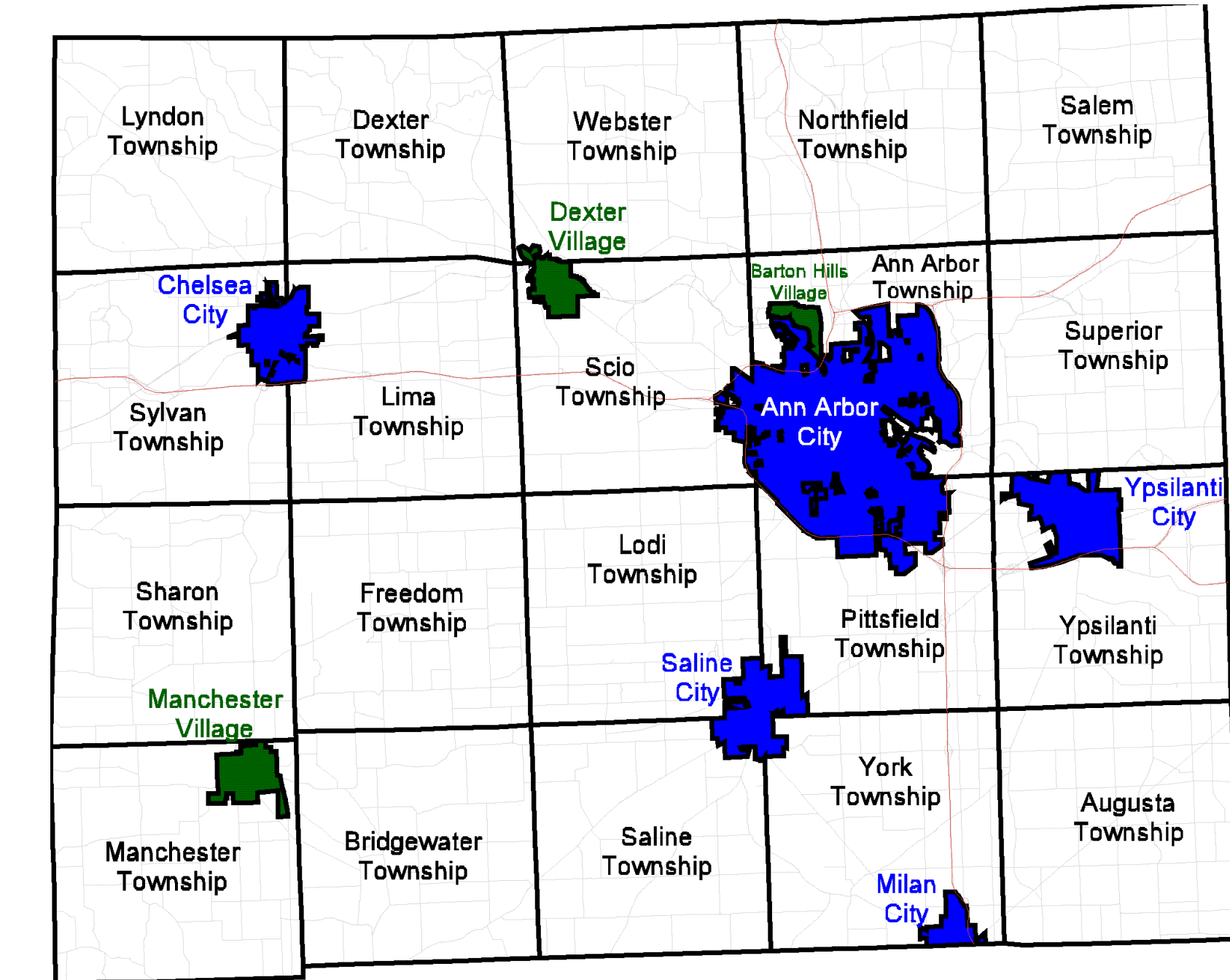


Chapter 11

Sewer and Water Services

Washtenaw County



11.1 Purpose

Provision of sewer and water services has significant impacts on how our County develops and functions. The extension of services from cities has allowed suburban development in adjacent townships and the development of new systems has resulted in new growth areas throughout the County. Providing services in the future will require a coordinated approach among local governments, not only to avoid duplication and provide services in the most cost-effective and sustainable manner, but also to ensure that the location and density of new development is consistent with master plans across jurisdictional boundaries. Maintaining and improving our surface and groundwater quality can also be achieved through a coordinated approach in the areas of eliminating older septic systems and managing land uses near public water supplies.

11.2 Resident Comments

Residents recognize the interconnection between the provision of services and development within the County, and have identified many challenges for the County to overcome in the next 20 years. The extension of services from cities has allowed suburban development in adjacent townships and the development of new systems has resulted in new growth areas throughout the county. Resident comments on issues and opportunities include:

Highlights of Resident Comments from Regional Workshops

For a complete list of resident comments see the Public Participation Support Document.

- Sprawl and the loss of agricultural land as the result from the extension of sewer and water lines into rural areas. According to residents in the rural areas of the County, they do not want water and sewer because it causes development and growth pressures.
- Utilities as a way to control sprawl. Many residents feel that sewer and water services should be increased in developed areas, rather than rural areas, which would assist with the preservation of agricultural land and open space.
- Maintenance and quality of utilities is deteriorating. According to residents, sewers are not up to the same government specifications and there is an overloading of the existing infrastructure. This is due to mounting pressure for more urban density and minimal commitment to addressing aging and failing infrastructures, especially water.

Sewer and Water Services Goal

The following goal of the Sewer and Water Services Element is based on these resident comments and analysis of conditions and trends:

GOAL: To plan and provide sewer and water systems that meet the needs of future residents and businesses while promoting growth management, land use and environmental goals of the comprehensive plan.

