

Chapter 4

COMMUNITY FACILITIES AND UTILITIES ELEMENT

INTRODUCTION

With 37 municipalities in Waukesha County, community facilities and utilities are important in providing high quality services to enhance the safety and welfare of County residents. The major community facilities and utilities within the county include telecommunications infrastructure, public and private utilities, school districts, libraries, cemeteries, healthcare facilities, childcare facilities, and public safety.

WAUKESHA COUNTY COMMUNITY FACILITIES AND UTILITIES STRENGTHS, CONCERNS AND WEAKNESSES

The Waukesha County Comprehensive Planning Community Facilities and Utilities Element subcommittee expressed the following strengths, concerns, and weaknesses.

Community Facilities and Utilities Strengths

- **Waukesha County operates a state of the art central communication center for police, fire, and emergency response**
All municipalities within Waukesha County have the opportunity to become a part of the County's central communication center for dispatching emergency calls. The ultimate goal is to have all municipalities in the county participate.
- **Waukesha County has an extensive network of police and fire departments**
Twenty-four municipal police departments, the Waukesha County Sheriffs Department, and the Wisconsin State Patrol provide law enforcement services to Waukesha County residents. Thirty fire departments operate 51 fire stations within the County.
- **As an agent for the Department of Commerce, Waukesha County has assured that private sewage systems are properly designed, sited and maintained**
The use of private sewage systems provides for development in areas not served by municipal sewer; infill development of vacant lots; returns groundwater to the aquifer; prevents most replacement systems from using sewage holding tanks; and are a cost effective means of providing safe on-site sewage disposal.
- **Waukesha County municipalities have well planned sewer service areas**
These sewer service areas allow for higher density development and adequate services for residential and business growth.
- **Waukesha County has a nationally recognized recycling program**
Thirteen villages, and seven towns participate in the Waukesha County Recycling Program.
- **Waukesha County has an excellent public school system and several districts are nationally recognized for their performance**
Twenty public school districts and 54 private schools within Waukesha County provide K-12 education to over 80,000 students. These exceptional educational institutions are a major reason why families are attracted to Waukesha County.
- **Private electric, gas, phone and cable systems are in place to meet projected county growth**
The intermediate population growth projection for Waukesha County is 446,768 residents by Year 2035. The existing private electric, gas, phone, and cable systems are in place to meet the County's growing population.

Community Facilities and Utilities Concerns and Weaknesses

- **Businesses compete in a global environment and it is very important to make certain that all new business parks are built with the necessary infrastructure**
In the 1970s, the biggest concern for industrial parks was adequate municipal sewer and water capacity. Today, the biggest concern for business parks is the need for adequate fiber optics and wireless infrastructure to compete in a global business environment.
- **Concern about new technology private sewage systems that are available**
New technology is available for alternative on-site wastewater treatment systems (POWTS) to address soil conditions not suitable for in-ground conventional systems. The types of systems available demand that several Waukesha County divisions discuss and cooperate on all levels of land development.
- **New pharmaceutical products are creating concern about water quality**
public waste treatment and private on-site sewage systems do not have the capability to filter out pharmaceutical waste, which eventually ends up in surface and groundwaters.

UTILITIES

Telecommunications Service

In September 2006, SEWRPC adopted “A Wireless Antenna Siting and Related Infrastructure Plan” for Southeastern Wisconsin. This plan serves as the regional wireless plan for the southeastern Wisconsin region. The intent of the plan is to develop a high level of telecommunications service within the Region to maintain economic competitiveness and to help meet growing needs in such areas as public safety, emergency response, and home health care.

