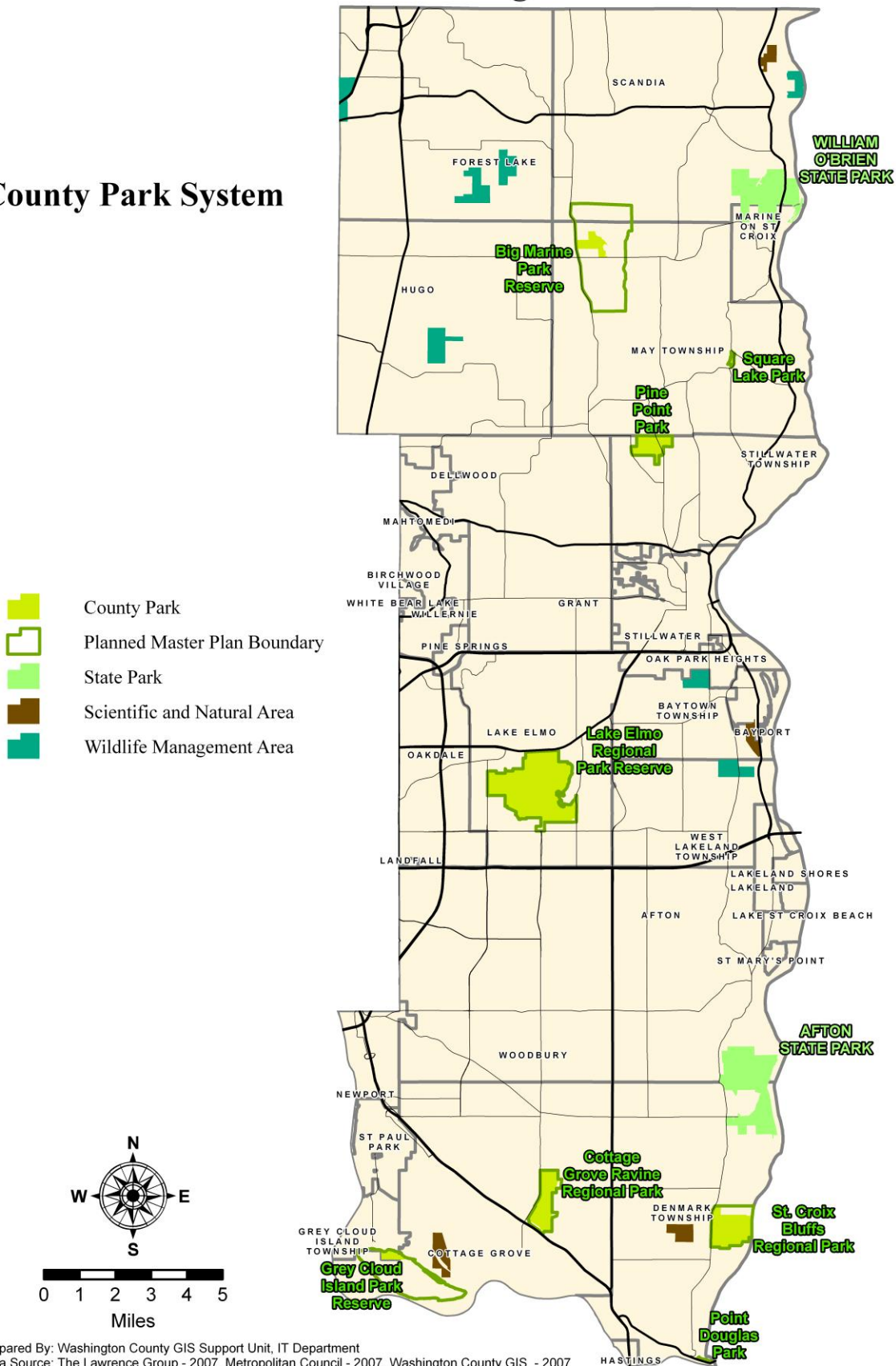
Table 5-1
Park Facility Inventory 2009
Washington County

	Big Marine Regional Park Reserve	Square Lake Park Special Recreation Feature	Pine Point Regional Park	Lake Elmo Regional Park Reserve	Cottage Grove Ravine Regional Park	Grey Cloud Island Regional Park	Point Douglas County Park	St. Croix Bluffs Regional Park
Land Area								
Acres existing	657	27	296	2,165	522	104	7	579
Acres to be acquired	1,263	0	54	38	54	1,336	3	120
Total acres	1,920	27	350	2,203	576	1,440	10	699
Park Classification¹	PR	SRF	R	PR	R	R	C	R
Facilities/Activities								
Boat launch	X	X		X				X
Fishing pier	X	X		X	X		X	X
Swimming	X	X		X			X	X
Camping				X				X
Picnicking	X	X		X	X		X	X
Field games				X				X
Play equipment	X			X	X			X
Natural areas	X		X	X	X	X		X
Unique Biological/Geological	X	X		X	X	X		X
Historical			X	X		X	X	X
Toilets	X	X	X	X	X		X	X
Trails								
Hiking	X		X	X	X		X	X
Biking			X	X	X			X
Cross-country skiing	X		X	X	X			X
Equestrian			X	X				
In-line skating			X	X	X			
Master Plan Completed	1988	NA	1989	2006	2007	1994	NA	2003

¹ County Park (C)
Regional Park (R)
Regional Park Reserve (PR)
Special Recreation Feature (SRF)

Figure 5-1

County Park System



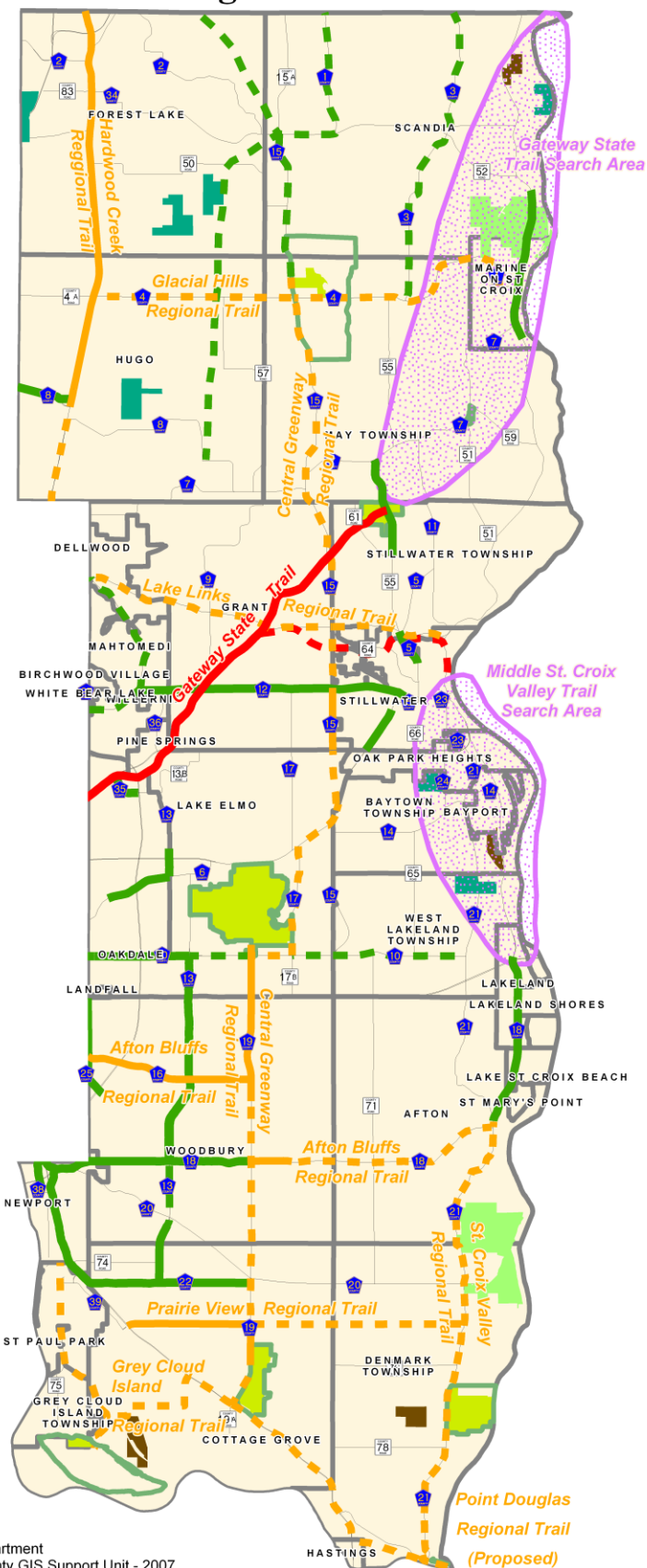
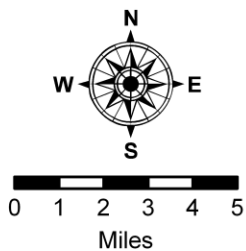
Prepared By: Washington County GIS Support Unit, IT Department
Data Source: The Lawrence Group - 2007, Metropolitan Council - 2007, Washington County GIS - 2007



Figure 5-2

Regional Trail System

- Existing County Trail
- Planned County Trail
- Existing Regional Trail
- Planned Regional Trail
- Existing State Trail
- Planned State Trail
- Trail Search Area
- State Park
- Planned Master Plan Boundary
- County Park
- Scientific and Natural Area
- Wildlife Management Area



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Metropolitan Council - 2007, Washington County GIS Support Unit - 2007

Survey respondents listed the following as the activity they were primarily engaged in:

Biking	37 percent
Hiking and walking	18 percent
Swimming	13 percent
Playground use	6 percent
Dog walking	5 percent
Picnic	4 percent
In-line skating	4 percent
Boating	4 percent
Camping	4 percent
Fishing	4 percent
Jogging and running	3 percent
Relaxing	2 percent
Commuting	1 percent
Other	2 percent

User Satisfaction

Washington County conducted a survey of resident opinions in 2008. When asked about the importance of a variety of park activities, most respondents rated natural-resource preservation and activity-based recreation as highest. When residents were asked to rate the availability of various county services, 89 percent rated the availability of parks, and 81 percent rated the availability of trails as good or excellent. When asked to rate the quality of park services, 93 percent of the residents rated the quality of parks and recreation as good or excellent, and 88 percent rated the quality of trails and bikeway system as good or excellent.

Lake Elmo Regional Park Reserve was the most visited park by those surveyed. In addition, two in five respondents reported visiting St. Croix Bluffs Regional Park and about one-third visited Square Lake Park in the last 12 months.

Standards

The National Recreation and Parks Association (NRPA) has discontinued using an acres per capita standard for evaluating



park programs. Instead the NRPA recommends that jurisdictions decide what land should be used for park purposes based on a variety of factors ranging from the land's suitability or unsuitability for other uses (e.g. , wetlands, steep slopes, unique plant and animal habitat), accessibility to the population served by the park unit (e.g., within a mile or five-mile service area), and affordability.

Park and Open Space Plan

Well-planned, developed, and maintained park systems enhance the quality of life for residents and make communities healthy and attractive places to live, work, and visit. Park and open spaces benefit both present and future generations. Through the county's park and open space programs, historic, geologic, and natural features are preserved in county parks, and vital natural systems and important open spaces are sustained on private lands.

Links to the past, to natural processes, to the landscape: Land forms and geology provide a record of how the land was shaped by glaciers and erosion and how it was occupied, used, and developed over time. Natural areas show the underlying physical and biological processes that have sustained humans over time. Archaeological sites show evidence of previous cultures and ways of life. Historic sites give insight into the lives of early settlers.

Benefits in the present: Parks, with their amenities and recreational areas, provide an orienting sense of place and definition to communities. They contribute significantly to residents' quality of life. Evidence of the value of open space is seen in the high property values around parks and open spaces.

The aesthetic benefits of natural resources, including lakes, rivers, woods, wetlands, and wildlife, are increasingly important as a contrast to urban land use and development. Washington County residents continue to express a desire for outdoor recreation opportunities which provide for solitude, reflection, physical exercise, challenge, and relief from daily responsibilities.

Benefits for the future: Preserving parkland now shows concern for subsequent generations and allows individuals in the future to experience the natural environment. The benefits of protecting natural systems now will be even more important as the county's population grows. Increased development and higher property values will hinder attempts to acquire critical areas in the future.



Goals and Policies

Goal 5-1

Showcase the county's heritage through conservation, restoration, and interpretation of cultural and natural resources.

Policies:

- 5-1: Preserve, conserve, restore, and maintain a diverse mosaic of plant and animal communities that represents the widest range of biological diversity achievable.
- 5-2: Develop opportunities for public interaction with natural resources through the provision of nature trails, educational opportunities, and interpretive tools.
- 5-3: Incorporate principles of landscape sustainability, energy conservation, and “green” infrastructure into park planning, program implementation, and park operations and maintenance.
- 5-4: Identify, prioritize, conserve, and interpret cultural landscapes within county parks and along trail corridors.

Goal 5-2

Improve personal and community health by providing natural resource-based park features that encourage structured and unstructured active outdoor recreation opportunities for youth, adults, and families.

Policies:

- 5-5: Provide a variety of recreation and environmental education opportunities that incorporate and complement the natural resources in the park system.
- 5-6: Plan and implement a multi-modal transportation system that includes trails that connect to recreation and cultural resources in the parks and economic assets of the community.
- 5-7: Collaborate with private, public, and non-profit agencies to deliver a broad range of outdoor programs.
- 5-8: Minimize barriers that impact visitors' ability to access parks and engage in outdoor pursuits.
- 5-9: Plan, implement, and program park developments and uses that are consistent with park master plans and that will contribute positively to local economies.
- 5-10: Develop an understanding of the roles of county parks and open space in the overall parks and open space system in the county and the region.
- 5-11: Provide efficient and effective services and facilities that maximize visitor satisfaction through the use of innovation, technology, and trained staff.



Relationship between the Park and Open Space Plan and Regional Policies

The Washington County Park and Open Space System Plan must conform to metropolitan system plans, be consistent with Metropolitan Council policies, and be compatible with adjacent and affected governmental units. The plan must be consistent with Metropolitan Council policies and statutory requirements, including policies for siting and acquisition, finance, recreation activities, and facilities, planning, and system protection.

This plan is generally consistent with the Metropolitan Council's policies. The plan addresses community roles as contained in the *Regional Framework*, includes conservation strategies to protect regional important natural resource areas and wildlife corridors, addresses the linkage of local land uses to local and regional park and open space features, and includes an implementation plan with a capital improvement program.

Goal 5-1

Implementation

Strategies

Showcase the county's heritage through conservation, restoration, and interpretation of cultural and natural resources.

Policy 5-1: Preserve, conserve, restore, and maintain a diverse mosaic of plant and animal communities that represents the widest range of biological diversity achievable.

Implementation Strategies

- Preserve native plant and animal communities within county parks.
 - Identify needs, develop strategic plans, and prioritize projects that preserve and maintain natural areas.
 - Prioritize preservation activities.
- Enhance and expand existing native habitat restorations within county parks.
 - Identify needs and schedule parcels for restoration.
 - Enhance biodiversity in existing restoration areas.
 - Complete one or two new restoration projects per year.
- Conserve existing upland and wetland systems within county parks and trails.
 - Identify natural systems that interact/interface with park natural resources.
 - Collaborate with natural resource organizations that have jurisdiction of natural systems that connect to county parks.
- Conserve and manage wildlife populations to maximize plant and animal biodiversity.
 - Identify priorities to enhance wildlife habitat, such as fish habitat structures, nesting structures, and fish stocking.
 - Implement management activities to maintain sustainable wildlife populations.



Policy 5-2: Develop opportunities for public interaction with natural resources through the provision of nature trails, educational opportunities, and interpretive tools.

Implementation Strategies

- Interpret wildlife, natural, geologic, and aquatic resources within county parks and along recreational corridors.
 - Identify and schedule opportunities to interpret the natural resources.
 - Create interpretive materials for natural resources of the county with the initial focus on geology and water-recharge areas and mammals, birds, plants, reptiles, and insects.
 - Develop environmental learning areas (e.g., water quality, habitat improvement, and native plants and animals).
 - Establish interpretive signing for natural areas and trails.

Policy 5-3: Incorporate principles of landscape sustainability, energy conservation, and “green” infrastructure into park planning, program implementation, and park operations and maintenance.

Implementation Strategies

- Develop a process to consider “green” landscape and building design alternatives.

Policy 5-4: Identify, evaluate, conserve, and interpret cultural landscapes within county parks and along trail corridors.

Implementation Strategies

- Develop interpretive materials that assist individuals to experience the cultural history of the county parks.
- Establish historic markers at significant cultural sites.
- Develop partnerships for protection of priority sites in county parks.

Goal 5-2

Improve personal and community health by providing natural resource-based park features that encourage structured and unstructured active outdoor recreation opportunities for youth, adults, and families.

Policy 5-5: Provide a variety of recreation and environmental education opportunities that incorporate and complement the natural resources in the park system.

Implementation Strategies

- Develop a vision for an environmental education curriculum and implement a gradually-expanding program resulting in naturalist-led programs.
- Establish an environmental education program by working with the Department of Natural Resources, Fish and Wildlife Service, University of Minnesota, and National Park Reserve. Explore using interns and volunteers.
 - Develop initial interpretive programs.
- Evaluate current and potential structured programs encouraging social interaction that is balanced with the need for quiet, green spaces, clean water, and a place to recreate, such as the following:
 - Naturalist-led interpretive events, day camps, school programs, bird hikes, nature classes, and other educational opportunities.
 - Sporting activities and other public outdoor events.
 - Large community events.
 - Fitness activities and wellness programs.
 - “Music in the park” series.
 - Youth programs that focus on the environment and the outdoors.
- Maximize use of parks in all seasons by expanding recreational opportunities, activities, and programs to meet identified needs.
 - Review the State Comprehensive Outdoor Recreation Plan (SCORP) and national trend recommendations for most-needed activities.
 - Survey county residents for needs and wants.
 - Prioritize and implement new programs and determine impact on natural resources.
 - Continue expansion of programs and activities.



Policy 5-6: Plan and implement a multi-modal transportation system that includes trails connecting recreation and cultural resources in the parks and economic assets in the community.

Implementation Strategies

- Connect all county parks by greenways and recreational trails and establish trail linkages to business parks, neighborhood parks, city parks, state parks, and interstate parks.
 - Update and implement a trail system plan.
 - Work with other agencies to coordinate trail plans (e.g., Lake Links Trail and St. Croix Valley Regional Trail plans).
- Acquire land for and develop trails that serve a transportation function as well as recreation; are designed for multi-modal use with multiple treadways (i.e., roll, bike, walk, blade, and ski); would allow for motorized vehicles in some areas; and would be serviced by hubs offering parking, food and drink, markets, restrooms, etc.
 - Work with other agencies to identify opportunities to develop recreational trails as part of current roadway projects
 - Ensure trails are included in major bridge and road development plans.
 - Pursue federal, state, and regional funding for trail projects.
- Acquire abandoned railroads as they become available.
- Build and improve facilities and trails using best management practices.
 - Develop standards for new construction and maintenance of existing structures, park and open spaces, and trails.
 - Prepare written maintenance and operation standards.

Policy 5-7: Collaborate with private, public, and non-profit agencies to deliver a broad range of outdoor programs.

Implementation Strategies

- Build relationships and develop programs with program providers, club/user groups, local parks and political units, schools, and nature centers.
 - Promote wellness activities.
 - Host programs for community education, school districts, and churches.
 - Provide information to local schools.
 - Accommodate requests for park uses.

Policy 5-8: Minimize barriers that impact visitors' ability to access parks and engage in outdoor pursuits.

Implementation Strategies

- Adapt parks and programs to meet special needs of diverse cultural populations.
 - Develop programs and adapt facilities to meet the needs.
 - Improve communication methods to better reach a variety of cultural populations.
 - Use international signage, with more international symbols.
- Encourage use by people of all socio-economic backgrounds.
- Increase safety and improve access for all ages.
- Adapt parks and programs to meet the needs of people with physical limitations.
 - Choose a park and explore the opportunities to provide special accessibility beyond the Americans with Disabilities Act (ADA).
 - Investigate using Big Marine Park Reserve to meet veterans' needs, such as a Braille trail walk, camping, picnicking, and water experiences.
 - Work with groups that specialize in accessibility to evaluate accessibility of existing and new facilities so they meet ADA standards.

Policy 5-9: Plan, implement, and program park developments and uses that are consistent with park master plans and that will contribute positively to local economies.

Implementation Strategies

- Maintain an up-to-date schedule of capital improvements.
- Establish priorities for acquisition, maintenance, development, and habitat management.
- Update master plans on a regular basis.

Policy 5-10: Develop an understanding of the roles of county parks and open space in the overall parks and open space system in the county and the region.

Implementation Strategies

- The county will use its size to the best advantage, exploring what can be done with the county's large parks that can't be done in community parks. Ideas include:



- Partner with a private entity for interpretive work.
- Seek grants from region, city, state, and federal agencies.
- Work with local communities to assist in locating natural resource areas; maximize these areas as they relate to parks and county resources.
- Manage and use the 80 miles of water edges for public use and preservation.

Policy 5-11: Provide efficient and effective services and facilities that maximize visitor satisfaction through the use of innovation, technology, and trained staff.

Implementation Strategies

- Develop the geographic data needed for park planning.
 - Identify needs and develop a data base to meet the needs for planning.
 - Compile data and add to geographic information system data base.

Priority Actions

Implementing the Washington County Park and Open Space System Plan will require a combination of efforts involving Washington County and metropolitan, state, and federal agencies. Since some of the proposals set forth in the plan may require fifty years or more to be completed, periodic review and updating will be necessary.

Priority actions include:

1. Establish prioritized areas to be acquired, developed, or designated.
2. Apply for funding assistance from appropriate agencies to supplement county funding.
3. Acquire areas designated in the master plans.
4. Prioritize development projects and prepare contracts and award construction contracts for priority projects.
5. Maintain staff and equipment as needed to ensure a high level of maintenance and control of parks.
6. Review and update the Park and Open Space Plan at regular five-year intervals.
7. Update Big Marine Park Reserve master plan.

Funding

As an implementing agency for the Regional Park and Open Space System, Washington County has applied for and received funding for acquisition and development of regional parks and park reserves. The county may be eligible for other grants from regional agencies or other sources in the future. Washington County's park fiscal needs are met through the funding sources described below.

Operation and Maintenance Funds

The 2008 budget of \$1.9 million operation and maintenance (O & M) budget was derived from a county property tax (39 percent), vehicle permits (30 percent), campsite and picnic shelter rentals (16 percent), and the Metropolitan Council O & M Funding (15 percent). Enabling legislation requires the state to finance at least 40 percent of the Regional Park and Open Space System's O&M costs. This obligation has not been met since the law was enacted in 1985.

Metropolitan Council Parks Capital Improvement Plan Fund

In 2008, Washington County received about \$560,000 per year as reimbursement for capital projects listed in its capital improvement program (CIP) submitted to the Metropolitan Council. The Metropolitan Council also provides funds to reimburse CIP improvements that occur prior to metro allocations. Funds are to be spent on the prioritized list of funding requests in priority order of the request. This funding has declined over time and has not met target allocations for regional park agencies.

Metropolitan Council Parks Acquisition Opportunity Fund

Up to \$1.7 million per state fiscal year is available for Washington County to purchase land interests. This funding requires a 25 percent local match that cannot be reimbursed through the CIP funding program.

Washington County Land and Water Legacy (LWLP) Bond Funds

The LWLP bond funds may be used to acquire lands within the mapped boundaries of county parks that meet the criteria established for the LWLP.

When the landowner is not willing to sell fee title, the county may consider purchasing a partial interest in the property through the purchase of a conservation easement.



Partnerships

Washington County has leveraged partnerships that improve service delivery and share costs. The county will seek more partnership opportunities in the future.

Grants

The county has received federal Transportation Enhancement funds for trails and other federal and state grants for park development. New opportunities for grant funding exist through the new Parks and Trails Fund, Clean Water Fund, and the Outdoor Heritage Fund, funded from the 3/8ths cent sales tax increase authorized by the Clean Water, Land and Legacy Constitutional Amendment.

Donations, Sponsorships, and Naming Rights

Opportunities exist to explore the use of fund-raising techniques such as donations, sponsorships and naming rights.

Regional Parks Foundation of the Twin Cities

The Metropolitan Council recently created a foundation, funded by the private sector, to assist in acquiring regional park land.

Enterprise Facilities

Washington County owns no profit-driven facilities such as golf courses.

Acquisition and Development Program

Tables 5-2 and 5-3 list the acquisition needs for the county parks and trails. Acquisition of properties will be pursued on the basis of willing sellers whenever possible. Table 5-4 contains the five-year capital improvement program.

**Table 5-2
Parkland Acquisition Summary of Needs
Washington County**

Park	Acres Acquired	Acres to Acquire	# of parcels	# of houses	Estimated Cost*
Big Marine Park Reserve	657	1,263	27	13	
Cottage Grove Ravine Regional Park	522	54	11	2	
Grey Cloud Island Regional Park	104	1,336	?	?	
Lake Elmo Regional Park Reserve	2,165	38	8	7	
Pine Point Regional Park	296	54	5	3	
Point Douglas County Park	7	3	1	0	
St. Croix Bluffs Regional Park	579	120	3	2	
Square Lake Special Recreation Feature	27	0	NA	NA	
Total	4,357	2,870	55	27	\$29,285,700+

* 2009 dollars based on 2009 assessed market value.

**Table 5-3
Trail Acquisition Summary of Needs
Washington County**

Trail	Trail Classification	Total Miles	Existing Mileage	Miles to Acquire
Afton Bluffs Regional Trail	Linking Trail	15	6	9
Central Greenway Regional Trail	Linking Trail	26	6	20
Glacial Hills Regional Trail	Linking Trail	12	0	12
Hardwood Creek Regional Trail	Destination	11.5	9.5	2
Lake Links Regional Trail	Linking Trail	10.3	0	10.3
Point Douglas Trail	Destination	2	2	0
Prairie View Regional Trail	Linking Trail	9	1.5	7.5
St. Croix Valley Regional Trail	Destination	10	0	10
Grey Cloud Island Regional Trail	Linking Trail	13	0	13
Total		108.8	25	83.8



Table 5-4
Park Capital Projects by Year (2010 to 2015)
Washington County

Project Name	Project #	Project Cost (2008 Dollars)
2010		
Lake Elmo Regional Park Reserve Winter Recreation Area Design	PARK-3003	120,000
Lake Elmo Regional Park Reserve Winter Recreation Area Construction I	PARK-3003	475,000
Subtotal		595,000
2011		
Pavement Preservation and Trail Connections	PARK-016	100,000
Pine Point Master Plan	PARK-7000	35,000
Big Marine Maintenance Shop Design	PARK-2011	49,000
Lake Elmo Park Reserve Winter Recreation Construction II	PARK-3003	716,000
Big Marine Maintenance Shop Construction	PARK-2011	550,000
Subtotal		1,450,000
2012		
Pavement Preservation and Trail Connections	PARK-016	100,000
Square Lake Park Master Plan	PARK-7000	35,000
Big Marine Park Reserve Group Camp Design	PARK-2012	49,000
Cottage Grove Ravine Regional Park Restroom and Site Design	PARK-4003	79,000
Big Marine Park Reserve Group Camp Construction	PARK-2012	530,000
Cottage Grove Ravine Regional Park Restroom and Site Construction	PARK-4003	782,000
Subtotal		1,575,000
2013		
Pavement Preservation and Trail Connections	PARK-016	100,000
Lake Elmo Park Reserve Eagle Point Lake Trail Design	PARK-3006	50,000
Lake Elmo Park Reserve Group Camp Restroom Design	PARK-3002	30,000
Lake Elmo Park Reserve Eagle Point Lake Trail Construction	PARK-3006	530,000
Lake Elmo Park Reserve Group Camp Restroom Construction	PARK-3002	340,000
St. Croix Bluffs Campground Camper Cabins	PARK-8010	80,000
Subtotal		1,130,000
2014		
Pavement Preservation and Trail Connections	PARK-016	100,000
Point Douglas Trail – U.S. 20 Tunnel Design	PARK-9000	100,000
St. Croix Valley Trail Bridge (3) Design	PARK-015	100,000
Point Douglas Trail – U.S. 10 Tunnel Construction	PARK-9000	1,059,000
Subtotal		1,359,000
2015		
Pavement Preservation and Trail Connections	PARK-016	100,000
St. Croix Valley Bridget (3) Construction	PARK-015	1,211,000
Subtotal		1,311,000
Grand Total		7,420,000



Appendix 5-A

Park and Trail Facilities Summary of Current Conditions and Development Plans



Appendix 5-A

Big Marine Regional Park Reserve

I. Existing Conditions

- *Size:* 657 acres existing, 1,920 acres proposed.
- *Park classification:* Regional park reserve.
- *Existing facilities/activities:* Facilities include a beach with a beach (bath) building, fishing pier and boat launch on Big Marine Lake, picnic and playground areas, visitor contact station, restrooms, park roads, trails, and parking areas.
- *Planned future use:* Future uses include areas for active recreation, nature preserve/interpretation, and general conservation/ passive recreation. Facilities would accommodate picnicking, camping, hiking, biking, horseback riding, modern and primitive camping, and nature interpretive areas.
- *Site description:* The area is composed of numerous high-quality natural resources, offering opportunities for interpretation, education, and conservation. Some of these features include:
 - A clear example of the St. Croix River valley northeast ground moraine, one of the eight metropolitan landscape types.
 - High-quality upland and wetland wildlife habitat.
 - Great variety of shoreline and related habitat types.
 - Mature oak forests.
 - A large intact tamarack swamp in the northwest area.
 - Considerable undeveloped land area and shoreline.
 - An important part of the regional waterfowl flyway.
 - The fifth largest lake in the metropolitan area (1756 acres); an exceptional angling lake for walleye, northern pike, crappies, and other pan fish.
 - Ponds and wetland areas for aquifer recharge.
- *Planning Status*
 - A master plan was adopted in 1988.

II. Expansion Considerations

None recommended.

III. Future Acquisition

Acres to acquire: 1,263

Homes to acquire: 13

Properties to acquire: 27



Appendix 5-A

Existing land use: Farmstead, pasture land, residences, several areas of intact forest, private business, one mile of lakeshore on Big Marine Lake, variety of wetland complexes.

IV. Development Concept

The Metropolitan Council has identified the Big Marine area as a key element in its regional parks system. Development will provide the following benefits:

- Public access to Big Marine Lake, an outstanding surface water resource within the metropolitan area.
- High quality recreational water activities, offering new recreation opportunities and relieving heavy usage of other nearby facilities such as Square Lake.
- Preservation and protection of major wetland recharge areas; and endangered species habitat.
- Preservation of the "Moraine Complex Northeast" landscape type.

Development

The park reserve master plan provides for three types of development: active recreation, passive recreation/general conservation, and nature preserve/interpretive area. See Figure 5-3.

Active Recreation Areas: Intense use activities are planned for areas primarily to the west shore area north of Lomond Trail and east of County Road 15 (approximately 320 acres or 18 percent of the total proposed acquisition). This area provides the reserve's single public entrance. The remainder of the acquired area will be natural except for trails and trail- service facilities.

Passive Recreation/General Conservation Areas: Passive recreation is planned for the high quality natural resource areas located on the park reserve's eastern and southern edges. This area will be accessible by a variety of trails with minimum impact to the area's water resources, vegetation, and topography.

Nature Preserve/Interpretive Areas: Quality wetland habitat and endangered species are located at the southern tip of Big Marine Lake's south arm. These parcels are sensitive due to the in these areas. Limited access for pedestrian and cross-country ski trails will be provided in these areas to respect the area's sensitive flora and fauna. Interpretive trails, exhibits, and floating boardwalks will provide appropriate access to this area.



Appendix 5-A

Some of the specific elements of the development plan are:

- Entrance/visitor contact station.
- Headquarters/interpretive center/trailhead.
- Lakefront facilities (boat access, swimming beach, beach/bath house).
- Picnic facilities.
- Fields, play structures, archery, and fishing docks.
- Modern family camping, primitive family camping.
- Comfort facilities at campgrounds.
- Maintenance/storage buildings.
- Roadways and parking areas.
- Trails (bicycle, pedestrian, ski, equestrian).
- Trail amenities (overlook and observation decks, observation towers, wildlife blinds, scenic overlooks, uniform and interpretive signing, floating boardwalks).

Specific park improvements have been divided into four phases based on need, number of visitors served, and cost.

Phase I. Described in the Existing Conditions section.

Phase II. Picnic areas, maintenance facility, playfields and structures, interpretive blinds, fishing piers, additional parking, additional bike/pedestrian trails, additional site development.

Phase III. Second picnic shelter, modern campground comfort station with showers, second fishing platform, observation tower, overlook station, observation deck, and site development for modern family camping, additional bike/pedestrian trails, equestrian trails, park road to modern campground, boat launch at campground, campground utilities, and additional site development.

Phase IV. Comfort stations for primitive and group campgrounds, equestrian trail head including shelter and parking, additional development at modern family camping area, primitive group campground, roadway to primitive camping, utilities for primitive camping, additional site development.

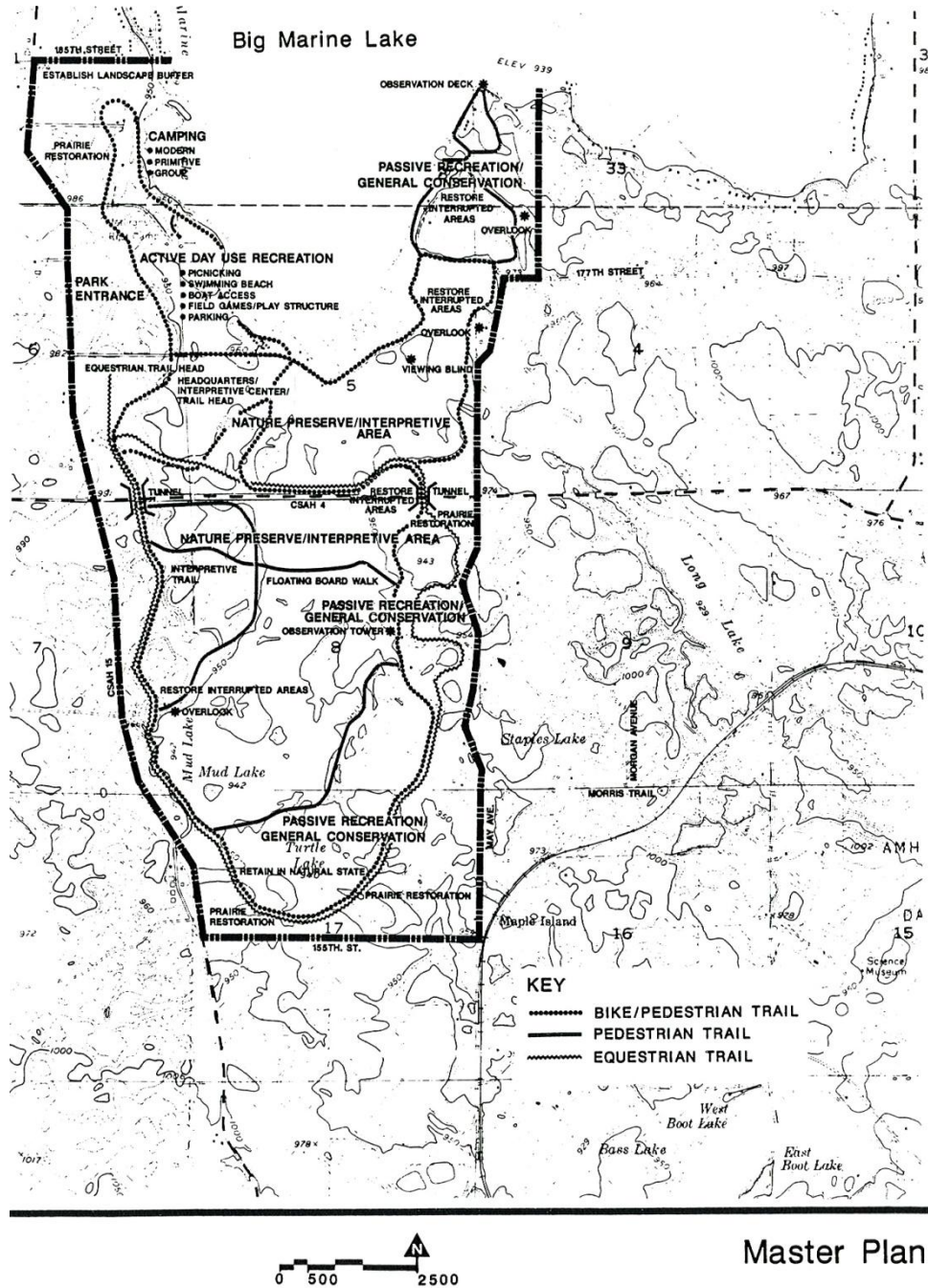
V. Implementation Actions

- Highest priority acquisition and development is planned for areas that would provide opportunities to restore or better manage the natural resource base and reduce fragmentation of county ownership.
- Revisit the master plan.



Appendix 5-A

Figure 5-3
Big Marine Regional Park Reserve Map





Appendix 5-A

Cottage Grove Ravine Regional park

I. Existing Conditions

- *Size:* 522 acres existing; 576 acres proposed.
- *Park classification:* Regional park.
- *Existing facilities/activities:* Picnicking, hiking, cross-country skiing, picnic shelter, observation point.
- *Planned future use:* Undeveloped, conservation, education, picnic facilities, extended trail system, primitive and group camping.
- *Site description:* A natural wooded, deep ravine with marshes; elevation variation of over 150 feet. Cottage Grove Ravine Regional Park is important for its natural resource characteristics and recreational potential, including the Mississippi River floodplain, lightly glaciated landscape types, upland oak woodland, prairie remnants, and large wetland wildlife habitat areas.
- *Planning status:* Master plan was adopted in 2007.

II. Expansion Considerations

The rapid population growth surrounding the Cottage Grove Ravine Regional Park increases the immediate importance of the park as a recreation and interpretive resource. Expansion of the park to the northeast would encompass remaining portions of the natural ravine for which the park is named, making it possible for visitors to experience the complete ravine environment. Expansion to the southeast would enable the park entrance area and primary activity area of the park to be used and managed more appropriately to avoid conflict with properties outside the control of the park.

III. Acquisition

Acres to acquire: 54

Homes to acquire: 2

Properties to acquire: 3 parcels plus portions of 8

IV. Development Concept

Future development includes trails, viewing blinds, overlook sites, picnic shelters, a play structure, parking areas, and several interpretive areas and structures. The



Appendix 5-A

Capital Improvement Program from the master plan identifies multiple phases of development (see Figure 5-4).

- Phase I. Redevelopment of the entrance road and parking lots, as well as expansion of paved and soft-surfaced nature trails.
- Phase II. Trailhead center developments and river view overlook development.
- Phase III. Play structure replacement, water-based amenities development, renovation of existing picnic shelter, group picnic expansion, and development of an activities facility.