11.3 Condition and Trends

Within Washtenaw County over 70 percent of households are currently served by municipal water and sewer services. The maps (Figures 11-1 and 11-2) at the end of this chapter identify existing and future sewer and water service areas. The major service providers in Washtenaw County for central water and sewer are the City of Ann Arbor and the Ypsilanti Community Utilities Authority (YCUA). Other service providers and collaborative efforts are shown in Table 11-2.

Current sources of water for public water systems include the Huron River, the Detroit River from the City of Detroit Water System and groundwater. Except for portions of Augusta Township and York Township there is adequate supply of acceptable groundwater in Washtenaw County to support most uses.

Within the past 15 years, water and sewer services have been developed in the more rural areas of Washtenaw County to address specific needs either to support new development or address longstanding environmental and public health issues.

The trends affecting water and sewer services in Washtenaw County can be categorized into two areas; planning for new development and protecting public health and the environment.

11.4 Planning for New Development

System Expansions for New Development

There are some instances where local master plans show densities that will require central water and sewer services, but these master plans do not include plans for providing these services. To ensure a coordinated approach to land use and services, these plans should be updated to have a program for services or to adjust land use densities to a level that can be accommodated without central services. Additionally, it is important for communities to proactively plan for those areas where higher densities should occur. In these areas, provision of central water and sewer services should be addressed.

OBJECTIVE 1

Promote compact development patterns, minimize development impacts across jurisdictional borders and increase systems efficiencies.

Recommendation 1.1

Infill Development Capacity

Assist local units of government in identifying infill development opportunities and system capacity improvements needed to accommodate infill development.

Recommendation 1.2

Activity Center Capacity

Assist local units of government in identifying new activity centers and developing plans to provide water and sewer services to these areas.

Recommendation 1.3

Regional Systems

Encourage the development of regional systems that are consistent with and promote the plan's goals, objectives and policies.