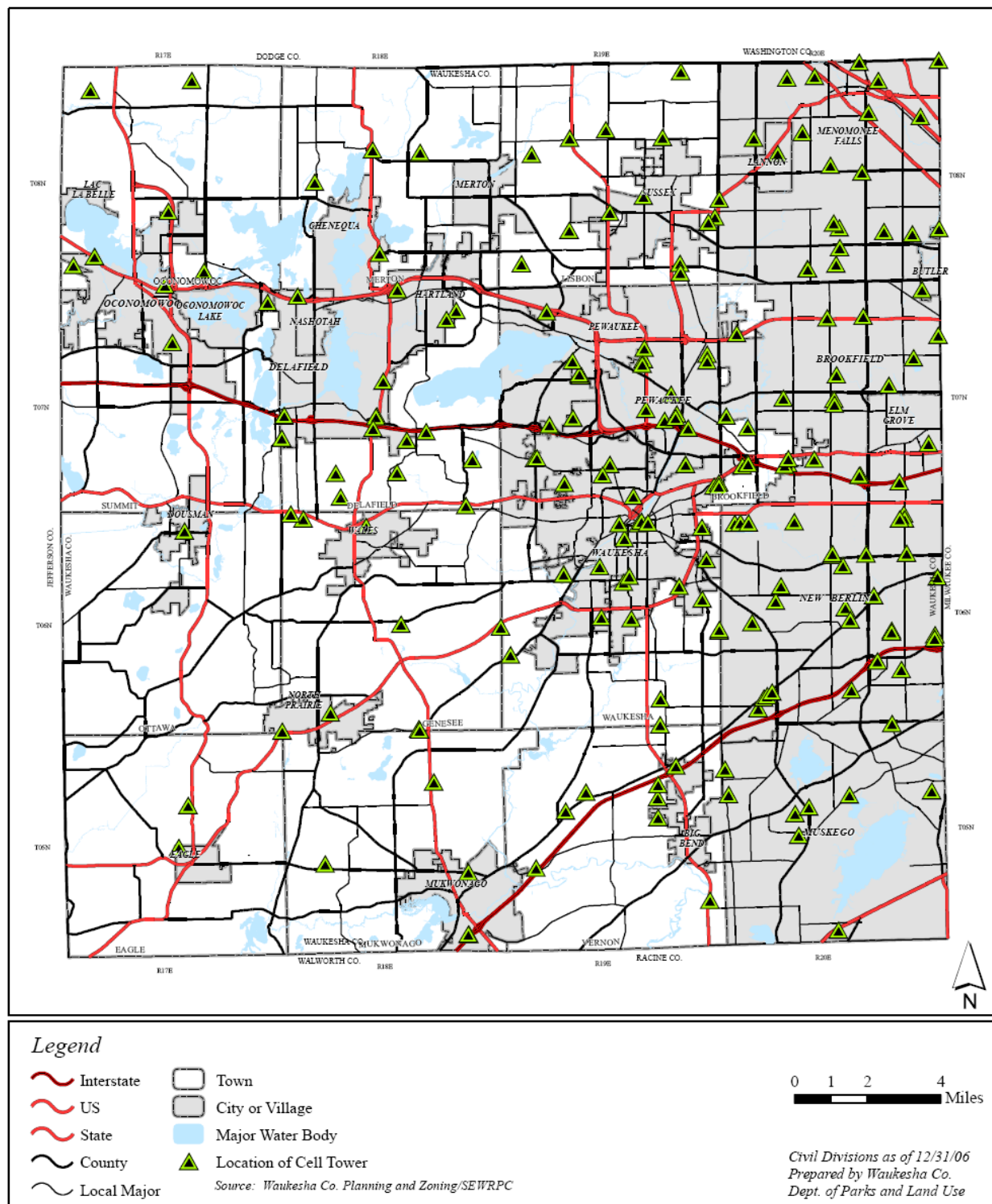
Although there are many telecommunication service providers, there are only a few basic types of communication services. These are: 1) Voice Transmission Services, including “Plain Old Telephone Service” (POTS) cellular wireless, satellite wireless, packet-based telephone networks, and Internet voice services; 2) Data Transmission Services, including the Internet, ATM-Frame Relay, and third generation (3G) cellular wireless networks; 3) Multimedia Services, including video, imaging, streaming video, data, and voice; and 4) Broadcast Services, including AM/FM terrestrial radio, satellite radio and television, terrestrial radio and television, terrestrial television, and cable television.

Two hundred and seventy six cellular tower antenna sites exist in Waukesha County, (Map IV-1). This includes City of Oconomowoc – 10 sites; Cities of Delafield and Pewaukee – 13 sites each; City of New Berlin – 15 sites; City of Muskego – 17 sites; City of Waukesha – 26 sites; City of Brookfield – 30 sites; Villages of Big Bend, Butler, Chenequa, Oconomowoc Lake, Sussex and Wales – 1 site each; Villages of Dousman and Eagle – 2 sites each; Village of Lannon 3 sites; Villages of Hartland and North Prairie – 4 sites each; Villages of Elm Grove and Mukwonago – 5 sites each; Village of Pewaukee – 9 sites; Village of Menomonee Falls – 28 sites; Town of Eagle – 2 sites; Town of Mukwonago – 5 sites; Town of Oconomowoc – 6 sites; Towns of Brookfield, Delafield, Merton and Waukesha – 7 sites; Town of Vernon – 9 sites; Town of Genesee – 16 sites; and Town of Lisbon – 18 sites.