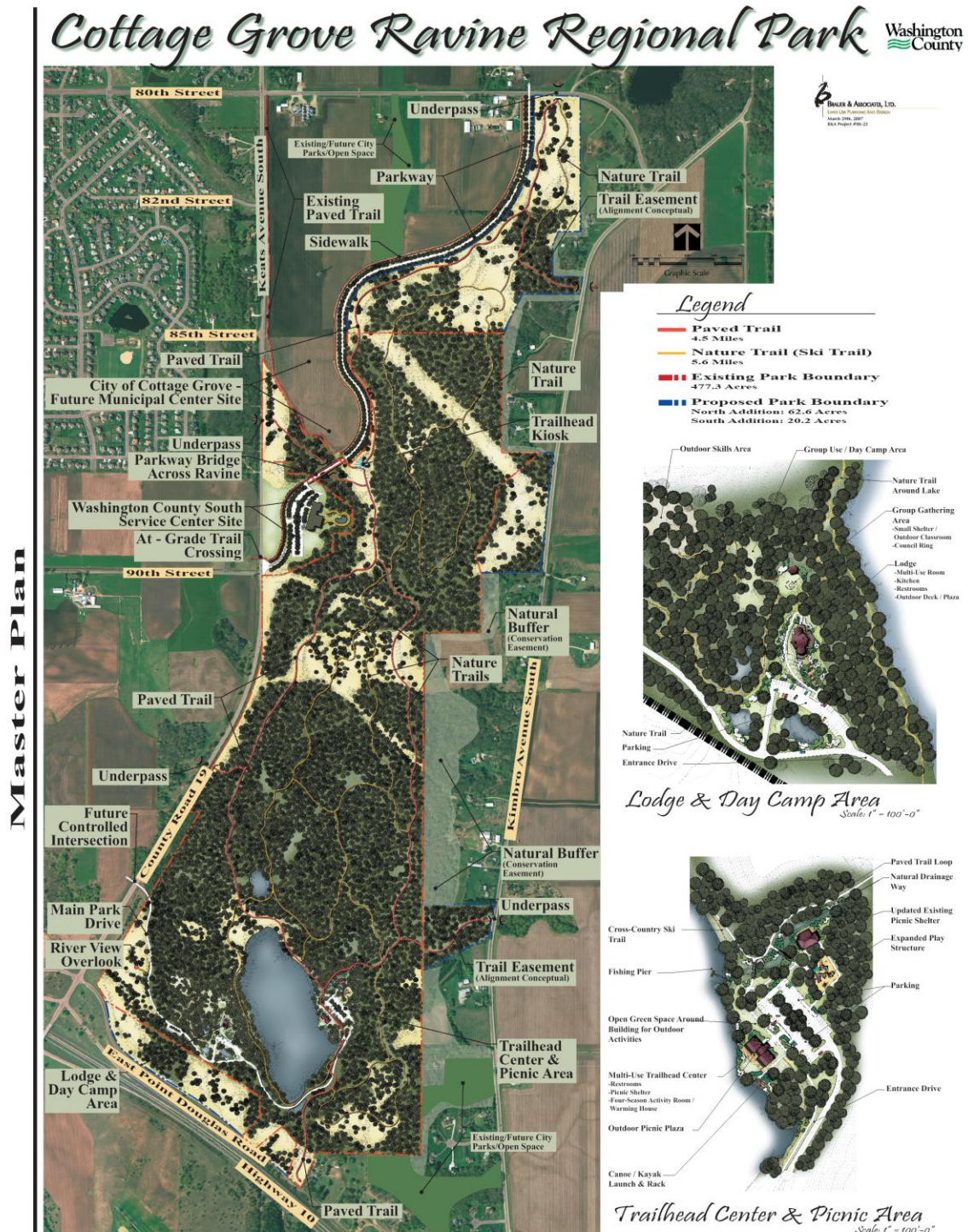
V. Implementation Actions

- Continue acquisition and development as established in the adopted master plan and in the Metropolitan Council Capital Improvement Program.
- Develop a comprehensive natural resources stewardship plan for the park in conjunction with the cities of Cottage Grove, Woodbury, and the South Washington Watershed District.
- Utilize multiple funding options to begin redevelopment of the park entrance road.
- Seek grant funding and partnership opportunities to implement critical, time-sensitive natural resource management activities.



Appendix 5-A

Figure 5-4
Cottage Grove Ravine Regional Park Map





Appendix 5-A

Grey Cloud Island Regional Park

I. Existing Conditions

- *Size:* 104 acres existing; approximately 1,440 acres proposed.
- *Park classification:* Regional park.
- *Existing facilities/activities:* None.
- *Planned future uses:* Conservation, education/interpretation, picnicking, swimming, fishing, boating, trail system, camping.
- *Site description:* The lower Grey Cloud Island has many unique characteristics due to its island nature and its location in the Mississippi River. The areas of interest include: 100-year flood plain habitat; an example of the Mississippi River Valley regional landscape; important wildlife habitat, including part of the Mississippi River Valley wildfowl flyway; habitat that is likely location of rare and endangered species; sensitive water basins (Mooer's Lake, Baldwin Lake, and island edges); and high quality archaeological sites dating back to the early woodland period (1,000 B.C.). A large gravel mining operation, several home sites, agricultural production, bible camp, and other undeveloped areas.
- *Planning status:* A master plan was adopted in 1994.

II. Expansion Considerations

None recommended.

III. Acquisition

Acres to acquire: 1,336

Homes to acquire: unknown

Properties to acquire: unknown

Existing land use: rural, residential, agricultural, mining

IV. Development Concept

Grey Cloud Island offers an outstanding opportunity for preservation and recreation within the Mississippi National River and Recreation Area. Among the important features for preservation are the 100-year floodplain, archaeological sites, wildlife habitat, and the visual characteristics of the island topography. Park boundaries include the lower island in its entirety as defined by existing shoreline edges established by the Mississippi River, the inland channel and Mooer's Lake.



Appendix 5-A

Acquisition of this area would involve few residential displacements while maximizing public access to and interconnection with the region's water-based resources (see Figure 5-5).

Development

- Regional access will be via State Trunk Highway 61 with local access via the Jamaica Avenue interchange. Bicycle access to the park could be provided by a number of corridors: the upper island via Grey Cloud Island Drive, along the Burlington Northern Railroad corridor running north from the Grey Cloud area, and along 100th Street and 103rd Avenue. Bicycle trails will likely parallel the lower island's shoreline and include access to the water.
- Increased boat access for small- to medium-sized river craft will likely be provided, with limits to prevent overburdening the river corridor.
- Several picnicking areas will be established to accommodate small and large groups.
- Interpretive areas will feature topics such as the island's history, archaeology, natural resource base, mining activities, river barge traffic, and river management. The lower island's southeast tip would be an excellent location for an interpretive center.
- A variety of camping sites will be provided to offer primitive and vehicle camping.
- Mining will likely continue for several decades. Restoration of the site after mining would provide opportunities for inland basins allowing swimming and the use of non-motorized water craft. The county will work with the Shiely Company to develop guidelines for mining restoration, including water basin size, shape, contouring, water-quality management, and revegetation.

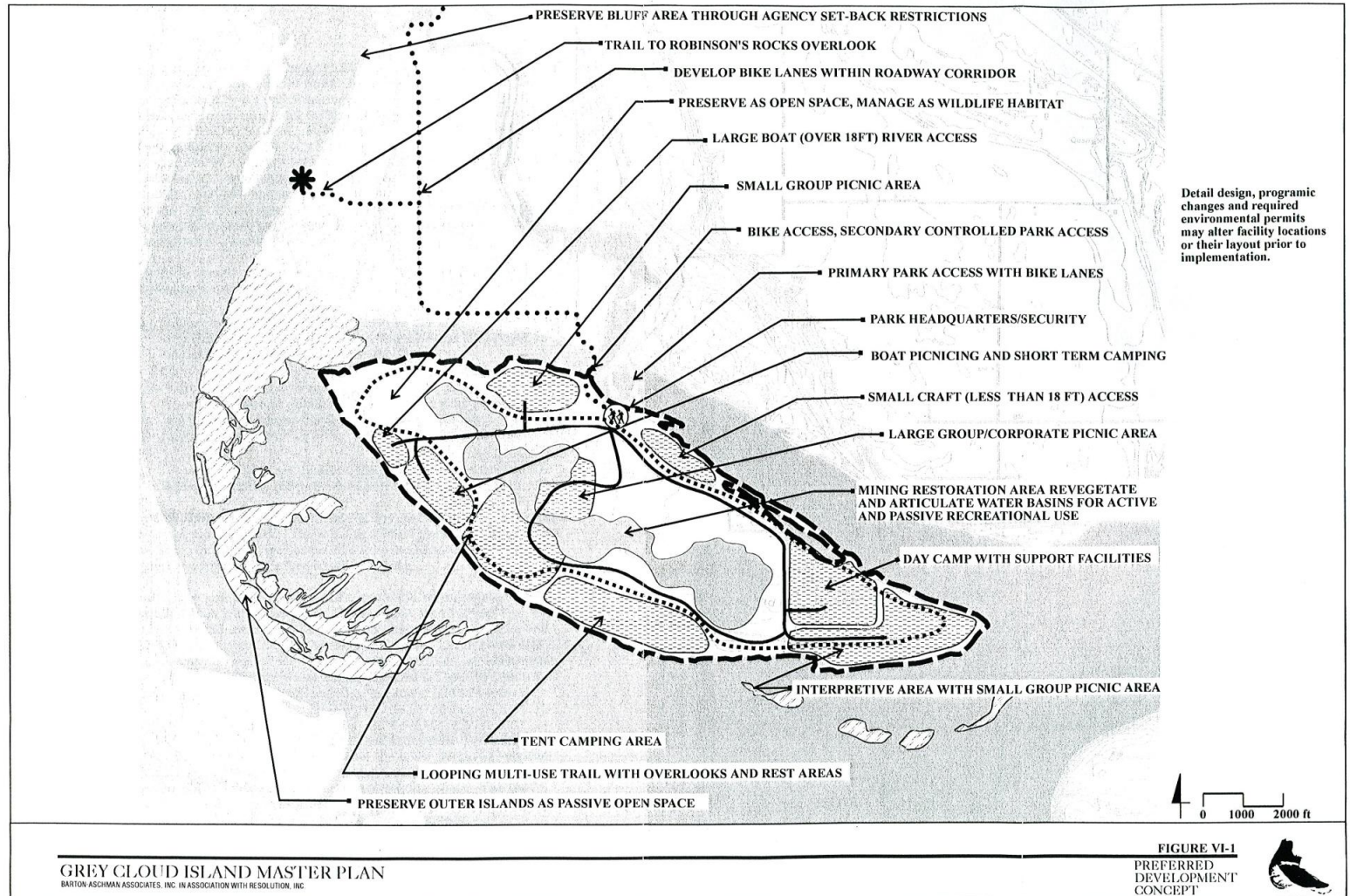
V. Implementation Actions

Action on the Grey Cloud Island Regional Park master plan will require purchase, final design and phasing of park elements, construction of park elements, and ongoing work with the Aggregate Industries for mine restoration.

- Work cooperatively with current private industry, local jurisdictions, and affected stakeholders to transition current land use into public park purposes.
- Monitor and respond to acquisition opportunities as they become available on a willing seller basis.



Figure 5-5
Grey Cloud Island Regional Park Map





Lake Elmo Regional Park Reserve

I. Existing Conditions

- *Size:* 2,165 acres existing, 2,203 acres proposed.
- *Park classification:* Regional park reserve.
- *Existing facilities/activities:* swimming facility, boat launch, trails for a variety of year-round activities including hiking, biking, in-line skating, equestrian uses, and cross-country skiing. An equestrian facility, group camping, interpretation/education opportunities, fishing pier, modern camping, primitive camping, picnic shelters, archery, play structures.
- *Planned future uses:* Moderately expanded park development is planned to provide more interpretive information, trail and picnicking uses, future wetland and natural resource management, and a lighted trail for cross-country skiing.
- *Site description:* Topography in the park reserve is mostly moderately rolling, with some steep-sloped lands. Rolling land and hummocky areas alternate with numerous depressions, generally water-filled wetlands of variable depth. Numerous tracts of mixed northern hardwoods are scattered throughout the area, with interspersed prairie and wetland areas. Oaks, elms and maples are the principal tree species. The park reserve encompasses Eagle Point Lake and Lake Elmo Lake. Eagle Point Lake is shallow, 143 acre, eutrophic, and without a substantial fish population. Lake Elmo Lake is deep, large (206 acres), clean, and supports a substantial fishery.
- *Planning status:* Master plan was adopted in 2006.

II. Expansion Considerations

Two parcels fronting on County Road 17 and one fronting on Lake Elmo Avenue, projecting into an otherwise straight east (southeast corner) park boundary line are considered for acquisition to lessen conflicts between private home owners and park users. Acquisition is only on a willing seller basis and is not urgent. Disposition of a two-acre outlot that does not have any unique characteristics should be considered.

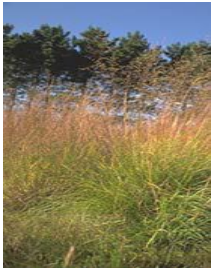
III. Future Acquisition

Acres to acquire: 38

Homes to acquire: 7

Properties to acquire: 8

Existing land use: Residential



IV. Development Concept

The master plan describes several future developments, most of which will occur in the existing developed areas of the Park Reserve, including paved and soft-surfaced trails, expanded camping and picnicking opportunities, expanded and new natural and cultural interpretive facilities, improved archery facilities, enhanced equestrian trails and amenities, additional water-based developments, and expanded winter-use developments.

Development

Most of the future development will occur in the existing developed areas of the park. Future developments include paved and soft-surfaced trails, expanded camping and picnicking opportunities, expanded and new natural and cultural interpretive facilities, improved archery facilities, enhanced equestrian trails and amenities, additional water-based developments, and expanded winter-use developments (see Figure 5-6).

V. Implementation Actions

- Acquire eight parcels, including seven homes adjacent to the park on a willing seller basis.
- Continue with development as described in the master plan.
- Dispose of two-acre outlot.



Figure 5-6:
Lake Elmo Regional Park Reserve Map

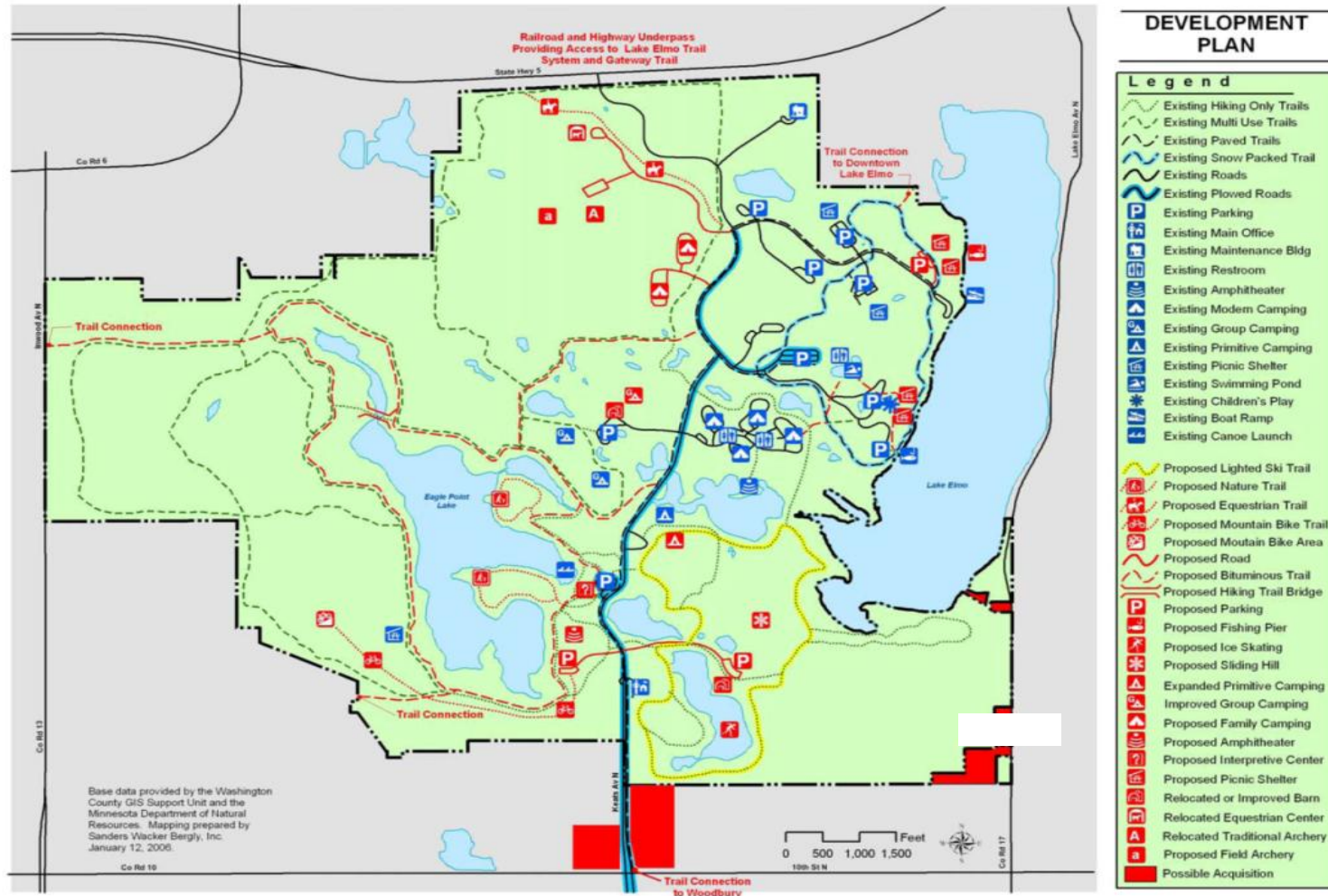


Figure 5.2



Pine Point Regional Park

I. Existing Conditions

- *Size:* 296 acres existing; 350 acres proposed.
- *Park classification:* Regional park.
- *Existing facilities/activities:* Cross-country skiing, hiking, biking, in-line skating, horseback riding, and a comfort station. The Gateway segment of the Willard Munger State Trail terminates at the park. Located within the park boundaries, but privately owned, is a large brick building (built in 1925) and a 25-acre tract that functions as a bed-and-breakfast facility.
- *Planned future uses:* Development of interpretive trails, picnic uses, primitive camping; planned purchases for protection of lakeshore and vegetative areas.
- *Site description:* Rolling topography, partially wooded in mixed hardwoods and pine plantations, 33-acre prairie, cropland, many wetlands, 3,800 feet of shoreland frontage on Louise Lake (about one-half of the lake) and 1,200 feet of shoreland frontage on Loon Lake (northern tip of lake).
- *Planning status:* Master plan was adopted in 1989. Plan must be updated to be eligible for Met Council funding for acquisition or development.

II. Expansion Considerations

None recommended.

III. Future Acquisition

Acres to acquire: 54

Homes to acquire: 3

Properties to acquire: 5

Existing land use: Farmstead and pasture land with a few trees on the periphery and a farm and trail, 3,800 feet of frontage on Lake Louise, substantial portion of the shoreland area is in wetland (or lowland) condition.



IV. Development Concept

Pine Point Park offers an outstanding opportunity to preserve varied vegetative and wildlife habitats and to make these available for park users through trails, overlooks, and viewing blinds. These habitats include:

- A quality wetland wildlife habitat and waterfowl nesting site on the western two-thirds of the site.
- *An upland oak woodland north of Loon Lake.*
- *Large stands of medium-age pines.*
- *A Class V wetland around Lake Louise, with a large island in the center.*

A large variety of habitats exist in this moderately-sized park, making it good for interpretive uses. Another asset is that the park is currently the terminus of the Willard Munger State Trail, which cuts diagonally through the park. As this trail is expanded, eventually linking St. Paul to Duluth, Pine Point will become an increasingly important element along the trail.

Development

Several environments would be identified for protection, study, interpretation, and management, including upland coniferous woodlands, upland and lowland hardwood lands, wetlands, water, cropland, and open pasture land. Trails, comfort station, and primitive campgrounds are planned to be developed (see Figure 5-7).

The Capital Improvement Program (CIP) is based on development costs of the facilities contained within the master plan. Implementation is divided into four phases which identify priorities for specific park improvements and related activities.

- Phase I. Picnic area and tree plantings for screening and shade.
- Phase II. Interpretive opportunities such as trail and viewing blind on Loon Lake, blind/viewing platform on southeast side of Lake Louise, horse hitching rails, tree and shrub plantings to buffer parking area, gate, and electrical services for trailhead shelter.
- Phase III. Additional picnic opportunities.
- Phase IV. Multipurpose trail on east side of County Road 55, well for drinking water at trail shelter and primitive camping site, primitive camping based on the development of the Willard Munger State

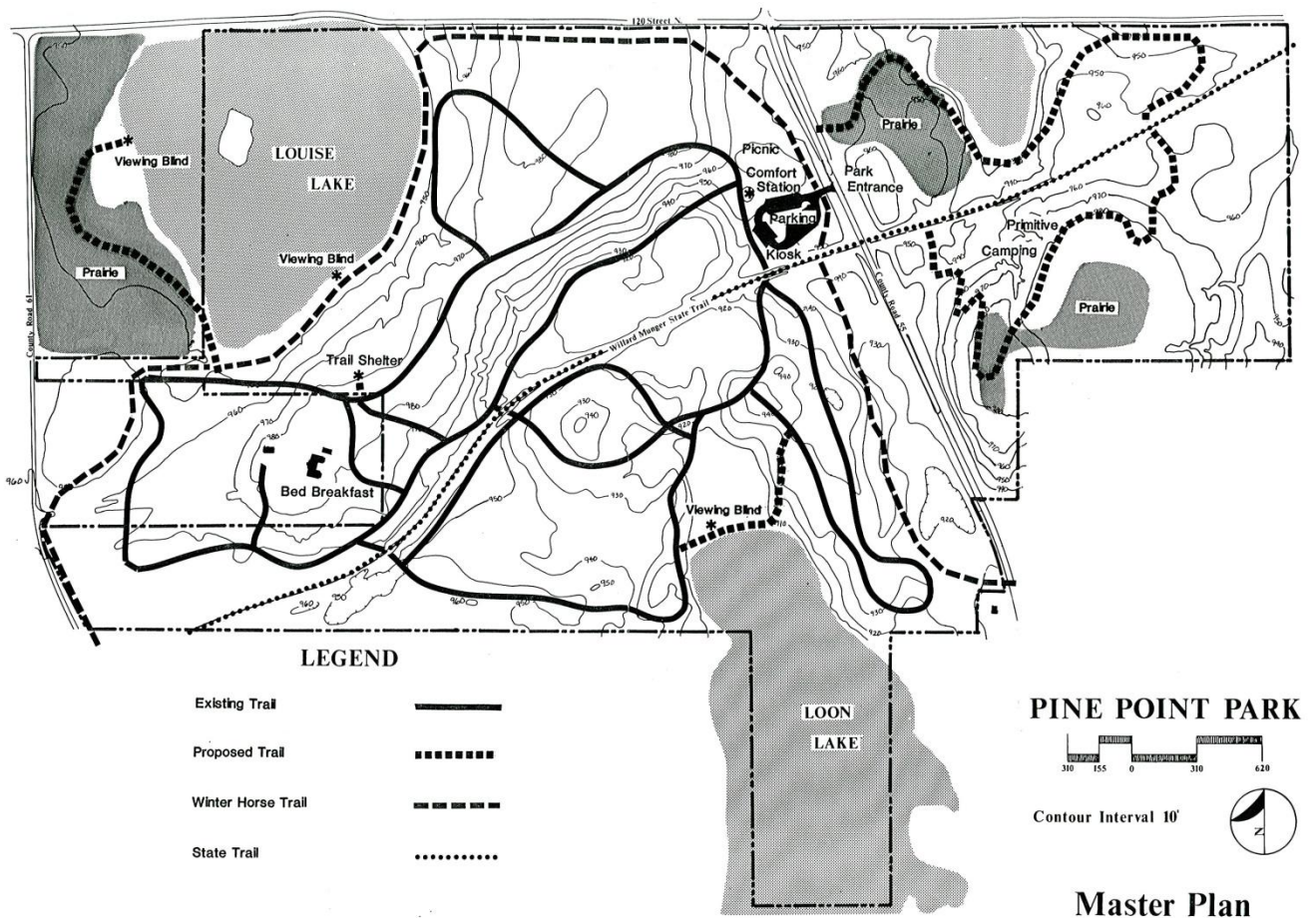


Trail, interpretive trail and viewing blind on west side of Lake Louise (following acquisition of land parcel), trail shelter.

V. Implementation Actions

- Purchase land and farmstead in the northwest corner of the site on a willing seller basis. Pursue interim course of action to assure eventual county ownership.
- Acquire 25 acres in west-central portion, including a single-family residence and an existing brick structure, when these become available.

Figure 5-7
Pine Point Regional Park Map





Point Douglas County Park

I. Existing Conditions

- *Size:* 7 acres existing, 10 acres proposed.
- *Park classification:* County park.
- *Existing facilities/activities:* Swimming beach, picnic areas, parking, pedestrian paths, fishing pier.
- *Planned future use:* Use is expected to remain similar to current usage. A trail connection to Point Douglas Trail to Hastings is underway. Connection to the St. Croix Valley Regional Trail is planned from the northwest corner of the park.
- *Site description:* A long narrow riverfront site that lies between the St. Croix River and U.S. Highway 10 directly across the river from Prescott, Wisconsin. Mostly open, with some trees planted in the 1980s. 510 feet of sand beach. A small private marina is located adjacent to the west end of the park.
- *Planning status:* A master plan is needed for this park.

II. Expansion Considerations

None recommended.

III. Future Acquisition

Acres to acquire: 3

Homes to acquire: 0

Properties to acquire: 1

IV. Development Concept

Park should remain a small but intensely used river-oriented county park. The county has discussed acquiring the private marina and leasing it as a small boat launch facility with parking for vehicles and trailers. Acquisition would be on a willing seller basis with provisions made for the county to have the right of first refusal.

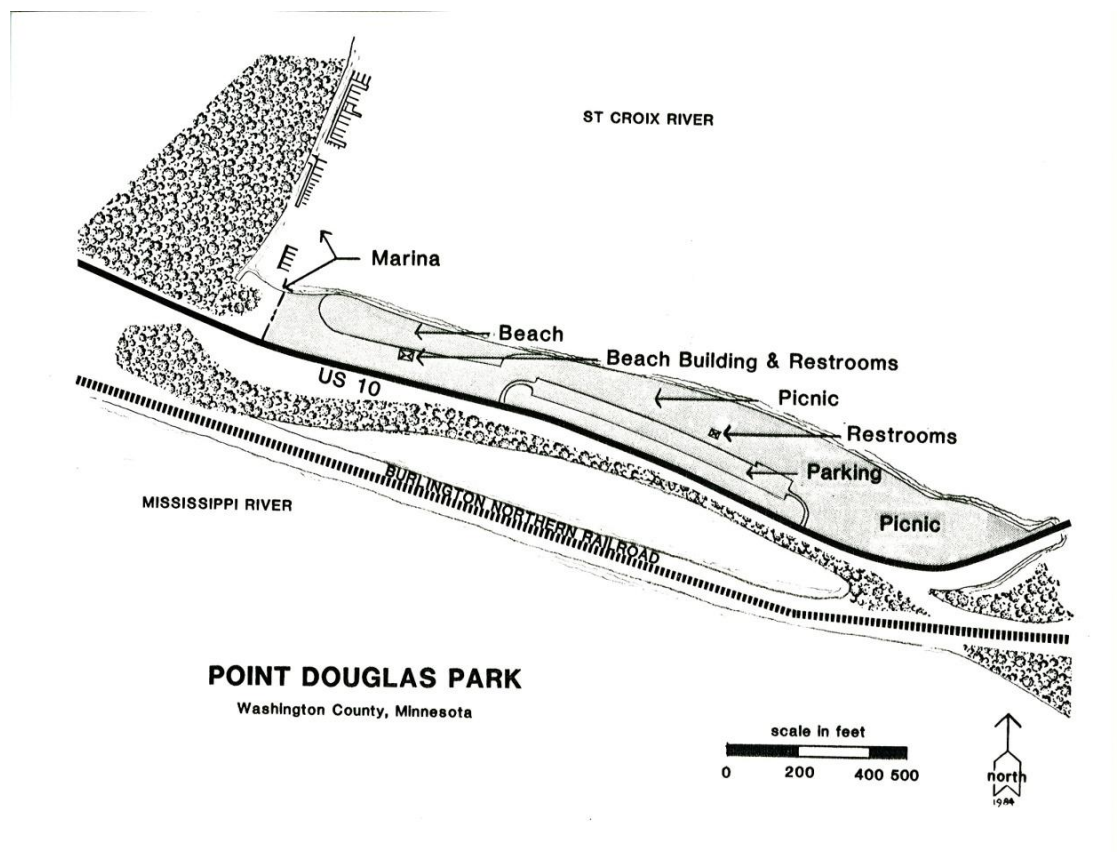
Develop as a small boat launch facility and expand beach westward. Other facilities in Point Douglas County Park would be available for picnicking and swimming (see Figure 5-8.)



V. Implementation Actions

- Secure the right of first refusal to acquire the land from the marina owner.
- Develop a master plan to include a small boat launch and parking area.

Figure 5-8
Point Douglas County Park Map





St. Croix Bluffs Regional Park

I. Existing Conditions

- *Size:* 579 acres existing, 699 acres proposed.
- *Park classification:* Regional park.
- *Existing facilities/activities:* Picnic shelters, modern camping for tenting and recreational vehicles, boat launch and moorings, playgrounds, hiking and cross-country ski trails, swimming, toilets, softball field, conference cottage, court sports.
- *Planned future use:* Additional hiking and cross-country ski trails, camper cabins, group camping, picnicking, and swim facility.
- *Site description:* The landscape consists of bluffs and deep ravines with an elevation change of 225 feet; remnant natural communities of oak forests, red cedar glades, and maple-basswood forest; woods of medium-age growth pines and spruce; a small remnant of dry gravel prairie; and 4,000 linear feet of shoreline along the St. Croix River.
- *Planning status:* Master plan was adopted in 2003.

II. Expansion Considerations

The master plan indicates several future developments that will occur on property adjacent to the current park boundaries. Natural and scenic resource preservation on adjacent properties should be a high priority and several techniques for preservation should be considered. Future expansion of the park boundary will be pursued on a willing seller basis.

III. Future Acquisition

Acres acquired: 120

Homes to acquire: 2

Properties to acquire: 3

Existing land use: rural, residential, agricultural, mining

IV. Development Concept

This park serves as an important component of the county/regional park system. It provides access to the St. Croix National Scenic Riverway for water craft, fishing, and other water-based experiences. Future development will



focus on the preservation of scenic qualities of the park, while providing low-impact outdoor recreation opportunities such as trails, additional camping opportunities, and environmental education and interpretation (see Figure 5-9).

V. Implementation Actions

The implementation of the master plan 2002 will require significant initial and long-term capital investments for physical development, ecological stewardship, operations, and maintenance.

- Continue with development of the park as directed in the adopted master plan.
- Develop a comprehensive natural resource stewardship plan for the natural areas within the park.
- Redevelop the existing campground restroom/shower facility.
- Expand opportunities at the conference center by maximizing rental space through redevelopment or renovation.
- Enhance picnicking opportunities by adding additional facilities and retrofitting and renovating existing facilities.
- Expand summer and winter trails, both paved and natural surfaced.

SECTION VI - DEVELOPMENT MASTER PLAN



Square Lake Park Special Recreation Feature

I. Existing Conditions

- *Size:* 27 acres, fully acquired.
- *Park classification:* Special recreation feature because of the lake's unique water quality.
- *Existing facilities/activities:* Swimming, beach building with changing rooms and concessions, 720 feet of beach, scuba diving, fishing pier, boat launch, picnicking (two acres).
- *Planned future use:* The potential to expand the park and expand picnicking, fishing, swimming, and related beach activities will be examined in a future master plan.
- *Site description:* Square Lake is extensively developed with residential development on the south, west, and northwest shores, open agricultural land and woods on the northeast shores and the county park on the east shore. Water quality and clarity is excellent.
- *Planning status:* The site has been developed in accordance with park site and road-alignment plans. Sketch plans have been prepared for possible expansion to the north and west. A master plan is needed for this park.

II. Expansion Considerations

- The park could be expanded to the northwest to lessen congestion and to preserve that portion from development.
- Acquiring the "Golden Acres" resort to the southwest and lake access would increase the recreational opportunities for camping, swimming, and boating.
- To maintain the quality of this unique lake, the county should encourage the use of agricultural preserve designation, pursue conservation easements, and adopt land use controls that would ensure permanent preservation of the undeveloped northeast shoreline. Purchase of the property would be considered as a last resort.
- Surface water controls may be extended to retain water quality and protect from overuse.

III. Future Acquisition

Acres to acquire: Expansion area to be determined in master plan.

Homes to acquire: Unknown

Properties to acquire: Unknown



IV. Development Concept

Figure 5-10 shows the concept for acquisition, development, preservation, and use as a county and/or regional park.

Development

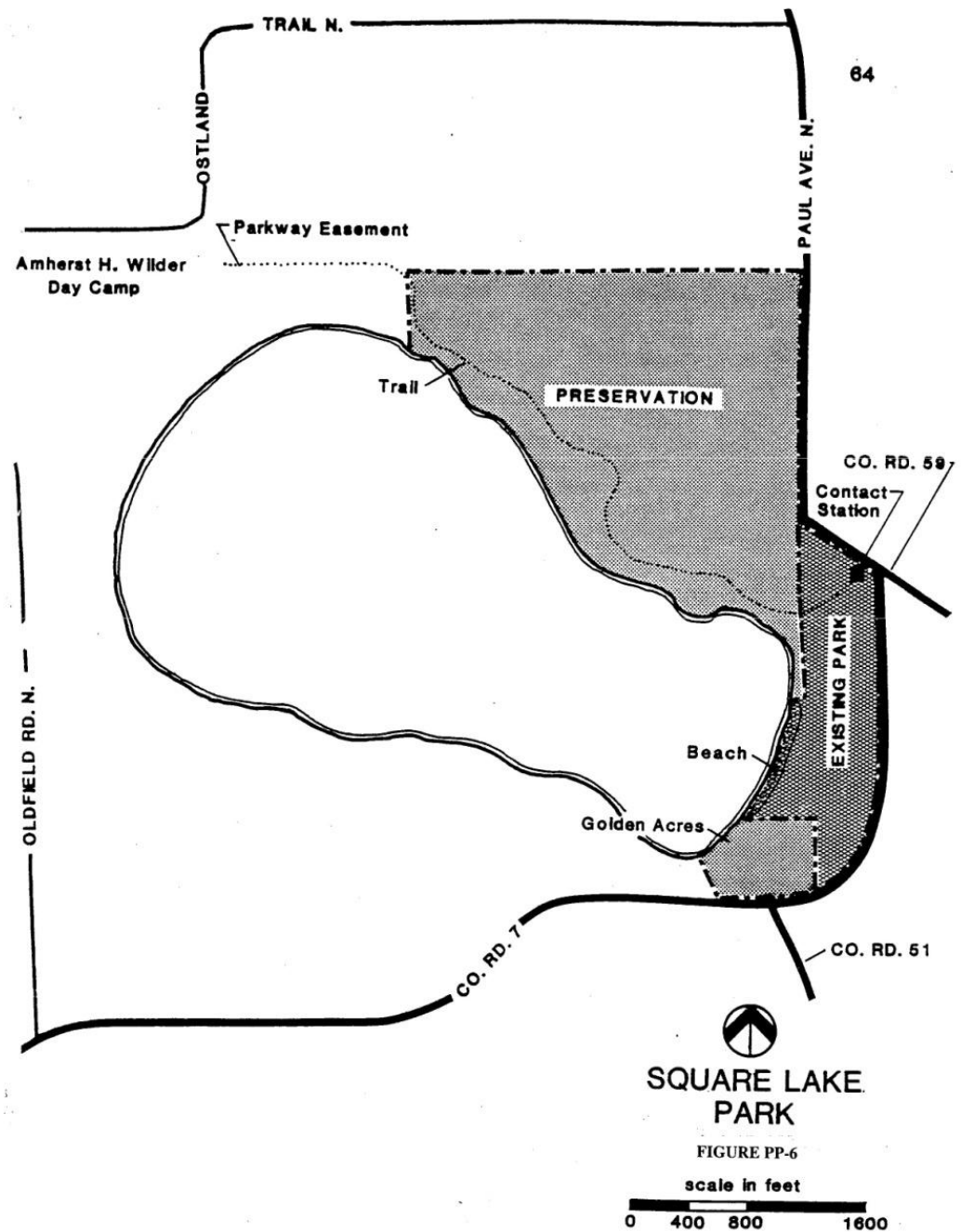
The primary objective for the area surrounding Square Lake is that no public or private uses be initiated or expanded that would negatively impact the lake and its surroundings.

V. Implementation Actions

- Monitor water quality to assure that the resource is being protected from overuse and regulate uses if necessary to maintain water quality.
- Study the desirability of surface water regulations and other public controls consistent with the preservation and protection of Square Lake.
- Consider more stormwater retention to minimize direct discharge into the lake.



Figure 5-10
Square Lake Park Expansion Concept Plan Map





TRAIL CORRIDORS

Afton Bluffs Regional Trail

Existing Conditions

- *Length:* 15 miles total, 6 miles in place.
- *Trail classification:* Regional linking trail.
- *Existing facilities/activities:* Biking, walking, and in-line skating.
- *Planned Future Uses:* Trail uses to be specified in the master plan.
- *Site description:* This proposed trail links Battle Creek Regional Park, on the east, to the city of Afton and Afton State Park. The trail travels from an urban/suburban setting to a rural setting. Portions of the trail currently exist in the cities of Maplewood and Woodbury.
- *Planning status:* A master plan is needed for this park.

Central Greenway Regional Trail

Existing Conditions

- *Length:* 26 miles total, 6 miles in place.
- *Trail classification:* Regional linking trail.
- *Existing facilities/activities:* Portions of this trail exist in the cities of Woodbury and Stillwater. Biking, walking, and in-line skating.
- *Planned future uses:* Trail uses to be specified in the master plan.
- *Site description:* This proposed trail connects Big Marine Park Reserve in northern Washington County to Cottage Grove Ravine Regional Park in the southern part of the county. The north stretch of the trail is rural and reveals glacial evidence in the rolling topography. The mid-section is suburban and mostly flat. The southern portion is flat and moves from suburban to rural as it reaches Cottage Grove Ravine Regional Park.
- *Planning status:* Master plan needed.

Glacier Hills Regional Trail

Existing Conditions

- *Length:* 12 miles, not yet constructed.
- *Trail classification:* Regional linking trail.
- *Existing facilities/activities:* No trail development currently exists.
- *Planned future uses:* Trail uses to be specified in the master plan.



- *Site description:* This trail is planned to parallel 170th Street North, from the intersection of U.S. Highway 61 to the west and Minnesota Highway 95 to the east. The terrain is hilly and the character of the land is rural.
- *Planning status:* A master plan is needed for this park.

Hardwood Creek Regional Trail

Existing Conditions

- *Length:* 11.5 miles, 9.5 miles are in place.
- *Trail classification:* Regional destination trail.
- *Existing facilities/activities:* 9.5 miles of paved and soft-surface trails. Trailhead facility was built in 2008 to serve trail users and bus commuters.
- *Planned future uses:* The Hardwood Creek Regional Trail corridor is owned by the Rush Line Regional Rail Authority. The corridor will eventually be used for commuter rail, but a portion of the corridor will be preserved for trail uses.
- *Site description:* The trail is located on a former Burlington Northern Railroad grade which is very level and wheelchair accessible. Hardwood Creek Regional Trail provides access to local trails and businesses, and to the Sunrise Prairie Trail in Chisago County (which extends to North Branch, Minnesota). The trail takes visitors through a growing residential area, natural areas, and the commercial areas of Hugo and Forest Lake, each containing interesting small shops and restaurants.
- *Planning status:* A master plan is needed for this park.

Lake Links Regional Trail

Existing Conditions

- *Length:* 34 miles, portions of which are located in Ramsey County, 10.3 miles are in Washington County.
- *Trail classification:* Regional linking trail.
- *Existing facilities/activities:* Local trails in Mahtomedi, Grant, and Stillwater Township and encircling White Bear Lake south of Highway 96 are currently in place.
- *Planned future uses:* Walking, jogging, biking, and in-line skating.
- *Site description:* This proposed regional trail travels from suburban Stillwater through rural Grant and into suburban White Bear Lake along Minnesota Highway 96 and an alternate east-west trail connection along County Road 12. The trail is a network of local and regional trail segments.
- *Planning status:* Master plan adopted in 2001.



Point Douglas Trail

Existing Conditions

- *Length:* 2 miles, not yet constructed.
- *Trail classification:* Regional destination trail.
- *Existing facilities/activities:* Biking, walking, in-line skating.
- *Planned future uses:* Trail uses to be specified in the master plan. Natural resource restoration.
- *Site description:* This regional trail follows an abandoned rail bed adjacent to the Mississippi River at its confluence with the St. Croix River. The scenery is spectacular and remote.
- *Planning status:* A master plan is needed for this park. The county will seek regional status for the proposed trail.

Prairie View Regional Trail

Existing Conditions

- *Length:* 9 miles, 1.5 miles are in place.
- *Trail classification:* Regional linking trail.
- *Existing facilities/activities:* Currently, four miles of paved off-road trail exists along County Road 22, from U.S. Highway 61/10 to County Road 19 (Keats Avenue). Biking, walking, in-line skating are common trail activities.
- *Planned future uses:* Trail uses to be specified in the master plan.
- *Site description:* This trail parallels County Road 22 in Cottage Grove from U.S. Highway 61/10 east to County Road 19 (Keats Avenue). The corridor continues east on County Road 20 (70th Street) until it reaches County Road 21 in Denmark Township. In Cottage Grove, the trail travels through suburban environments until it reaches County Road 19 (Keats Avenue).
- *Planning status:* A master plan is needed for this park.