Recommendation 1.4

Urban Service District Capacity

Work with local units of government to prepare urban service district plans identifying areas that will be served, the level of development and capacity needed, the timing of service and cost/revenue sharing arrangements.

Recommendation 1.5

Community Systems Operation

Encourage the proper operation and maintenance of community systems through municipal control or through binding legal agreements, special assessment districts, or other permanent operation and maintenance arrangements.

Intergovernmental Cooperation

Several townships have been able to work cooperatively to create regional authorities to address common utility service needs. Often times this has crossed County boundaries such as the Portage – Baseline Lakes Water and Sewer Authority and the Multi-Lakes Water and Sewer Authority. These systems are examples of shared ownership and control.

However, in some cases, lack of intergovernmental cooperation and struggles over future tax base has created situations where duplication of services can occur. Cities and villages that provide water and sewer services are reluctant to offer those services outside their jurisdictions without annexation of the property being served. This issue is leading some townships to construct water and sewer services adjacent to existing infrastructure. Some communities are negotiating Act 425 agreements which allow for sharing of tax revenues. These agreements offer one method for central water and sewer systems to be extended across political boundaries and reduce duplication of services.

Small Community Systems

Because of potential liability, such as for long term system operation or potential lawsuits related to high density developments in rural areas, most communities were reluctant to approve systems built for private developments. For many years, The Department of Environmental Quality interpreted state law to require that local communities approve and be liable for all public sewer systems that were constructed within their jurisdiction. Recently, that rule was challenged in court and it was determined that private developers could build their own wastewater collection and treatment systems without local unit approval and involvement. While local governments still control land use densities and locations through their master plans and zoning ordinances, this change in small community system approvals process could add to the pressure for development in rural areas.

Recommendation 1.6

Public Facilities Ordinances

Encourage local units of government to adopt Adequate Provision of Public Facilities Ordinances to ensure that services are available prior to new development approval, consistent with local master plans and urban service district plans.

Recommendation 1.7

County Financing Support

Offer the County’s full faith and credit financing for system expansion and new systems that are consistent with and promote the plan’s goals, objectives and recommendations.

1995



2002



Potential Effects of Uncontrolled Small Community Wastewater Systems Manufactured Home Community in Salem Township
Source: Washtenaw County Department of Planning and Environment

The effect of this change in interpretation may lead to dispersed development patterns. To address this issue, communities require better tools for the regulation of land uses, such as adopting urban service districts showing where higher density growth is permitted and prohibited.

11.5 Protecting Public Health and the Environment

Pollutant Loading to Surface Waters

The Huron River watershed dominates much of Washtenaw County and is the receiving stream for several wastewater discharges. River systems are an acceptable discharge medium for properly treated wastewater but for the Huron River, downstream lakes and impoundments create a concern for accumulation of the nutrient phosphorus which aggravates weed and algae growth in lakes. State and Federal environmental agencies have placed a Total Maximum Daily Load (TMDL) on phosphorus in the Huron River. This requires that point sources of phosphorus, such as municipal wastewater discharges, are treated to a very high degree. Existing municipal treatment plants are required to continually improve their treatment processes. New sources of phosphorus, in terms of new discharges to the Huron River, are highly discouraged. If a new discharge is allowed it will be required to provide a very high degree of treatment, of which, long term effectiveness has not been demonstrated.

This has led to consideration of looking at other watersheds for discharge of wastewater. Sylvan Township recently completed a wastewater collection system that transports sewage to Leoni Township in Jackson County with ultimate discharge to the Grand River watershed. In the past the Ypsilanti Community Utilities Authority began pumping their effluent to the Rouge River watershed rather than the Huron River. There will be pressure for this trend to continue in the future to accommodate development needs in certain areas of the County.

Groundwater Supply

Most of Washtenaw County residents have access to good quality and quantity of groundwater. This is due to the glacial geology of the area. An exception is a portion of Augusta and York Townships which have both quantity and quality issues with groundwater supplies. This problem arises from the fact that the area is part of an old lake bed with lake plain sediments requiring reliance on limestone formations for water supplies.