Wireless (WiFi, WiMAX)

The first broadband wireless standard that served as an alternative to a wired local area network (LAN) was IEEE 802.11 or wireless fidelity (WiFi). Introduced in 1997, this standard initially utilized the frequency hopping spread spectrum (FHSS) technology operating in the 2.4 gigahertz band. The frequency hopping spread spectrum technology was soon abandoned and replaced with direct sequence spread spectrums (DSSS-IEEE standards 802.11b) or orthogonal frequency division multiplexing (OFDM-IEEE standard 802.11g) for physical layer operation. The 802.11b standard became the popular WiFi for coffee shops, airports, schools, hotels, and other

Map IV-1
WIRELESS TELECOMMUNICATION FACILITIES IN WAUKESHA COUNTY: 2006



locations where people are on the move. These locations are known as hot spots. The number of WiFi hot spots has grown rapidly in the Region over the last few years. The 802.11b standard has now been superseded by 802.11g which has connection speeds of up to 54 megabits per second.

A new major IEEE standard 802.16 (WiMAX) is due for release in 2006 in the form of standard 802.16d. WiMAX is an acronym for Worldwide Interoperability for Microwave Access. WiMAX is a long range version of 802.11 WiFi. WiMAX capabilities include extending the range of WiFi from 300 feet to up to 30 miles. WiFi will continue to serve as a low cost, high speed access network for direct interconnection with end users. The higher speed access and wireless services will provide enhanced services for both business development and local government public safety services. WiMAX is well positioned to serve as a backhaul network for localized WiFi access networks.

The proposed telecommunications plan that SEWRPC recommends for the Region consists of two levels of wireless networks—a wireless (WiMAX) backhaul network plan, and a pilot, community level, wireless (WiFi) access network plan. The backhaul network would have the capability to service a multitude of community level access points that would forward data to the backhaul network for cost effective Internet connection.

PUBLIC UTILITIES

Sewage Disposal and Water Supply

Sanitary sewerage and water supply utilities are particularly important to land use planning because the location and density of urban development influences the need for such services and, conversely, the existence of such services influences the location and density of new urban development. The extent and location of areas served by existing sanitary sewerage and water supply utilities are thus important considerations in any land use planning effort. The majority of sewerage and water supply utilities in the County are organized as sewer and water departments of incorporated municipalities and serve largely those areas within the respective political boundaries of the municipalities. A general pattern of sewer and water service areas following political boundaries rather than natural topographic boundaries, such as watershed boundaries, exists within the County.

Sanitary Sewerage Facilities

In 2000, Waukesha County was served by 10 public sewage treatment plants, seven of which were located within the County. The seven public sewage treatment plants located within the County are: the City of Oconomowoc sewage treatment plant, the Village of Dousman sewage treatment plant, the Delafield-Hartland Water Pollution Control Commission sewage treatment plant, the Village of Mukwonago sewage treatment plant, the City of Waukesha sewage treatment plant, the Village of Sussex sewage treatment plant, and the Fox River Water Pollution Control Center sewage treatment plant. Of the remaining three public sewage treatment plants serving Waukesha County, two, the Jones Island and South Shore treatment plants, both operated by the Milwaukee Metropolitan Sewerage District, are located in the City of Milwaukee and the City of Oak Creek, respectively, and one, the Town of Norway Sanitary District No. 1 sewage treatment plant, is located in the Town of Norway in Racine County. The locations of major public sewage treatment facilities and sewer service areas in the County are shown on Map IV- 2.

As indicated in Table IV-1 and shown on Map IV-2 , three of the public sewage treatment plants located within the County, those operated by the Villages of Dousman, Mukwonago, and Sussex, serve relatively small, localized areas and small populations and have design capacities under two million gallons per day. The remaining four public sewage treatment plants, those operated by the Delafield-Hartland Water Pollution Control Commission, by the City of Oconomowoc, by the City of Waukesha, and by the Fox River Water Pollution Control Center, all have design capacities exceeding two million gallons per day and serve much larger areas and populations. Substantial portions of the eastern quarter of the County, including portions of the Cities of Brookfield, Muskego, and New Berlin, and the Villages of Butler, Elm Grove, and Menomonee Falls, are served by two