St. Croix Valley Regional Trail

Existing Conditions

- *Length:* 20 miles (includes segments through existing parks), not yet constructed.
- *Trail classification:* Regional destination trail.
- *Existing facilities/activities:* None.



- *Planned future uses:* Walking, jogging, biking and in-line skating.
- *Site description:* This trail follows the St. Croix River from Point Douglas Park north potentially through Carpenter Nature Center land and St. Croix Bluffs Regional Park. The trail continues north paralleling County Road 21 where it connects with the Prairie View Regional Trail (at County Road 20) in Denmark Township and the Afton Bluffs Regional Trail (at County Road 18) in the City of Afton.
- *Planning status:* Master plan completed in 2005.

Grey Cloud Island Regional Trail

Existing Conditions

- *Length:* 13 miles, not yet constructed.
- *Trail classification:* Regional linking trail.
- *Existing facilities/activities:* None.
- *Planned future uses:* Trail uses to be specified in the master plan.
- *Site description:* This trail travels in the Mississippi River corridor through the communities of Cottage Grove, Grey Cloud Island, St. Paul Park, and Newport. Much of the trail is planned within the right-of-ways of county roads and along city streets.
- *Planning status:* A master plan is needed for this park.

Middle St. Croix Valley Trail Search Area

Existing conditions

- *Length:* Unknown.
- *Trail classification:* Search area.
- *Existing facilities/activities:* None.
- *Potential future use:* Trail uses to be specified in the master plan.
- *Site description:* This search area stretches from Interstate 94 in the city of Lakeland north to Minnesota State Highway 96 in northern Stillwater.
- *Planning status:* Feasibility study should be performed. The county will seek regional search area status during the council's update of its Parks Policy Plan.

Gateway State Trail (North) Search Area

Existing Conditions

- *Length:* Unknown.
- *Trail classification:* Search area.



-
- *Existing facilities/activities:* None.
 - *Potential future use:* Trail uses to be specified in the master plan.
 - *Site description:* This search area begins at the current northern terminus of the existing State of Minnesota Gateway Trail.
 - *Planning status:* Currently being planned by the State of Minnesota.



2030 Comprehensive Plan
A Policy Guide to 2030

Natural Resources

Approved by Board of Commissioners
May 26, 2009

Planned Adoption by Board of Commissioners
Fall 2010



Washington County Mission

To provide quality public services in a cost-effective manner through innovation, leadership, and the cooperation of dedicated people.

Washington County Values

Fiscal Responsibility - to provide good stewardship of public funds

Ethics and Integrity - to maintain the public trust

Openness of the Process - to promote citizen participation

Our Heritage and Natural Resources - to conserve and preserve them

The Individual - to promote dignity and respect

Washington County Goals

- To promote the health, safety, and quality of life of citizens
- To provide accessible, high-quality services in a timely and respectful manner
- To address today's needs while proactively planning for the future
- To maintain public trust through responsible use of public resources, accountability, and openness of government



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Executive Summary

Washington County, encompassing 423 square miles of land and water surface, is the fourth smallest county in Minnesota. It is 38 miles from north to south and 14 miles from east to west. Elevations in the county range from 675 feet at Lake St. Croix to over 1,100 feet in Section 17 in Woodbury. The St. Croix River forms the entire eastern border and the Mississippi River forms the southern and southwestern border.

Washington County's physical environment is very diverse; its surface and underground features vary throughout the county. Important natural features are: the Mississippi River, a popular recreational and important commercial waterway; the bluffs and ravines along the St. Croix River; the county's abundant streams, wetlands, lakes, forests, and groundwater; and the prime farmland soils of the southern half of the county.

Protection of groundwater resources is guided in the county through the Washington County Groundwater Management Plan. Groundwater provides all the drinking water for residents of Washington County. Many surface water resources are directly linked to groundwater. Washington County promotes holistic management of groundwater and surface water resources and strives to work with local and state agencies to maintain a safe and abundant supply of water resources.

In 1996, the Minnesota Legislature defined sustainable development as development that maintains or enhances economic opportunity and community well-being while protecting and restoring the natural environment upon which people and economies depend. Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.

Washington County aims to continue economic growth while protecting natural resource systems and providing a high quality of life. It is attempting to meet current needs without placing environmental, economic, and social burdens on future generations to meet their own needs.



In so doing, the county has set the following three overarching goals for managing its natural resources:

Goal 6-1 – Utilize land in a manner that minimizes the impact on the county’s natural resources.

Goal 6-2 – Protect groundwater and surface water resources through coordination and collaboration with state and local water resource organizations.

Goal 6-3 – Preserve, manage, and utilize resources to promote a healthy environment for present and future generations.

The following chapter sets policies and implementation strategies that directly support these goals. The plan summarizes the natural resource of the county, sets goals/objectives related to natural resources, and puts forth an implementation plan to sustain and promote a healthy environment.

Existing Conditions

Soils and Minerals

Soils

As erosion, vegetation, and other factors changed glacial deposits, a wide variety of distinct soil types evolved. The Natural Resource Conservation Service's Soil Survey for Washington County describes 14 major and over 100 minor soil types in the county. The soils are classified according to the origination of their parent materials, coarseness, slope, and drainage. The Soil Survey includes the suitability of the soil as a source material for particular uses. Areas with bedrock near the surface, steep slopes, wet or periodically flooded areas, or soils with slow percolation rate pose challenges for development.

- Bedrock within three feet of the surface can be encountered along the St. Croix River and in other scattered areas of the county.
- Wet soils are abundant throughout the northern half of the county. These soils are periodically flooded or have a high water table. Ponding after heavy rains may persist for several weeks or longer in the spring. These soils generally have a high seasonal water table.
- Steep slopes are common along the St. Croix River.
- Soils with slow percolation rates are prevalent in the northern half of the county.

Figures 6-1 and 6-2 show the locations of erosion-prone soils and steep slopes.

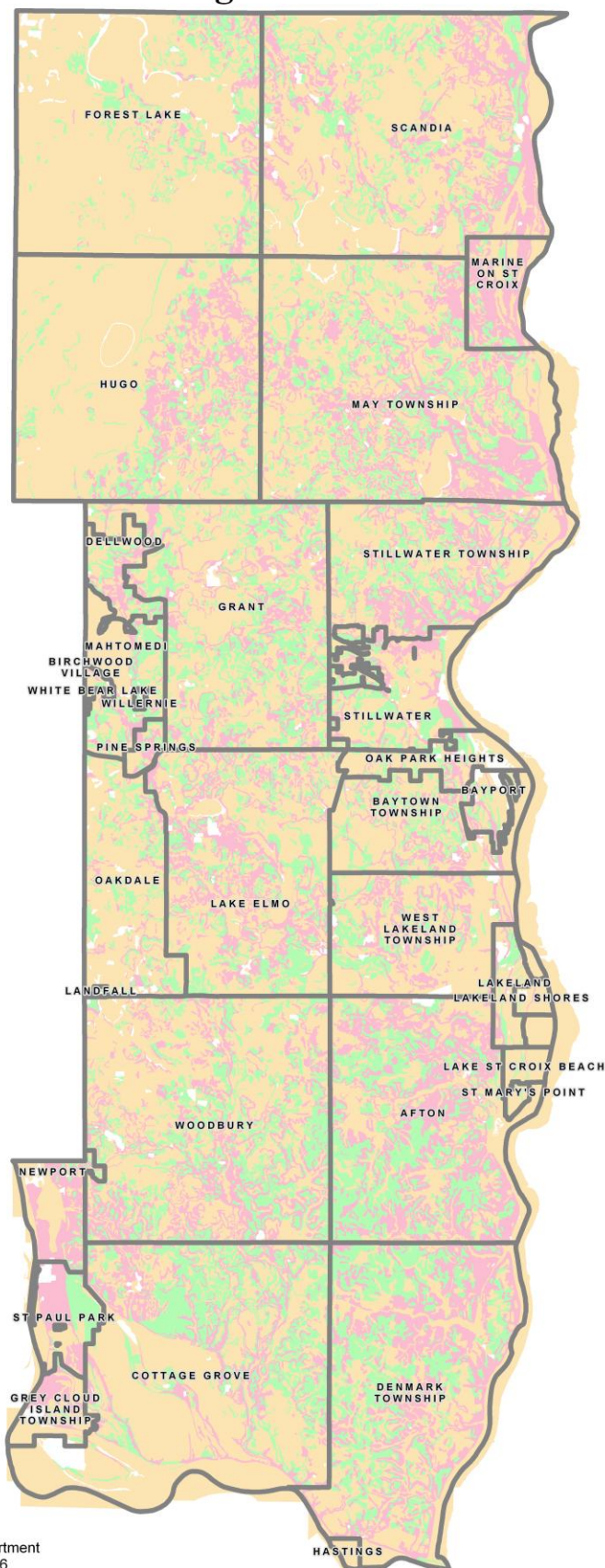
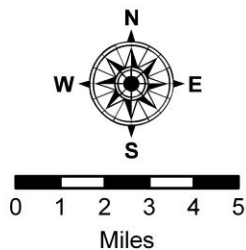
Prime soils for farmland are predominantly located in the southern part of the county in Denmark Township and the cities of Cottage Grove and Afton (see Figure 6-3). Soils classified as prime farmland have a good combination of moisture-holding capacity, permeability, natural fertility, non-sloping land, and chemical composition for producing food, feed, forage, fiber, and oilseed crops (row crops). These lands must have a suitable growing season, an adequate moisture supply, an acceptable level of alkalinity or acidity, and few rocks.



Figure 6-1

Erosion Prone Soils

- High Erosivity (Index Over 8)
- Moderate Erosivity (Index 4 - 8)
- Low Erosivity (Index Under 4)

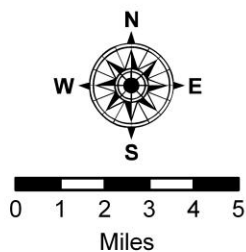


Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County Conservation District - 1996

Figure 6-2

Steep Slopes

 Greater than 12% slope



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County GIS Support Unit, IT Department - 2007

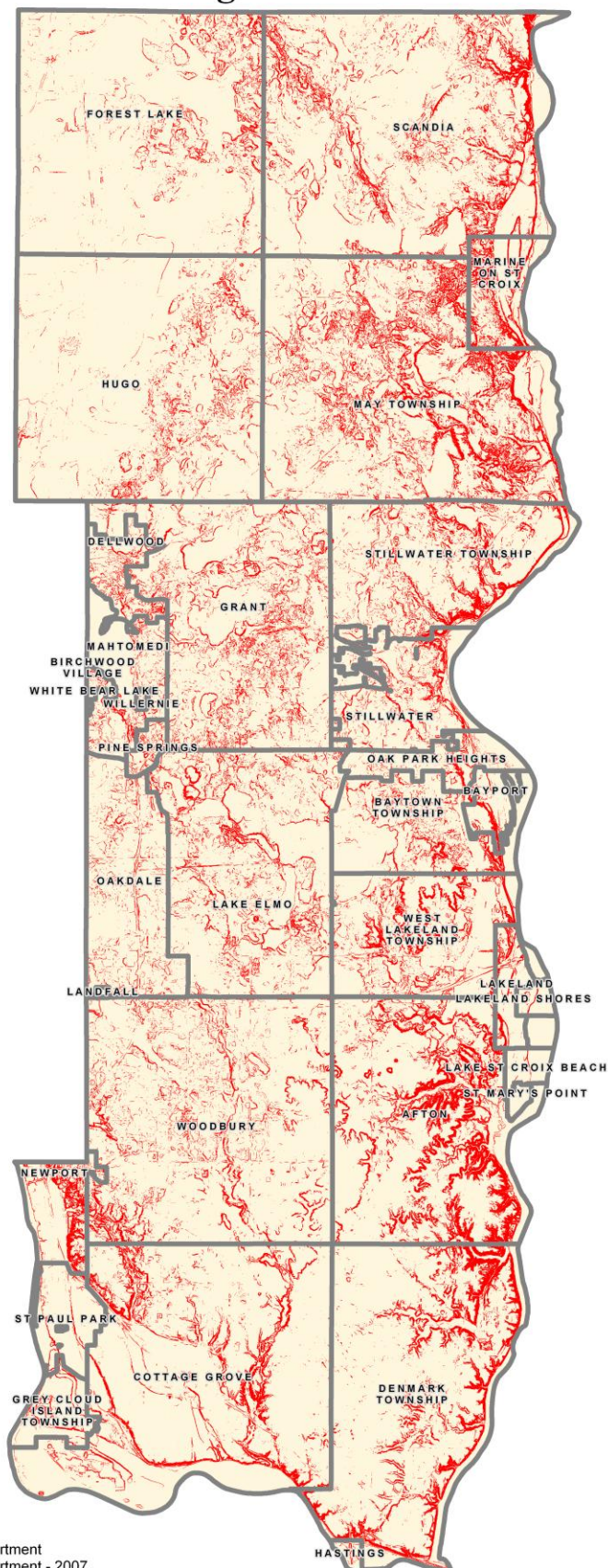


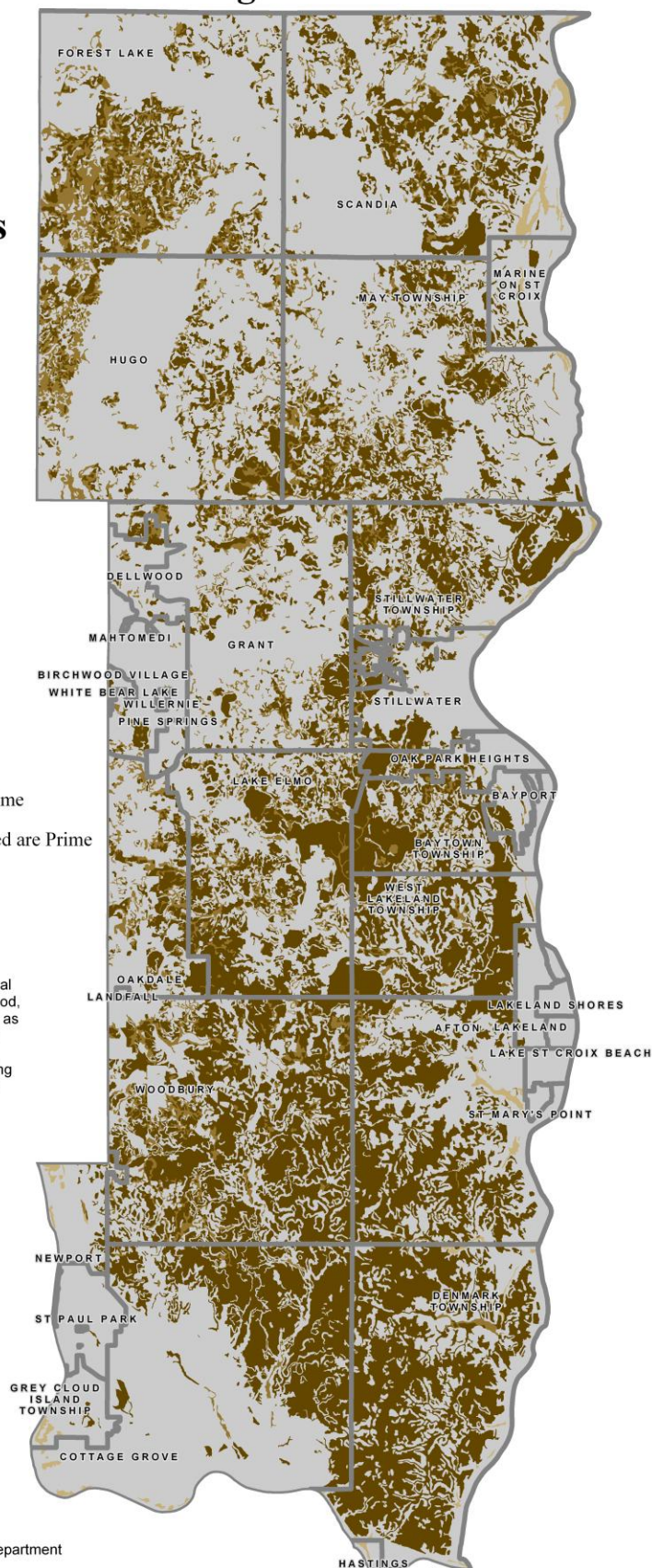
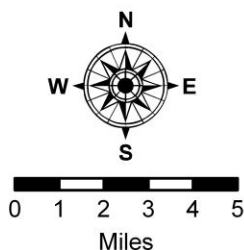


Figure 6-3

Prime Agricultural Soils Figure 6-3

-  All Areas are Prime
-  Only Drained Areas are Prime
-  Only Areas Not Frequently Flooded are Prime
-  Only Drained Areas Not Frequently Flooded are Prime

Prime farmland is defined as areas of land that possess the ideal combination of physical and chemical properties for producing food, feed, forage, fiber and oilseed crops (row crops). Soils classified as prime farmland have a good combination of moisture-holding capacity, permeability, natural fertility, non-sloping land and chemical composition. These lands must have a suitable growing season, an adequate moisture supply, an acceptable level of alkalinity or acidity and few rocks.



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Metropolitan Council - 1977

Aggregate and Mineral Resources

Outwash sand and gravel deposits are the predominant natural aggregate resource in Washington County. Deposits are located along the St. Croix River and within the cities of Woodbury and Cottage Grove. Dolomite is abundant throughout Washington County. Quarries that provide this material comprise the bulk of the carbonate used locally for building and road construction. The abundance of local dolomite contributes to the “hard” water problems common in Washington County.

The majority of the sand and gravel material, as well as limestone resources, are located along the bluffs and plains near the St. Croix and Mississippi rivers (see Figure 6-4). A majority of the mined resources are shipped to construction sites or processing plants by truck, with the exception of the operation on Grey Cloud Island that ships material by barge to the Twin Cities.

Washington County is a major provider of these resources for the Twin Cities Metropolitan Area. Current permitting processes, although often lengthy and difficult for aggregate companies, have been able to satisfy regional demand during past high-production years. Policies that are supportive toward aggregate mining and production of concrete and asphalt products are needed to meet the future needs of the county. The Aggregate Resources Task Force Report, Final Report to the Minnesota Legislature (2001), concluded that, based on current mining permits and demand in 2001, the seven county metropolitan area reserves would last about thirteen years.

Topography

Washington County has five distinct geomorphic regions, based on common geologic and topographic features (see Figure 6-5).

The St. Croix Moraine dominates the central and northern parts of the county and extends from Scandia to Woodbury. It is the dominant geomorphic feature in the county, marking the furthest most eastern advance of the last great ice sheet in the region. The landscape is characterized by low rolling hills, ridges,

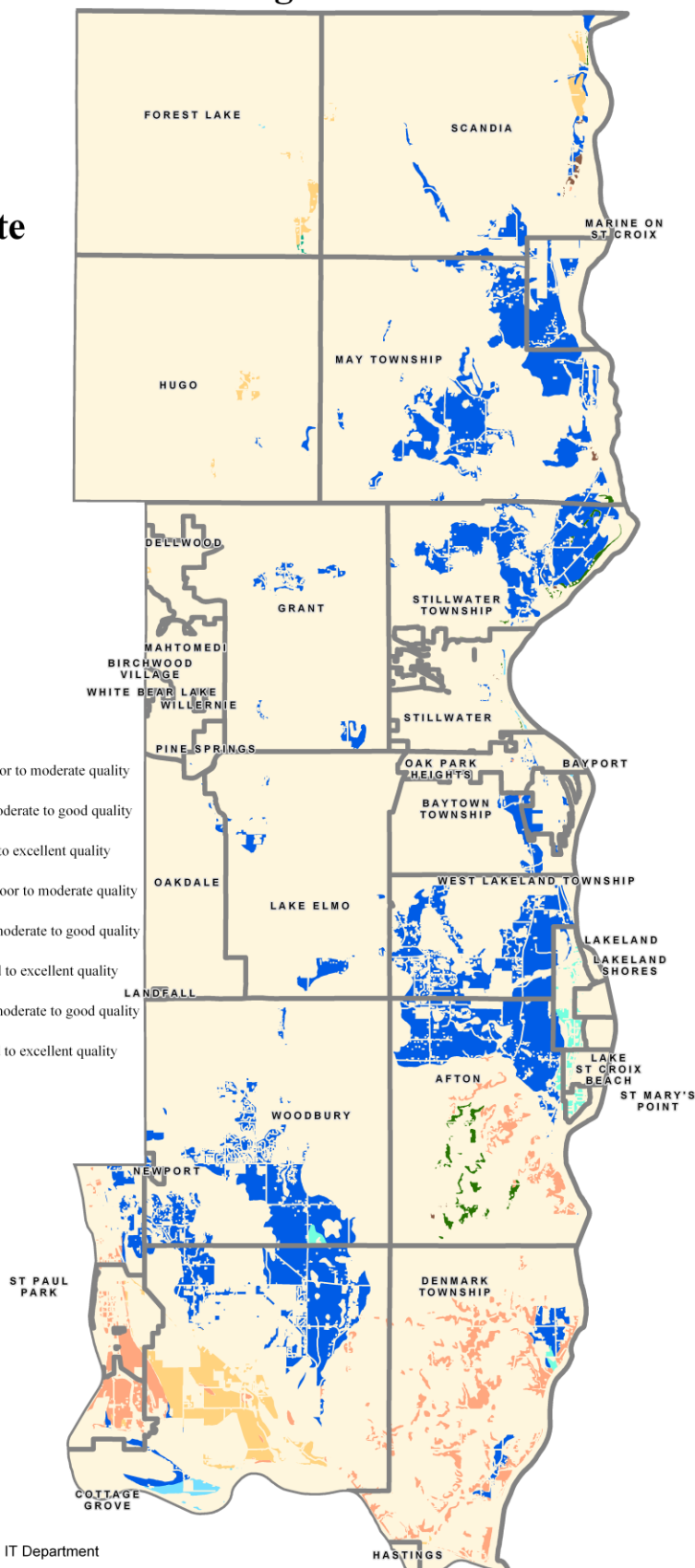
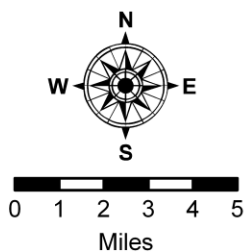


Figure 6-4

1997 Prime Aggregate Resources

Aggregate Deposit Classification

- Class A - Prairie du Chien Dolostone > 30 ft thick
- Class B - Prairie du Chien Dolostone >10 <30 ft thick
- Class C - Prairie du Chien Dolostone < 10 ft thick
- Class 2 - Des Moines Lobe Sand and Gravel > 20 ft thick, poor to moderate quality
- Class 3 - Des Moines Lobe Sand and Gravel > 20 ft thick, moderate to good quality
- Class 4 - Superior Lobe Sand and Gravel > 20 ft thick, good to excellent quality
- Class 5 - Des Moines Lobe Sand and Gravel 10-40 ft thick, poor to moderate quality
- Class 6 - Des Moines Lobe Sand and Gravel 10-40 ft thick, moderate to good quality
- Class 7 - Superior Lobe Sand and Gravel 10-40 ft thick, good to excellent quality
- Class 10 - Des Moines Lobe Sand and Gravel > 40 ft thick, moderate to good quality
- Class 11 - Superior Lobe Sand and Gravel > 40 ft thick, good to excellent quality

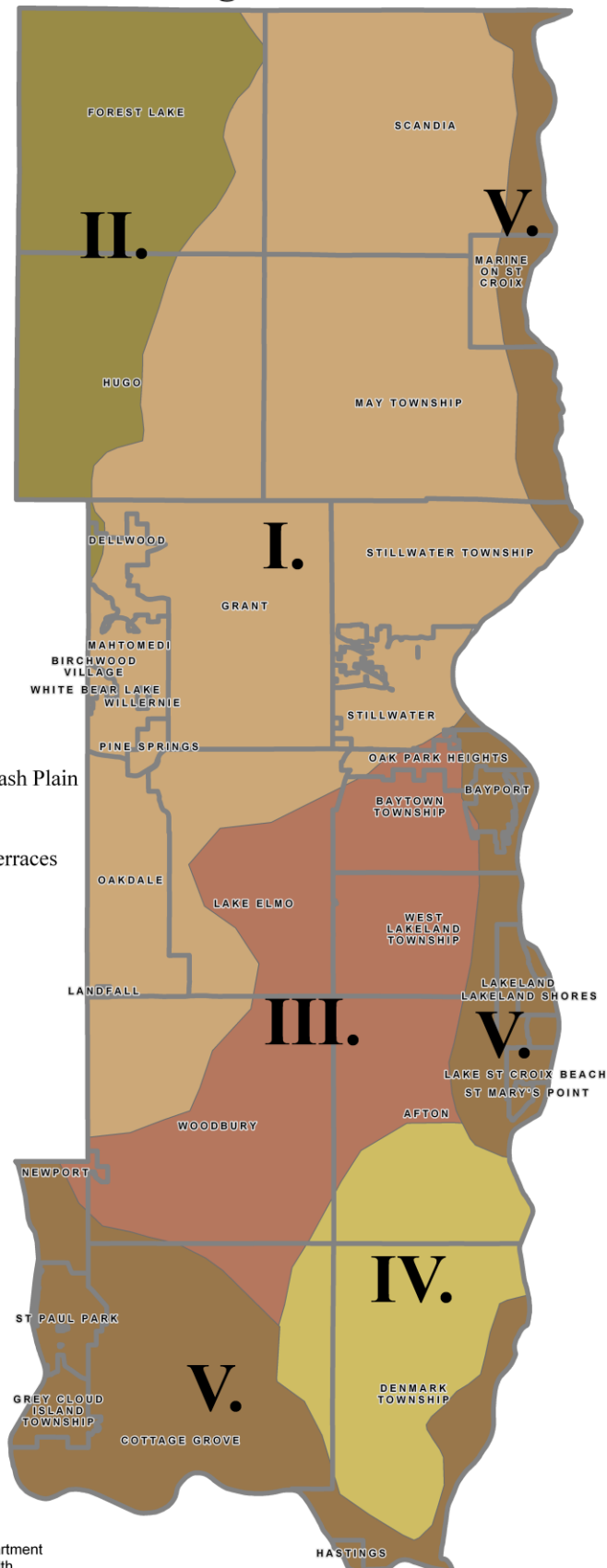
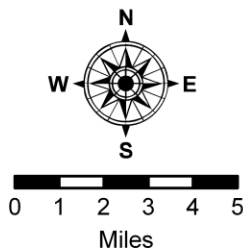


Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Metropolitan Council - 1997

Figure 6-5

Geomorphic Regions

-  I. St. Croix Moraine
-  II. Glacial Lake Hugo Plain
-  III. Lake Elmo-Cottage Grove Outwash Plain
-  IV. Denmark Dissected Plain
-  V. St. Croix and Mississippi River Terraces



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County Department of Public Health



and closed depressions. Lakes and wetlands occupy many of the depressions. Glacial sediment is up to several hundred feet thick and is comprised of a complex mixture of ice-contact, outwash, ice-walled lake, and glacial till deposits.

The Glacial Lake Hugo Plain lies in northwestern Washington County. The terrain is gently rolling to flat. Wetlands and shallow lakes are common. The surface geology consists primarily of fine sand and sandy silt glacial lake deposits and outwash.

The Lake Elmo-Cottage Grove Outwash Plain, an area of sandy outwash deposits, covers parts of the south central region of the county extending from Lake Elmo to Cottage Grove. The outwash plain is gently rolling and punctuated by shallow depressions and lakes. Parts of the plain are hilly where the outwash deposits overlay the rolling topography of the St. Croix Moraine.

The Denmark Dissected Plain lies in southeastern Washington County outside the region covered by the last glacial advance. This area exhibits a gentle to strongly rolling topography controlled by the topography of bedrock surface. In general, thin soils cover the bedrock. This region is distinct from the rest of the county because of its relatively well developed surface drainage system and few lakes or wetlands.

The St. Croix and Mississippi River Terraces are found along the eastern and southern edges of the county. These terraces, formed from the deposition of sediment in vastly larger glacial melt-water river valleys, are broad flat to gently rolling areas covered by sand and gravel deposits. The lowest elevations in the county occur along these two rivers. Extremely steep slopes are present along the river valleys. The bluff tops along the St. Croix River are often more than 200 feet above the valley bottom; sheer cliffs are not uncommon.

Vegetation/Natural Communities

Before settlement, as much as 80 percent of the county was forested. According to the Minnesota Land Cover Classification System (MLCCS) inventory (completed between 2004 and 2008), only 16 percent is currently forested or woodland. The northern half of the county retains remnants of the original forests with the largest stands along the St. Croix River. The county's woodlands mostly consist of oak woods and maple/basswood forest. Stands of birch, aspen, pine, and tamarack are scattered around the county. See Figure 6-6 for a map of the current large blocks of forest interior in the county.

The MLCCS identified the following land cover types in Washington County. Figure 6-7 shows the location of each type.

27%	Artificial surfaces
32%	Planted or cultivated vegetation
11%	Forests
5%	Wooded
2%	Brushland
14%	Herbaceous vegetation
10%	Water features

Very little of Washington County remains as it existed prior to settlement. According to the 1990 Washington County Biological Survey, about 5.6 percent or 15,214 acres of the county's land area contains native vegetative cover. Figure 6-8 shows the location of these areas. As a result of human activities such as logging, farming, and development, most of the county's native vegetation has been altered or replaced with domesticated plants. The few areas that retain their original vegetative characteristics are small and widely scattered throughout the county.

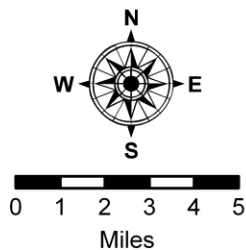
Other important native vegetation exists in small remnants of native prairie and in a variety of wetland areas such as fens, marshes, swamps, and bogs. Restoration efforts are increasing and many prairie and forest communities are being restored on public and private lands.



Large Blocks of Forest Interior

-  County Park Boundary
-  State Park Boundary
-  Forest Interior*

* Forest Interior was determined by buffering the "Forest" classification in the Minnesota DNR's Land Cover Classification System (MLCCS) inward 100 meters.



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Minnesota Department of Natural Resources MLCCS, Washington County Green Corridor Project - 1998

Figure 6-6

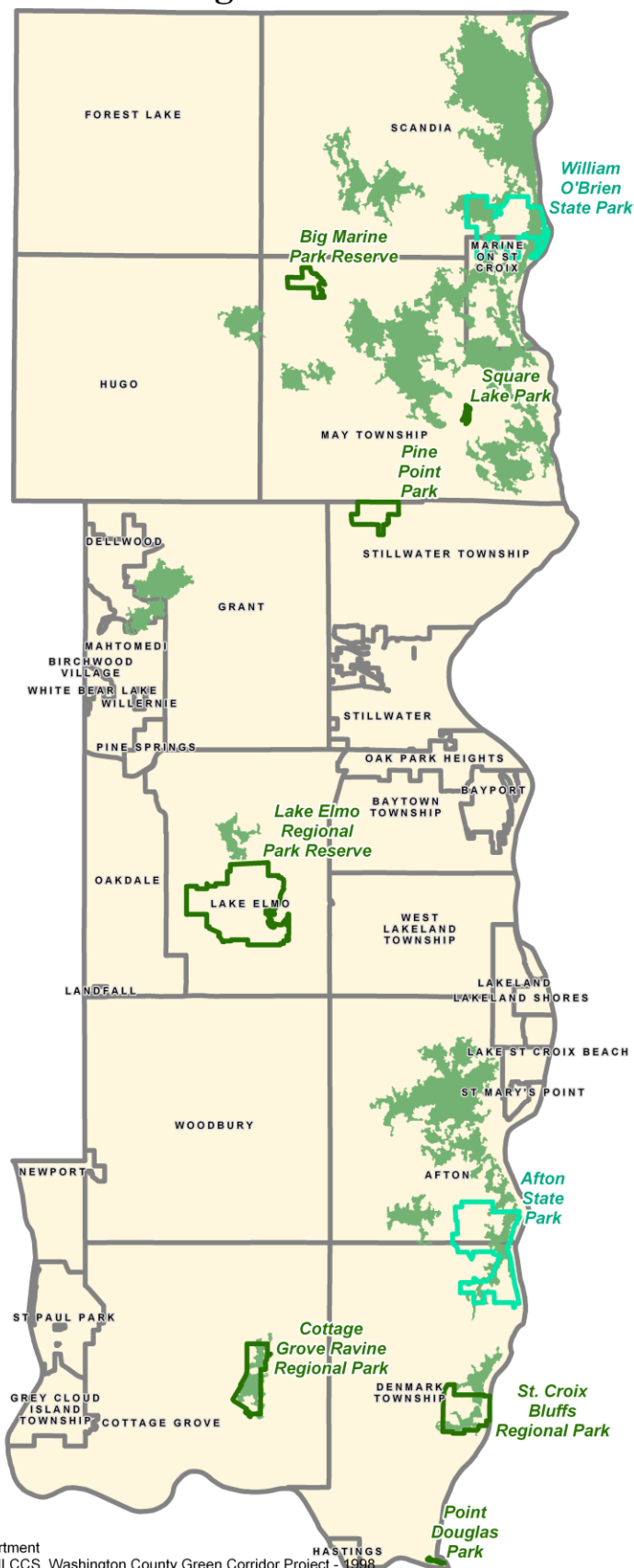
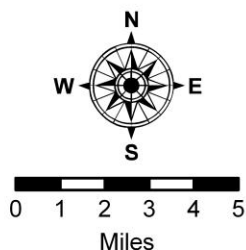


Figure 6-7

Minnesota Land Cover Classification System

- Undefined
- Impervious surfaces
- Cultural vegetation
- Forests
- Woodlands
- Shrublands
- Herbaceous
- Non-vascular veg.
- Sparse vegetation
- Water



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Minnesota Department of Natural Resources - 2007

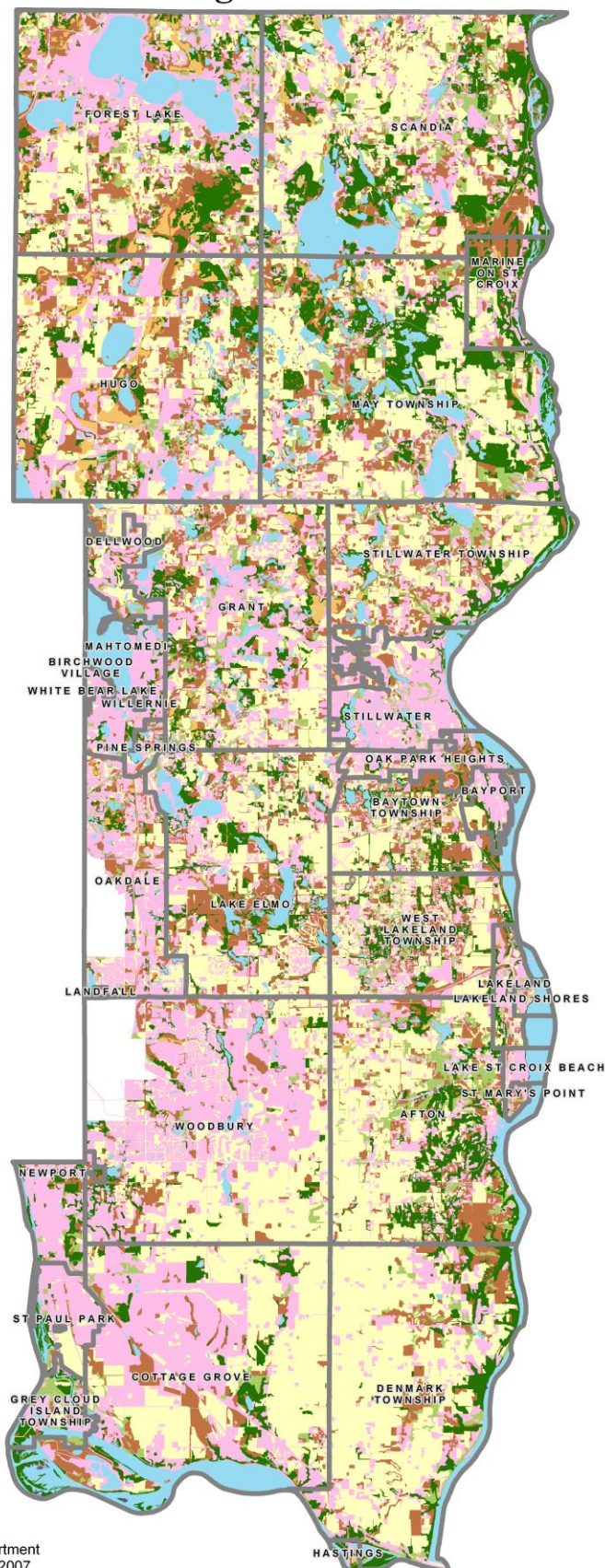
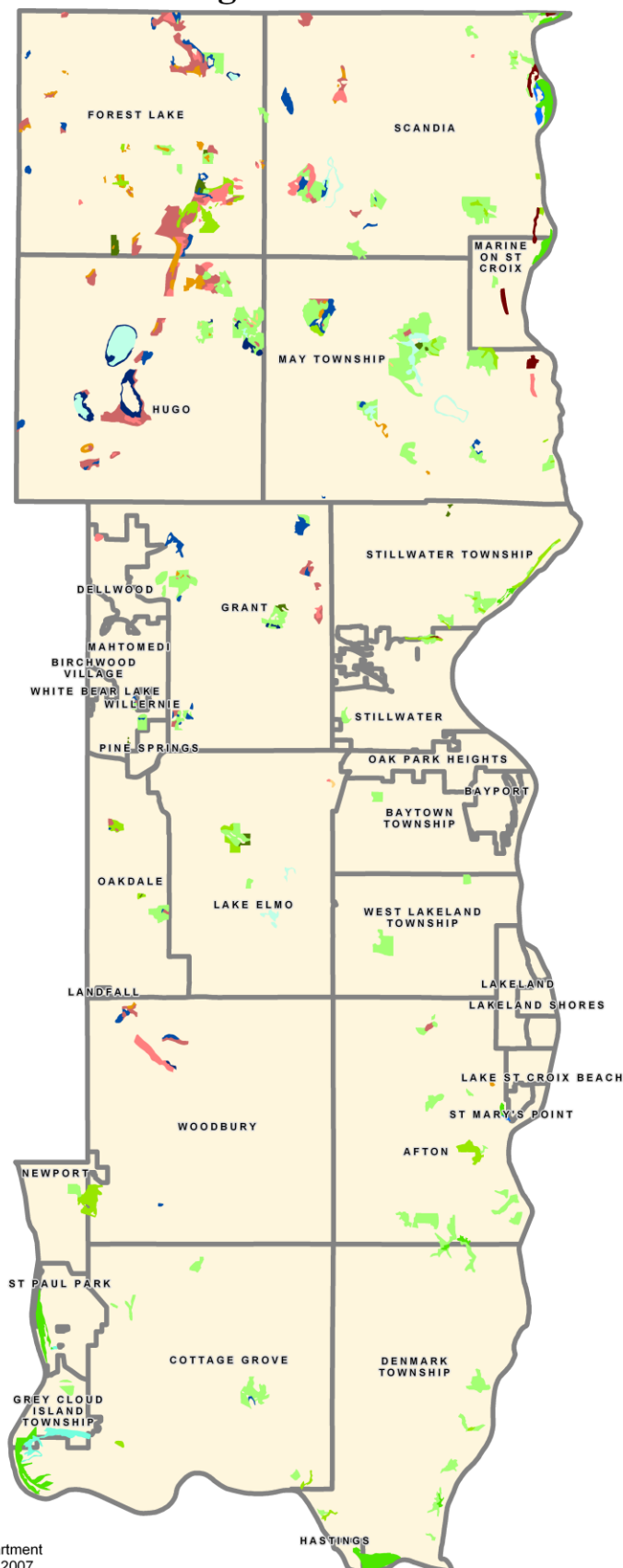
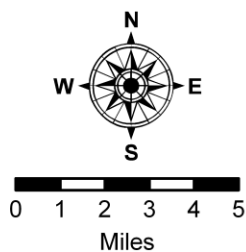




Figure 6-8

MN County Biological Survey

-  Aspen Forest
-  Floodplain Forest
-  Maple-Basswood Forest
-  Oak Forest
-  Cattail Marsh
-  Emergent Marsh
-  Mixed Emergent Marsh
-  Mixed Hardwood Swamp
-  Shrub Swamp
-  Tamarack Swamp
-  Open Sphagnum Bog
-  Rich Fen
-  Lake Bed
-  River Bed



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Minnesota Department of Natural Resources - 2007

Washington County Land and Water Legacy Program

Conservation and Scenic Easements

Dating back several decades, landowners voluntarily entered into a variety of legal agreements to protect natural areas and ecosystems throughout Washington County. Today, many organizations hold conservation and scenic easements.