Failure to protect groundwater supplies and ultimate contamination can lead to the need for expansion of central water supply systems. Previous examples of this would be leaking underground storage tanks or industrial discharges to the ground that adversely affect groundwater quality.

OBJECTIVE 2

Ensure the protection of public health and environment through good stewardship in the provision of water and sewer services.

Recommendation 2.1

Reduce Pollutant Loading

Encourage all centralized sewage systems to coordinate efforts to address reducing critical pollutant loading to the County's rivers and streams.

Recommendation 2.2

Infiltration and Inflow

Encourage local units of government to aggressively inspect new construction for compliance with plumbing code and sewer ordinance requirements and assist with identifying possible financing options to eliminate roof and foundation drain connections.

Recommendation 2.3

Groundwater Protection

Ensure the protection of groundwater resources by encouraging proper planning and land use in groundwater recharge protection zones.

Wellhead protection plans which create local regulations for control of land use and prevention of pollution and groundwater contamination are necessary to protect major sources of groundwater. As an additional effort to protect groundwater supplies the Washtenaw County Board of Commissioners approved new well regulations which went into affect in March 2004. These regulations will further protect groundwater by assuring proper abandonment of old wells and requiring permits for all new wells, even non potable wells.

In addition, as new central water supply systems are built, the need for specific treatment, such as iron removal, softening or fluoridation should be considered to assure that costs to individual homeowners are minimized.

Infiltration and Inflow

Sanitary sewer systems are not designed to handle extraneous flows generated from rainfall events or high water tables. However in some cases, due to deteriorating sewer conditions or the improper connection of household roof and foundation drains, rainwater and groundwater can find its way to a sanitary sewer. The resulting high flows can lead to surcharge of the sewer causing backups in to basements and in some cases overflows to surface waters. This is more of a problem in established urban areas with older sanitary sewer systems. Some areas in the City of Ann Arbor have a severe basement flooding problem during high rainfall events. Over the years, lax plumbing inspections or illegal connections have resulted in roof drains and foundation drains being connected to sanitary sewers. This problem is difficult to address in a comprehensive manner because methods of public financing limit the capability to fund for improvements on individual lots to disconnect roof and foundation drains.

Lakeside Residential Areas

There are many lakeside residential areas in Washtenaw County that have historically featured clusters of small houses and cottages at higher residential densities than their immediately surrounding areas. In years past, the majority of these residences were used for seasonal and weekend recreational uses. With the growth of population and jobs, smaller lakes in rural areas are now within commutable distances and attract year round residences. Larger homes and year round living has resulted in failure of on-site sewage systems causing environmental damage to the water quality of the lakes. This creates public health concerns due to close proximity of water wells to sources of on-site pollution.

Recommendation 2.4

Well Regulation

Build upon the new well regulation and address issues related to groundwater contamination, extraction (including mining operations) and abandoned wells.

Chapter 11

To address these problems, some townships have collaborated to build sewer systems around densely populated lake areas particularly in the northwest portion of Washtenaw County in Northfield, Webster, Dexter and Lyndon Townships. Additionally, a new system is planned for other lake areas in Sylvan and Lyndon Townships. Problems with on-site sewage disposal systems have also been documented around lake communities in Manchester and Freedom Townships.

Failing On-Site Systems

Septic systems are designed to minimize nutrients and human pathogens that may enter into our groundwater, wells and surface waters. While the current standards for the design and location of these systems provide a high degree of protection, many areas of the County are experiencing system failures due to small lot sizes, poor soils and the age of on-site disposal systems.

On January 1, 2000, Washtenaw County initiated a regulation under the Health Code to require inspections of on-site sewage and water systems at the time of sale of property or transfer of ownership. This “Time of Sale” inspection program has created a better understanding of problems with on-site systems. Approximately 15 to 20 percent of systems that have been inspected have demonstrated deficiencies of one sort or another. The information generated from this program will be useful for future planning for centralized water and sewer systems.