Map IV-2 **EXISTING AND PLANNED SANITARY SEWER SERVICE IN WAUKESHA COUNTY:2006**

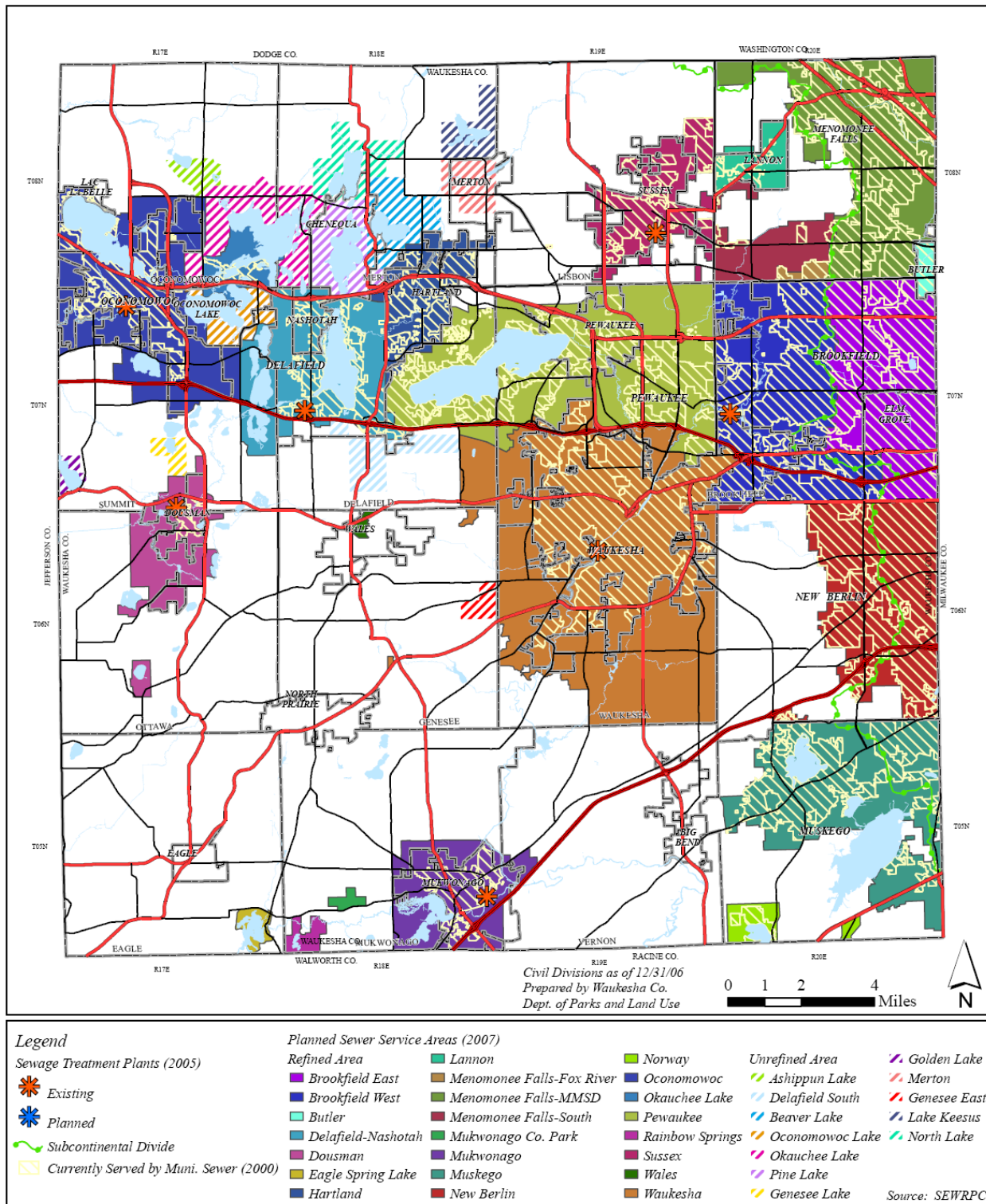


Table IV-1
SELECTED CHARACTERISTICS OF EXISTING PUBLIC SEWAGE TREATMENT FACILITIES IN WAUKESHA COUNTY: 2000

| Name of Public Sewage Treatment Plant | Estimated Total Area Served (square miles) | Estimated Total Population Served | Date of Original Construction and Major Modification | Sewage Treatment Plant Processes | Disposal of Effluent | Existing Loading: 1990 ^a | | |
|---|--|-----------------------------------|--|--|----------------------|-------------------------------------|---|---|
| | | | | | | Annual Average Hydraulic (mgd) | Maximum Monthly Average Hydraulic (mgd) | Average Annual Organic (pounds BOD ₅ /day) |
| Fox River Water Pollution Control Center ^b | 14.8 | 33,800 | 1973, 1984 | Phosphorus removal, activated sludge, sand filtration, chlorination, dechlorination, post aeration | Fox River | 6.74 | 10.36 | 8,332 |
| Delafield-Hartland Pollution Control Commission | 4.9 | 10,600 | 1980 | Rotating biological contactors, nitrification, sand filtration, chlorination, post aeration | Bark River | 1.40 | 1.50 | 2,252 |
| Village of Dousman | 0.4 | 1,300 | 1961, 1972, 1983 | Activated sludge (oxidation ditch), microscreen filtration, chlorination | Bark River | 0.22 | 0.26 | 317 |
| Village of Mukwonago | 1.0 | 4,400 | 1950, 1971 | Activated sludge, phosphorus removal, chlorination basin | Fox River | 0.51 | 0.68 | 606 |
| City of Oconomowoc ^c | 5.6 | 12,000 | 1935, 1976 | Activated sludge, sand filtration, chlorination | Oconomowoc River | 2.33 | 2.74 | 3,930 |
| Village of Sussex ^d | 1.7 | 4,400 | 1960, 1975, 1978 | Activated sludge, (contact stabilization), dual-media filtration, phosphorus removal, chlorination | Sussex Creek | 0.98 | 1.46 | 1,092 |
| City of Waukesha ^e | 13.4 | 50,300 | 1949, 1967, 1979 | Primary trickling and secondary filter, sand filters, phosphorus removal, chlorination | Fox River | 8.74 | 11.74 | 14,956 |