In the 1970s and 1980s, the Minnesota Department of Natural Resources and the National Park Service acquired scenic easements along the St. Croix River. Scenic easements are agreements between a landowner and a government agency to protect and preserve views of scenic river districts or byways. These easements typically are held in perpetuity and are a thin corridor along the shore or bluff tops. Nearly all the scenic easements in Washington County are located along the St. Croix River in the communities of Afton, Scandia, and May, and Stillwater, and Denmark townships.

In the mid 1990s the Washington County Land Trust (later reincorporated to become the Minnesota Land Trust) began acquiring conservation easements throughout the county. Conservation easements are used to protect natural, scenic, or open-space values of properties. These easements typically are held in perpetuity and prohibit or greatly restrict development of the property. Washington County holds 13 of the 248 conservation easements in the county. Of these 248, 65 are part of open space developments that cluster housing on a portion of the site and preserve the remainder with a recorded conservation easement.

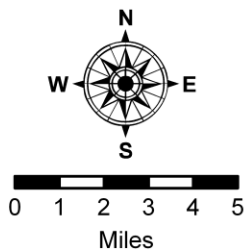
As of 2008, a total of 248 conservation easements protecting 4,210 acres and 294 scenic easements protecting 1,888 acres were recorded in Washington County. Figure 6-9 shows the location of the easements. Appendices 6-A and 6-B contain data on the number of easements located within each community and the number of easements held by various organizations.



Conservation and Scenic Easements

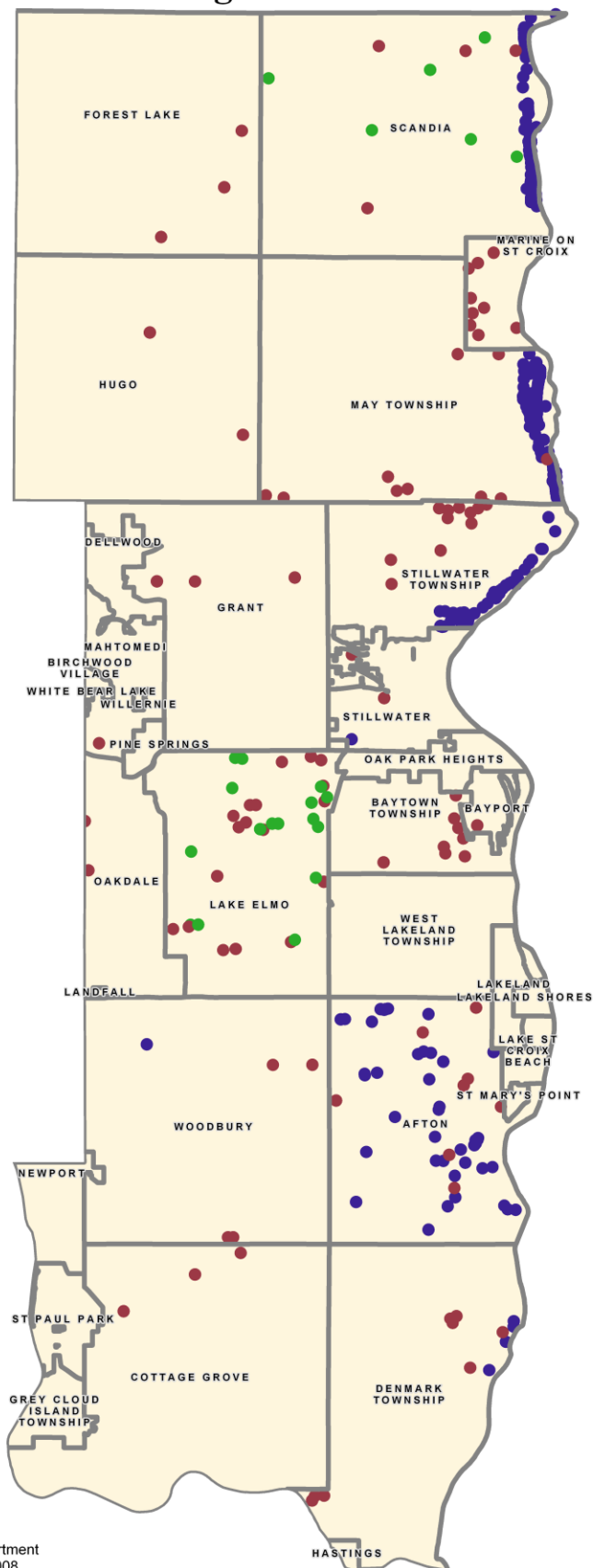
- Open Space Development
- Other Conservation Easement
- Scenic Easement

This data is compiled from the Washington County property records data base administered by the recorded documents on file with the Department of Property Records and Taxpayer Services. All conservation and scenic easements in Washington County are included except for the conservation easements within the City of Stillwater; these are easements that run along the waters edge of 125 lots in the Liberty on the Lake and Legends subdivisions and scenic easements in Marine On St. Croix.



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County Office of Administration, 2008

Figure 6-9



Program Description

Through its Land and Water Legacy Program, Washington County has begun preserving some of the county's most precious remaining natural resources. In November of 2006, voters passed the Preservation of Water Quality, Woodlands and Other Natural Areas referendum that authorizes the county to spend up to \$20 million to acquire land and interests in land to improve water quality of rivers, lakes and streams; protect drinking water sources; purchase parkland; preserve wetlands and woodlands; and help protect land along water bodies from development.

Priorities for the use of these funds are lands that have the following characteristics:

- County parkland, including recreational trails.
- Lands adjacent to waterways, recreational trails, parks, and other public facilities.
- Lands adjacent to already protected lands.
- Lands serving multiple public purposes and allowing public access.
- Projects that leverage additional dollars from other sources.

Priority will be given to projects that best meet the established program criteria and county priorities. The ideal project would be visible to and/or useable by the public; would create ecological connections and corridors of natural space; would be adjacent to a major lake, stream or river; and would contain high quality natural features.

The county works with private landowners and with other units of government in conserving important natural areas. It may provide matching grants to a unit of government to assist in preserving lands identified in its land protection plans. The county also works directly with landowners who are willing to enter into a conservation agreement to permanently keep their land in its natural condition. Both types of projects are considered on a competitive basis.



The county's Park and Open Space Commission reviews and makes recommendations on all projects that receive funding from the LWLP.

Washington County currently holds seven conservation easements over 203 acres that were acquired through the Purchase of Development Rights Program, the predecessor to the Land and Water Legacy Program. An additional fourteen projects that would protect over 625 acres are in some stage of implementation. These sites are located throughout the county in areas where residents will have easy access to enjoy them; three projects would provide a regional recreational trail opportunity, two projects would provide local trail opportunities, and one is within a county park. All projects would be visible from the St. Croix River or from major county roadways. Most of the projects would have important water quality features including trout streams, lands immediately adjacent to and along major tributaries feeding into the St. Croix River, and lands in areas with high risk for groundwater contamination.

Washington County along with the Minnesota Land Trust and Belwin formed the Valley Creek Land Protection Collaborative to work on land protection along the lower reaches of Valley Creek in the city of Afton. These organizations currently hold fee title and conservation easements on properties at the headwaters, at the mouth and along the main branch and stems of Valley Creek that will anchor future land protection efforts. Two of the initial projects considered for Land and Water Legacy Program funding are located adjacent to Valley Creek.

Washington County is preparing a conservation plan to guide the implementation of the Washington County Land and Water Legacy Program (LWLP). The conservation planning will include the following components:

1. A countywide natural resource assessment prioritizing remaining natural area habitats for purposes of future LWLP decisions.

2. Map of prioritized geographic areas to use in targeting future land conservation efforts.
3. List of ongoing land protection activities in the county and the implementing entity.
4. An outreach program, including strategies for landowner contacts and procedures for evaluating outreach efforts and tracking successes.
5. An evaluation tool to assist in ranking proposals submitted to the LWLP for funding.
6. A list of habitat restoration opportunities to improve the quality of natural habitats on LWLP projects and other priority areas of the county.

Water Resources

Washington County has made a strong commitment to understanding and protecting its water resources. It has allocated a significant amount of resources to planning, data collection, and water governance. Washington County has completed groundwater/surface water interaction studies for the northern and southern portions of the county. These studies provide local decision makers with planning level information on groundwater resources in their area and data to support management strategies and policies protecting lakes, wetlands, streams, and water supplies dependent on groundwater resources. Washington County's work is setting a precedent for watershed management; it's acknowledging the link between surface water and groundwater and providing the resources and mechanisms for its protection.

Surface Water

Two-thirds of the county is in the St. Croix River watershed and one-third is in the Mississippi River watershed. There are 36 minor watersheds. Surface waters cover about ten percent of Washington County's 424 square miles. The majority of the



county's surface waters consist of lakes and wetlands and most are located in the northern half of the county.

Rivers and Streams

The St. Croix River drains the eastern portion of the county and forms the entire eastern border of the county. In 1968, the United States Congress dedicated the St. Croix River as a National Scenic Riverway, in recognition of its “outstandingly remarkable scenic, recreational, and geologic values.” In 1972, it added the lower reaches of the river that flow through Washington County to the system. The National Park Service and the Minnesota and Wisconsin Departments of Natural Resources manage the riverway. The National Park Service has land acquisition authority north of Stillwater. The state of Minnesota regulates uses within the riverway south of Stillwater. The National Park Service adopted a Cooperative Management Plan and Environmental Impact Statement for the Lower St. Croix National Scenic Riverway in 2002 that:

- Preserves and protects the riverway’s ecological integrity, unimpounded condition, natural and scenic resources, and significant historic resources.
- Accommodates a diverse range of recreational opportunities that do not detract from the exceptional natural, historic, scenic, and aesthetic resources.
- Provides an environment that allows the opportunity for peace and solitude.
- Provides an opportunity for the education and study of the geologic, historic, ecological, and aesthetic values to further enhance stewardship of the river.

Small streams and springs flow into the St. Croix River, draining upland lakes. Brown's Creek, Valley Branch, and Trout Brook are the St. Croix River's largest tributaries with their headwaters in Washington County.

The Mississippi River drains the western portion of the county and forms the southwestern border of the county. In 1988, the United States Congress designated the length of river flowing through the Twin Cities Metropolitan Area from Dayton to just south of Hastings as the Mississippi National River and

Recreation Area (MNRAA). This part of the river provides an array of activities and benefits including recreation and education, tourism, transportation, and natural habitat. The National Park Service prepared a management plan to: help communities manage the river corridor's resources in order to preserve and enhance the environmental values; enhance opportunities for outdoor recreation; conserve and protect the scenic, historical, cultural, natural, and scientific values; and provide for commercial use consistent with the purpose of MNRAA designation. Two important tributaries to the Mississippi River have their headwaters in the county: Rice Creek originates in Hugo and drains the northwestern part of the county; and Battle Creek originates in Woodbury and flows west to the Mississippi River.

Washington County has many intermittent streams that depend on snowmelt and rain water rather than groundwater for their flow. Streams with permanent flows are spring-fed for the most part. Storm sewers control runoff in urbanized areas, and drainage ditches in historically agricultural areas have replaced some naturally existing streams. Groundwater discharges maintain flows in the major rivers which have their flows augmented by precipitation and runoff.

Lakes

Washington County has 186 lakes that are ten acres or larger, the largest being Forest, Big Marine, White Bear, and Lake St. Croix. Many of the larger lakes were once resort and vacation spots that are now home to year-round residential development. Figure 6-10 shows the major water bodies in Washington County.

Washington County has some of the best and worst water quality resources in the Twin Cities Metropolitan Area. Eight of the ten cleanest lakes in the metro area are in Washington County. Many of the region's most polluted lakes are also in Washington County. Water quality trends are highly variable throughout the county depending on location, amount of development, agriculture, and other factors.



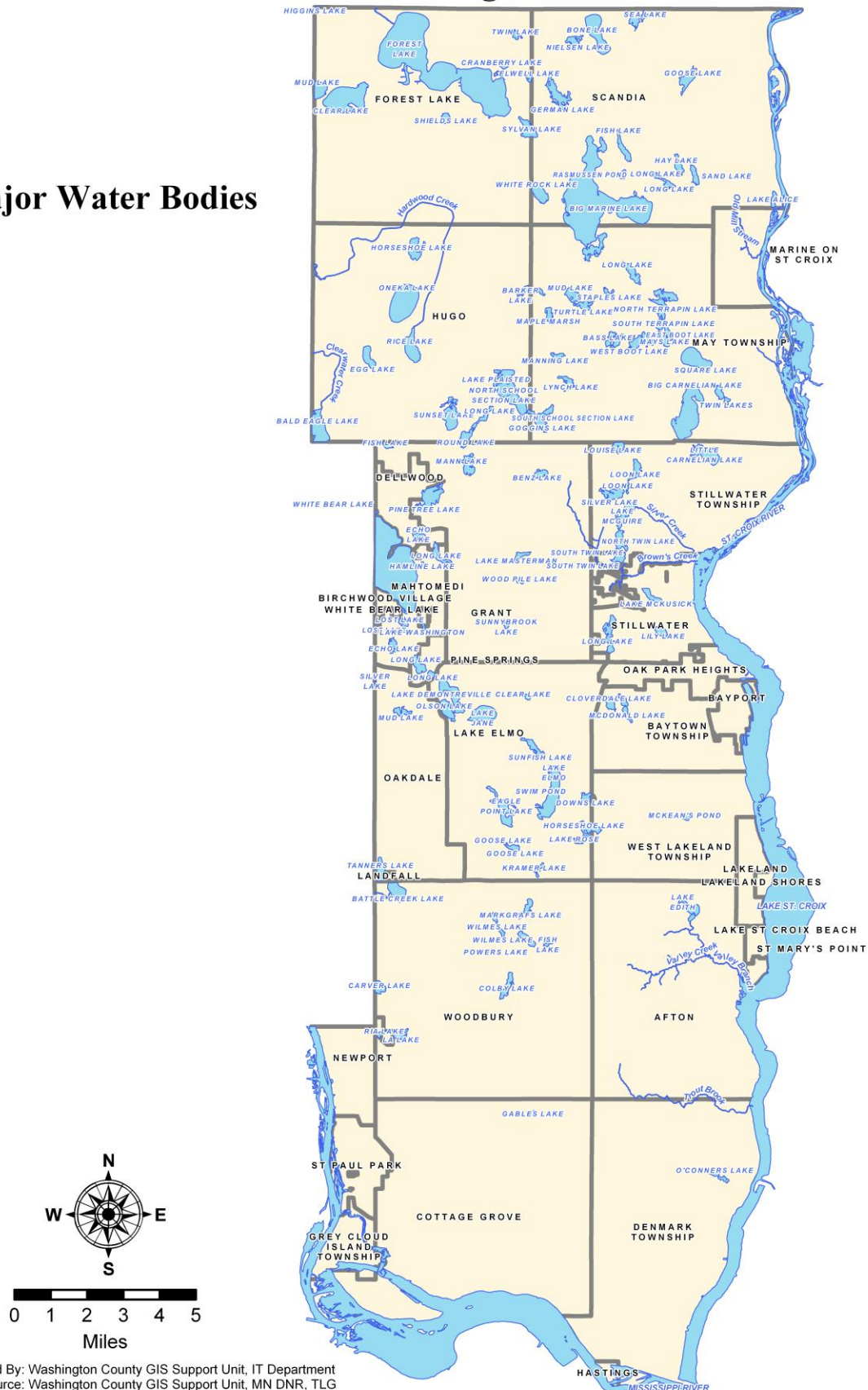
Water Quality

Many state and local agencies manage and monitor lake water quality. Volunteers for the Metropolitan Council's Citizen Assisted Monitoring Program (CAMP) monitor many lakes. Water management organizations and some communities use staff, volunteers, consultants, and the Washington Conservation District (WCD) to conduct water-quality monitoring. The WCD and CAMP volunteers monitor more than 90 lakes throughout the county. In addition, the WCD monitors more than 50 streams, rivers, and stormwater sites for water quality and flow. Monitoring results and analysis is summarized in annual reports including ranking, grading, and water quality trends for each lake. Water quality trends are developed to aid in the long-term analysis of possible impacts to receiving waters. The WCD monitors the water clarity, dissolved oxygen, temperature, and nutrients on a monthly or bi-monthly basis in priority lakes. Nutrient data and measured discharge are used to determine total phosphorus and total suspended solids loads for the subwatershed at each monitoring station. Figure 6-11 shows monitoring activity and water quality ratings by lake. These ratings use a system developed by the Metropolitan Council that grades all water bodies (deep lake, shallow wetland, and stormwater ponds) in a like manner. Other grading methods are available. For example, Valley Branch Watershed District uses a performance-based system that sets goals for each water body and uses data to determine how well the water body is meeting its goal.

The federal Clean Water Act requires states to adopt water quality standards to protect surface waters from pollution. These standards define how much of a particular pollutant can be in the water and still meet standards for designated uses, such as drinking water, fishing, and swimming. The standards are set for a wide range of pollutants, including bacteria, nutrients, turbidity, and mercury. Section 303(d) of the Clean

Figure 6-10

Major Water Bodies



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County GIS Support Unit, MN DNR, TLG

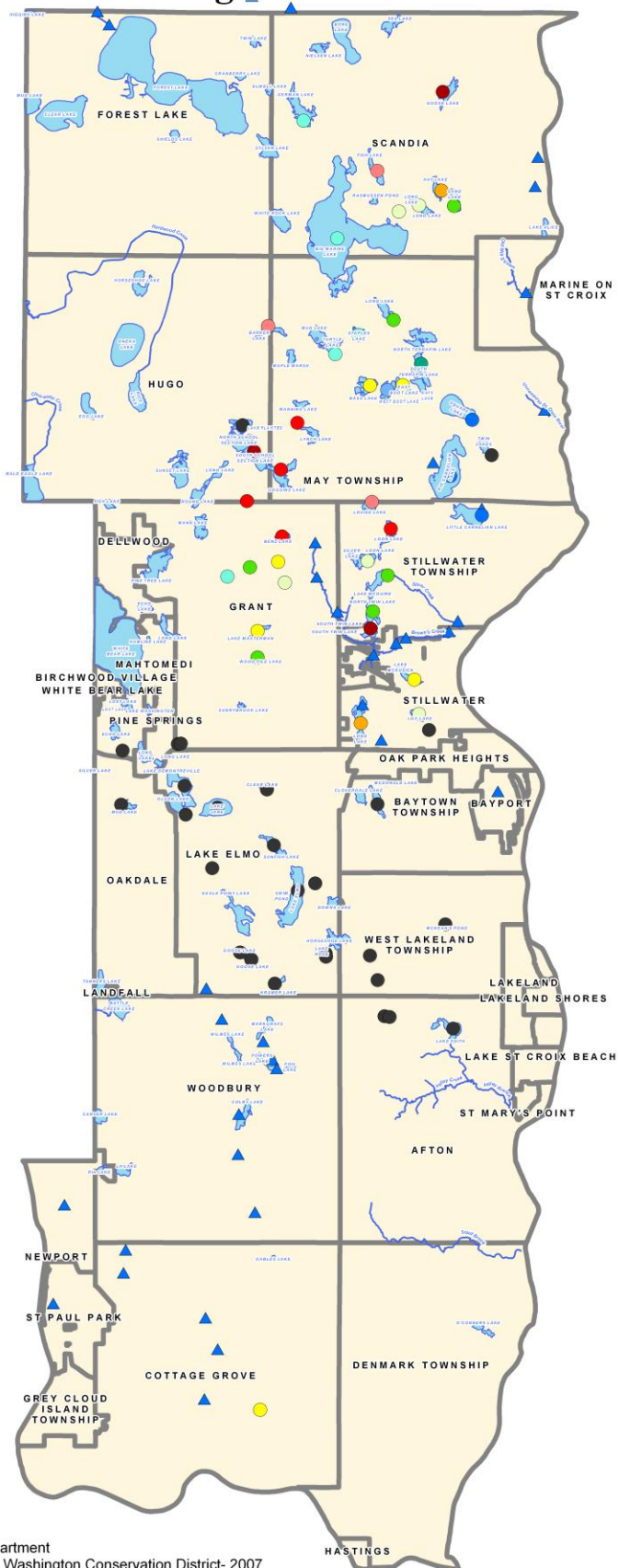
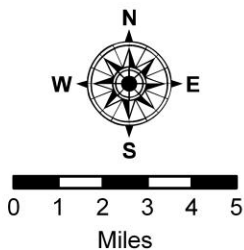


Figure 6-11

Water Quality Ratings

- No Lake Grade
- 2007 Lake Grade = A
- 2007 Lake Grade = A-
- 2007 Lake Grade = B
- 2007 Lake Grade = B+
- 2007 Lake Grade = B-
- 2007 Lake Grade = C
- 2007 Lake Grade = C+
- 2007 Lake Grade = C-
- 2007 Lake Grade = D
- 2007 Lake Grade = D+
- 2007 Lake Grade = F
- ▲ Stream Monitoring

Ratings:
 "A" or "B" Indicates minor recreational water use impairment.
 "C" Indicates some recreational water use impairment.
 "D" or "F" Indicates poor water quality.



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Minnesota Department of Natural Resources, Washington Conservation District- 2007

Water Act requires states to publish and update a list of waters that are not meeting one or more of the water quality standards. The list, known as the 303(d) Impaired Water List, is created by the Minnesota Pollution Control Agency. Minnesota's Impaired Waters List, first published in 1992, was most recently updated in 2008. Figure 6-12 shows the impaired waters. Many of the lakes, rivers, and streams in the county are listed as impaired. See Appendix 6-C for the list of impaired water bodies.

The Clean Water Act requires states to take specific steps to address the impaired waters, including:

1. Evaluate impaired water to determine sources of pollution and the amount of reduction needed to restore the waters.
2. Implement corrective measures to meet Total Maximum Daily Load pollutant reduction goals and restore waters to standards. The inventory of impaired waters determines the timing for when a Total Maximum Daily Load (TMDL) study must be completed.

Even the cleanest lakes in the county will be susceptible to pollution as the county's population grows. Some of the more common water pollution problems include excess nutrients, suspended sediments, and mercury contamination.

Thermal pollution is an emerging issue that may impact Washington County lakes and streams. Stormwater moving across urban landscapes warms the water and increases the temperature in receiving water bodies. Warm water can hold less dissolved oxygen than cold water, thereby reducing oxygen levels in urban water bodies. Cold water fish, such as trout, require stream temperatures below 20 degrees celsius; long-term or sudden increases in temperature can harm the fish populations.

Volume control practices that increase infiltration and transpiration will minimize runoff of warmed waters to surface water features. Preventing stormwater runoff from discharging directly to a groundwater-dependent natural resource, such as



a trout stream or fen, can reduce thermal pollution. Promoting 'green' infrastructure and reducing impervious surfaces will also benefit the water resources. Buffers near standing water and saturated soils can shade the water and moderate summer temperature. Buffer areas also cool warm runoff as it flows through vegetation.

Wetlands

Prior to European settlement, wetlands covered over 14,000 acres of the county. Less than half remain today. Figure 6-13 shows their location. Much of the wetland loss was attributed to wetland draining for agricultural purposes prior to the 1970s and urban development in more recent decades.

Wetlands fulfill many functions including filtration of surface water, infiltration for groundwater recharge, flood attenuation, wildlife habitat, aesthetics, recreation, and spatial separation between other land uses. As part of their wetland management planning process, the county's watershed districts have placed an ecological value on those functions and have adopted regulations to protect or enhance those values.

The Department of Natural Resources regulates wetlands on the 1985 Public Waters Inventory (PWI). The PWI (which includes lakes, rivers, major streams, and ponds) lists 399 type 3, 4, and 5 wetlands that are either over 10 acres in unincorporated areas or two and one-half acres in the incorporated areas of the county.

Figure 6-12

Impaired Water Bodies

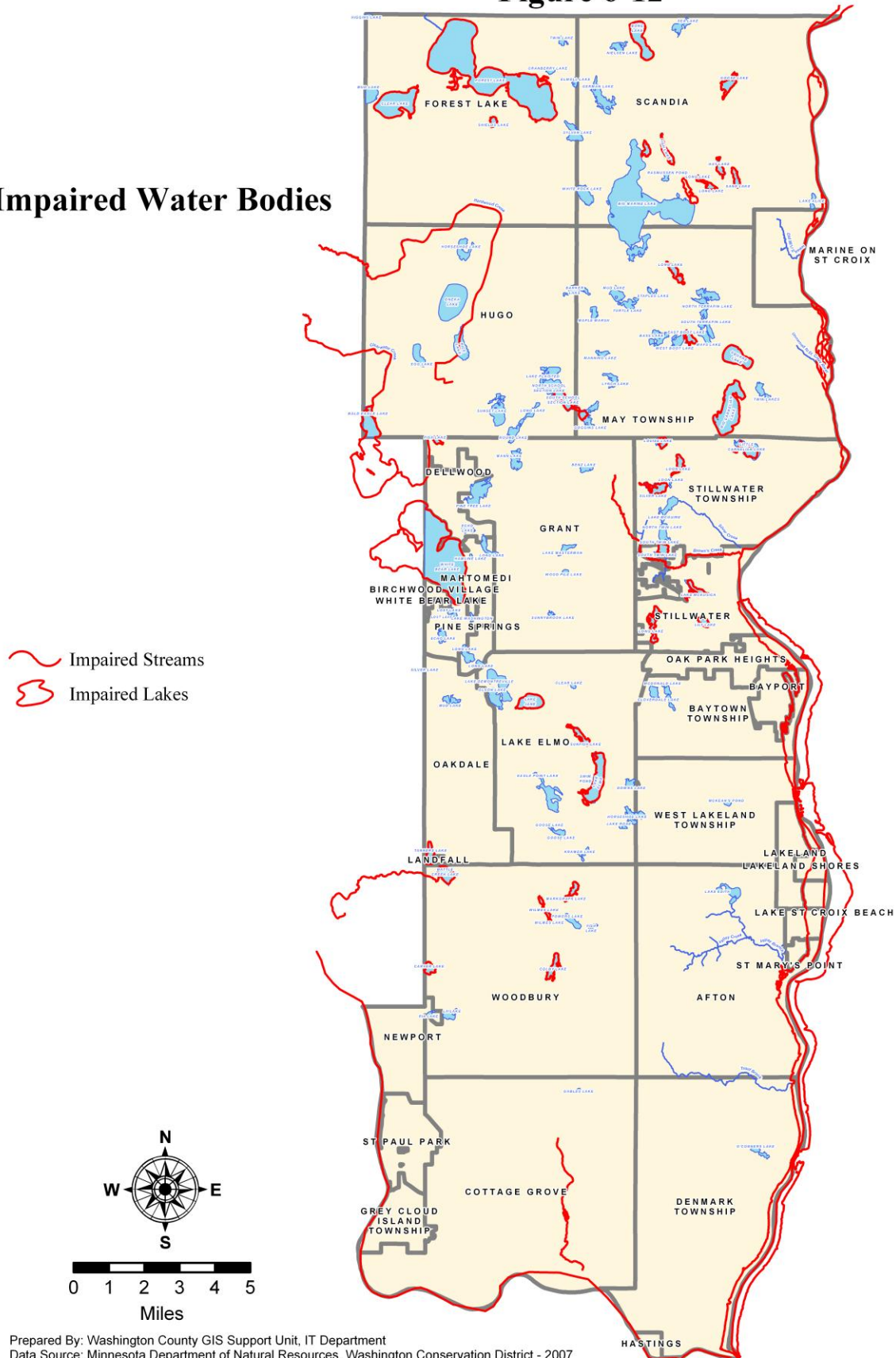
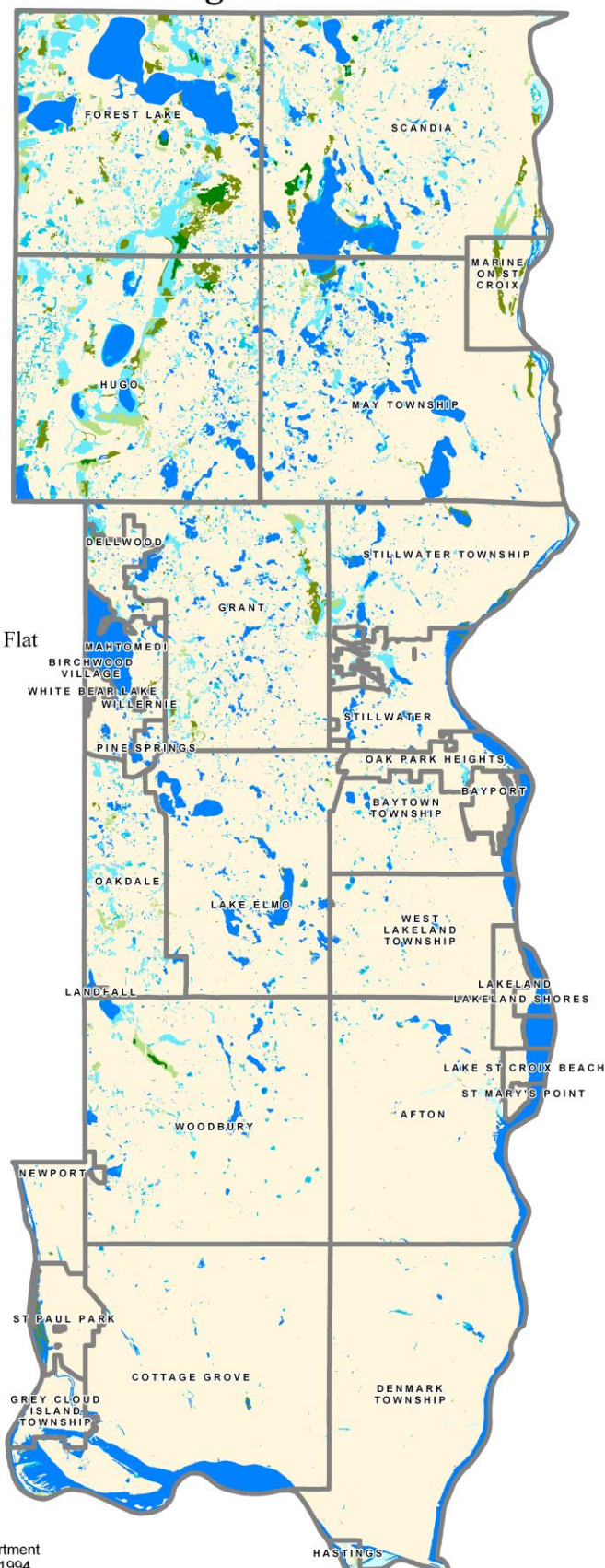
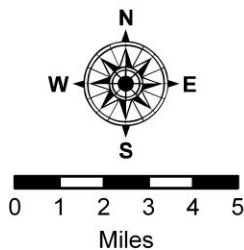




Figure 6-13

National Wetland Inventory

-  Type 1. Seasonally Flooded Basin or Flat
-  Type 2. Inland Fresh Meadow
-  Type 3. Inland Shallow Fresh Marsh
-  Type 4. Inland Deep Fresh Marsh
-  Type 5. Inland Open Fresh Water
-  Type 6. Shrub Swamp
-  Type 7. Wooded Swamp
-  Type 8. Bog



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Minnesota Department of Natural Resources - 1994

The National Wetlands Inventory (1992) and the MLCCS (2004-07) also compiled wetland information countywide. Most watershed management organizations have compiled more localized and detailed inventories and functional assessments. These inventories may include wetlands that are not on the PWI.

The federal Clean Water Act initiated wetland protection. The state followed with passage of the Wetland Conservation Act (WCA) in 1991 that set the state wetland protection policy. The state act strives to “achieve no net loss in the quantity, quality, and biological diversity of Minnesota’s existing wetlands,” as well as promote restoration of formerly impacted wetlands. This law requires avoidance of direct and indirect impacts that would destroy or diminish wetlands and replacement of wetland values where avoidance is not feasible or prudent. The WCA applies to all wetlands except those under the jurisdiction of the DNR. The WCA provides for the local governmental units to administer the law. Most municipalities in Washington County have accepted the authority or have delegated it to a watershed district. Washington County participates in the WCA review process via the Washington Conservation District, as per statutory mandate and voluntary cooperative agreements.

Groundwater

Although Washington County has substantial reserves of high-quality groundwater, groundwater is a finite resource and contaminants have been found above the established health risk limits in some locations. The type and density of land use and the geologic conditions of an area determine the likelihood of the groundwater quality and quantity to be affected by human actions.

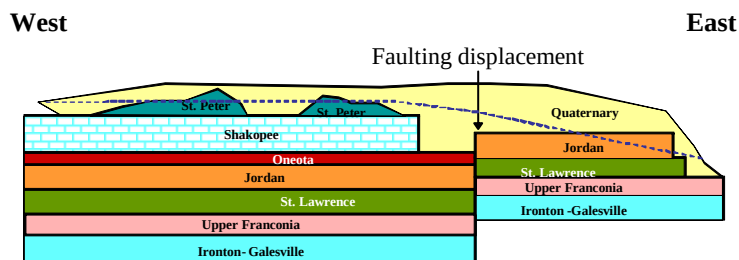
The surficial geology of the county is characterized by a thin layer of glacial drift material over extensive bedrock formations. Most of the county has less than 150 feet of drift material; approximately one-quarter of the county area has less than 50 feet of drift material. The Anoka Sand Plains in the northwest and the karst geology in the south are especially vulnerable to contamination.



Four bedrock aquifer hydrostratigraphic units are found beneath the county. The units vary in thickness, porosity, permeability, and water quality. The principal bedrock groundwater sources used by communities, well owners, and industries are the Prairie du Chien limestone, which is composed of the Shakopee and Oneota formations, and the Jordan sandstone aquifers. Other bedrock aquifers include the St. Peter sandstone, the Franconia and Ironton-Galesville sandstone, and the Mt. Simon-Hinkley sandstone formations. Three bedrock hydrostratigraphic units function as major aquitards.

Figures 6-14 and 6-15 illustrate the nature of the bedrock geology of the county.

Figure 6-14
Hydrogeologic Cross Section



Groundwater Quantity

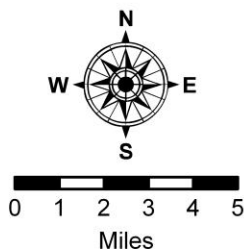
Historically, the region's aquifers have had abundant water to serve the population. However, the amount of water available in the future may be limited before aquifers are completely depleted. The three main factors affecting groundwater abundance are:

- The volume of replenishment to or recharge of aquifers from rainfall and snow melt;

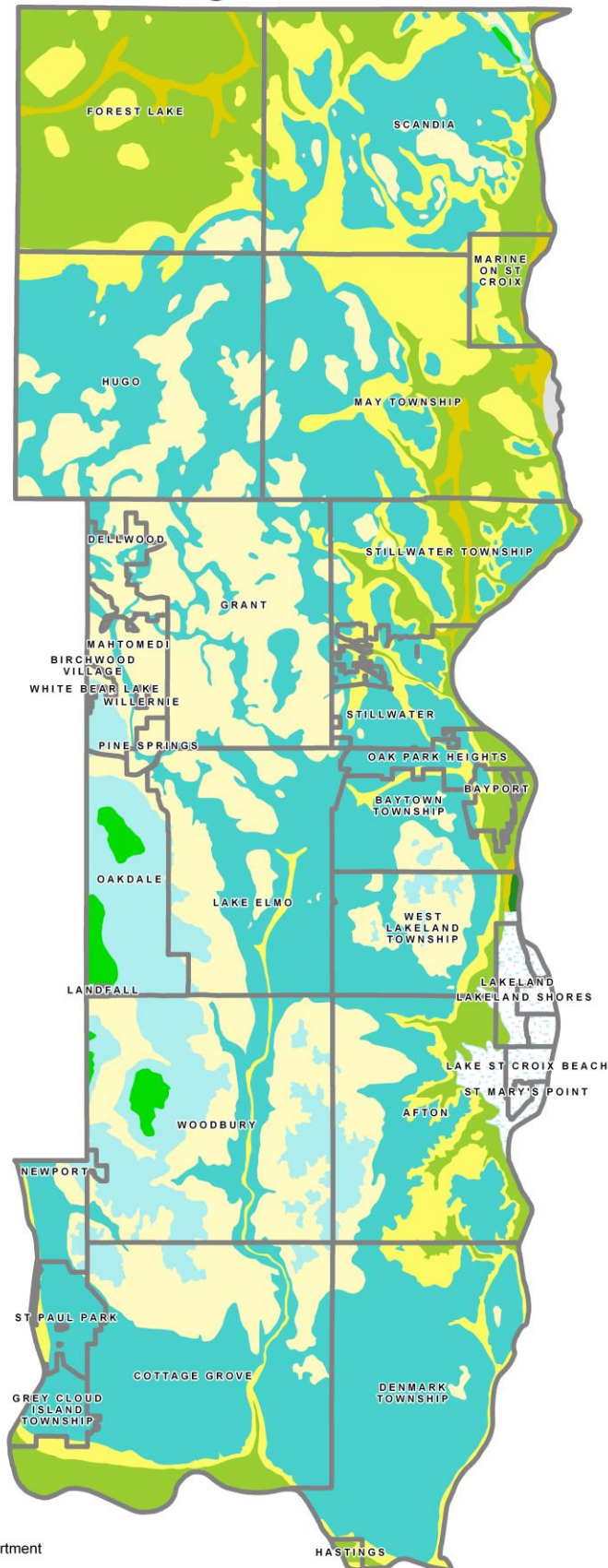
Figure 6-15

Bedrock Geology

-  Cambrian Undifferentiated
-  Decorah
-  Eau Claire
-  Franconia-Ironton-Galesville
-  Jordan
-  Platteville-Glenwood
-  Prairie Du Chien Group
-  St. Lawrence-Franconia
-  St. Peter



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Minnesota Geological Survey





- The volume of groundwater pumped out of aquifers; and
- The volume of groundwater naturally discharged to lakes, wetlands, and streams.

Impervious surfaces associated with land development will impair the natural ability of precipitation to infiltrate into aquifers, thereby reducing recharge water and stream base flow. The volume of groundwater pumped out of aquifers to meet the household, commercial, and industrial needs of a growing population depletes the resource.

Multiple communities share the region's aquifers. It will take a coordinated effort to develop sustainable groundwater management in order to balance the recharges to the resource with discharges from the resource.

Groundwater Quality

Due to the geologic conditions of the county, most of the county's groundwater reserves are highly sensitive to contamination. If not protected, they could become unusable as a source of potable water.

The fundamental factor to contaminant movement in groundwater is the hydrogeology of an area. Shallow bedrock, high water tables, and rapid infiltration rates all contribute to groundwater sensitivity and are all commonly found in the county.

The *Washington County Geologic Atlas*, prepared by the Minnesota Geologic Survey, identifies approximately 97 percent of the water-table system and 82 percent of the Prairie du Chien-Jordan aquifer as having a moderately-high to very-high sensitivity to contamination. The term "sensitivity" is commonly used to describe the general potential for an aquifer to become contaminated. The Minnesota Geological Survey measures relative sensitivity as the "time required for a contaminant to move vertically from the land surface to an aquifer." Shorter travel time means greater sensitivity.

Figure 6-16 shows the sensitivity of the water table aquifer to contamination. Table 6-1 defines the time it would take for a contaminant to travel from the surface to the water table aquifer.