- 18% of the septic systems inspected were failing or inadequate.
- One out of every 18 septic systems (5.5%) had an illicit discharge.
- 15% of the wells inspected did not have adequate protection against contaminants.
- One out of every 7 wells tested (14%) showed chemical or bacterial contamination.

Table 11-1: Time of Sale Inspection Statistics

- City of Ann Arbor (also provides service to Ann Arbor, Superior, Scio and Pittsfield Townships)
- Ypsilanti Community Utilities Authority (also provides service to Augusta, Pittsfield and Superior Townships, and western Wayne County communities)
- City of Milan (also provides sewer services to York Township for the Hamlet of Mooreville)
- City of Saline
- City of Chelsea
- Village of Dexter
- Village of Manchester
- Salem Township
- Northfield Township
- Sylvan Township Water and Sewer Authority (includes Sylvan, Lyndon and Lima Townships)
- Multi-Lakes Water and Sewer Authority (includes Dexter and Lyndon Townships, and parts of Livingston County)
- Portage/Baseline Lake Water and Sewer Authority (includes Dexter and Webster Townships and parts of Livingston County)
- Other Small Service Providers

Table 11-2: Service Providers including Collaborative Efforts

Figure 11-1: Sewered Areas - Current & Future

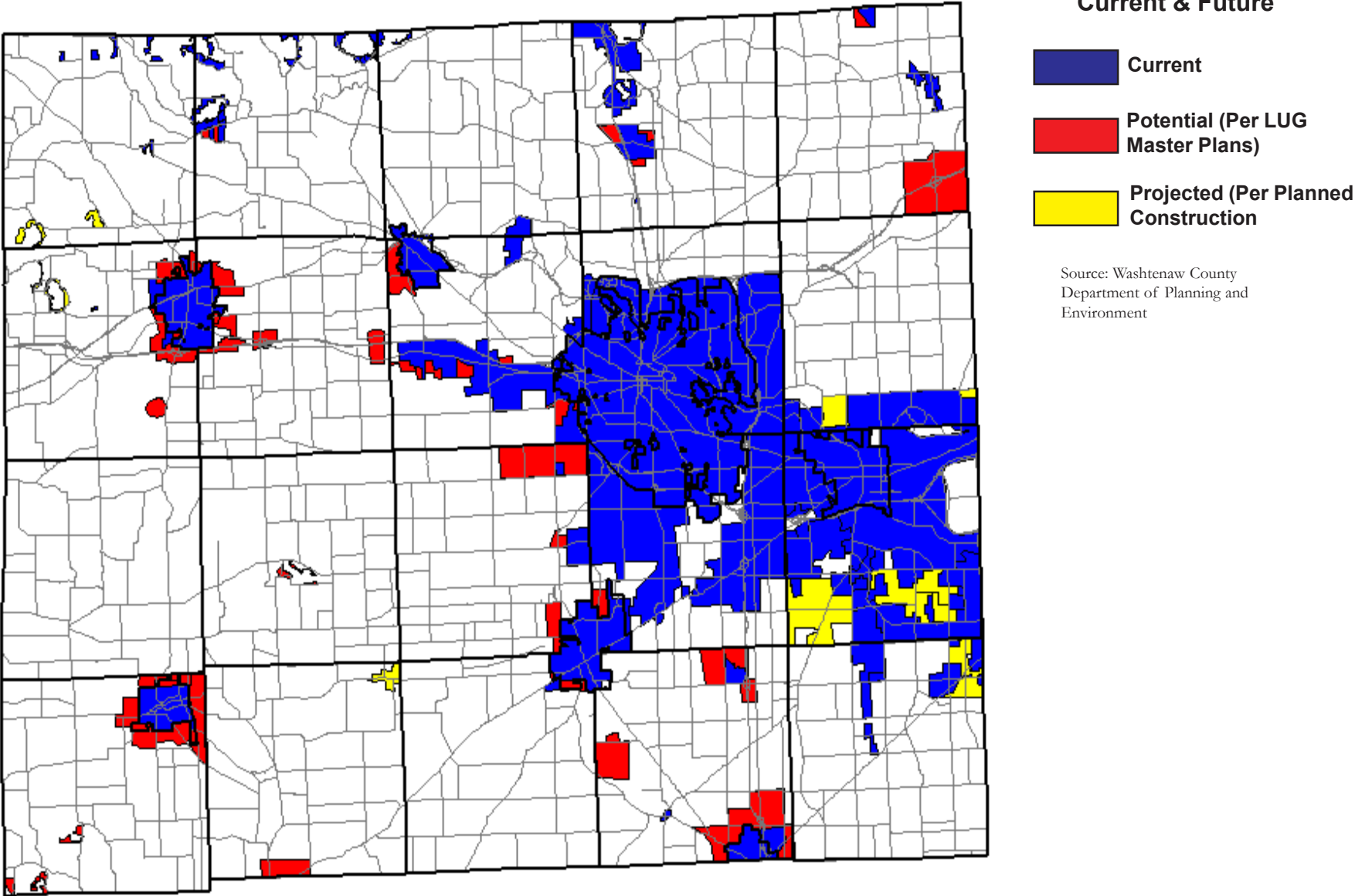
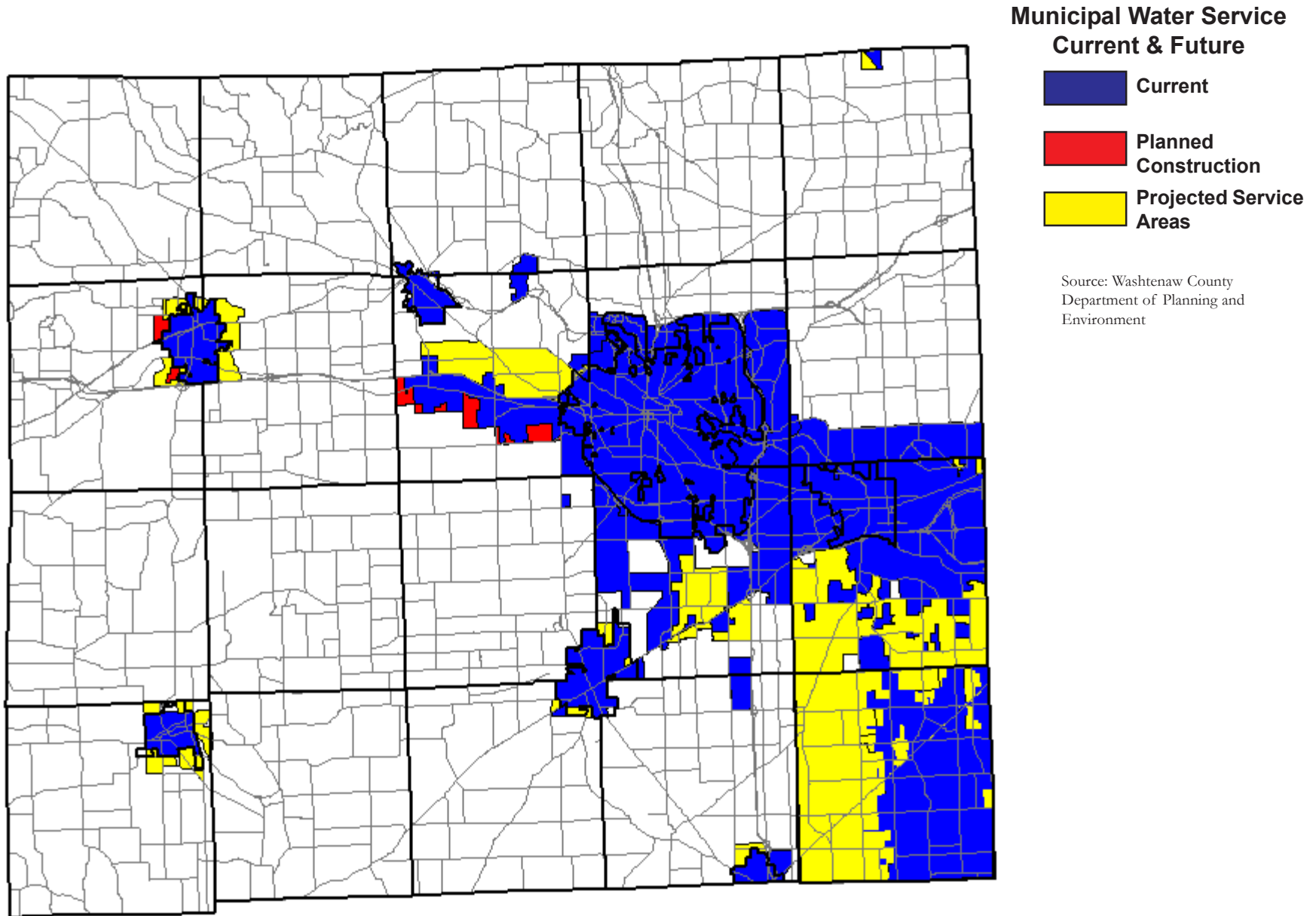