| Name of Public Sewage Treatment Plant | Design Capacity | | | | Reserve Capacity | | |
|---|-------------------------|-------------------------|------------------------------|-----------------------|---|------------------------------|------------------------------------|
| | Population ^f | Average Hydraulic (mgd) | Average Organic | | Average Hydraulic Capacity ^g (mgd) | Average Organic | |
| | | | Pounds BOD ₅ /day | Population Equivalent | | Pounds BOD ₅ /day | Population Equivalent ^f |
| Fox River Water Pollution Control Center ^b | 33,800 | 10.00 ^b | 15,200 ^b | 72,380 ^b | - ^b | 6,868 ^b | 32,700 ^b |
| Delafield-Hartland Pollution Control Commission | 20,800 | 2.20 | 3,740 | 17,800 | 0.70 | 1,488 | 7,080 |
| Village of Dousman | 2,200 | 0.35 | 584 | 2,780 | 0.09 | 267 | 1,270 |
| Village of Mukwonago | 4,400 | 1.50 | 2,502 | 11,910 | 0.83 | 1,896 | 9,030 |
| City of Oconomowoc ^c | 29,500 | 4.00 | 8,340 | 39,700 | 1.26 | 4,410 | 21,000 |
| Village of Sussex ^d | 4,400 | 1.00 ^d | 1,580 ^d | 7,520 ^d | - ^d | 488 ^d | 2,320 ^d |
| City of Waukesha ^e | 50,300 | 16.00 ^e | 20,000 ^e | 95,240 ^e | 4.26 ^e | 5,040 ^e | 24,000 ^e |

^aExisting loading data based upon values reported to the Wisconsin Department of Natural Resources for 1990.

^bAs of 1993, the City of Brookfield had completed facility planning for a plant upgrading and expansion to provide for a design hydraulic capacity of 12.5 mgd on an average daily flow basis.

^cIncludes data from the Town of Ixonia Sanitary District No. 2.

^dAs of 1993, the Village of Sussex was constructing a new sewage treatment plant with a design hydraulic capacity of 3.20 mgd on an average daily flow basis.

^eAs of 1993, the City of Waukesha was constructing an expansion and upgrading for this plant to provide for upgraded treatment efficiencies and capabilities to handle peak flows better. The new plant design hydraulic capacity is 14.0 mgd on a daily flow basis.