Table 6-1
Geologic Sensitivity Rating Criteria
Washington County

Rating	Time to Reach Groundwater
Very-High	Hours to Months
High	Weeks to Years
High-Moderate	Years to One Decade
Moderate	Years to Decades
Low-Moderate	Not for Decades
Low	Decades to Centuries
Very Low	Centuries

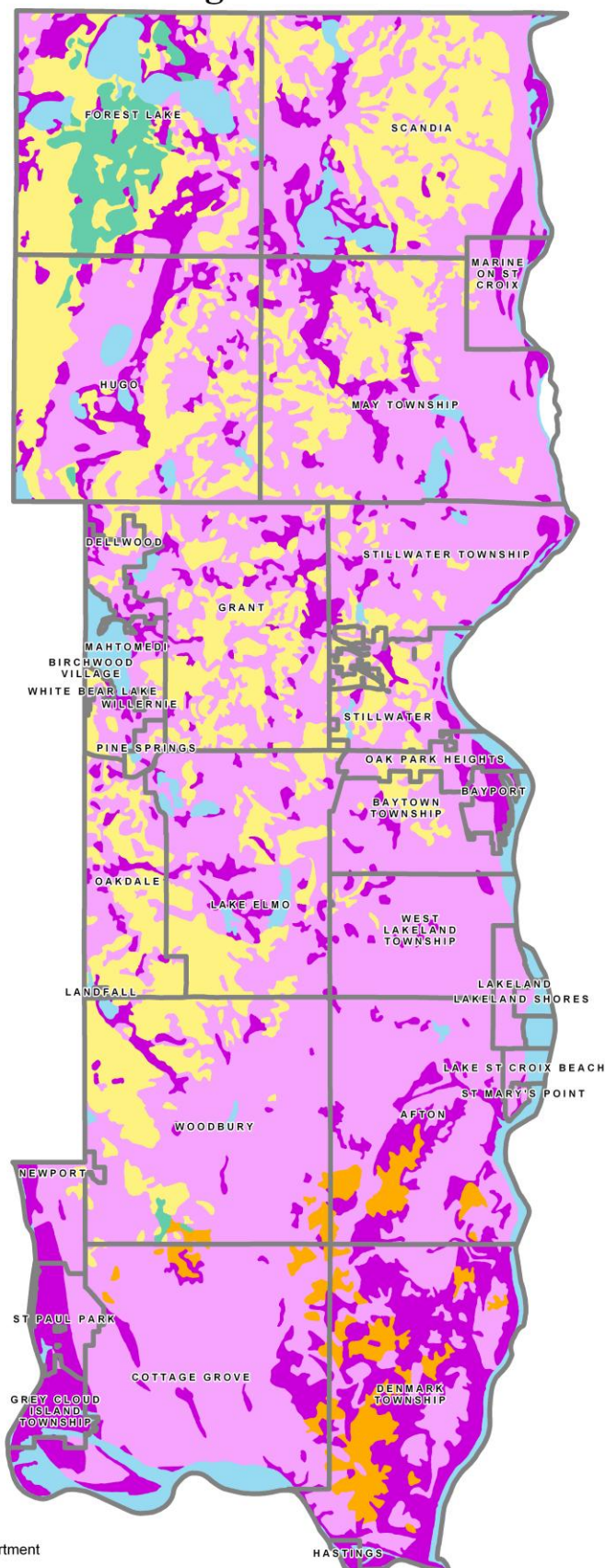
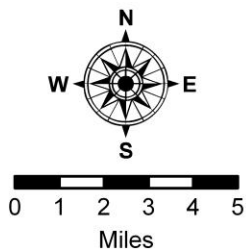
Source: County Atlas Series, Atlas C-5, Plate 6 of 7, Pollution Sensitivity, Minnesota Geological Survey, University of Minnesota.



Figure 6-16

Sensitivity of Water Table Aquifer to Pollution

- Very High
- High
- High-Moderate
- Moderate
- Low
- Water



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Minnesota Geological Survey

Existing Groundwater Contamination

Groundwater is of high quality throughout much of the county. Past land use practices have rendered groundwater in some locations unusable as a potential source for drinking or other uses. In these areas, there are added financial and social costs to manage the affected water supply. Sources of groundwater contamination include residential, commercial, and industrial waste disposal; landfills; leaking petroleum tanks; septic systems; and fertilizer/pesticide inputs.

Washington County has contaminants above the established health risk limits in a number of aquifers. The groundwater contamination is generally of two types:

- Contamination in well advisory areas resulting from volatile organic or inorganic chemicals leaching from legal and illegal waste disposal and underground storage tanks.
- Parts of the county where nitrates have been found at levels considered too high for certain sectors of the population due to land use practices and sensitive geologic conditions.

The Minnesota Department of Health declares a Special Well Construction Area (SWCA), sometimes called a well advisory, for areas where contaminants are found at a level that poses public health risks. The purpose of a SWCA is to inform the public of potential health risks in areas of groundwater contamination, provide for the construction of safe water supplies, and prevent the spread of contamination due to the improper drilling of wells or borings. The SWCA designation provides for controls on the drilling or alteration of public and private water supply wells, and monitoring of wells in an area where groundwater contamination has, or may, result in risks to the public health.

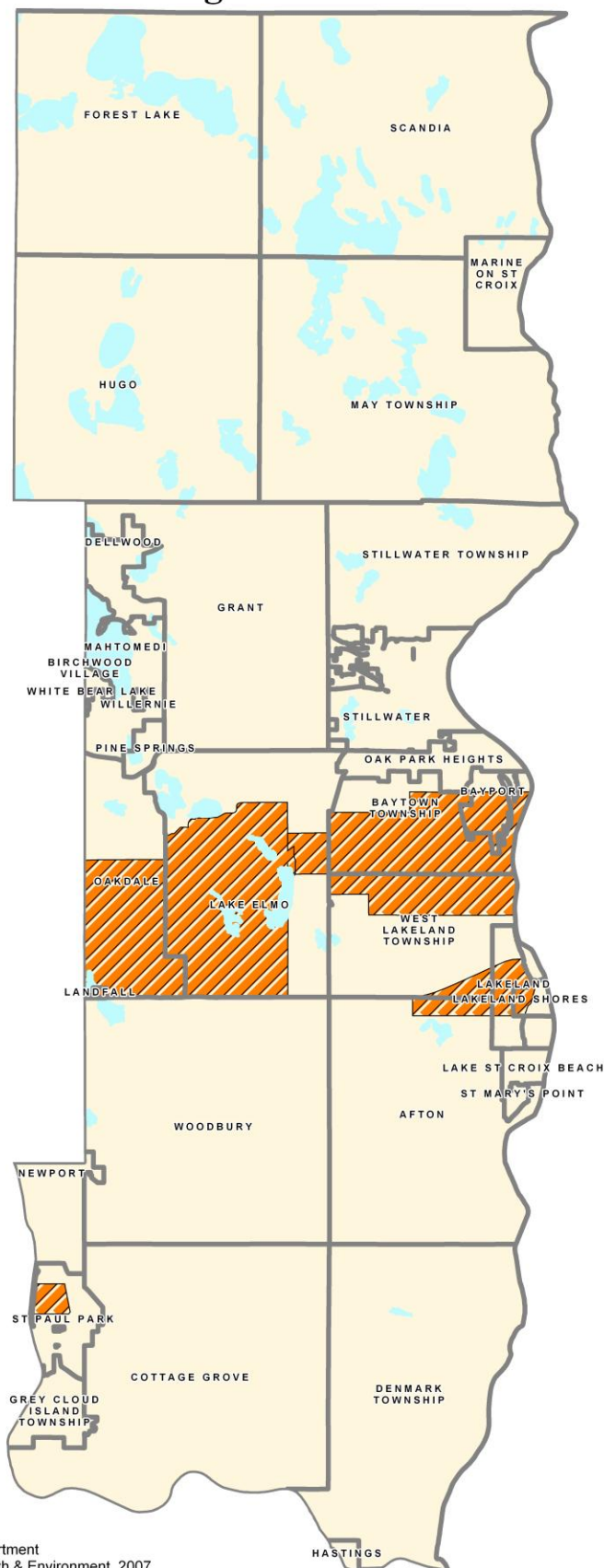
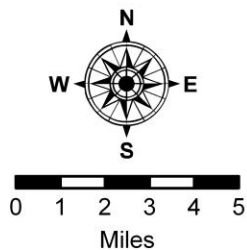
Washington County has four Special Well Construction Areas, including the Baytown/West Lakeland SWCA, Lake Elmo/Oakdale SWCA, Lakeland/Lakeland Shores SWCA, and St. Paul Park/Newport SWCA. These are shown on Figure 6-17.



Figure 6-17

Special Well Construction Area

 Special Well Construction Areas



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County Department of Public Health & Environment, 2007

Perfluorochemical (PFC) containing wastes were disposed of by the 3M Company at the 3M-Oakdale disposal sites in Oakdale, Woodbury, and Cottage Grove, and the former Washington County Landfill in Lake Elmo. PFC's were released from the sites, resulting in contamination of groundwater and nearby drinking water wells.

The Baytown Township groundwater contamination site was first discovered in 1987. The site is the result of the disposal or spillage of a large quantity of trichloroethylene. The site consists of an area of groundwater contamination that is in excess of six square miles and affects four major groundwater aquifers. Several hundred private water supply wells and one of three existing municipal water supply wells in the city of Bayport have been impacted by the contamination.

Water Management

Washington County Groundwater Plan

Minnesota Statute 103B provides counties with the authority and requirements for completing groundwater plans. Washington County adopted its first ten-year groundwater plan in 2003. The overall goal of the Washington County Groundwater Plan is to protect the economic and environmental values of groundwater. Protecting and conserving groundwater resources is important for maintaining high quality drinking water, healthy streams, clear lakes, fish habitat, rare plants, and economic vitality.

The Washington County Groundwater Plan provides a county-wide framework for protecting and conserving groundwater resources. Washington County provides overall leadership, coordination, and monitoring for implementation of the plan. Implementation of the plan falls to every community, watershed organization, and agency with a vested interest in protecting Washington County's groundwater resources. The Groundwater Plan establishes goals, policies, and strategies to be incorporated into future revisions of the water management organizations' water management plans and the communities' local water management plans.



The Groundwater Plan focuses on efforts to reduce or eliminate the future degradation of groundwater quality through initiatives involving community and regional planning, zoning, policies, regulations, research, education, and consultation. Communities can address water quality by amending zoning ordinances, taking into consideration the effect of land use on groundwater quality. Water resource management agencies can develop rules and provide assistance to communities and citizens using education and technical information. Collaboration between citizens, businesses, communities, local government, and state agencies is the key to protecting groundwater quality into the future. The plan acknowledges the important link between protection of both groundwater and surface water resources.

Watershed Management Organizations

In the Twin Cities Metropolitan Area, the watershed management organizations (WMOs) are responsible for surface water management planning, implementation, and enforcement. Washington County has defined its role in surface water management as one of providing leadership and oversight, including appointing watershed district board members, providing fiscal oversight and accountability, facilitating cross-jurisdictional coordination on common issues, managing special projects, and staffing the Washington County Water Consortium.

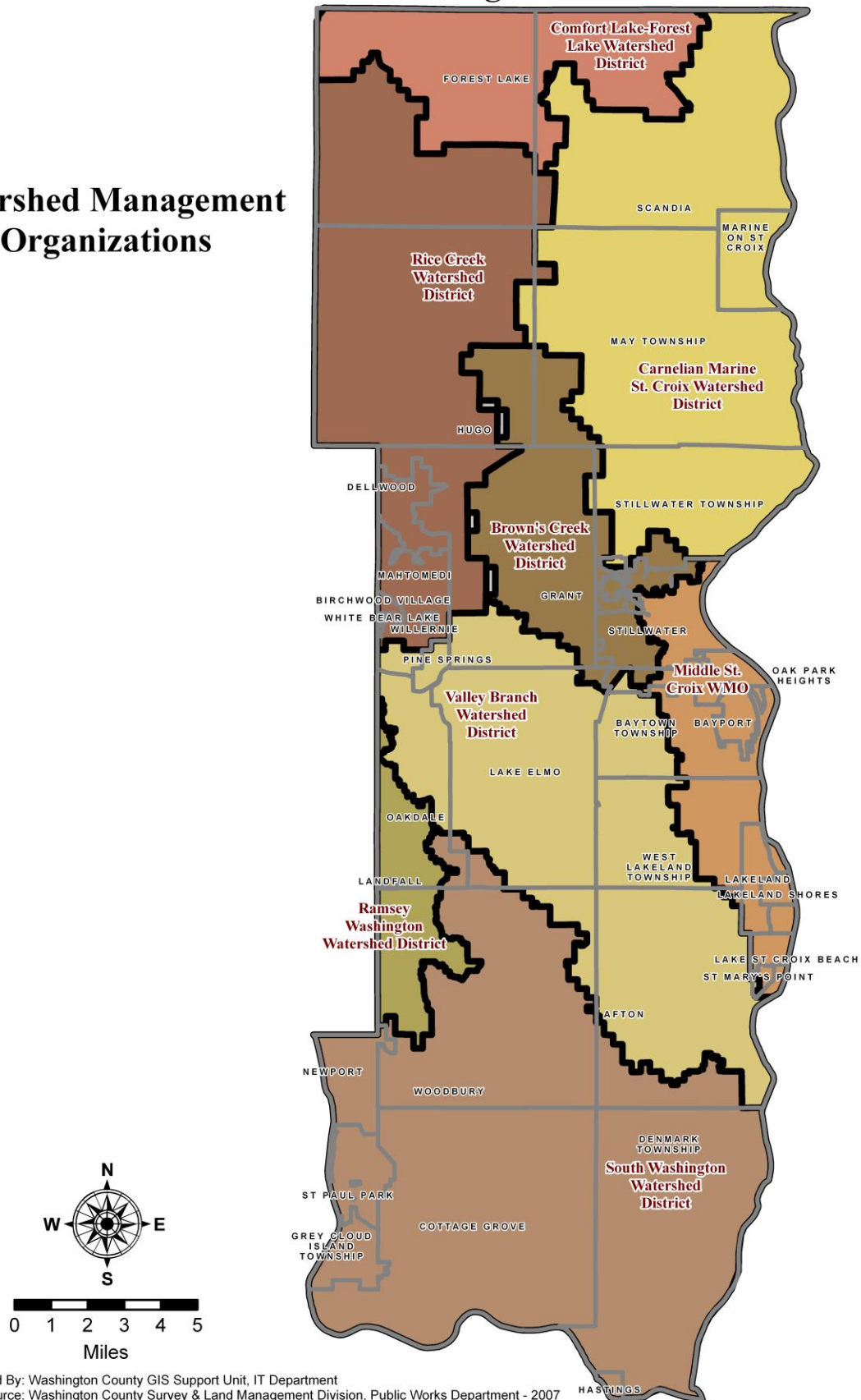
Eight watershed management organizations (WMOs) serve parts of the county. See Figure 6-18 for a map and Appendix 6-C for a short description of each. The WMOs provide long-term protection for surface and groundwater resources.

The broad statutory goals and objectives of these organizations are to:

- Preserve and improve the quality of water and natural resources.
- Protect and conserve the quantity of water resources.
- Educate residents about the value of water resources and their potential impacts on its functions and values.

Figure 6-18

Watershed Management Organizations



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Washington County Survey & Land Management Division, Public Works Department - 2007



- Use sound scientific water management approaches, technologies, and methods to develop a uniform, integrated approach to water management within a rapidly changing and urbanizing area.
- Maximize groundwater recharge as a means of maintaining drinking water supplies, preserving base flows in groundwater-dependent natural resources, and limiting discharges of stormwater to downstream receiving waters.
- Maintain, enhance, and restore, where possible, the functions and values of existing areas and wetlands.
- Provide water level and floodplain management.
- Assure that the integrity of the watershed is preserved for future generations.

Each WMO sets priorities and employs strategies based on the nature of the water resources in the watershed. The following strategies are common among most WMOs:

- Adopt watershed rules and implement permitting programs.
- Implement lake and stream management plans.
- Implement land conservation techniques.
- Conduct baseline monitoring.
- Provide public education opportunities to address water quality issues and participate in the East Metro Water Resource Education Program.
- Further the goals of the Washington County Groundwater Plan.
- Complete capital improvements projects.
- Provide incentives, such as cost-share programs, for residents to implement best management practices.

Washington Conservation District

The Washington Conservation District (WCD) is a special purpose local unit of government dedicated to managing soil and water resources in Washington County under the direction of a five-member elected board. The mission of the organization is to enhance, protect, and preserve the natural resources of Washington County through conservation projects, technical

guidance, and educational services to citizens and local governments.

The state's soil and water conservation policy (MN State Statute 103C.005) encourages land occupiers to conserve soil, water, and natural resources through partnerships with the state and others, including such things as controlling erosion and reducing damage caused by floods.

The WCD implements the following programs through funding from the state and partnerships with Washington County, watershed management organizations, and other agencies:

- Water monitoring and other resource assessments, including implementing a County Baseline Monitoring Program and supporting multiple total maximum daily load (TMDL) projects.
- Wetland Conservation Act (WCA) technical assistance.
- Education and outreach, including providing staff support for the East Metro Water Resource Education Program.
- Best management practice technical assistance, including administering the State Cost-Share Grant Program and working with watershed organizations to plan, design, and install water quality erosion control and habitat improvement projects in urban and rural portions of the county.

Washington County Water Governance Study

In 1998, Washington County undertook a study to evaluate the structure of water governance in the county and how it could be improved. The study was a response to a series of challenges facing the small joint powers agreement watershed management organizations, and aimed to consolidate resources into fewer water management organizations. The overall goal for the study was to create a more efficient and effective water management structure that would provide long-term protection for surface and ground water resources.

The study made three primary recommendations:



1. That the current eleven watershed districts and water management organizations be consolidated into six watershed districts and that all watershed districts perform a minimum set of water management functions to ensure that planning is comprehensive, and that necessary actions are taken to prevent future as well as solve current water-management problems.
2. That the county continues appointing the managers of the water units using a standardized appointment process and giving cities and towns a stronger role in the process.
3. That the county provides leadership and coordination by convening and staffing a countywide water consortium; by increasing communication between the county board and the water units; and by setting clear expectations for performance of all water management organizations.

The county set the following criteria to use in determining whether WMOs have effective water-management programs:

- If applicable, the organization has a current joint powers agreement that meets the standards established by the Board of Water and Soil Resources.
- The organization has a current management plan that meets the content requirements and schedule established by the Board of Water and Soil Resources.
- The organization is actively implementing the water resources management plan.
- The current water issues in the area are being addressed.
- The organization is actively implementing programs and projects that address both water quantity and quality issues.
- The organization is actively implementing programs to prevent problems from occurring.
- The organization has set performance standards for priority water bodies and has an ongoing monitoring program to assess whether the standards are being met.
- The organization is actively implementing the recommended actions defined for the watershed districts

and water management organizations in the Washington County Groundwater Management Plan.

- The organization has mechanisms in place for citizens to advise the organization on planning, budgeting, and projects that may benefit the area.
- The organization has a clear point of contact for customers. The point of contact is able to answer questions about the organization and is able to assist local governments and citizens in resolving their concerns.
- The organization is using the Washington County Standardized Chart of Accounts for Watershed Management Organizations to track its revenues and expenditures.
- The organization submits, to the county, an annual report that includes a financial statement, work accomplishments, and how the organization is implementing the goals of the Water Governance Project.

The number of watershed organizations in the county has decreased from eleven to eight. The watershed organizations annually present their operating budgets and levy to the County Board of Commissioners for review and comment.

Washington County Water Consortium

The county convened the Washington County Water Consortium to work on surface and ground water issues that cross local governmental boundaries. The consortium is an ad hoc organization of representatives from watershed districts, joint powers agreement water management organizations, cities and townships, the Washington Conservation District, county departments, and state and regional natural resource agencies. It serves as a forum to exchange information and to work on projects that increase the efficiency and effectiveness of water management in the county. The Water Consortium has completed projects such as a standardized chart of accounts, guidelines for standardizing watershed district rules, adjustments to watershed district boundaries, a county-wide ground water monitoring network, groundwater studies, and a countywide water resource education program.



Waste Management

Wastewater Disposal

Subsurface sewage treatment systems (SSTS) or septic systems are widely used throughout Washington County. The county provides inspections and enforcement for all Washington County cities and townships except for the city of Dellwood, city of Lake Elmo, and city of Stillwater. Figure 6-19 shows the location of all the SSTS systems permitted by the county. Figure 6-20 shows the location of community sewer systems permitted by the county. Such systems, when not functioning properly or when inappropriately designed or sited, do not adequately treat human waste. This may allow nutrients and pathogens to migrate into the groundwater. Some nitrate contamination occurs as a result of septic system use, even with most new systems. Coliform bacteria contamination, which is much more serious and rare, could result from improperly constructed or inoperable septic systems.

The county has adopted a SSTS Ordinance that regulates the location, design, installation, use, and maintenance of both individual and community septic systems.

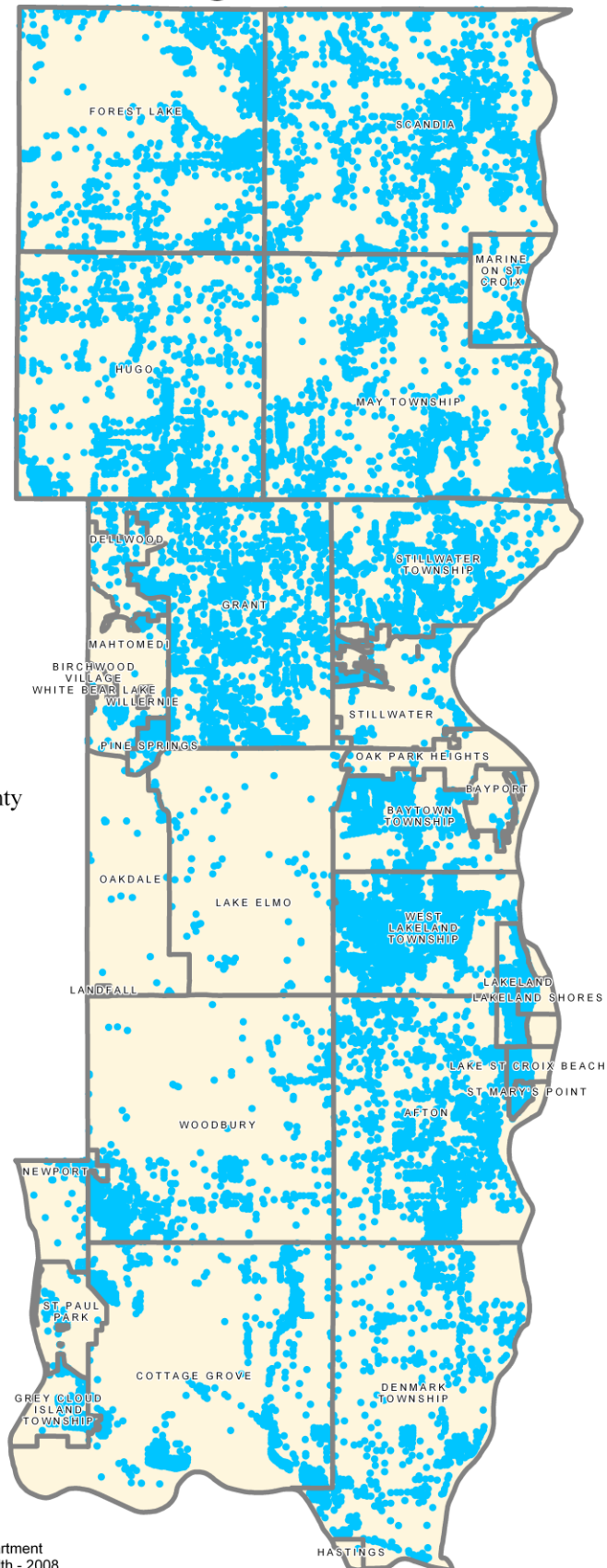
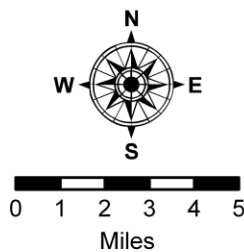
The ordinance contains the following requirements:

- At least every three years, the owner of any septic tank shall have the tank pumped. As an alternative, the owner may measure the accumulation of sludge. If it is within 12 inches of the tank top, the tank must be pumped.
- Any existing system which is a cesspool or leaching pit or which shows evidence of sewage discharge to surface water or groundwater, or where the public health or safety is threatened is declared to be a public health nuisance and shall be considered an imminent threat to public health and safety and shall be repaired, upgraded, or replaced within 30 days. Any further discharge of effluent must be stopped immediately (by such methods as reducing or stopping all water use or pumping the tank as necessary) until such time as the system is corrected.

Figure 6-19

Subsurface Sewage Treatment Systems

- Sewage Treatment Systems
Permitted by Washington County



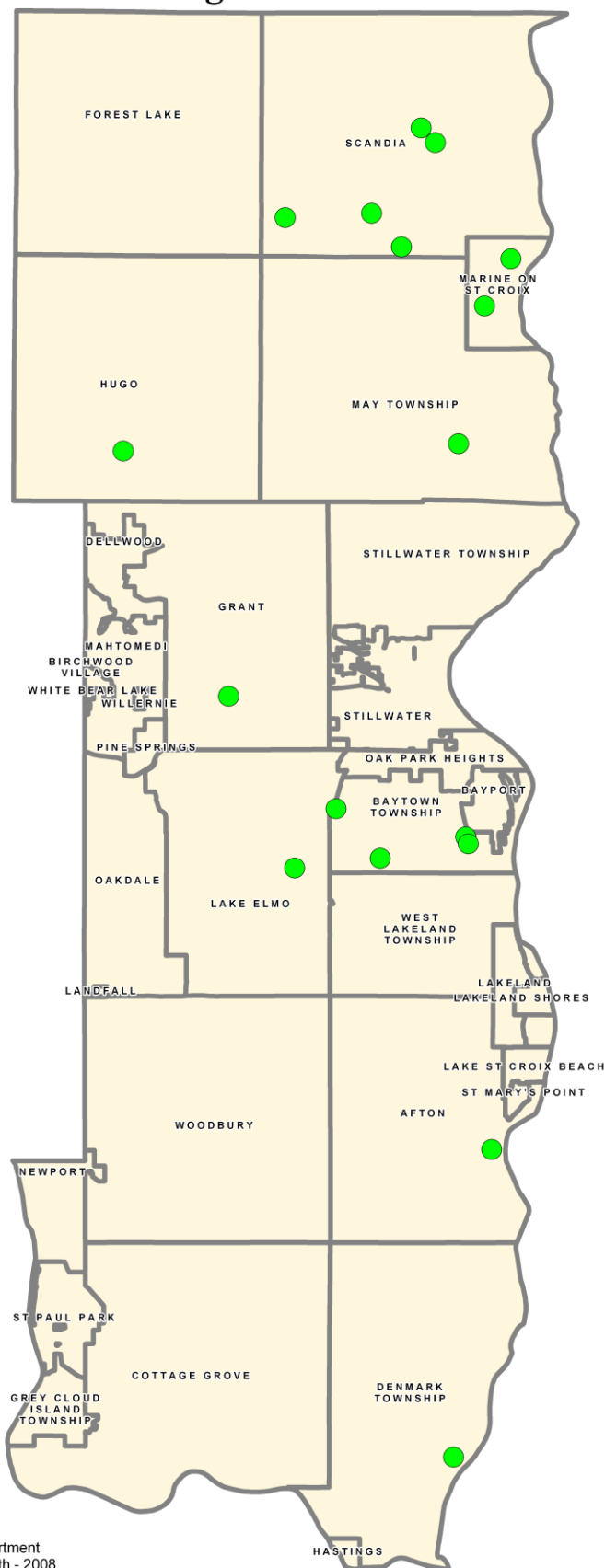
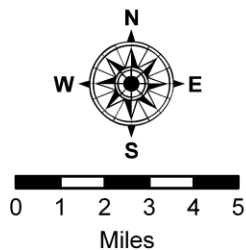
Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County Department of Public Health - 2008



Figure 6-20

Community Sewer Systems

● Community Sewer Systems



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County Department of Public Health - 2008

- Any septic system which is not located, constructed, installed, or maintained in accordance with the SSTS Ordinance shall be replaced or brought into compliance within 90 days.
- Additives containing hazardous materials cannot be used in these systems.
- Septage shall be disposed of into a municipal sewage treatment system.

Washington County administers the SSTS program according to its SSTS Ordinance #179, including tracking of septic maintenance (pumping), soil reviews, inspections, and responding to complaints. The county uses a geodatabase to track all systems where county permits were issued. All of the septic records from 1972 to present are geocoded to a parcel record and linked to an Adobe pdf file of the permit and as-built records. The system includes system design information, soil boring records, installer's name, installation date, and the name of person issuing the permit and conducting the inspection for the county. This information is available to homeowners, compliance inspectors, real estate agents, and county staff for purposes of determining compliance with the county's SSTS Ordinance. Currently, 11,252 systems have been geocoded and matched to a historical permit record.

Areas with bedrock near the surface, steep slopes, wet or periodically flooded areas, or soils with slow percolation rate have severe limitations for the installation of subsurface sewage treatment systems. These soils are present throughout the county. Bedrock within three feet of the surface can be encountered along the St. Croix River and in other scattered areas of the county. Soil treatment systems which are placed too close to fractured bedrock do not adequately treat sewage effluent. In these areas, sewage may move through the rock and enter wells without receiving sufficient filtration to remove the chemical and bacteriological contamination.

Wet soils are in abundance throughout the northern half of the county. These soils are periodically flooded or have a high water table. Ponding after heavy rains may persist for several weeks or longer in the spring. These soils generally have a high



seasonal water table. SSTs can be problematic in these areas because the sewage effluent is unable to move into the saturated soil. The sewage will either back-up into the residence or seep to the surface of the ground.

Steep slopes are common in the county especially in the St. Croix River Valley. Slope is a soil property that affects the difficulty in layout and construction as well as the risk of erosion, lateral seepage, and the down slope flow of effluent. Washington County prohibits mounds and at-grade systems on land with slopes exceeding 12 percent. Drain fields on steep slopes need additional soil descriptions to ensure side seepage does not occur.

Soils with slow percolation rates are prevalent in the northern half of the county. Slow percolation rates indicate soils that are too tight to accept sewage. Systems placed in these soils require careful attention to sizing the system adequately so the system does not exceed the soils minimum loading rate.

Solid Waste

A sustainable community seeks a better quality of life for current and future residents by maintaining nature's ability to function over time. It minimizes waste, prevents pollution, promotes efficiency, and develops resources to revitalize local economies. Washington County's waste management system is a component of the infrastructure of a sustainable community. Therefore, solid waste will be managed by technologies and methods that support sustainable communities and environments. The amount of residential and business waste generated in the county is increasing with population and business growth. This increased amount of waste is being managed by traditional disposal methods of landfilling and waste-to-energy. The county recycling rate of 46 percent is stagnant and is in risk of declining if waste generation and management trends are not addressed. The Washington County 2005-2024 Waste Management Master Plan has established a goal of achieving a solid waste recycling rate of 50 percent.

Washington County is a member of the Metropolitan Regional Solid Waste Management Coordinating Board, a regional joint powers solid waste planning board and the county's main forum for addressing regional solid waste management policy and planning issues. Washington County has no landfills for disposal of residential and commercial solid waste. Since 1987, the county has enacted policies that support managing waste in an integrated system that includes waste reduction, reuse, recycling, and resource recovery through processing at the Newport Resource Recovery Facility. Since 1987, more than 1.35 million tons of waste has been processed into Refuse Derived Fuel that is burned to generate electricity. However, the county's efforts have not resulted in sustained increases in recycling rates, reductions in waste generation volumes, or the voluntary management of county waste by environmentally preferred methods.

Washington County imposes a county environmental charge which supports county efforts to promote recycling, reduce waste, and protect soil and water against waste contamination. The county also operates a Household Hazardous Waste Facility for residents to dispose of hazardous waste in an environmentally responsible way.



Natural Resources and Environmental Protection Plan

Goals and Policies

Goal 6-1

Utilize land in a manner that minimizes the impact on the county's natural resources.

Policies:

- 6-1: Maintain corridors of connected open space, and promote protection and management of rare plant and animal communities to conserve biological diversity and avoid fragmentation of important natural areas.
- 6-2: Use the Land and Water Legacy Program to create an interconnected network of natural areas for the purpose of: improving water quality of rivers, lakes, and streams; protecting drinking water sources; providing parkland; preserving wetlands and woodlands; and protecting land along water bodies from development.
- 6-3: Consider natural resource conservation in all land planning decisions.
- 6-4: Protect shoreland areas in order to maintain natural habitat and water quality.
- 6-5: Protect and regulate aggregate resources to preserve the material for extraction and to minimize impacts to the environment and adjacent land uses.

Goal 6-2

Protect groundwater and surface water resources through coordination and collaboration with state and local water resource organizations.

Policies:

- 6-6: Facilitate the sharing of groundwater and surface water information and resources through interdisciplinary and intergovernmental work.

- 6-7: Encourage local governments to consider groundwater and surface water protection when adopting land use plans and zoning ordinances and making land use decisions.
- 6-8: Collaborate with state agencies and local communities to promote and support the efficient use of groundwater resources to ensure that drinking water supplies are adequate for projected growth in the county.
- 6-9: Promote development of community sewer and water systems in areas with known groundwater contamination.
- 6-10: Protect baseflow and thermal impacts to groundwater-dependent natural resources and minimize water resource impacts associated with imperviousness.
- 6-11: Support a coordinated, multifaceted approach to managing subsurface sewage treatment systems (SSTS); including research, education, and regulation in accordance with state rules.
- 6-12: Implement and enforce a Storm Water Pollution Prevention Program (SWPPP) to reduce pollution created by stormwater runoff in order to protect water quality in the county.
- 6-13: Encourage activities to reduce nutrient loading to lakes, streams, and the St. Croix and Mississippi river basins.
- 6-14: Collaborate with state and local agencies on developing Total Maximum Daily Load (TMDL) studies and implementation plans for impaired waters in the county.
- 6-15: Achieve no-net-loss of the quantity and quality of wetlands in accordance with the Minnesota Wetland Conservation Act.
- 6-16: Protect shoreland areas in order to maintain natural habitat and water quality.
- 6-17: Protect land, structures, and natural communities from flooding that exceeds natural water level fluctuations.



Goal 6-3

Preserve, manage, and utilize resources to promote a healthy environment for present and future generations.

Policies:

- 6-18: Build upon existing sustainable building policy to include sustainability principles and encourage the incorporation of sustainability principles and practices into county plans and programs.
- 6-19: Encourage local governments to incorporate sustainable principles into local plans, ordinances, contracts, purchasing, construction projects, and review processes.
- 6-20: Offer opportunities for community participation in applying sustainability principles countywide.
- 6-21: Lead by example in county operations to conserve energy, use renewable energy sources in an effective manner, and take steps to reduce greenhouse gas emissions.
- 6-22: Manage waste in an integrated waste management system in accordance with the state hierarchy of waste reduction, reuse, recycling, and resource recovery through composting or incineration, in order to minimize land filling.
- 6-23: Lead by example in county operations and develop and implement innovative waste management solutions and encourage public entities to do the same.

Goal 6-1

Implementation

Strategies

Utilize land in a manner that minimizes the impact on the county's natural resources.

Policy 6-1: Maintain corridors of connected open space, and promote protection and management of rare plant and animal communities to conserve biological diversity and avoid fragmentation of important natural areas.

Implementation Strategies

- Encourage developers to use the Washington County Open Space Development subdivision standards to maintain larger contiguous tracts of natural areas.
- Work on a voluntary basis with private landowners to seek creative ways to preserve areas identified on the Department of Natural Resources Natural Communities and Rare Species Map and other areas of importance while respecting the rights and wishes of the landowners.
- Encourage the Department of Natural Resources and other agencies to identify natural areas of importance that may not have met the Department of Natural Resources survey criteria, but are nevertheless worthy of protection for their value as wildlife habitat, for water quality protection, and to native plant preservation.
- When a natural community is located on a parcel of land being developed, appropriate best management practices will be employed to avoid and mitigate the impacts to the natural community. In some cases, this may involve requiring housing to be clustered away from the site so that a larger contiguous tract of land may be maintained.



Policy 6-2: Use the Land and Water Legacy Program (LWLP) to create an interconnected network of natural areas for the purpose of improving water quality of rivers, lakes, and streams; protecting drinking water sources; providing parkland; preserving wetlands and woodlands; and protecting land along water bodies from development.

Implementation Strategies

- Identify and map high priority areas that are critical to creating an interconnected network of natural areas.
 - Facilitate a countywide multi-agency collaborative effort to develop and implement a green infrastructure plan to protect, manage, and restore critical natural areas.
 - Identify lands adjacent to county parks to be protected from development in order to maintain park view sheds, to improve the quality of the park user experience, and to protect the natural features in the park.
 - Identify stream corridors in undeveloped areas, particularly along tributaries to water bodies, which the Pollution Control Agency has designated as impaired; protect them from development in order to improve water quality.
- Promote and acquire permanent conservation easements on high priority private lands that restrict future development and other non-compatible activities to achieve the public purposes noted above.
 - Target landowner outreach and land protection activities in areas identified as high priority.
 - Use criteria and a competitive process to focus county resources on projects that best meet the purposes of the LWLP.
- Use the LWLP bond funds to acquire lands within the mapped boundaries of county parks that meet the criteria established for the LWLP. When the landowner is not willing to sell fee title, consider purchasing a partial interest in the property through the purchase of a conservation easement.
- Steward and defend the county-held conservation easements.

- Establish a system to monitor county-held conservation easements, including an annual meeting with the landowner, site inspection, periodic updates to the baseline data in the property report, education of new landowners on the conservation easement terms, and enforcing violations.
- Require landowners who participate in the LWLP to commit to long-term stewardship on lands that are protected via a conservation easement.
- Identify key partners and seek collaborative opportunities to protect lands in high priority areas.
 - Involve technical experts and citizens in evaluating projects proposed for protection.
 - Provide matching funds to units of government and agencies for projects that are consistent with the public purposes and meet the criteria of the LWLP.
 - Work with watershed management organizations and others to identify and protect lands that are critical to maintaining or enhancing natural systems functions.
 - Collaborate with local units of government, agencies, and landowners to protect, enhance, and connect parks, open space, and natural systems in a larger, ecologically sound framework.
- Leverage the available funding.
 - Seek funding from federal, state, and local governments, private foundations, and others to match the county’s contribution to land protection projects.
 - Work with others to increase federal, state, and regional funding for land protection and stewardship programs and activities.



Policy 6-3: Consider natural resource conservation in all land planning decisions.

Implementation Strategies

- Consider natural communities and attempt to avoid developing sensitive areas when approving new subdivisions.
- Employ appropriate best management practices to minimize damaging native plant communities and other important natural areas when developing land.
- Encourage landowners and land developers to employ soil conservation and erosion-control practices.
- Encourage basing planning, zoning, and land use decisions on sound scientific data and understanding.
- Adopt zoning and other land use controls that minimize nonpoint sources of pollution and require treatment of stormwater runoff to remove pollutants before entering surface waters.
- Incorporate the National Urban Runoff Program (NURP) standards for the design of new stormwater ponds into stormwater management and land use controls.
- Apply the Minnesota stormwater manual best management practices to the review of proposed developments in order to reduce non-point source pollutant loadings in stormwater runoff.
- Work with watershed management organizations, the Washington Conservation District, and local communities in implementing erosion-control requirements.
- Encourage innovative methods of stormwater retention and infiltration.

Policy 6-4: Protect shoreland areas in order to maintain natural habitat and water quality.

Implementation Strategies

- Continue regulating land use within the designated shoreland areas of lakes and rivers in the unincorporated areas in accordance with the Washington County Shoreland Management Ordinance and the Minnesota Shoreland Regulations.

- Manage the Mississippi River Critical Area corridor in Washington County in accordance with the Critical Areas Act and the Governor’s Executive Order No. 79-19.
- Manage and regulate land uses in the Lower St. Croix Wild and Scenic River corridor in order to protect their scenic, natural, historic, cultural, and recreational aspects in accordance with the Lower St Croix Cooperative Management Plan.

Policy 6-5: Protect and regulate aggregate resources to preserve the material for extraction to minimize impacts to the environment and adjacent land uses.

Implementation Strategies

- Identify mineral deposits having significant economic potential and discourage development of land uses that would preclude access to the resource in these areas.
- Maintain a permitting process which is efficient, minimizes land use conflicts, and ensures protection of the environment in accordance with the Washington County mining regulations.
- Review the existing mining regulations related to criteria for materials acceptable in the reclamation of aggregate mines.
- Require reclamation plans that include future land development concept plans as part of the mining permit requirements.

Goal 6-2

Protect groundwater and surface water resources through coordination and collaboration with state and local water resource organizations.

Policy 6-6: Facilitate the sharing of groundwater and surface water information and resources through interdisciplinary and intergovernmental work.

Implementation Strategies

- Initiate shared projects and conduct joint studies and research initiatives related to water management as funding opportunities arise.
- Provide leadership for the Water Consortium to improve the efficiency and effectiveness of water management within the county and to achieve the goals of the Washington County Water Governance Study. Revisit and



update the study as needed to ensure effective water management in the county.

- Develop collaborative strategies and actions to implement the Washington County Groundwater Plan and annual work plan.
- Support inter-governmental coordination and cooperation in implementing existing and developing new groundwater, surface water, and wetland rules, policies, and programs.
- Implement sound watershed management practices in cooperation and conjunction with state and local government entities engaged in water management programs.