Figure 11-2: Municipal Water Service - Current & Future



11.6 Summary

GOAL

To plan and provide sewer and water systems that meet the needs of future residents and businesses while promoting growth management, land use and environmental goals of the comprehensive plan.

OBJECTIVE 1

Promote compact development patterns, minimize development impacts across jurisdictional borders and increase systems efficiencies.

Recommendation 1.1

Infill Development Capacity

Assist local units of government in identifying infill development opportunities and system capacity improvements needed to accommodate infill development.

Recommendation 1.2

Activity Center Capacity

Assist local units of government in identifying new activity centers and developing plans to provide water and sewer services to these areas.

Recommendation 1.3

Regional Systems

Encourage the development of regional systems that are consistent with and promote the plan's goals, objectives and policies.

Recommendation 1.4

Urban Service District Capacity

Work with local units of government to prepare urban service district plans identifying areas that will be served, the level of development and capacity needed, the timing of service and cost/revenue sharing arrangements.

Recommendation 1.5

Community Systems Operation

Encourage the proper operation and maintenance of community systems through municipal control or through binding legal agreements, special assessment districts, or other permanent operation and maintenance arrangements.

Recommendation 1.6

Public Facilities Ordinances

Encourage local units of government to adopt Adequate Provision of Public Facilities Ordinances to ensure that services are available prior to new development approval, consistent with local master plans and urban service district plans.

Recommendation 1.7

County Financing Support

Offer the County's full faith and credit financing for system expansion and new systems that are consistent with and promote the plan's goals, objectives and recommendations.

OBJECTIVE 2

Ensure the protection of public health and environment through good stewardship in the provision of water and sewer services.

Recommendation 2.1

Reduce Pollutant Loading

Encourage all centralized sewage systems to coordinate efforts to address reducing critical pollutant loading to the County's rivers and streams.

Recommendation 2.2

Infiltration and Inflow

Encourage local units of government to aggressively inspect new construction for compliance with plumbing code and sewer ordinance requirements and assist with identifying possible financing options to eliminate roof and foundation drain connections.

Recommendation 2.3

Groundwater Protection

Ensure the protection of groundwater resources by encouraging proper planning and land use in groundwater recharge protection zones.

Recommendation 2.4

Well Regulation

Build upon the new well regulation and address issues related to groundwater contamination, extraction (including mining operations) and abandoned wells.