Policy 6-7: Encourage local governments to consider groundwater and surface water protection when adopting land use plans and zoning ordinances, and making land use decisions.

Implementation Strategies

- Encourage communities to regulate the siting and permitting of new land development to protect groundwater quality and quantity from degradation and depletion.
- Share technical information with communities so that they may develop effective ground water policies and plans.
- Encourage use of sound scientific data and understanding in planning, zoning, and land use decisions.
- Encourage communities to develop groundwater protection policies related to the siting and permitting of new commercial and industrial development.
- Encourage communities to establish and enforce standards that prevent ground and surface water contamination.
- Establish and enforce more stringent standards to protect areas of significant groundwater recharge.

Policy 6-8: Collaborate with state agencies and local communities to promote and support the efficient use of groundwater resources to ensure that drinking water supplies are adequate for projected growth in the county.

Implementation Strategies

- Promote local planning and land use patterns that protect groundwater quality and quantity.
- Promote research and water supply planning to provide for sustainable water supplies and, to the extent possible, minimize the loss of flow to surface water features and groundwater dependent natural resources.
- Encourage local units of government to develop and implement water conservation plans.

Policy 6-9: Promote development of community sewer and water systems in areas with known groundwater contamination.

Implementation Strategies

- Encourage communities to provide a safe supply of clean drinking water.
- Coordinate with communities affected by groundwater contamination to explore the possibility of joint water supplies through a water district, rural water supply, or other mechanism.

Policy 6-10: Protect baseflow and thermal impacts to groundwater-dependent natural resources and minimize water resource impacts associated with imperviousness.

- Work with watershed management organizations and conservation district to identify groundwater recharge areas that contribute to springs and baseflow to trout streams.
- Collaborate with local units of government to protect priority groundwater recharge areas.
- Integrate groundwater recharge area protection into watershed and other conservation plans.
- Encourage the adopting of methods for minimizing the effects of temperature, especially in vulnerable environments such as trout streams and fens.



Policy 6-11: Support a coordinated, multifaceted approach to managing subsurface sewage treatment systems (SSTS), including research, education, and regulation in accordance with state rules.

Implementation Strategies

- Regulate the location, design, installation, use, and maintenance of SSTS, community and on-site, so as to prevent contamination of surface and groundwater in accordance with the Washington County SSTS Ordinance #179.
- Continue to enforce the provisions related to the pumping of systems every three years, the repair or replacement of failing systems within 90 days, and the replacement of systems that pose an imminent public health or safety threat within 30 days.
- Amend and adopt a SSTS ordinance that is consistent with changes in state rules.
- Promote the reuse of treated wastewater at metropolitan treatment plants for beneficial purposes.
- Locate all new systems where soil capabilities are adequate to provide for proper treatment system installation.
- Consider community sanitary sewer systems for small groups of houses in an open space development.

Policy 6-12: Implement and enforce a Storm Water Pollution Prevention Program (SWPPP) to reduce pollution created by stormwater runoff in order to protect water quality in the county.

Implementation Strategies

- Partner with local cities and watershed organizations to develop and implement an education plan through the East Metro Water Resource Education Program to increase public awareness and understanding of stormwater issues and the impacts of stormwater runoff on water quality.
- Provide training opportunities for county staff in erosion control, best management practices, good housekeeping, and pollution prevention at construction sites.
- Inspect construction sites to ensure that county projects are addressing erosion control.

- Pursue opportunities to retrofit existing county facilities to incorporate stormwater management practices in order to reduce pollutant loadings and protect water quality.
- Continue to review alternatives to using and storing salt for de-icing operations that are protective of public safety and the environment.
- Coordinate with other Municipal Separate Storm Sewer (MS4s) to improve implementation efficiency and effectiveness.

Policy 6-13: Encourage activities to reduce nutrient loading to lakes, streams, and the St. Croix and Mississippi river basins.

Implementation Strategies

- Promote the use of volume control practices for annual pollutant load reduction.
- Collaborate with local units of government to integrate load reduction strategies into local plans and ordinances.
- Coordinate with Washington Conservation District and watershed management organizations to identify and prioritize sources of nutrient loads and to develop preferred strategies to reduce nutrient loading.
- Support education programs designed to promote individual actions to reduce nutrient loading.
- Demonstrate nutrient load reduction practices on all county properties (i.e., volume control best management practices, reduced fertilizer use, minimized turf areas, use of native vegetation, etc).

Policy 6-14: Collaborate with state and local agencies on developing total maximum daily load (TMDL) studies and implementation plans for impaired waters in the county.

Implementation Strategies

- Support baseline monitoring to assess condition of water bodies in the county.
- Encourage interagency coordination to maximize effectiveness and efficiency when implementing TMDL plans.
- Promote public and stakeholder involvement.
- Incorporate TMDL requirements into county planning and construction projects.



- Promote implementation of the Lake Pepin and Lake St. Croix TMDL studies and plans.

Policy 6-15: Achieve no-net-loss of the quantity and quality of wetlands in accordance with the Minnesota Wetland Conservation Act.

Implementation Strategies

- Avoid wetland impacts, where feasible, in accordance with the Minnesota Wetland Conservation Act and watershed management organization rules.
- Where avoidance is not possible, mitigate wetland impacts in accordance with the Minnesota Wetland Conservation Act and watershed management organization rules, replacing the key functions as determined by local values.
- Restore degraded wetlands to a higher functional level where feasible.
- Work with the Washington County Conservation District on implementing the Wetland Conservation Act and Best Management Practices for shoreland and wetland areas during the development process.

Policy 6-16: Protect shoreland areas in order to maintain natural habitat and water quality.

Implementation Strategies

- Amend the Shoreland Ordinance in accordance with the state shoreland rules.

Policy 6-17: Protect the land, structures, and natural communities from flooding that exceeds natural water level fluctuations.

Implementation Strategies

- Regulate flood- hazard areas subject to periodic inundation causing hazard to life and property, disruption of commerce and governmental services, unsanitary conditions, and interruption of transportation and communication.
- Prevent new building and limit expanding existing structures located in floodplains.
- Amend Floodplain Management Regulations as required by the Federal Emergency Management Agency (FEMA) and Mn Rules 6120.5500.
- Participate in the Flood Insurance Program.

- Collaborate with local watershed organizations, local governments, the Minnesota Department of Natural Resources, and the Federal Emergency Management Agency to update and adopt the flood insurance rate maps. These maps are used by insurance and mortgage companies to determine the need for flood insurance on properties within the county.

Goal 6-3

Preserve, manage, and utilize resources to promote a healthy environment for present and future generations.

Policy 6-18: Build upon existing sustainable building policy to include sustainability principles and encourage the incorporation of sustainability principles and practices into county plans and programs.

Implementation Strategies

- Consider adopting a sustainability policy.
- Convene representatives from each county department to develop a sustainability implementation plan that incorporates sustainability principles into county plans and programs.

Policy 6-19: Encourage local governments to incorporate sustainable principles into local plans, ordinances, contracts, purchasing, construction projects, and review processes.

Implementation Strategies

- Use coordination, cooperation, and collaboration strategies, as appropriate, with other governmental entities and the private sector to implement a comprehensive waste management system.
- Building upon existing relationships, establish a network among county public entities to share information, resources, and look for areas to collaborate to work towards a more sustainable community.



Policy 6-20: Offer opportunities for community participation in applying sustainability principles countywide.

Implementation Strategies

- Provide information and training opportunities about environmentally friendly waste management practices.
- Provide communities with appropriate information on environmental programs.

Policy 6-21: Lead by example in county operations to conserve energy, use renewable energy sources in an effective manner, and take steps to reduce greenhouse gas emissions.

Implementation Strategies

- Incorporate energy conservation into existing and new building plans.
- Participate in the Metropolitan Energy Policy Coalition and work with other metropolitan counties and the Metropolitan Council to identify energy conservation methods and ways to address climate change.
- Explore adoption of an energy and climate change policy.
- Evaluate national initiatives and programs such as Cool Counties Climate Stabilization Initiative, International Council for Local Environmental Initiatives (ICLEI) Climate Protection Program, and the Climate Registry to determine technical assistance and informational resources available and identify appropriate tool(s) to track greenhouse gas emissions.
- Track greenhouse gas emissions from county operations.
- Establish a taskforce to develop and implement an action plan to reduce greenhouse gas emissions in county operations, and participate in a countywide plan that includes public entities.
- Identify ways to collaborate with public entities, community organizations, and businesses within the county, and with other counties to achieve energy and greenhouse gas emission goals.

Policy 6-22: Manage waste in an integrated waste management system in accordance with the state hierarchy of waste reduction, reuse, recycling, and resource recovery through composting or incineration, in order to minimize land filling.

Implementation Strategies

- Using coordination, cooperation, and collaboration to educate about sound environmental practices related to waste management activities.
- Manage wastes generated by the county in accordance with the Policy Plan, the Master Plan, and state law, and work with other public entities so that their waste is managed in the same manner.

Policy 6-23: Lead by example in county operations and develop and implement innovative waste management solutions and encourage public entities to do the same.

Implementation Strategies

- Continuously improve internal operations in the areas of source reduction, toxicity reduction, and recycling activities, and encourage public entities to do the same.
- Develop and facilitate a communication network to inform and initiate waste-management opportunities with public entities.
- Encourage and support innovative projects implemented by cities and townships that will reinvigorate recycling.
- Work with regional partners to develop consistent messages that inform residents and businesses about how to recycle wastes and increase recycling promotions in an effort to reinvigorate recycling.
- Ensure that all municipal solid waste generated by county activities is processed, and require all public entities to process municipal solid waste generated as a result of their activities.
- Incorporate environmentally preferable purchasing principles, including product stewardship and purchasing of less toxic products, into purchasing procedures and contracts; encourage other public entities to do the same.
- Incorporate sustainable building guidelines into building procedures for future building and remodeling projects and encourage other public entities to do the same.



Priority Actions

1. Implement the Groundwater Plan through annual work plans.
2. Review and update Groundwater Management Plan.
3. Review and update the Solid Waste Master Plan.
4. Convene representatives from each county department to develop a sustainable implementation plan that incorporates sustainability principles into county plans and programs.
5. Participate in the Lake St. Croix Total Maximum Daily Load study.
6. Participate in the update of county zoning ordinances (see Land Use chapter).



APPENDIX 6-A

Conservation and Scenic Easements by Community

Washington County Conservation and Scenic Easement Inventory Summary December 2009					
Community	Easement Type			Conservation Easement Subtotals*	
	Scenic	Other Conservation	Total	Conservation Subdivisions**	All Other
	#	#	#	#	#
Afton	41	9	50	0	9
Bayport	0	1	1	1	0
Baytown Township	0	8	8	8	0
Cottage Grove	0	3	3	0	3
Denmark Township	4	8	12	6	2
Forest Lake	0	3	3	1	2
Grant	0	3	3	0	3
Hugo	0	2	2	0	2
Lake Elmo	0	38	38	36	2
Mahtomedi	0	1	1	0	1
Marine on St. Croix	0	9	9	4	5
May Township	116	10	126	2	8
Oakdale	0	2	2	0	2
Scandia	75	10	85	5	5
Stillwater***	1	128	129	0	128
Stillwater Township	56	11	67	2	9
Woodbury	1	4	5	0	4
Total	294	250	544	65	185

* This data separates the conservation easements into the number that are associated with open space developments and all others.

** Conservation subdivisions contain conservation easements that permanently protect large blocks of open space within the subdivision plat.

*** City of Stillwater holds conservation easements that are approximately 10 feet deep and run along the water's edge of 125 lots in the Liberty on the Lake and Legends subdivisions.

Source: Washington County property records database administered by and the recorded documents on file with the Department of Property Records and Taxpayer Services.



APPENDIX 6-B

Conservation and Scenic Easements by Holder

Washington County Conservation and Scenic Easement Inventory Summary December 2009								
Primary Easement Holder*	Easement Type						Conservation Easement Subtotals	
	Scenic		Conservation				Conservation Subdivisions**	All Other
	#	acres	#	acres	#	acres	#	#
Federal Government	244.00	1,546.72			244.00	1,546.72	0.00	0.00
State of Minnesota	12.00	74.61	12.00	347.45	24.00	422.06	1.00	11.00
Washington County	3.00	64.58	10.00	268.41	13.00	332.99	5.00	5.00
Watershed District			10.00	67.09	10.00	67.09	0.00	10.00
Local Community***	34.00	201.47	166.00	831.84	200.00	1,033.31	29.00	137.00
MN Land Trust			48.00	2,923.15	48.00	2,923.15	29.00	21.00
Other	1.00	0.61	2.00	39.93	3.00	40.54	1.00	1.00
Total	294.00	1,887.99	248.00	4,477.87	542.00	6,365.86	65.00	185.00

* Many easements have multiple holders. This data only reports the easements by the primary holder.

** Conservation subdivisions contain conservation easements that permanently protect large blocks of open space within the subdivision plat.

*** City of Stillwater holds conservation easements that are approximately 10 feet deep and run along the water's edge of 125 lots in the Liberty on the Lake and Legends subdivisions.

Source: Washington County property records data base administered by and the recorded documents on file with the Department of Property Records and Taxpayer Services.



APPENDIX 6-C

Pollution Control Agency List of Impaired Waters Washington County, Minnesota

Streams	Pollutant or stressor	Community	TMDL *Study Date
Battle Creek	Chloride	Woodbury	
Browns Creek	Lack of coldwater assemblage	Grant, City of Stillwater, Stillwater Twp	
Browns Creek	Lack of coldwater assemblage	Grant, City of Stillwater, Stillwater Twp	
Browns Creek	Aquatic macroinvertebrate	Grant, City of Stillwater, Stillwater Twp	
Hardwood Creek	Oxygen, Dissolved	Hugo, Forest Lake	
Lakes	Pollutant or stressor	Community	
Battle Creek	Phosphorus (Total)	Woodbury	2012
Bone	Phosphorus (Total)	Scandia	2008
Carver	Phosphorus (Total)	Woodbury	2014
Colby	Phosphorus (Total)	Woodbury	2014
Comfort	Phosphorus (Total)	Chisago County	
East Boot	Phosphorus (Total)	May Twp	2011
Elmo	PFOS in fish	Lake Elmo	2008-2022
Fish	Phosphorus (Total)	Scandia	2011
Fish	Phosphorus (Total)	Dellwood	2013
Forest	PCB in Fish Tissue	Forest Lake	2002-2015
Goose	Phosphorus (Total)	Scandia	2011
Hay	Phosphorus (Total)	Scandia	2011
Jane	Mercury in fish tissue	Lake Elmo	2006-2011
Jellums	Phosphorus (Total)	Scandia	2011
Lily	Phosphorus (Total)	City of Stillwater	2010
Long	Phosphorus (Total)	City of Stillwater	
Long	Phosphorus (Total)	May Twp	
(Reclassified as Shallow Lake and will be delisted from impairment list in 2010)			
Long	Phosphorus (Total)	Scandia	
Loon (Main Lake)	Phosphorus (Total)	Stillwater Twp	2011
Louise	Phosphorus (Total)	Stillwater Twp	2011
Markgrafs	Phosphorus (Total)	Woodbury	2012
McKusick	Phosphorus (Total)	City of Stillwater	2008
Moody	Phosphorus (Total)	Chisago County	
Ravine	Phosphorus (Total)	Cottage Grove	2015
Sand	Phosphorus (Total)	Scandia	2010
(Reclassified as Shallow Lake and will be delisted from impairment list in 2010)			
Shields	Phosphorus (Total)	Forest Lake	2008-2009
Silver	Phosphorus (Total)	Stillwater Twp	
(Reclassified as Shallow Lake and will be delisted from impairment list in 2010)			
South School Section	Phosphorus (Total)	Hugo	2010
South Twin	Phosphorus (Total)	Stillwater Twp	2012
St. Croix	Phosphorus (Total)	City of Stillwater south to Denmark Twp	2009
(Lower 25 miles of the River is known as Lake St. Croix.)			
Sunfish	Phosphorus (Total)	Lake Elmo	2013
Tanners	Mercury in fish tissue	Oakdale	
Unnamed (Goggins)	Phosphorus (Total)	May Twp	2012
Wilmes	Phosphorus (Total)	Woodbury	2012

* Total Maximum Daily Load



APPENDIX 6-D

Watershed Management Organizations Summaries

Brown's Creek Watershed District

The Brown's Creek Watershed District (BCWD) was formed from the Brown's Creek Watershed Management Organization in 1997. It encompasses portions of Grant, Hugo, Lake Elmo, Oak Park Heights, Stillwater, May Township, and Stillwater Township. The main water feature of BCWD is Brown's Creek, which flows from the upland portions of the watershed southeast to the St. Croix River, just north of Stillwater. Surface water from approximately 72 percent of the district regularly flows overland to the St. Croix River. Water from the remaining 28 percent of the watershed flows to landlocked basins and semi-landlocked basins thus producing no regular overland flows to the St. Croix River. About 14 percent of the landlocked areas lie in the northern portion of the watershed; 24 percent are in the central area of the watershed, and 62 percent are located along the western border of the watershed. The BCWD adopted a Third Generation Watershed Management Plan in February 2007.

Comfort Lake - Forest Lake Watershed District

The Comfort Lake - Forest Lake Watershed (CLFLWD) was established in 1999. The CLFLWD encompasses roughly 47 square miles in northern Washington County and southern Chisago County. In Washington County the district encompasses portions of Forest Lake and Scandia. The watershed outlets northwest to the Sunrise River; the Sunrise River flows to the northeast through Chisago County before entering the St. Croix River. The CLFLWD is unique because its southern portion lies within the seven-county metropolitan area and its northern portion lies outside the seven-county metropolitan area. It is the only watershed district in the state which transects both metropolitan and out-state counties. The district's Watershed Management Plan was approved in 2001.

Carnelian - Marine - St. Croix Watershed District

The Carnelian - Marine - St. Croix Watershed District (CMSCWD) (formerly the Carnelian Marine Watershed District) was formed in 1981. In 2008, it expanded to include the German Lake subwatershed, the former Marine on St. Croix Watershed Management Organization, and the northeast corner of Scandia. The district is completing a minor management plan amendment in 2009 to include a Wetland Management Plan and the Silver Creek Corridor Plan. A major plan amendment will be completed to include the expanded territory.



Lower St. Croix Watershed Management Organization

The Lower St. Croix Watershed Management Organization (LSCWMO) was established in 1985. The LSCWMO is organized under a joint powers agreement between Denmark Township and the cities of Afton, Cottage Grove, and Hastings. The WMO adopted its second generation Watershed Management Plan in 2005. The plan is focused around four main priorities including: protection of surface water resources; mitigation of stormwater impacts; groundwater quality and quantity; and protection of key natural resources.

Middle St. Croix Watershed Management Organization

The Middle St. Croix Watershed Management Organization (MSCWMO) is organized under a joint powers agreement between ten St. Croix Valley communities including portions of Afton, Bayport, Lake St. Croix Beach, Lakeland, St. Mary's Point, Lakeland Shores, Oak Park Heights, Stillwater, West Lakeland Township, and Baytown Township. The watershed is unique in that it consists of many parallel subwatershed drainages flowing individually to the St. Croix River, rather than to one distinct stream. The MSCWMO Watershed Management Plan was adopted in 2006 with the philosophy that existing local units of government would be the primary regulator of activities of concern and the MSCWMO would provide coordination and dispute resolution where issues affect more than one unit of government.

Ramsey - Washington Metro Watershed District

The Ramsey - Washington Metro Watershed District (RWMWD) was formed in 1975. It includes portions of the Washington County communities of Landfall, Oakdale, and Woodbury. The district completed a revision and update to its Watershed Management Plan in 2007. The district plan has two major parts: a 20-page Strategic Overview and a detailed Resource Inventory and Assessment document. The district's programs and projects are targeted toward protecting and improving the water quality in the district's eleven lakes and five creeks. The district also has programs and projects directed at improvement of water related native habitats and resources.

Rice Creek Watershed District

The Rice Creek Watershed District (RCWD) was formed in 1972. It includes portions of the Washington County communities of Birchwood Village, Dellwood, Forest Lake, Grant, Hugo, Mahtomedi, May Township, Scandia, and Willernie. Rice Creek and its tributaries serve multiple purposes: to drain an extensive agricultural area; provide a backup water supply for the city of Saint Paul; serve as a recreational resource for



adjoining residences and public parks; provide natural habitat for waterfowl and other wildlife; serve as an open space and greenbelt resource of unique value; and provide an attractive location for residential development. The district's management plan was adopted in 1997 and amended in 2000. The plan includes strategies that reflect the objectives of the law to control runoff, reduce flooding, increase water quality, protect wildlife, and enhance recreational resources.

South Washington Watershed District

The South Washington Watershed District (formerly called the Cottage Grove Ravine Watershed District) was established in 1993, replacing the former Cottage Grove Ravine Watershed Management Organization that was formed in 1984 under a joint powers agreement. The district later enlarged to include the territory in the former East Mississippi River Watershed Management Organization. Today the district boundaries include portions of Newport, St. Paul Park, Grey Cloud Island Township, Lake Elmo, Oakdale, Woodbury, and Cottage Grove. The district completed its first watershed management plan in 1997; the plan was amended in 2002. The first management plan was heavily oriented towards inventorying and assessing the district resources. The plan amendment places great emphasis on implementation. The Watershed Management Plan is structured to afford the district the highest degree of long-term flexibility by incorporating existing and future supporting guidance documents (e.g., Wetland Management Plan) to provide direction for projects and programs.

Valley Branch Watershed District

The Valley Branch Watershed District (VBWD), the county's first watershed district, was established in 1968 in response to a citizens' petition to the State of Minnesota to address water resource issues in the watershed. It includes portions of the Washington County communities of Afton, Baytown Township, Grant, Lake Elmo, Mahtomedi, Oak Park Heights, Oakdale, Pine Springs, St. Mary's Point, West Lakeland Township, and Woodbury. The district adopted its fourth generation watershed management plan in 2005. The VBWD mission is to manage and protect the water resources which include lakes, ponds, creeks, streams, wetlands, drainages, and groundwater.

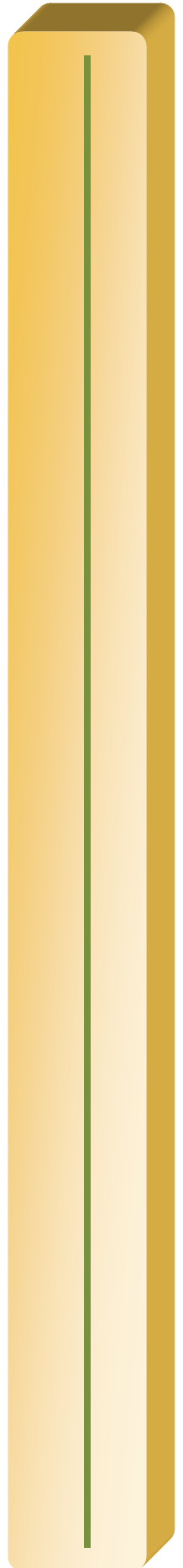


2030 Comprehensive Plan A Policy Guide to 2030

Housing

**Approved by Board of Commissioners
May 26, 2009**

**Planned Adoption by Board of Commissioners
Fall 2010**





Washington County Mission

To provide quality public services in a cost-effective manner through innovation, leadership, and the cooperation of dedicated people.

Washington County Values

Fiscal Responsibility - to provide good stewardship of public funds

Ethics and Integrity - to maintain the public trust

Openness of the Process - to promote citizen participation

Our Heritage and Natural Resources - to conserve and preserve them

The Individual - to promote dignity and respect

Washington County Goals

- To promote the health, safety, and quality of life of citizens
- To provide accessible, high-quality services in a timely and respectful manner
- To address today's needs while proactively planning for the future
- To maintain public trust through responsible use of public resources, accountability, and openness of government

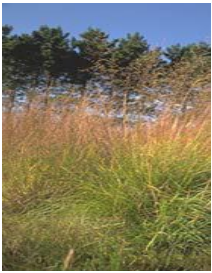


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Executive Summary

A Comprehensive Housing Needs Assessment for Washington County, prepared in September 2007, found that 58,200 new housing units will be needed between 2007 and 2030, including 49,300 ownership units and 8,900 rental and senior units. The assessment also predicted a need for about 2,600 rental units for low- and moderate-income households. Assistance from Washington County and the Washington County Housing and Redevelopment Authority (HRA) will be needed to meet the demand for affordable housing as well as special needs and senior housing.

Washington County is involved in housing through countywide leadership; through enforcement of land use controls and building code ordinances in unincorporated areas; through the delivery of federal, state, and local funds for affordable housing; and through support of the Washington County HRA.

Washington County directly supports a variety of interrelated resources and services, including first-time homebuyer assistance, financial and budget counseling, transportation assistance, employment services, social services, and housing maintenance.

Washington County receives funds for housing related activities through the Federal Community Development Block Grant Program (CDBG) and the Federal Home Investment Partnership Program (HOME). The county prepares a consolidated plan every five years that guides how these funds are used. The most recent plan is the 2010 - 2014 Consolidated Plan.

The county levies a "Special Benefit Tax" which supports a variety of HRA programs and initiatives. The HRA owns and manages 920 units of affordable workforce and senior housing, the second highest of metro area agencies. The HRA administers several rental assistance programs including Section 8 Housing Choice Vouchers. The HRA, where appropriate, assists cities and townships with a variety of community development needs



such as public facilities financing and redevelopment opportunities.

The total per capita commitment of county-originated funds meets regional expectations.

Washington County supports lifecycle housing choices that provide residents the opportunity to remain a part of the community while moving throughout their stages of life. Supporting lifestyle housing entails ensuring that single-family homes and multi-family homes such as town homes, apartment buildings, and senior living complexes are available in all price ranges throughout Washington County. To assist in creating lifecycle housing, Washington County encourages recipients of CDBG and HOME funds to create units that compliment lifecycle housing. Funding from these programs can create opportunities for providers to develop diverse housing choices in all communities.

To meet housing needs, Washington County has set the following housing goals:

Goal 7-1 – Maintain a choice of housing type and encourage the development of mixed-income residential environments.

Goal 7-2 – Maintain and improve the current housing stock.

This chapter sets housing related policies and implementation strategies that directly support these goals. It describes the current housing market in Washington County, sets goals and objectives related to housing, and sets forth an implementation plan.

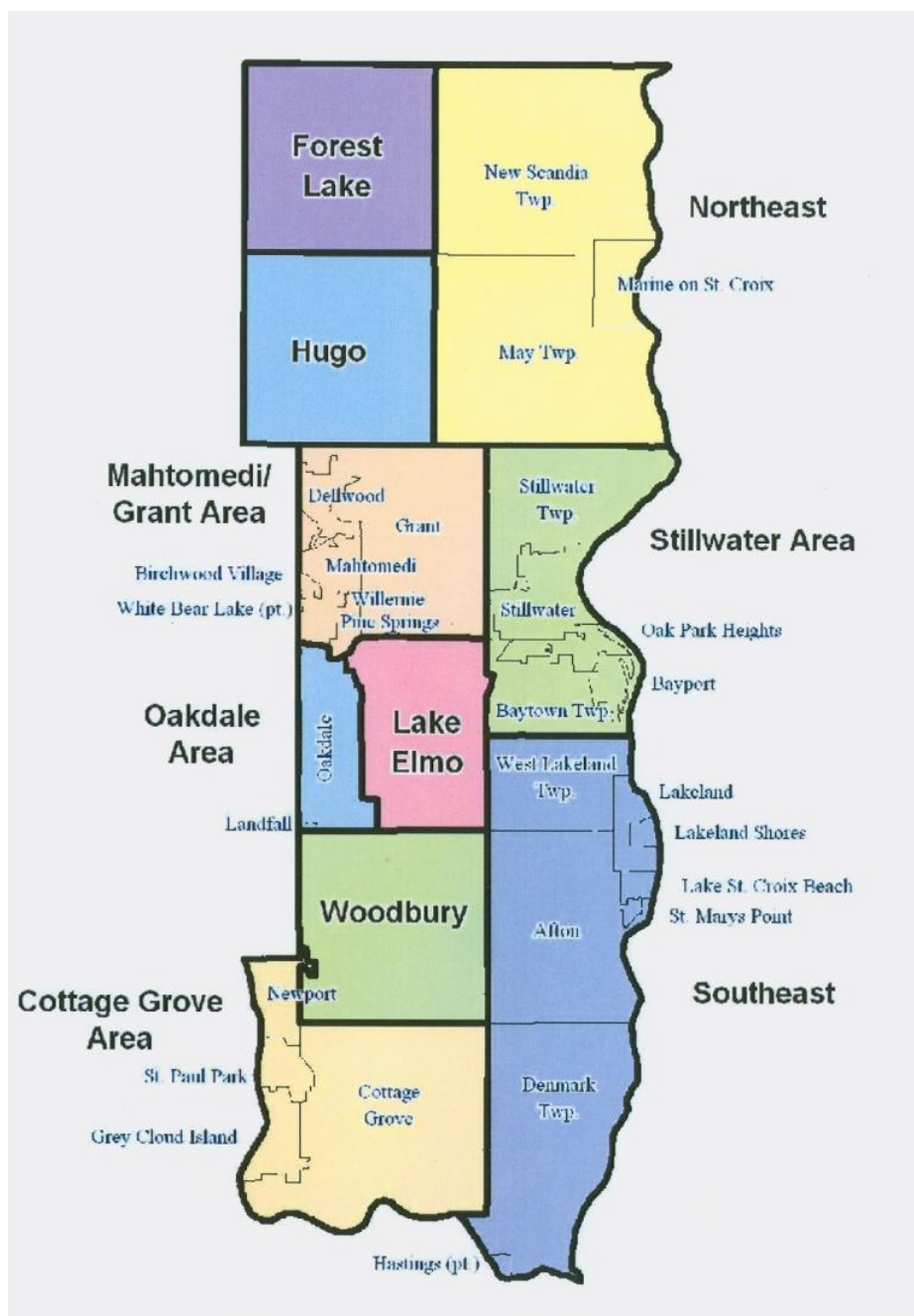
Existing Conditions

The information in this section is taken predominantly from the Comprehensive Housing Needs Assessment for Washington County, Minnesota, September 2007, prepared by Maxfield Research for the Washington County HRA. The Needs Assessment analyzed housing needs by defined “market areas” (see Figure 7-1). Data has been updated where available.

The Needs Assessment finds that household growth and changes in demographic characteristics and housing preferences will create demand for over 58,200 housing units in Washington County between 2007 and 2030. Included in this total is demand for about 49,300 ownership units and 8,900 rental and senior units, including about 2,600 rental units for low- and moderate-income households.



Figure 7-1
Washington County Market Areas



Source: Maxfield Research Inc. Comprehensive Housing Needs Assessment for Washington County, September 2007.

Housing Tenure

Table 7-1 shows that Washington County is largely a home ownership community. Washington County's home ownership rate in 2000 was 86 percent. This was only a slight increase over the 1990 rate of 84%. The 2006 data shows this rate holding at 85 percent or 71,820 units. Washington County's renter-occupied rate has remained relatively constant since 1990; it was 15 percent in 2006. Table 7-2 shows the number of ownership and rental units by age group.

Two-thirds of the county's rental units are in the Woodbury, Oakdale Area, and Stillwater Area markets. Washington County has experienced a slight increase in concentration of rental households in these major employment centers. Only one age group, the 15-24 year old group, has a higher rental than ownership rate.

Table 7-1 Household Tenure Trends by Market Area - 1990 and 2000 Washington County						
Market Areas	Own			Rent		
	1990	2000	Percent Change	1990	2000	Percent Change
Cottage Grove Area	8,919	11,703	31%	1,174	1,593	36%
Forest Lake	3,313	4,229	27%	1,111	1,204	8%
Hugo	1,335	2,015	51%	81	110	36%
Lake Elmo	1,861	2,250	21%	112	97	(13%)
Mahtomedi/Grant Area	3,857	4,658	21%	385	443	15%
Northeast Area	1,969	2,385	21%	145	170	17%
Oakdale Area	5,661	8,528	51%	1,338	2,007	50%
Southeast Area	2,855	3,802	33%	215	179	(17%)
Stillwater Area	6,009	7,448	24%	1,979	1,965	1%
Woodbury	5,528	14,209	257%	1,399	2,467	76%
Total	41,307	61,227	48%	7,939	10,235	29%
Percentage of Total Housing Stock	84%	86%		16%	14%	

Source: 2000 Census, Maxfield Research Inc.



Table 7-2 Housing Tenure Units by Age Group and Type in 2000 Washington County		
Age Group	Rent	Own
15-24	1,292	682
25-34	2,739	9,689
35-44	2,231	18,463
45-54	1,285	15,769
55-64	690	9,046
65+	1,998	7,578
Total	10,235	61,227

Source: U.S. Census, Maxfield Research Inc.

Housing Stock

Table 7-3 shows the average sale price of all newly built and previously occupied multi-family and single-family homes in Washington County from 2002–2007. Housing prices in Washington County appear to have peaked in 2006 for both single-family and multi-family home sales.

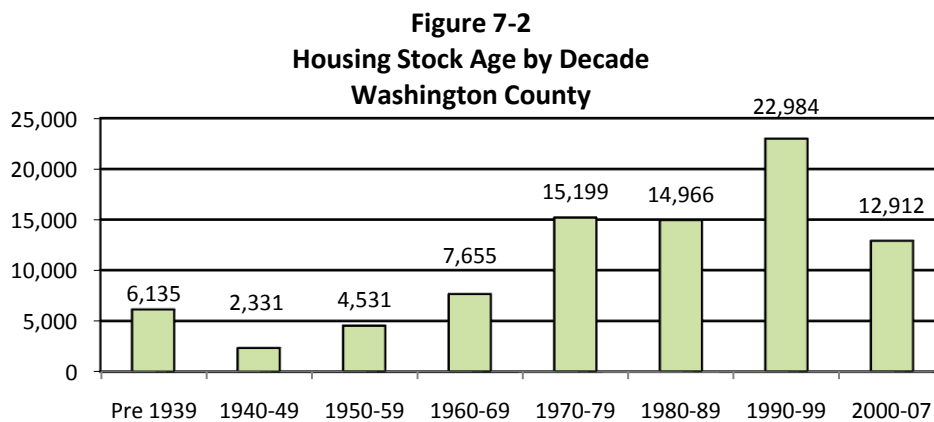
Table 7-3 Average Sale Price of Multi- and Single-Family - 2002 to 2007 Washington County				
Year	Single Family	Percent Change	Multi-family	Percent Change
2002	\$277,473	n/a	\$167,753	n/a
2003	\$295,529	6.51%	\$180,584	7.65%
2004	\$322,344	9.07%	\$195,852	8.45%
2005	\$344,117	6.75%	\$208,703	6.56%
2006	\$347,033	0.85%	\$217,716	4.32%
2007*	\$345,075	-0.56%	\$209,900	-3.59%

*Average resale prices through June 2007.

Source: Regional Multiple Listing Service, Maxfield Research Inc.

Washington County's housing stock is relatively new. According to the 2007 American Communities Survey, Washington County had 86,713 housing units of which nearly 60 percent were built

after 1980 (see Figure 7-2). Third tier suburbs such as Oakdale, Woodbury, and Cottage Grove secured a majority of the newer housing stock as these communities captured a large amount of the Twin Cities Metropolitan Area's recent growth. Nearly 78 percent of the housing stock in these cities was built after 1970 (Maxfield, 2007).



Source: 2007 American Community Survey, Decennial Census Reports

Rental Market

In July 2007, Maxfield Research, surveyed rental developments to determine the condition of the rental housing market in Washington County. The survey included properties with 16 or more units in large market areas such as Woodbury and Cottage Grove and properties with eight or more units in small market areas such as the Southeast and Northeast areas. Table 7-4 contains a summary of market and affordable rate rent surveys. The surveys produced the following findings:

Market Rate

- Over 70 percent of market rate units were concentrated in Woodbury and Oakdale.



- The vacancy rate for market rate rental units in July 2007 was 4.2 percent, slightly higher than the vacancy rate of 4.0 percent for the Twin Cities Metropolitan Area.
- Average monthly rents at market rate developments in the county ranged from \$811 for one-bedroom units to \$1,284 for three-bedroom units.
- Slightly over 12,000 single-family and du/tri-plex homes did not apply for the homestead tax credit in the year 2005. This number is an indicator of the number of single-family or du/tri-plex homes that might be used as rental units.

Table 7-4 Washington County Rent by Market Area - July 2007 Washington County								
Cities	Total Units	Market Rate			Total Units	Affordable		
		1 BR	2BR	3 BR		1 BR	2BR	3 BR
Cottage Grove	525	\$709	\$810	\$1,101	292	\$738	\$950	\$908
Forest Lake	440	\$665	\$784	\$926	214	\$583	\$721	\$782
Mahtomedi/ Grant	--	--	--	--	126	--	--	\$894
Oakdale	769	\$707	\$912	\$1,147	802	\$652	\$802	\$1,022
Stillwater	257	\$667	\$763	--	397	\$672	\$820	\$960
Woodbury	2,625	\$973	\$1,083	\$1,401	287	\$813	\$988	\$1,001
Average	4,616	\$811	\$1,002	\$1,284	2,118	\$721	\$916	\$949

Sources: Maxfield Research Inc.; Washington County HRA

Affordable

Maxfield Research identified 2,118 rental units (see Table 7-4) as affordable to households with low- to moderate-incomes. Affordable developments can be classified as either “shallow” or “deep” subsidy developments. Table 7-5 shows the number of units and the vacancy rate by city for each classification. With a portfolio of 920 units, the HRA owns nearly half of the county’s total affordable rental units. The 2005–2009 Washington County Consolidated Plan identified an existing shortage of 9,193 units of affordable housing.

Table 7-5 Affordable Rental Developments by Market Area - July 2007 Washington County						
	Shallow Subsidy			Deep Subsidy		
Cities	Total Units	Vacant	Vacancy Rate	Total Units	Vacant	Vacancy Rate
Cottage Grove	242	51	21.0%	50	0	0%
Forest Lake	120	1	0.0%	94	0	0%
Mahtomedi	30	2	6.7%	96	0	0%
Oakdale	546	60	10.9%	256	0	0%
Stillwater	222	14	6.3%	175	0	0%
Woodbury	287	14	4.8%	0	0	0%
Total	1,447	136	9.4%	671	0	0%

Source: Maxfield Research Inc., Washington County HRA

Shallow subsidy developments have an average monthly rent of \$722 for one-bedroom units, \$933 for two bedroom units, and \$958 for three bedroom units. Deep subsidy rental developments base rent on 30 percent of the household's income with an income limit of 30 percent of area median income.

For-Sale Market

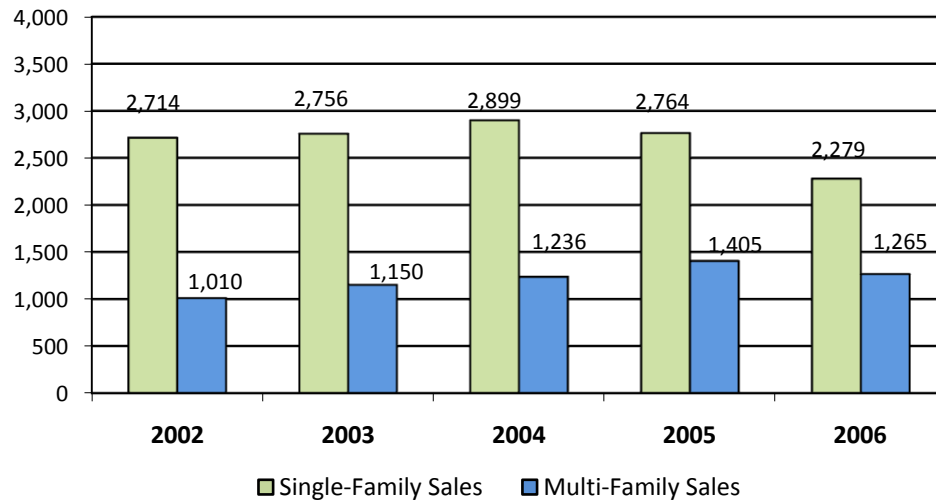
Market Rate

Maxfield Research found the following trends in the for-sale housing market, including single-family homes, townhomes, and condominiums.

- The number of single-family home resales peaked in 2004 and then declined by 21 percent.
- The number of multi-family resales peaked in 2005 and then declined by 10 percent.



Figure 7-3
Annual Home Resales 2002 to 2006
Washington County



Source: Maxfield Research Inc., 2007

Table 7-6, Single-Family Homes Average Resale Price by Market Area, shows the following trends.

- The average resale price of single-family homes in Washington County increased by an average of 8 percent annually between 2002 and 2005; in 2006 the increase slowed to 0.8%.
- County wide, the average resale price peaked in 2006 and declined slightly since. Washington County data shows the decline in value continuing into 2009.
- The Southeast and Stillwater Area market areas continued to increase into 2007.
- The Hugo Market Area experienced the largest percent increase between 2002 and 2007.
- The Southeast Market Area experienced a significantly slower increase than all other markets.

Table 7-6
Single-Family Home Average Resale Price by Market Area - 2002 to 2007
Washington County

Market Areas	2002	2003	2004	2005	2006	2007*	Percent Change '02-'06	Percent Change '06-'07
Cottage Grove Area	\$201,849	\$214,739	\$236,259	\$257,736	\$262,081	\$234,596	30%	(12%)
Forest Lake Area	\$247,240	\$260,433	\$290,591	\$307,768	\$312,678	\$292,392	26%	(8%)
Hugo	\$259,894	\$300,220	\$326,217	\$384,439	\$383,343	\$347,875	47%	(9%)
Lake Elmo	\$392,767	\$411,473	\$447,788	\$459,755	\$514,284	\$506,220	31%	(2%)
Mahtomedi/Grant Area	\$388,427	\$403,558	\$423,548	\$453,876	\$471,303	\$413,926	21%	(12%)
Northeast	\$364,115	\$392,528	\$459,809	\$464,800	\$497,100	\$454,903	37%	(8%)
Oakdale Area	\$218,692	\$231,755	\$254,077	\$262,928	\$253,959	\$229,102	16%	(10%)
Southeast	\$389,376	\$400,476	\$449,270	\$430,732	\$400,052	\$403,415	2%	1%
Stillwater Area	\$274,659	\$315,780	\$315,772	\$343,132	\$347,854	\$381,746	27%	10%
Woodbury	\$306,196	\$330,487	\$368,228	\$391,779	\$389,967	\$384,075	27%	(2%)
Countywide	\$277,473	\$295,529	\$322,344	\$344,117	\$347,033	\$345,777	25%	(1%)
Year to Year Percent Change		+6.5%	+9.0%	+6.7%	+0.8%	-0.6%		

Source: Regional Multiple Listing Service, Maxfield Research Inc.

* Data through August 2007.

Table 7-7 shows the multi-family resale price in Washington County by market area.

- The average resale price of condominiums/townhomes in Washington County increased from \$167,753 in 2002 to \$217,716 in 2006, an average of 7.5 percent annually.
- The average resale price peaked in 2006 and declined slightly during the first six months of 2007.
- The Cottage Grove Market Area experienced the largest increase.



Table 7-7
Multi-Family Home Average Resale Price by Market Area - 2002 to 2007
Washington County

Market Areas	2002	2003	2004	2005	2006	2007*	Percent Change '02-'06	Percent Change '06-'07
Cottage Grove Area	\$146,331	\$155,690	\$175,021	\$191,104	\$205,255	\$196,472	40%	-4%
Forest Lake Area	\$169,603	\$182,952	\$206,341	\$208,538	\$212,176	\$205,995	25%	-3%
Hugo	\$175,141	\$169,999	\$191,556	\$202,340	\$204,315	\$200,031	17%	-2%
Lake Elmo	--	--	--	--	--	--	N.A.	
Mahtomedi/ Grant Area	\$245,250	\$251,610	\$332,422	\$300,140	\$300,140	\$268,171	22%	-11%
Northeast	--	--	--	--	--	--	N.A.	
Oakdale Area	\$145,806	\$171,096	\$173,937	\$183,674	\$183,674	\$164,344	26%	-11%
Southeast	--	--	--	--	--	--	N.A.	
Stillwater Area	\$187,994	\$218,213	\$230,495	\$243,934	\$254,142	\$236,257	35%	-7%
Woodbury	\$172,641	\$183,680	\$199,174	\$215,560	\$226,510	\$218,091	31%	-4%
Countywide	\$167,753	\$180,854	\$195,852	\$208,703	\$217,716	\$209,900	30%	-4%
Year to Year Percent Change		+7.8%	+8.2%	+6.5%	+4.3%	-3.6%		

Source: Regional Multiple Listing Service, Maxfield Research Inc

* Data through August 2007.

Affordable

For the Twin Cities Metropolitan Area, the Metropolitan Council defines an affordable for-sale home as “housing that is affordable to buyers earning 80 percent of area median income, or a home priced at \$201,800 in 2006.” Data from the Regional Multiple Listing Services reveals that in 2006 only 263 single-family homes and 754 condominium/town homes sold (29 of all home sales) in Washington County met this definition. A majority of the single-family affordable homes were located in the Cottage Grove Area and a majority of the multi-family affordable homes were located in Woodbury.

Foreclosures

The number of home foreclosures in Washington County increased from 170 in 2004 to 1,609 in 2008 (see Table 7-8).

Table 7-8 Foreclosures by Year - 2004 to 2008 Washington County		
Year	Number	Percent Change
2004	170	N.A.
2005	244	43.5%
2006	391	60.2%
2007	1,058	1.7%
2008	1,609	56.6%

Source: Washington County HRA, Washington County Sheriff's Department

The Cottage Grove Area and Woodbury markets had the most foreclosures, accounting for 43 percent of all foreclosures in 2007 and 41 percent in 2008 (see Table 7-9).

Table 7-9 Foreclosures by Market Area - 2007 and 2008 Washington County		
Market Areas	2007	2008
Cottage Grove Area	236	322
Forest Lake Area	105	249
Hugo	57	143
Lake Elmo	66	31
Mahtomedi/ Grant Area	35	85
Northeast	25	35
Oakdale Area	106	164
Southeast	34	47
Stillwater Area	170	195
Woodbury	224	338
Countywide	1,058	1,609

Source: Washington County HRA, Washington County Sheriff's Department

Special Needs Housing

The 2007 Maxfield Study completed an analysis of two specialty markets, special needs and senior housing. Persons with disabilities or special needs are defined in the Maxfield Study as “persons with long-lasting physical, mental, or emotional condition.” The number of people who live in the county that have some form of disability and are not institutionalized is 9 percent or 20,073; this is lower than the state rate of 12 percent.



According to the Maxfield Study, Washington County has 487 beds that are used for housing people with disabilities; the study identified a need for 20,073 beds. Table 7-10 shows the beds by type and location.

- Adult foster care provides the greatest amount of housing for persons with disabilities. A majority of these facilities serve persons with developmental disabilities and mental illness.
- Overall housing options for disabled persons are dispersed throughout the county in relation to the county's population base.

Table 7-10 Beds for Disabled Person by Community - July 2007 Washington County					
Cities	Adult Foster Care	Semi-Independent Living Services	Residential Mental Illness	Residential Services	Waiver Services
Afton	10	0	0	0	0
Cottage Grove	90	0	0	0	1
Forest Lake	40	0	0	0	0
Hugo	19	0	0	0	1
Lake Elmo	0	0	1	6	0
Mahtomedi	2	0	0	0	0
Newport	0	0	0	6	0
Oak Park Heights	37	0	0	0	0
Oakdale	92	0	6	0	0
Scandia	22	0	0	0	0
St. Paul Park	10	0	0	0	0
Stillwater	19	0	5	6	0
Woodbury	113	0	0	0	1
Countywide	454	0	12	18	3

Source: MN Department of Human Services; Washington County HRA; Maxfield Research Inc.

Senior Housing

Senior housing is the most common specialty housing group.

- Market-rate senior housing is a relatively new occurrence with a majority of the 1,632 units currently available having been built in the 1990s and early 2000s.
- Overall the market-rate senior housing developments in Washington County have vacancy rates of less than 7 percent.

- Market-rate senior housing is scattered throughout the county with only Cottage Grove having a low amount of senior housing relative to its population.
- Washington County has 1,061 of affordable senior housing units, of which the HRA owns 307 units.
- The overall vacancy rate in the affordable senior housing was 2 percent in August 2007, with nearly one-third of these vacancies at one Cottage Grove property.
- The affordable senior housing units are located in 10 communities throughout the county.

Table 7-11 Senior Housing Units by Type and Community - August 2007 Washington County				
Cities	Market Rate	Affordable		
	Units	Shallow Subsidy	Deep Subsidy	Total
Cottage Grove	4	54	0	58
Forest Lake	48	72	92	212
Hugo	105	28	0	133
Oakdale	320	212	49	581
Stillwater	0	50	96	146
Woodbury	398	45	0	443
Mahtomedi	134	71	60	265
Oak Park Heights	453	96	0	549
Bayport	170	0	0	170
Scandia	0	40	0	40
St. Paul Park	0	18	0	18
Newport	0	0	78	78
Countywide	1,632	686	375	2,693

Source: Maxfield Research Inc.

Housing Demand

Demand for housing, whether it is rental or for sale, can come from multiple sources including household and employment growth, changes in housing preferences, and replacement need. According to the 2007 Maxfield Study, a majority of the housing demand in Washington County will be primarily from household growth. The study estimates that between 2007 and 2030,



58,260 new households will locate in Washington County. Between 2007 - 2030, Washington County is projected to add 58,260 housing units, of which 8,900 (15 percent) will be rental and 49,360 (85 percent) will be homeownership.

Rental Housing Demand 2007 to 2030

Table 7-12 and 7-13 show projected demand for senior and general occupancy rental housing by market area through 2030.

Table 7-12 Demand for New Senior Rental Housing Units by Market Area from 2007 to 2030 Washington County						
Market Areas	Affordable	Adult	Congregate	Assisted Living	Memory Care	Total
Stillwater	170	180	140	95	60	645
Woodbury	250	200	240	185	110	985
Cottage Grove Area	180	220	310	210	110	1,030
Forest Lake	110	140	220	140	75	685
Hugo	190	145	185	100	65	685
Lake Elmo	80	90	95	65	40	370
Mahtomedi Grant Area	20	15	10	10	5	60
Northeast Area	40	40	20	15	5	120
Oakdale Area	170	175	165	100	65	675
Southeast Area	40	50	30	15	10	145
Countywide	1,250	1,255	1,415	935	545	5,400

Source: Maxfield Research Inc.

Table 7-13 Demand for New General Occupancy Rental Housing Units by Market Area from 2007 to 2030 Washington County				
Market Areas	Deep Subsidy	Shallow Subsidy	Market Rate	Total
Stillwater	20	80	120	220
Woodbury	105	285	790	1,180
Cottage Grove Area	75	185	445	705
Forest Lake	45	80	185	310
Hugo	30	105	140	275
Lake Elmo	65	160	350	575
Mahtomedi Grant Area	0	0	0	0
Northeast Area	0	10	10	20
Oakdale Area	20	65	110	195
Southeast Area	0	10	10	20
Countywide	360	980	2,160	3,500

Source: Maxfield Research Inc.

Below are key findings from the Maxfield Study regarding rental housing demand.

- Between 2007 and 2030, Washington County will need 5,400 units of rental senior housing and 3,500 units of general occupancy rental units to meet demand.
- Between 2007 and 2020, 46 percent of the rental demand will be for general occupancy units with the remaining 54 percent for senior units. In the years 2020 and 2030 the gap will continue to grow with senior units comprising 77 percent of the total demand for rental units by 2030.
- The majority of general occupancy rental demand between 2007 and 2030 will be in the county's employment centers in the western market areas such as Woodbury, Cottage Grove, and Lake Elmo.
- The demand for assisted senior housing is expected to increase significantly around the year 2020 when the first baby boomers begin turning 75.

For-Sale Housing Demand 2007 to 2030

The projected demand for for-sale housing from 2007 to 2030 is 49,360 units (see Table 7-14).

Table 7-14 Demand for For-Sale Housing Units by Market Area from 2007 to 2030 Washington County						
Market Areas	Single-Family			Multi-Family		
	Modest	Move-up	Executive	Modest	Move-up	Senior
Stillwater	78	1,020	408	515	434	230
Woodbury	513	3,111	2,338	2,802	2,407	345
Cottage Grove Area	307	4,674	1,158	3,211	1,864	380
Forest Lake	1,214	1,298	681	1,058	1,058	195
Hugo	1,045	3,218	1,100	2,449	2,087	210
Lake Elmo	0	1,208	2,607	712	364	105
Mahtomedi Grant Area	0	36	325	28	41	60
Northeast Area	0	129	840	26	21	45
Oakdale Area	0	85	24	322	193	195
Southeast Area	0	85	764	35	36	65
Countywide	3,156	14,465	10,245	11,160	8,504	1,830

Source: Maxfield Research Inc.



The Maxfield Study produced the following findings relative to the for-sale housing market in Washington County.

- Between 2007 and 2030, 85 percent of the overall housing demand will be for ownership housing.
- Ownership housing (particularly single-family homes) will account for an increasingly greater share of the single-family housing development throughout the Twin Cities Metropolitan Area because of the lack of developable land in the core of the area.
- Nearly 85 percent of the new single-family homes built between 2007 and 2020 will be move-up with an average price of \$325,000 to \$525,000 and executive homes with an average price over \$525,000. From the years 2020 to 2030, move-up and executive homes will account for nearly 95 percent of the new single-family housing supply.
- Of the 21,494 units of multi-family ownership demand between 2007 and 2030, 52 percent will be for modest priced units with a price below \$225,000, 40 percent will be for units that are move-up with prices above \$225,000, and the final 8 percent will be for senior only units.

Affordable Housing

The future demand for affordable housing will outstrip the supply of new affordable units. Opinions about the degree of the severity of the shortage vary (see Table 7-15). While the Maxfield Study projects a shortage of 1,340, the Metropolitan Council projects a shortage of over four times that amount. The *Next Decade Study* commissioned by Minnesota Housing projects a shortage of over three times the Maxfield number.

Table 7-15 Unmet Demand for Affordable Housing in Washington County			
	Next Decade Report 2003 to 2010 ¹	Metropolitan Council 2011 to 2020 ²	Maxfield Study 2007 to 2020 ³
Number of Units	4,414	5,791	1,340

¹ Projected growth of low-income households minus the number of units expected to be produced by the private market along with the public and non-profit sectors.

² Roughly equal distribution of metro affordable housing need based on projected growth of low-income households minus number of units expected to be produced by the private market along with the public and non-profit sectors.

³ Based on total projected household growth broken down by housing type based on Washington County market trends.

Special Needs

Affordable housing for special needs populations is, and will be, an ongoing issue in Washington County and the Twin Cities Metropolitan Area. The greatest unmet need in Washington County, according to the Maxfield Study, is transitional and permanent supportive housing for people with a severe mental illness or chemical addiction. The 2005–2009 Washington County Consolidated Plan reports an unmet housing need for 100 people who suffer from severe mental illness and another 100 people who suffer with chemical addiction issues. The Maxfield Study recommends a 4-8 unit transitional housing facility be developed for families suffering from chemical addiction. The study also recommends constructing an 8-12 unit permanent supportive housing development for people with severe and persistent mental illness.



Housing Plan

Washington County implements a variety of initiatives in an effort to help create and promote affordable housing.

Since 2001, Washington County has received approximately \$800,000 annually through the federal Community Development Block Grant Program (CDBG) for public service related activities and housing. The intent of the program is to increase the supply of decent affordable housing for low-and very-low income households. Every five years the county prepares a consolidated plan that sets the policy framework for use of federal housing and community development grant funds. The policies and strategies in this chapter are consistent with the 2010 – 2014 Consolidated Plan. In 2001, Washington County used CDBG funds to establish the Washington County Owner-Occupied Rehabilitation Program to assist low-income homeowners fix up the existing housing stock. The county appropriates approximately \$1,000,000 annually from CDBG funds for the program.

Since 1994, Washington County has received approximately \$275,000 annually through the federal HOME Investment Partnership Program (HOME). The county uses these funds to assist rental and homebuyer housing providers for low- to moderate-income households.

The Washington County Housing and Redevelopment Authority (HRA) promotes affordable and life cycle housing in Washington County through activities such as GAP Financing for Rental and Owner-Occupied Housing in Washington County (GROW Fund), tax-exempt housing revenue bonds, tax increment financing, low-income housing tax credits, and rental assistance programs (e.g. Section 8, Shelter + Care, Bridges).

Through the Minnesota Housing Finance Agency, Washington County offers Minnesota Mortgage Program first-time homebuyer funds to assist low- and moderate-income households purchase eligible homes. The program offers affordable, low interest loans.

Goal 7-1

Goals and Policies

Maintain a choice of housing type and encourage the development of mixed-income residential environments.

Policies:

- 7-1: Effectively provide a variety of programs and financing options to assist low- and moderate-income and special needs populations with housing.
- 7-2: Support scattered-site, affordable housing, particularly in existing single-family homes.
- 7-3: Within each community, provide services such as homebuyer and foreclosure prevention counseling to help maintain families in their homes.
- 7-4: Continually assess the extent that vulnerable populations, such as seniors and people experiencing mental illness, have essential services and are under housed.
- 7-5: Broadly distribute affordable housing throughout the county. Encourage communities to provide affordable housing to low- and moderate-income families, consistent with the financial capabilities of the local communities and the county to support such housing.
- 7-6: Encourage affordable housing to be located near necessary support amenities such as schools, shopping, transportation (including transit), employment, and public services.
- 7-7: Encourage communities to remove barriers that unnecessarily increase the cost of housing, while maintaining health and safety standards.
- 7-8: Encourage programs aimed at preventing homelessness.
- 7-9: Advocate for additional rental assistance funding for Section 8 and Bridges programs.



Goal 7-2

Maintain and improve the current housing stock.

Policies:

- 7-10: Promote and monitor the use of appropriate housing codes to meet minimum requirements for the protection of life, limb, health, property, safety and welfare of the owners and occupants of residential buildings.
- 7-11: Encourage rehabilitation of homes in all communities.
- 7-12: Assist communities to quickly identify abandoned foreclosed properties to minimize health, safety, and property value impacts on neighborhoods.
- 7-13: Encourage private and non-profit developers to purchase and rehabilitate foreclosed properties so that neighborhood property value isn't affected.
- 7-14: Encourage "green" or energy efficient construction practices that utilize renewable energy sources and building materials, where cost-effective.

Goal 7-1

Implementation

The implementation section identifies the various activities and resources that Washington County or the Washington County HRA will utilize in an effort to meet the goals and objectives of the housing plan.

Strategies

Maintain a choice of housing type and encourage the development of mixed-income residential environments.

Policy 7-1: Effectively provide a variety of programs and financing options to assist low- and moderate-income and special needs populations with housing.

Implementation Strategies

- Continue to use the following financing programs to create affordable rental and homeownership units:
 - Community Development Block Grant (CDBG)
 - Home Investment Partnership Program (HOME)
 - Section 108 Loan Guarantee Program
 - Gap financing for Rental and Ownership housing in Washington County (GROW)
 - HRA First-Time Homebuyer Mortgage Program
- In addition to using local resources in developing affordable housing, Washington County will continue to pursue additional funding sources provided by agencies such as Minnesota Housing, Metropolitan Council, and the Department of Housing and Urban Development.

Policy 7-2: Support scattered-site, affordable housing, particularly in existing single-family homes.

Implementation Strategies

- Support Minnesota Housing's provision of first-time homebuyer programs within Washington County.



- Continue the Washington County HRA's First Mortgage Program.

Policy 7-3: Within each community, provide services such as homebuyer and foreclosure prevention counseling to help maintain families in their homes.

Implementation Strategies

- Encourage the Washington County HRA to continue to coordinate homebuyer education courses, such as Homestretch, to help citizens who rent to make an informed and smooth transition to homeownership.
- Support self-sufficiency programs, such as Housing 101, budget counseling, and the Workforce Center, which assist families and individuals with training and educational opportunities.
- Support the Washington County HRA's effort to minimize foreclosures within Washington County through the Foreclosure Prevention Counseling Program.

Policy 7-4: Continually assess the extent that vulnerable populations, such as seniors and people experiencing mental illness, have essential services and are under housed.

Implementation Strategies

- Periodically review the extent that vulnerable populations are under housed.
- Assess in the five year consolidated planning process to what extent vulnerable populations are under housed.
- Continue to support the HRA's role in housing these vulnerable populations through the Shelter Plus Care and Bridges Rental Assistance program.

Policy 7-5: Broadly distribute affordable housing throughout the county. Encourage communities to provide affordable housing to low- and moderate-income families, consistent with the financial capabilities of the local communities and the county to support such housing.

Implementation Strategies

- Use CDBG and HOME funds to ensure that affordable housing is developed in all areas of the county.

- Support the provision of HRA-administered rental assistance voucher programs, such as Section 8, Bridges, and Shelter Plus Care, thus allowing for affordable housing to be available county wide.

Policy 7-6: Encourage affordable housing to be located near necessary support amenities such as schools, shopping, transportation (including transit), employment, and public services.

Implementation Strategies

- Through the allocation of affordable housing development funds, encourage affordable developments to be located near essential public services.

Policy 7-7: Encourage communities to remove barriers that unnecessarily increase the cost of housing, while maintaining health and safety standards.

Implementation Strategies

- Encourage local governments through the CDBG allocation process to allow private developers to build housing at higher densities that is supportive to affordable housing.
- Continue to update cities on possible changes to their zoning codes that could help develop new affordable housing.

Policy 7-8: Encourage programs aimed at preventing homelessness.

Implementation Strategies:

- Work in partnership with the U.S. Department of Housing and Urban Development and Minnesota Housing (the state's affordable housing finance agency) to create a ten-year plan to end/prevent homelessness in Washington County.
- Continue to apply for Family Homeless and Assistance Program (FHPAP) funds from Minnesota Housing to fund programs aimed at preventing homelessness.

Policy 7-9: Advocate for additional rental assistance funding for Section 8 and Bridges programs.



Goal 7-2

Maintain and improve the current housing stock.

Policy 7-10: Promote and monitor the use of appropriate housing codes to meet minimum requirements for the protection of life, limb, health, property, safety and welfare of the owners and occupants of residential buildings.

Implementation Strategies

- Ensure that all projects using CDBG and HOME funds meet minimum housing codes.
- Encourage income-qualified households to access the Washington County Owner-Occupied Rehabilitation Program to complete repairs that bring their homes to code.
- Continue to provide inspection services that are designed to improve the quality of a household's water and air.
- Continue to amend Washington County's development code as needed to protect the health and safety of Washington County residents.

Policy 7-11: Encourage rehabilitation of homes in all communities.

Implementation Strategies

- Continue to use CDBG funds to fund the Washington County Owner-Occupied Rehabilitation Program offering 0 percent interest loans to qualified households.
- Inform and encourage Washington County citizens to access Minnesota Housing's Owner-Occupied Rehabilitation Program.

Policy 7-12: Assist communities to quickly identify abandoned foreclosed properties to minimize health, safety, and property value impacts on neighborhoods.

Implementation Strategies

- Continue to use Washington County data to update cities on homes going through foreclosure.

Policy 7-13: Encourage private and non-profit developers to purchase and rehabilitate foreclosed properties so that neighborhood property value isn't affected.

Implementation Strategies

- Work with the Washington County HRA and private and non-profit developers to coordinate state and federal funding applications to bring additional affordable housing units to Washington County through the purchase and rehabilitation of foreclosed properties.

Policy 7-14: Encourage “green” or energy efficient construction practices that utilize renewable energy sources and building materials, where cost-effective.

Implementation Strategies

- Support non-profit organizations that administer weatherization and energy grants from state and federal government.
- Continue to make energy efficiency a priority in the use of housing development funds.

Priority Actions

1. Complete the 2010 to 2014 Consolidated Plan for Community Development Block Grant and Home Investment Partnerships program.
2. Continue the partnership between Washington County and the Washington County HRA to address issues related to foreclosed upon homes in the county.
3. Apply for federal, state, and regional funds for developing affordable housing in Washington County.
4. Lobby the Department of Housing and Urban Development for additional Housing Choice Vouchers for Washington County households.
5. Continue funding the county’s Owner-Occupied Rehabilitation Program.

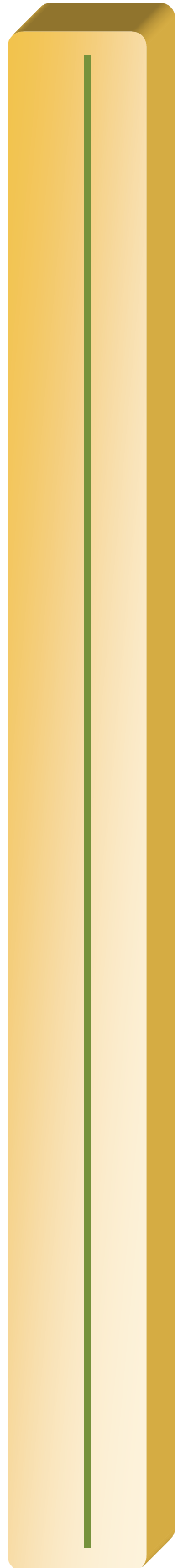


2030 Comprehensive Plan A Policy Guide to 2030

Facilities

**Approved by Board of Commissioners
May 26, 2009**

**Planned Adoption by Board of Commissioners
Fall 2010**





Washington County Mission

To provide quality public services in a cost-effective manner through innovation, leadership, and the cooperation of dedicated people.

Washington County Values

Fiscal Responsibility - to provide good stewardship of public funds

Ethics and Integrity - to maintain the public trust

Openness of the Process - to promote citizen participation

Our Heritage and Natural Resources - to conserve and preserve them

The Individual - to promote dignity and respect

Washington County Goals

- To promote the health, safety, and quality of life of citizens
- To provide accessible, high-quality services in a timely and respectful manner
- To address today's needs while proactively planning for the future
- To maintain public trust through responsible use of public resources, accountability, and openness of government

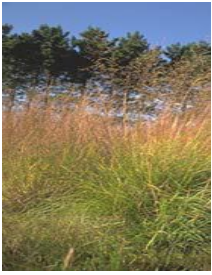


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Executive Summary

The original role of county governments was to preserve land records, maintain farm to market roads, keep the peace, provide for the poor, and administer a court facility for the traveling circuit judge. Today, the role is much more diverse and complex. With nearly 1200 staff, Washington County provides services in the areas of public safety, criminal justice, courts, public health, environmental health, human services, transportation, planning and zoning, libraries, property assessment, elections, and taxpayer services.

The projected 55 percent increase in the county's population from 234,348 to 363,190 residents by 2030 will create additional demand for county services and the state court system. The additional demand will require additional county office space, judicial chambers, and court rooms. The county locates its facilities in a manner that balances accessibility to the residents, businesses, and visitors with providing services in a cost-effective manner. The county decentralizes the delivery of county services whenever it makes sense.

Washington County is meeting the needs of an increase in population and services through 2025 through remodeling of existing facilities and construction of new facilities. Data showing a concentration of past and projected growth in the north and south parts of the county was the catalyst for a county decision to construct new service centers in Forest Lake and Cottage Grove. The county is also completing a major addition to the Government Center campus in Stillwater in 2010 which will centralize the court services and provide additional office space.

As a significant energy and resource consumer, the county is in a position to implement sustainable practices that save energy and conserve natural resources. Washington County has adopted the Minnesota Sustainable Building Guidelines and Environmentally Preferable Purchasing Policies to guide



planning, development, and purchasing decisions for future building and renovation projects.

The county has set the following goal for facilities.

Goal 8-1 – Provide the necessary facility infrastructure to provide efficient, effective, and high quality public services in order to meet the needs of the current and future population of the county.

This chapter describes the facilities that Washington County currently owns, leases, or shares, the services provided by each facility, and the plans for future facilities to support the projected service needs through 2030.

Existing Conditions

Existing Facilities

The county owns 54 buildings and nearly one million square feet of space that are used to conduct business with the public. The county leases an additional 84,000 square feet of space that is used for five branch libraries, one license center, and the Property Records and Taxpayer Services Department. Figure 8-1 shows the locations of the existing county facilities.

County facilities are located throughout the county and are sited and designed to correspond to the type of service being provided. Services are provided from the following types of facilities:

- Government Center and Law Enforcement Center
- Service, License and Workforce Centers
- Environmental Center
- Transportation and Parks Buildings
- Libraries

Government Center Campus

The Washington County Government Center is located in the city of Stillwater. The current building opened in 1975, replacing the original courthouse which is now maintained as an historical site. Major expansions were completed in 1985 and 1990 to meet the needs of the growing population. A current expansion, scheduled to be completed in 2010, will add 200,000 square feet to meet the needs until 2025. The expansion includes a five-story courts building and a three-story addition to the Law Enforcement Center (LEC).

The courts building will centralize state court functions in Stillwater. The project includes space for sixteen new courtrooms. Ten courtrooms will be finished in 2010 and six will be finished in the future as needed. The LEC, located immediately adjacent to the Government Center, was constructed in 1993 to meet the county's needs until 2025.



The LEC houses the Sheriff's Office, the 911 Emergency Dispatch Center, and the county jail.

The Government Center also serves as the county's main service center, housing services related to county administration, accounting and finance, human resources, information technology, legal services, community services, public health and environment, property records and taxpayer services, surveying and land management, and community corrections.

Service, License, and Workforce Centers –Countywide

New county service centers were built to deliver services closer to where people live. They will absorb most of the direct service expansion for the foreseeable future.

The Washington County Service Center - Woodbury opened in 2003 in the former Woodbury Library. It houses a license center, a Workforce Center, Community Services staff, and assessment functions.

The Washington County Service Center - Cottage Grove opened in 2007. The 40,000 square-foot facility offers residents a variety of services including U.S. passport processing, water and radon testing, immunization clinics, the Women, Infants and Children Nutrition Clinic, support for the elderly, daycare and foster care services, community justice programs, community corrections programs, and a Workforce Center.

The Washington County Headwaters Service Center in Forest Lake opened in the fall of 2007. The facility offers a variety of services, including license center, the Women, Infants and Children nutrition clinic, a Workforce Center, and services for juvenile offenders.

The Workforce Centers provide services and programs to Washington County residents who are looking for jobs. The license centers sell residents a variety of items, including drivers licenses, car, truck, recreational vehicle, boat and trailer license plates and tags, hunting and fishing licenses, marriage licenses, and passports.

Environmental Center - Woodbury

In July 2009, the county opened a new Environmental Center. The new facility is co-located with the county's south highway maintenance shop in Woodbury. This new facility will be the main location for residents to drop off household hazardous waste and other items that cannot be easily disposed of or recycled. In the future, the county may site smaller satellite resource centers throughout the county to make this service accessible closer for residents and businesses.

Highways and Parks Maintenance Buildings – Stillwater Township and Woodbury

The county has two highway maintenance facilities, one in Stillwater Township (North Shop) and the other in Woodbury (South Shop). These shops provide the necessary space for the equipment, personnel, and materials needed to plan, design, construct, maintain, and operate the county road system. A primary parks maintenance facility is located at the northern edge of the Lake Elmo Park Reserve and several small maintenance buildings are located within other county parks.

Libraries - Countywide

The county operates nine library branches conveniently located to residents (see Figure 8-2). The libraries are: Park Grove Library, Cottage Grove; Valley Library, Lakeland; Newport Library; R. H. Stafford Library, Woodbury; Oakdale Library; Wildwood Library, Mahtomedi; Rosalie Wahl Library, Lake Elmo; Marine Library, Marine on St. Croix; and Hardwood Creek Library, Forest Lake. The cities of Bayport and Stillwater each operate a city-funded library and work cooperatively with the county library to provide seamless library services. The county, in partnership with the city of Hugo, provides library service at the Hugo City Hall using a kiosk and lockers.

The Hardwood Creek, Oakdale, Park Grove, and Wildwood library branches are in county-owned buildings; Newport and Marine libraries are in city-owned buildings; and the Rosalie Wahl and Valley libraries occupy privately-owned spaces.



The R. H. Stafford Library opened in 2002 in a building jointly owned by the county and the city of Woodbury. In October 2007, the newest and northern most Hardwood Creek Library opened its doors as part of the county's North Service Center. It replaced a library one fourth the size which the county operated for many years in the Forest Lake City Hall. The Hardwood Creek and R. H. Stafford libraries are the largest and busiest resource libraries in the county. R. H. Stafford Library is one of the busiest libraries in the State of Minnesota.

Transit Center – Forest Lake

The Forest Lake Transit Center opened in 2009 to serve as a park and ride lot for bus service to St. Paul and Minneapolis. Eventually it will serve as the Forest Lake station for the Rush Line Corridor, a part of the regional transitway system.

Facility Plans

Strategic Facility Plan

The county's Strategic Facility Plan examined the space and service delivery needs through 2015. The study recommended that the county implement a decentralized county service delivery model including a major expansion of the Stillwater Government Center and construction of two remote service centers. Construction at the Government Center began in 2006 and is expected to be completed by 2010. Construction of the two service centers is complete. The county will periodically review its facility plan to meet the changing needs of the county and to improve upon customer service. A 2007 update to the plan showed that the additional space is expected to serve the county's needs through 2025.

Courts Planning

The Government Center courts facility was constructed in 1968 and remodeled in 1996. The original 1968 building housed seven courtrooms and included space for administration and support services to the court. The 1996 remodeling expanded space for administrative staff, added two new courtrooms,

updated courtrooms to be compliant with the American with Disabilities Act, integrated electronic and audio/visual technology in some courtrooms, and created the county's first separate juvenile courtroom. In 1983, the county leased space in Cottage Grove for two courtrooms and support services. In 2003, a Courts Planning Advisory Committee recommended that the county consider expanding its current court facility. It projected the following need for courtrooms: 12 courtrooms by 2010, 14 courtrooms by 2015, 16 courtrooms by 2020 and 18 courtrooms by 2025. Ten courtrooms were made available by opening a new courts building in 2009. Space is available to construct six additional courtrooms by 2025.

Library Planning

The Washington County Library Strategic Plan 2004 – 2009 addressed the changing needs of the library system. The plan states that the library's core mission is to maintain facilities that are accessible to all users seven days a week, at convenient hours, and available throughout the greater Washington County community. An underlying assumption of this mission is that library services will continue to need a physical location. The plan identified three goals and related objectives for library facilities. One objective is to develop a long-range facilities plan to be included in the county's capital improvement plan. The facilities plan was completed in 2009.

Transit Centers Planning

The county is planning to construct transit centers in strategic locations throughout the county to facilitate the use of alternative modes of transportation. These centers will be designed to serve today's transit riders (e.g., park and rides, buses) with an ultimate goal of serving the transit riders of the future (e.g., commuter rail, light rail).

The Newport Transit Center in the city of Newport will initially serve as a park and ride for buses but will eventually become a commuter rail station for the Red Rock Corridor, a part of the regional transitway. A 500-space park and ride lot will be



constructed on a 12-acre site abutting the freight rail line just south of Interstate 94.

The Hugo Transit Center in the city of Hugo will initially serve as a park and ride for buses but eventually will become a transitway station for the Rush Line Corridor, a part of the regional transitway system. A 500-space park and ride lot will be constructed on a five-acre site abutting the freight rail line or the Washington County Regional Railroad Authority right-of-way along Trunk Highway 61.

The Manning Avenue Transit Center in the city of Woodbury will initially serve as a park and ride for buses but eventually will become a transitway station for the Interstate 94 Transitway Corridor, a part of the regional transitway system. A 500-space park and ride lot will be constructed on a site adjacent to the Interstate 94 corridor.

The Oakdale Transit Center in the city of Oakdale will initially serve as a park and ride for buses but eventually will become a transitway station along a future Trunk Highway 36 Transitway Corridor, a part of the regional transitway system. A 500-space park and ride lot will be constructed on a site adjacent to the Trunk Highway 36 corridor.

Sustainable Building Practices

Sustainable building, sometimes called "green building" or "high performance building," is the practice of designing, constructing, operating, maintaining, and removing buildings in ways that conserve natural resources and reduce pollution. It means creating a building that is healthier and more comfortable for its occupants, consequently enhancing well-being and productivity. A sustainable building is more than efficient lighting and water conservation. It involves thinking differently about how to design and operate the building, choose the site, and select building materials.

In recognition of the economic, human, and natural resource benefits of sustainable building, Washington County adopted

the Minnesota Sustainable Building Guidelines for use in future building and renovation projects.

Washington County has adopted an Environmentally Preferable Purchasing Policy committing the county to environmentally preferable purchasing. The policy directs departments to consider environmental factors when making purchasing decisions, including toxicity or hazardous character, air quality, workplace safety, energy and water conservation, post-consumer recycled content, compliance with applicable regulations, and material life-cycle issues such as recyclability or disposal requirements.

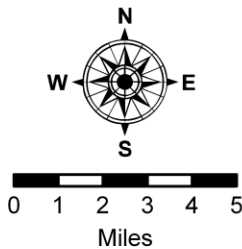
The Washington County Service Center- Cottage Grove and the Washington County Headwaters Service Center were constructed utilizing sustainable building practices, incorporating such features as energy-efficient products and systems, energy efficient exterior walls and roof insulation; recycled materials for paint, flooring, and other building components; products with low fumes and odors; natural lighting; computerized light controls; and rain gardens.



Figure 8-1

County Facilities

★ Sites

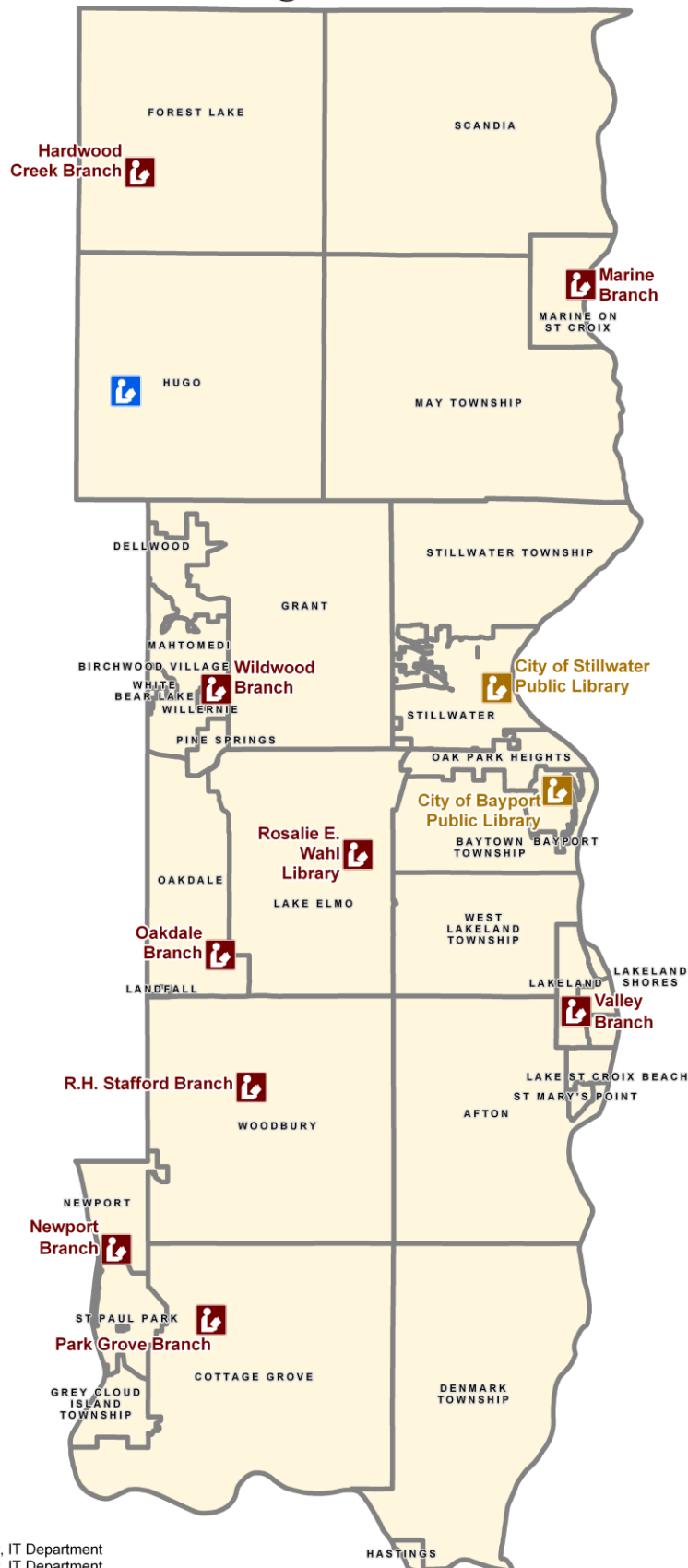
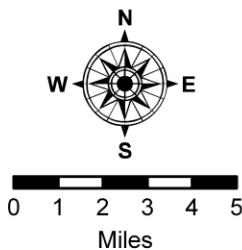


Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County GIS Support Unit, IT Department

Figure 8-2

County Library Facilities

-  County Library Branches
-  City Public Libraries
-  Kiosk Services



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County GIS Support Unit, IT Department



Goal 8-1

Facilities Plan

Goals and Policies

Provide the necessary facility infrastructure to provide efficient, effective, and high quality public services in order to meet the needs of the current and future population of the county.

Policies:

- 8-1: Monitor the needs of the county and periodically update the Strategic Facility Plan.
- 8-2: Continue to identify opportunities to co-locate services with other agencies.
- 8-3: Continue to review alternatives to constructing new facilities, such as shared work spaces, video/teleconferencing, telecommuting where applicable, and automating services where appropriate.
- 8-4: Build upon existing sustainable building policy to include sustainability principles and encourage the incorporation of sustainability principles and practices into county plans and programs.
- 8-5: Develop a long-range plan that identifies the infrastructure needs and opportunities for the county library system.

Goal 8-1

Implementation

Strategies

Provide the necessary facility infrastructure to provide efficient, effective, and high quality public services in order to meet the needs of the current and future population of the county.

Policy 8-1: Monitor the needs of the county and periodically update the Strategic Facility Plan.

Implementation Strategies

- Develop an asset life cycle model of county facilities.
- Complete an update of the Strategic Facility Plan.
- Provide public offices that are accessible and responsive to public needs.
- Provide office space that is sufficient in size and flexibility to enable staff to carry out its functions.
- Assure healthy and safe facilities for staff and customers.
- Provide adequate transportation and park maintenance and storage facilities.

Policy 8-2: Continue to identify opportunities to co-locate services with other agencies.

Implementation Strategies

- Collaborate with and involve other agencies in the strategic facility planning process.
 - Develop criteria for services that could co-locate.
 - Identify service areas and potential sites.



Policy 8-3: Continue to review alternatives to constructing new facilities, such as shared work spaces, video/teleconferencing, telecommuting where applicable, and automating services where appropriate.

Implementation Strategies

- Provide cost-conscious solutions for the provision of public services.
- Enhance video/teleconferencing capabilities.
- Monitor new technologies and identify ones appropriate for county use.

Policy 8-4: Build upon existing sustainable building policy to include sustainability principles and encourage the incorporation of sustainability principles and practices into county plans and programs.

Implementation Strategies

- Utilize the Minnesota Sustainable Design Guidelines in current and future county building and renovation projects, where practical and fiscally feasible.
- Incorporate sustainable building practices into new and retrofitted building construction when cost effective.
- Incorporate energy conservation into existing and new building plans.
- Identify opportunities to reduce energy use in county buildings.
- Utilize the B3 Benchmarking Database for all county buildings to evaluate how well buildings perform and direct resources accordingly.
- Annually review products used for cleaning and investigate opportunities to use less toxic cleaners.
- Establish standards, criteria, and/or procedures for environmentally preferable purchasing for county facilities.

Policy 8-5: Develop a long-range plan that identifies the infrastructure needs and opportunities for the county library system.

Implementation Strategies

- Locate library buildings in convenient locations for residents and ensure residents have access within a reasonable distance to their homes
 - Locate branches in government-owned facilities, with other governmental services when possible, and near center of commerce and government on or near major thoroughfares.
- Maintain a network of facilities that serve the growth areas of the county.
 - Develop special collection/uses/focus for small community libraries.
 - Maintain buildings in good working order.
 - Maintain systems for delivery/transport of materials and services.
- Develop a capital improvement plan that is approved by the County Board as a part of the County's Capital Improvement Program.
- Report annually to the Library Board on the status and needs of current facilities.

Priority Actions

1. Update the Strategic Facility Plan to 2030.
2. Develop a "green" operating policy for all county facilities.
3. Consider establishing a "green team" made up of county employees to make suggestions and help implement sustainable practices in all areas of facility construction and operations.
4. Identify opportunities to use more sustainable materials, techniques, and systems when remodeling and retrofitting structurally sound buildings.



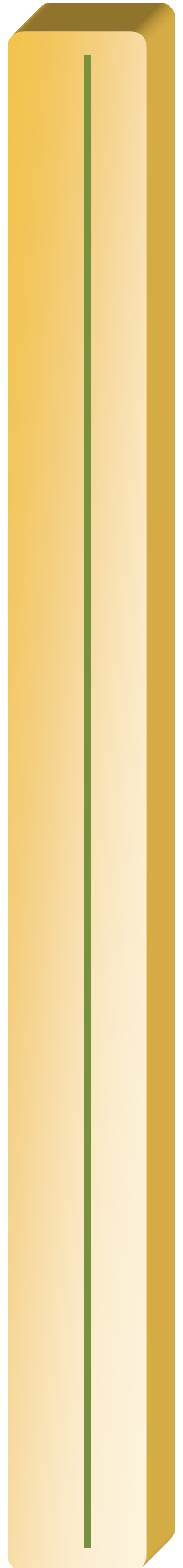
Washington County

2030 Comprehensive Plan A Policy Guide to 2030

Historic Resources

**Approved by Board of Commissioners
May 26, 2009**

**Planned Adoption by Board of Commissioners
Fall 2010**





Washington County Mission

To provide quality public services in a cost-effective manner through innovation, leadership, and the cooperation of dedicated people.

Washington County Values

Fiscal Responsibility - to provide good stewardship of public funds

Ethics and Integrity - to maintain the public trust

Openness of the Process - to promote citizen participation

Our Heritage and Natural Resources - to conserve and preserve them

The Individual - to promote dignity and respect

Washington County Goals

- To promote the health, safety, and quality of life of citizens
- To provide accessible, high-quality services in a timely and respectful manner
- To address today's needs while proactively planning for the future
- To maintain public trust through responsible use of public resources, accountability, and openness of government

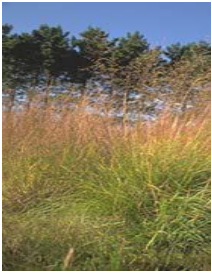


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Executive Summary

Washington County, Minnesota, was originally organized as part of the Wisconsin Territory from 1836-1849. It was one of the nine original counties created in the new Minnesota Territory (organized in 1849) and was named for George Washington, first President of the United States. It was in Washington County on May 11, 1858, that the State of Minnesota had its beginning as the 32nd state. Some of the state's oldest cities and towns are located in Washington County.

Washington County's long history has evolved through many eras including Native American habitation, early exploration and fur trade, territorial government and settlement, lumbering, navigation, agriculture, tourism, and suburban housing. Many properties, buildings, and landscapes from these eras remain today. Washington County has been the subject of a number of pre-settlement and archaeological studies and reports, especially in Grey Cloud Island Township and Cottage Grove.

Washington County is home to some of the state's most successful historic preservation programs and restoration projects. The county relies on the efforts of individuals, communities, and the State Historic Preservation Office to assess cultural resources. Federal, state, tribal, and local partnerships work to protect historic properties.

Forty-four properties and four districts within Washington County are listed on the National Register of Historic Places. In addition, 137 known archeological sites are protected by the Office of State Archaeologist and one cemetery is protected through the Minnesota Private Cemetery Act. Washington County owns and operates the Washington County Historic Courthouse, which was placed on the National Register of Historic Places in 1971 as the oldest standing courthouse in Minnesota.

Washington County does not have a formal historic preservation commission or historic preservation ordinance that regulates historic structures, sites, or districts. However, the county strives to preserve and enhance the character of historic villages and rural



areas through its land development process in unincorporated areas. Also, the county evaluates the potential impact on historical and archeological resources of its capital projects and attempts to avoid or mitigate any potential impacts.

Washington County has set the following goals related to historic resources.

Goal 9-1 - Maintain the historical integrity of the Washington County Historic Courthouse and use it as a venue to interpret the history of Washington County and Washington County government.

Goal 9-2 - Work to retain important historic contexts and features, including structures, landscapes, archaeological sites, and pedestrian-oriented village development patterns.

The plan describes the recent historic preservation activities in Washington County, sets goals/objectives, and describes policies and implementation strategies.

Existing Conditions

Washington County Historic Courthouse A National Register Site

Washington County owns and operates the Washington County Historic Courthouse, which was placed on the National Register of Historic Places in 1971 as the oldest standing courthouse in Minnesota. The Historic Courthouse has statewide significance: it is the geographic birthplace of Minnesota; it was the first courthouse in the Minnesota Territory; and it was the first courthouse in the State of Minnesota.

Historic Courthouse History

In 1867, ground was broken for a courthouse on the bluff overlooking downtown Stillwater and the St. Croix River. Completed in 1870, the courthouse served as the administrative and judicial center of the county for over a century. The building contained a small two-story jail and a sheriff's residence. In 1900, an additional two-story jail was added to the rear of the building. The original jail became the sheriff's office and jail cells for female prisoners.

By 1962, the county had outgrown the building. The sheriff's residence was converted into the sheriff's office and the sheriff and his family moved offsite. The large courtroom was divided into a smaller courtroom and additional offices. In 1975, the county moved to a new government center one mile south of the original courthouse and made plans for an adaptive re-use of the old building. The building reopened in 1982 as a community facility providing office space for non-profit groups, offering interpretative historical exhibits and tours, and serving as a venue for private and public gatherings. In 1997, the county designated the facility as a Washington County park. Today, the Historic Courthouse is used to preserve, re-adapt, restore, and interpret this historic landmark for current and future generations. This is accomplished through programming which fosters knowledge and appreciation of the county's heritage



and providing an outstanding rental venue for private and public gatherings.

Much of the needed courthouse restoration has been completed over the past thirty years with the support of Washington County, the Minnesota Historical Society, local foundation grants, fundraising activities and donations from individuals, organizations, and businesses. Volunteers were an integral part of the restoration of this site; they continue to be an important part of today's operation.

The mission of the Washington County Historic Courthouse is to maintain a sense of history and to interpret the historical context of Washington County government. The Historic Courthouse will continue to be available to the public and will employ strategies to be more self supporting. Because of its location, visibility, architectural interest and sense of history, the Historic Courthouse will continue to offer a unique venue for community and private events.

Historic Resources Protection Framework

National Historic Preservation Act

The National Register of Historic Places is the official list of historic properties recognized by the federal government as worthy of preservation for their significance in American history, architecture, archaeology, engineering, and culture. Authorized by the National Historic Preservation Act of 1966, the National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historical and archeological heritage. The National Park Service administers the program under the Secretary of the Interior. Listing in the National Register is the first step towards eligibility for National Park Service administered federal preservation tax credits and National Park Service grant programs like Save America's Treasures and Preserve America. National Register sites include districts, sites, buildings, structures, and objects that meet specific criteria.

Properties of national, state, or local significance under private or local/state government ownership may be nominated to be placed on the National Register of Historic Places. Listing in the National Register does not mean that the federal government will acquire the property, place restrictive covenants on the land, or dictate the color or materials used on individual buildings. State and local ordinances, local historical commissions, or laws establishing restrictive zoning, special design review committees, or review of exterior alterations, are also not required as part of the National Register recognition.

State Historic Preservation Office

The National Historic Preservation Act of 1966 also provided for a network of historic preservation offices in every state to help carry out the nation's historic preservation program. State statute in 1969 created Minnesota's State Historic Preservation Office (SHPO) to provide statewide leadership. The act requires agencies to protect the physical features and historical character of properties listed on the National Register to seek ways to avoid and mitigate any adverse effects on listed properties before carrying out any undertaking, funding, or licensing an undertaking by other parties. The director of the Minnesota Historical Society serves as State Historic Preservation Officer. The SHPO fulfills its mission to preserve and promote Minnesota history by working to identify, evaluate, register, and protect Minnesota's historic and archaeological properties; encouraging the development of local history organizations and activities; and assisting government agencies in carrying out their historic preservation responsibilities.

The SHPO has a program whereby it empowers local groups to more effectively protect historic features. A county, city, or township with a qualifying heritage preservation ordinance and heritage preservation commission may apply to SHPO to become a Certified Local Government (CLG). CLG status enables the local government to apply for federal matching grants to preserve historic properties. This local-state-federal partnership



encourages the integration of historic preservation into local government policy.

Archeological Sites

The Field Archaeology Act of 1963 created the Office of State Archaeologist (OSA) to protect known or suspected archaeological sites on non-federal, publicly-owned or leased land or waters, or on land or waters affected by publicly-funded projects. Among its many duties, the OSA is charged with sponsoring, conducting, and directing research into the prehistoric and historic archaeology of Minnesota; protecting and preserving archaeological sites and objects; disseminating archaeological information through the publication of reports and articles; identifying, authenticating, and protecting human burial sites; reviewing and licensing archaeological fieldwork conducted within the state; and enforcing provisions.

Cemeteries

Minnesota's Private Cemeteries Act (M.S. Chapter 307.08) affords all human remains and burials older than 50 years, and located outside of platted, recorded, or identified cemeteries, protection from unauthorized disturbance. This statute applies to burials on either public or private lands or waters.

Federal Section 106 and State Historic Preservation Requirements

Section 106 of the National Historic Preservation Act requires consideration of the effects of federal, federally-licensed, and federally-assisted projects on historic properties listed on or determined eligible for the National Register. The Advisory Council on Historic Preservation, an independent federal agency, guides this consultation process which is intended to assure that the value of the historic property is considered in project planning.

Minnesota Statutes Chapter 138 requires that state departments and agencies protect the physical features and historical character of properties listed in the National Register by consulting with the Minnesota Historical Society to

determine appropriate treatments and seek ways to avoid and mitigate any adverse effects on listed properties before carrying out any undertaking, funding, or licensing an undertaking by other parties.

The Minnesota Environmental Quality Board rules require preparation of an environmental assessment worksheet by the responsible unit of government for any proposed demolition of a property listed on the National Register. Privately funded new construction is not reviewed for impact on historic resources, unless located within the St. Croix Scenic Riverway.

The county is prepared to coordinate with the SHPO and the OSA for plans involving new construction and reconstruction of any county facility. In some cases, the county may need to conduct archaeological and historical investigations prior to commencing a project.

The county currently gathers site-specific historical data for environmental assessments and Section 106 reviews on sites proposed to be impacted by a county capital project and attempts to avoid or mitigate the impacts to historic structures as much as possible. Some recent studies conducted as part of the environmental and Section 106 review processes provided excellent in-depth survey and analysis of archaeological and/or architectural resources. These include Highway 36 redesign in Baytown Township for the Stillwater/Houlton Bridge Project (1994), the Wakota Bridge replacement in St. Paul Park and Newport (1995), Highway 3 reconstruction in Scandia and May Township (1996), Manning Avenue widening in Baytown Township and Lake Elmo (1998), and the Trunk Highway 10 realignment at Point Douglas (1999).

Washington County Historic Sites

National Register of Historic Places

Forty-four individual properties and four districts within Washington County are listed on the National Register of Historic Places. These are shown on Figure 9-1 and are described in Appendix 9-A. An additional 22 properties have



been evaluated for National Register eligibility by either the SHPO or the National Park Service but are not officially listed on the National Register of Historic Places.

Archaeological Sites

A database of the state's identified archaeological sites, maintained by the OSA, contains 137 archeological sites located in Washington County.

Cemeteries

Washington County operates one cemetery that is protected under the Private Cemeteries Act. The cemetery is located in a regional park.

Other Historic Sites

The SHPO has compiled a database of 2,303 sites in Washington County that meet the state standards as a place of historical significance. Appendix 9-B contains a list of the number of sites by community. Documentation on the sites varies from detailed investigations to windshield surveys from the late 1970s.

In addition, the Washington County History Network, a group of volunteers who are interested in history, has compiled a database of 502 historic sites in the county.

The SHPO and the Washington County History Network databases have strong coverage in different areas of the county, with some overlap. The SHPO database offers thorough coverage for the Cottage Grove and Stillwater areas, while the History Network database has a stronger focus on Afton, Woodbury, Marine, and Scandia.

Washington County Historic Contexts

Washington County, with funding from the St. Croix Community Foundation, conducted a historic contexts study in 1999 to create a framework for preservation planning in Washington County. The study was intended to assist communities and the county in determining the appropriate historic preservation

roles and priorities. The study incorporated a number of existing inventories and reports.

Historic contexts, as defined by the Secretary of the Interior's Standards for Preservation Planning, provide frames of reference that establish the relative significance of cultural resources, and provide a framework for making management decisions about the resources. Historic contexts group information about related types of properties based on a common theme, a defined geographical area, and a specific and defined chronological period. Historic contexts can be developed at any scale, from a single neighborhood to a county or state. Each context includes a narrative describing the general history and characteristics of the context and a list describing the general types of properties that can be expected to be associated with the context. Further, to localize the broad contexts for each community, the study contains a brief history and recommendations for further planning and assessment.

The Historic Contexts Study described the following historic contexts for the county:

1. Townsite Development: 1849–1965.
2. Immigration and Ethnicity: 1838–1920.
3. County and Township Government and Public Education: 1840–1960.
4. Tourism and Recreation: 1849–1969.
5. Agriculture: 1840–1960.

Washington County is included in three statewide historic contexts:

1. Railroads and Agricultural Development: 1870–1940.
2. St. Croix Triangle Lumbering: 1830s–1900s.
3. Minnesota's Tourism and Recreation in the Lake Regions: 1870–1945.

These historic contexts describe aspects of Washington County's broadest patterns of development from permanent white settlement in the late 1830s to approximately 1960. Sections on European exploration as well as an overview of



suburban growth, transportation, and housing trends in the period 1960–2000 are also included. Some historic contexts, such as the lumber industry, have strong historical narratives but relatively few remaining buildings. Historic contexts, such as agriculture, are applicable to all communities, while tourism and recreation apply primarily to river and lakeshore areas. Some buildings, sites, areas, and communities are included in more than one context.

Historic context studies and preservation planning typically precede more detailed inventory efforts. The National Register and Local Preservation Planning National Register nominations have been prepared for a number of historic properties around the county, most notably in the cities of Stillwater and Marine on St. Croix, where there are historic districts. In 1977, the State Historic Preservation Office conducted a countywide reconnaissance level inventory, which resulted in a multiple property nomination to the National Register.

Local Historic Preservation Activities

Washington County Historical Society

The Washington County Historical Society (WCHS), founded on April 11, 1934, is a private, non-profit educational institution organized to investigate and study the history of Washington County and the State of Minnesota. In doing so, the WCHS:

- Operates two interpretive museums showcasing county heritage.
- Provides educational programs to schools and to the public.
- Assists researchers to document their own, county, and state history.
- Provides expertise to help community groups conserve collections and produce exhibits.
- Investigates and publishes county history.
- Collects and preserves cultural artifacts and documents for future generations.
- Showcases county history through exhibits and displays throughout the county.

The WCHS owns and operates four historic sites; three are buildings that are listed on the National Register of Historic Places.

1. In 1941, the WCHS purchased the Warden's House Museum in Stillwater from the State of Minnesota. It is one of the state's oldest buildings as well as its second oldest continuously operating house museum. The society's research library is now housed in the reconstructed carriage house behind the Warden's House Museum.
2. In 1974, the WCHS leased the Hay Lake School for a museum and, in 1978, purchased it from the Forest Lake School District.
3. In the early 1980s, the Johannes Erickson Log House, adjacent to the Hay Lake School, was donated to the WCHS. It was moved to the Hay Lake School site and restored.
4. In 1978, the WCHS purchased the historic family-owned Boutwell Cemetery west of Stillwater.

Washington County History Network

Most communities do not have current historic property inventories. The amount of local designation and review of building permits for alterations to historic properties varies among the communities. The communities that do have active historic preservation efforts work together as part of the Washington County History Network to promote and support county history with events, brochures, and publications.

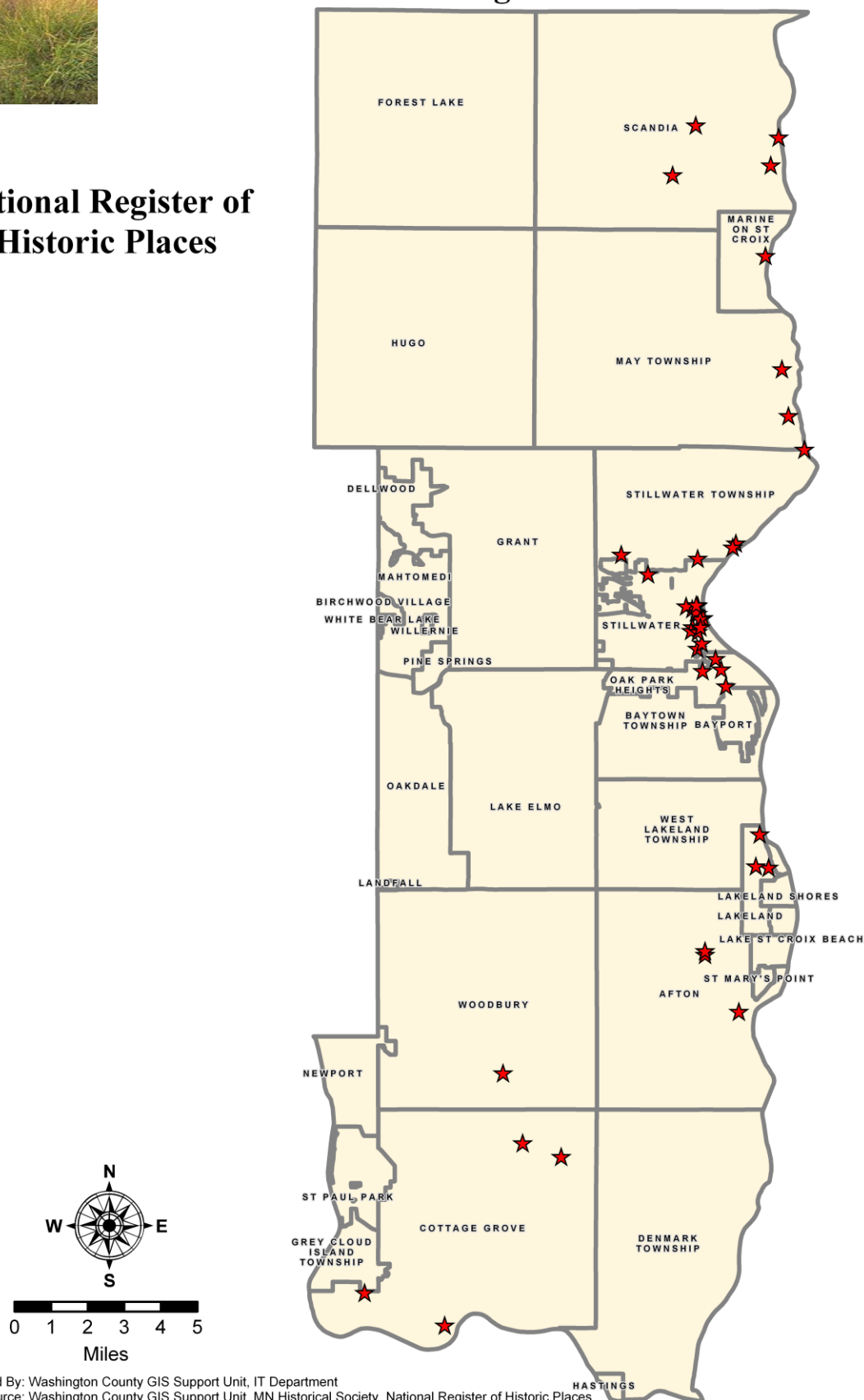
Stillwater, Cottage Grove, and Newport have active Heritage Preservation Commissions (HPC) and participate in the Certified Local Government (CLG) Program. These communities have been the subject of a number of inventories and historic context studies.

Communities such as Woodbury, Lake Elmo, Afton, Oakdale, Scandia, Mahtomedi, and Denmark Township have historical organizations but no ordinances or other tools to assist in preserving privately-owned historic and cultural resources.



National Register of Historic Places

Figure 9-1



Prepared By: Washington County GIS Support Unit, IT Department

Data Source: Washington County GIS Support Unit, MN Historical Society, National Register of Historic Places

Goal 9-1

Historic Resources Plan

Washington County has a particularly important role in preserving part of the State of Minnesota's early history in its work as the owner of the state's first courthouse. In recognition of its stewardship role the county adopted the following vision for management of the Historic Courthouse:

The Washington County Historic Courthouse serves as the hallmark of Washington County government and a landmark for the birthplace of the State of Minnesota. It provides a place for all residents of and visitors to the county to maintain a connection to their past and to enrich their lives by experiencing the area's history in a tangible and enduring way. The Historic Courthouse, supported through public and private funds, fees, and volunteer services, is a showcase of adaptive reuse of an historic building that provides access to the general public and serves as a unique venue for community, cultural and private events.

Historic preservation is also an important element in the county's plans for land use, transportation, transit, parks, facilities, accessibility, and access to trail systems. Rehabilitating old buildings instead of demolishing them has important social as well as environmental benefits. Historic preservation can provide educational opportunities allowing new generations to see evidence of previous economies, landscapes, buildings, and social patterns.

Goals and Policies

Maintain the historical integrity of the Washington County Historic Courthouse and use it as a venue to interpret the history of Washington County and Washington County government.



Goal 9-2

Policies:

- 9-1: With the support and commitment of residents, create a place of county pride by maintaining the building and grounds.
- 9-2: Become more self-supporting by sponsoring revenue-generating activities to offset operating costs while balancing non-paying general interest programs and fee-based private and special interest events.
- 9-3: Maintain the building as a county-wide historic site open to the public by providing tours, exhibits, information, and programs.
- 9-4: Maintain a niche for the Historic Courthouse in providing a unique venue for private events.

Work to retain important historic contexts and features, including structures, important landscapes, archaeological sites and pedestrian-oriented village development patterns.

Policies:

- 9-5: Continue to acknowledge the county's history when planning, preserving, and developing its infrastructure.
- 9-6: Continue to preserve natural, scenic, open, and agricultural landscapes and encourage preservation of historic sites through land planning activities.
- 9-7: Provide stewardship of county-owned historic properties.
- 9-8: Collaborate with the Washington County Historical Society, cities, and others to promote and interpret county history with events and public information.
- 9-9: Provide information on historic sites to the appropriate organization as surveys and information are available.
- 9-10: Encourage communities to preserve historic properties through their planning and preservation efforts.

Goal 9-1

Implementation

Strategies

Maintain the historical integrity of the Washington County Historic Courthouse and use it as a venue to interpret the history of Washington County and Washington County government.

Policy 9-1: With the support and commitment of residents, create a place of county pride by maintaining the building and grounds.

Implementation Strategies

- Review and update landscaping and maintenance work to include historically-accurate plantings and design features to accommodate use of the grounds by public and private clients.
 - Establish landscaping that beautifies the site and creates a more park-like setting.
 - Promote the grounds as a destination for local sidewalk, historic structure and trail networks.
- Establish an initiative to draw various groups from throughout the county to assist in landscape care and maintenance.
- Build a relationship with local nurseries by sponsoring an annual exhibit at the courthouse.
- Preserve the historic integrity of the building by balancing the use and access with the need to maintain the building.
 - Establish a benchmark for amount of use.
 - Review capital repair schedule.
 - Employ mitigation measures for high use events.
 - Review guidelines regarding types of uses.

Policy 9-2: Become more self-supporting by sponsoring revenue-generating activities to offset operating costs while balancing non-paying general interest programs and fee-based private and special interest events.

Implementation Strategies

- Increase revenues through fee-based events.
- Increase the week day use of the building.
 - Attract business meetings and events.



- Sponsor more educational sessions aimed at school groups.
- Establish alternative financial resources and increase fundraising efforts.
 - Change the focus away from long-term rentals.
 - Seek foundation support.
 - Seek sponsors for events.
 - Seek nontraditional grants.
 - Explore establishing an endowment fund.
- Develop a marketing strategy to generate rental business and create public awareness of programs and exhibits.
- Seek non-levy funds for additional staffing, computers, and rental if research and display space is increased.
- Attain maximum client satisfaction to encourage reuse and word-of-mouth referrals.

Policy 9-3: Maintain the building as a countywide historic site open to the public by providing tours, exhibits, information, and programs.

Implementation Strategies

- Establish the Historic Courthouse as a focal point for information about the history of county and municipal government.
- Expand the breadth of programs offered such as speakers, children’s programs, historic education seminars, concert and lecture series, and arts and theater events.
- Maximize exhibit space.
 - Maintain less long-term rental of building space.
 - Review rental space for possible re-use as research and or exhibit area.
 - Provide regularly scheduled public tours of the building and grounds.
 - Partner with local history organizations by offering display space on a rotating basis.
 - Explore opportunities to cooperate with the Washington County Historical Society and other local preservation groups.
- Enhance the county website to provide more historical information and links to other websites with historical information.
- Expand community outreach and education.
 - Target promotion to public and private groups.
 - Expand breadth of programming.

- Seek more support and use from residents throughout the county.
- Distribute courthouse exhibits and programs to all areas in the county.
- Promote Historic Courthouse at community events.
- Establish a program of reenactments of historic events.
- Market to a broader diversity of visitors.
- Focus marketing strategies on attracting nontraditional visitors such as young families, middle-aged people and younger volunteers.

Policy 9-4: Maintain a niche for the Historic Courthouse in providing a unique venue for private events.

Implementation Strategies

- Accentuate the historic characteristics of the building and incorporate these features into the experience of private event rentals.
- Coordinate private rentals to minimize loss of opportunities for public uses.

Goal 9-2

Work to retain important historic contexts and features, including structures, historically important landscapes, archaeological sites, and pedestrian-oriented village development patterns.

Policy 9-5: Continue to acknowledge the county's history when planning, preserving, and developing its infrastructure.

Implementation Strategies

- Through the environmental review and Section 106 process, follow state and federal laws in protecting historic sites on the Historic Register when designing and siting county-sponsored projects such as facilities, roads, parks, and other physical structures. Avoid impacts where possible and mitigate where not.
- Be sensitive to sites that are not on the National Register but which are historically important locally or are locally designated.



- Use information from the Washington County Historic Contexts Study, as well as state and local contexts, as a baseline for evaluating properties.
- Use historical information and assessments in county planning processes.
- Investigate opportunities to identify and interpret historic Native American activities in the Washington County park system.

Policy 9-6: Continue to preserve natural, scenic, open, and agricultural landscapes and encourage preservation of historic sites through land planning activities.

Implementation Strategies

- Maintain low-density housing development and site new houses carefully through lot averaging and open space design developments.
- Advocate development that is in keeping with historic town land use patterns.
- Encourage open space developments as a way to preserve historic landscapes.
- Analyze the impact on historical resources during the development process.
- Encourage local governments and others to preserve significant historic sites, such as churches, residences, industrial sites, bridges, railroad depots, archaeological sites, and landscapes.

Policy 9-7: Provide stewardship of county-owned historic properties.

Implementation Strategies

- Consider public and private funding sources to adequately maintain the county's historic properties.

Policy 9-8: Collaborate with the Washington County Historical Society, cities, and others to promote and interpret county history with events and public information.

Implementation Strategies

- Support the interpretation of historic structures and contexts located in county parks.
- Include a historic preservation and stewardship component in all Washington County park master plans.
- Investigate a county signage program along county roads and trails to identify and/or interpret historic sites.
- Continue supporting activities at the Washington County Historic Courthouse that foster knowledge and appreciation of the county's heritage.

Policy 9-9: Provide information on historic sites to the appropriate organization as surveys and information are available.

Implementation Strategies

- Work with the State Historical Preservation Office and local history groups to maintain and provide information on historic sites.
- Help provide information to aid historic preservation.
- Document and evaluate the historical aspects of county-owned properties as part of maintenance and development plans.

Policy 9-10: Encourage communities to preserve historic properties through their planning and preservation efforts.



Priority Actions

1. Evaluate the current uses of the Historic Courthouse and develop strategies to increase public spaces and uses of the facility.
2. Increase the number of public events and opportunities for the public to experience the Historic Courthouse.
3. Explore the possible funding opportunities provided by the 2009 sales tax increase dedicated for arts, cultural, and historical resources.
4. Develop stronger coordinated marketing activities and program partnerships with local historical organizations.
5. Establish a permanent exhibit at the Historic Courthouse and enhance the diversity of seasonal exhibits.



APPENDIX 9-A

National Register of Historic Places Washington County Summary of Sites

1. **Bergstein, Moritz, Shoddy Mill and Warehouse, Oak Park Heights**
Rubble and dressed stone mill and frame warehouse built ca. 1890 by Germanic Jewish immigrant to gain foothold in Minnesota economy by recycling fabric or shoddy for mattress production.
2. **Chicago Milwaukee and Saint Paul Depot and Freight House, Stillwater**
Brick combination depot (1883) on locally quarried limestone foundation; housed town's telegraph office.
3. **Copas, John, House, Scandia**
Frame residence (ca. 1880) built on site of 1857 homestead of early settler, merchant, and farmer.
4. **Cushing Hotel, Afton**
Modest frame hotel built in 1867 in small river town to lodge railroad workers, lumbermen, and travelers.
5. **Cyphers, John T., House, Lakeland**
Small cottage with thick exterior walls of grout, a form of early concrete construction, built by Cyphers in 1858.
6. **Erickson, Johannes, House, Scandia**
Log dwelling with gambrel roof built in 1868 by Swedish immigrant Erickson.
7. **Furber, John P., House, Cottage Grove**
Italianate frame residence constructed by Furber in 1871, the same year he platted Cottage Grove.
8. **Grey Cloud Lime Kiln, Cottage Grove**
Kiln of loose-stone construction built ca. 1850 adjacent to limestone quarry to furnish building material to nearby cities and soil agent to local farmers.
9. **Hay Lake School, Scandia**
Brick school with bell tower built in 1895 by Scandia residents.
10. **Heath Summer Residence, Stillwater Township**
(removed)
11. **Hersey, Roscoe, House, Stillwater**
Eastlake/Queen Anne residence designed by George Orff



APPENDIX 9-A

and built in 1879-80 for partner in land, lumber, and mercantile company.

12. **Jackson, Mitchell, Farmhouse, Lakeland**
Greek Revival frame house (ca. 1850) of farmer whose diaries (1854-71) document mid-century agricultural and civic pursuits.
13. **Jenks, Austin, House, Stillwater**
Victorian brick residence with mansard-roofed tower built in 1871 for Captain Jenks, a river pilot and ship owner involved in log rafting.
14. **Lammers, Albert, House, Stillwater**
Elaborate Queen Anne frame residence built in 1893 for partner in one of Stillwater's leading family lumber businesses.
15. **Log Cabin, Oak Park Heights**
Roadhouse built in 1932 featuring symbolic log-cabin design to attract motorists.
16. **Marine Mill Site, Marine on St. Croix**
Site of steamboat levee and state's first commercial sawmill (opened in 1839), which set stage for Minnesota's white pine lumbering industry.
17. **Marine on Saint Croix Historic District, Marine on St. Croix**
Mid-19th-century lumbering town, encompassing civic/business district and residential areas populated by New England and Swedish settlers.
18. **McKusick, Ivory, House, Stillwater**
Small French Second Empire frame residence built in 1868 for lumberman and surveyor.
19. **Mower, John and Martin, House and Arcola Mill Site, May Township**
Large Greek Revival residence (1847) of Mower brothers, who founded town of Arcola and built one of earliest St. Croix lumber mills.
20. **Nelson School, Stillwater**
Georgian/Classical Revival, two-story brick school designed by Orff and Guilbert and built in 1897.
21. **Oliver, John, House, Lakeland**
Greek Revival frame residence built in 1849 for Captain Oliver, a British naval officer, early Lakeland settler, and St. Croix River ferry operator.



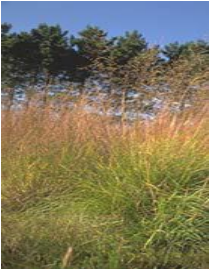
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22. **Pest House, Stillwater Township**
Frame building constructed ca. 1872 as community institution to house persons afflicted with contagious diseases.
23. **Point Douglas-Saint Louis River Road Bridge, Stillwater**
Stone arch bridge of locally quarried limestone built in 1863 on a U.S. government military road.
24. **Sauntry, William, House and Recreation Hall, Stillwater**
Large Queen Anne frame residence (1891) and whimsical Exotic Revival recreation facility (1902) built by prosperous businessman for entertaining.
25. **Schilling Archaeological District, Cottage Grove**
Habitation site and mound group with several Pre-contact Period components.
26. **Severance, Cordenio, House (Cedarhurst), Cottage Grove**
County estate of prominent St. Paul attorney, an Italianate frame house transformed in 1917 through a Classical Revival addition by Cass Gilbert.
27. **Sheffield, Benjamin B., House (Croixsyde), May Township**
Early St. Croix summer residence, a large log house designed in 1922 by Chilson D. Aldrich for grain milling executive.
28. **Soo Line High Bridge, Stillwater Township**
Multiple-span steel arch railroad bridge with technical innovations by engineer/designer C. A. P. Turner and built in 1910-11.
29. **Spangenberg, Charles, Farmstead, Woodbury**
Large farmhouse (1871) of locally quarried limestone, frame barn (ca. 1887), and granary (ca. 1875) built by German immigrant farm family.
30. **St. Croix Boom Company House and Barn, Stillwater Township**
Queen Anne frame residence constructed ca. 1885 for Superintendent W. F. McGray by company that built and managed St. Croix log boom.
31. **St. Croix Boomsite (National Historic Landmark), Stillwater Township**
Terminus of state's great log drives, the earliest and longest-lived site (1856-1914) for storing, sorting, and rafting logs for mills downstream.



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32. **St. Croix Lumber Mills/Stillwater Manufacturing Company, Stillwater**
Limestone powerhouse (1850) of Stillwater's second mill, purchased in 1869 by Isaac Staples, leading businessman and milling company founder.
33. **St. Croix River Access Site, Stillwater Township**
Habitation site with evidence of stone tool production dating from ca. A.D. 800 to 1700.
34. **State Prison Historic District, Bayport**
Brick prison complex (1910-14) built on French "telegraph pole" plan, and two wardens' residences, all designed by State Architect Clarence H. Johnston Sr.
35. **Stillwater Bridge, Stillwater**
Ten-span, concrete-and-metal vertical lift highway bridge of Waddell and Harrington type, built in 1931.
36. **Stillwater Commercial Historic District, Stillwater**
Central business district of 19th-century river town, encompassing largely brick commercial buildings of various styles (1860s-1930s).
37. **Stillwater Overlook, Oak Park Heights**
Rustic-style wayside designed to provide views of St. Croix River Valley by landscape architect Arthur R. Nichols, built in 1938 for state highway department by NYA.
38. **Stussi, Henry, House, Stillwater Township**
Victorian Gothic brick residence built in late 1870s for miller Stussi from plan in Palliser and Palliser's American Cottage Homes.
39. **Territorial/State Prison, Stillwater, Stillwater (Removed)**
Brick warehouse and manufacturing buildings (1884-98) of prison operated 1849-1914, with convict labor contracted to local manufacturers.
40. **Territorial/State Prison Warden's House, Stillwater**
Greek Revival dwelling of locally quarried limestone with frame additions; served as warden's residence 1853-1914.
41. **Valley Creek Residences: Bolles, Erastus, House, Afton**
Greek Revival dwelling remaining from American immigrant community: Bolles 1856 by blacksmith.
42. **Valley Creek Residences: Gilbert, Newington, House, Afton**
Greek Revival dwelling remaining from American immigrant community: Gilbert House built by mill owner.



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- 43. **Washington County Courthouse, Stillwater**
Italianate/Classical Revival, second-generation brick courthouse, jail, and sheriff's residence designed by Augustus F. Knight and built in 1867-70.
- 44. **Webster, Mortimer, House, Stillwater**
Italian Villa-style frame residence built in 1865-66 for New York immigrant and real estate developer.

Source: State Historic Preservation Office, January 2009



APPENDIX 9-B

Historic Inventory Property Counts by Community

CITY/TOWNSHIP	Count
Afton	61
Bayport.....	41
Baytown Township.	6
Birchwood Village	2
Cottage Grove	212
Dellwood	1
Denmark Township.	17
Forest Lake	2
Forest Lake Township.	2
Grant	1
Grey Cloud Island	2
Grey Cloud Island Township.	1
Hugo	74
Lake Elmo	18
Lake St. Croix Beach	1
Lakeland	17
Mahtomedi	3
Marine on St. Croix	16
May Township.....	11
Newport	96
Oak Park Heights.....	160
Oakdale	2
Scandia	27
St. Paul Park	23
Stillwater	1,476
Stillwater Township	12
West Lakeland Township.....	3
Woodbury	14
TOTAL.....	2,303

Source: Minnesota State Historic Preservation Office, January 2009