^fThe population design capacity for a given sewage treatment facility was obtained from plant operating personnel or directly from engineering reports prepared by or for the local unit of government operating the facility and reflects assumptions made by the design engineer. The population equivalent design capacity was estimated by the Commission staff by dividing the design BOD₅ loading in pounds per day, as set forth in the engineering reports, by an estimated per capita contribution of 0.21 pound of BOD₅ per day. If the design engineer assumed a different daily per capita contribution of BOD₅, the population equivalent design capacity shown will differ from the population design capacity shown in the table.

^gThe reserve hydraulic capacity was calculated as the difference between average hydraulic design capacity and maximum monthly average hydraulic loading.

Source: Wisconsin Department of Natural Resources and SEWRPC.

very large plants of the Milwaukee Metropolitan Sewerage District (MMSD) located on the Lake Michigan shoreline. The MMSD serves approximately 106,988 residents within these communities. In addition, a small area in the southwest portion of the City of Muskego around Lake Denoon is served by the Town of Norway Sanitary District No. 1.

The sewage treatment plant operated by the City of Oconomowoc is adjacent to the Oconomowoc River in the City of Oconomowoc and serves the City of Oconomowoc, the Village of Lac La Belle, and portions of the Town of Oconomowoc. In addition, the City of Oconomowoc plant also serves a portion of the Town of Ixonia in Jefferson County. The sewage treatment plant operated by the Village of Dousman is located adjacent to the Bark River in the Village of Dousman and serves the Village of Dousman. The Delafield-Hartland Water Pollution Control Commission sewage treatment plant is adjacent to the Bark River in the City of Delafield and serves the City of Delafield, the Villages of Hartland and Nashotah, and a small portion of the Town of Summit. The Village of Mukwonago sewage treatment plant is adjacent to the Fox River in the Village of Mukwonago and serves the Village of Mukwonago. The City of Waukesha sewage treatment plant is adjacent to the Fox River in the City of Waukesha and serves the City of Waukesha and portions of the City of Pewaukee and Town of Waukesha and Village of Wales. The Village of Sussex sewage treatment plant is adjacent to Sussex Creek in the Village of Sussex and serves the Village of Sussex and a small portion of the Town of Lisbon. The Fox River Water Pollution Control Center sewage treatment plant is located adjacent to the Fox River in the extreme western portion of the City of Brookfield and serves portions of the City of Brookfield, the Villages of Menomonee Falls and Pewaukee, and the Towns of Brookfield, and Delafield.

In 2000, the 10 existing public sewage treatment plants and the tributary sewerage collection and conveyance systems in the County together served 110.7 square miles, or about 19 percent of the total area of the County. The 2000 resident population of the areas served is estimated to be 272,250, or about 76 percent of the total population of the County.

Under the recommended SEWRPC 2035 regional land use plan, most of the proposed new urban development within the County would be served with public sanitary sewer facilities. In addition, the plan recommends that public sanitary sewer service continue to be extended to urban areas that lack such facilities. Areas of the County envisioned to be served with public sanitary facilities under the plan are shown on Map IV-2. The unsewered urban areas ultimately proposed to be provided by public sanitary sewer service were generally limited to those areas which had been identified for such service in the regional sanitary sewer system plan, in the regional water quality management plan, and in local facility planning programs. Those earlier planning programs identified the long-term need for public sanitary sewer service on the basis of consideration of the density of development, water quality considerations, proximity to existing public sewerage systems, and consideration of the general suitability of the areas for onsite sewage disposal systems. These earlier planning programs also provided opportunities for public input on recommendations to include certain areas within the planned future public sewer service area. In some cases, such as the urban development surrounding Beaver and Pine Lakes, lands have been included within the planned sewer service area even though the area has a low-density character where there are presently no known severe problems with onsite systems and it is likely unnecessary to provide for public sewer service in the next 20 years or more. However, these areas lie within or adjacent to a larger area for which public sanitary sewer service will likely be required; thus they are included to allow for proper long-range planning of sewerage components, such as major intercommunity trunk sewers. Other areas, such as the Village of Merton, have been included since they were initially identified in the earlier studies as areas which should be provided with public sewer service, but were not included in the planned service area during the 20-year planning period of that plan as a result of public comment and reevaluation. However, given the longer-term framework of the current planning effort, that area is now included within the long-term public sanitary sewer service area. Certain other existing urban areas, such as the Villages of Eagle and Big Bend, have not been included in the areas to be provided public sanitary sewer service, since to date, no regional or sub-regional planning programs have established the need and cost-effectiveness for a public sewer system in those areas.

It is envisioned that there will be some revision and refinement of the extent of the planned sewer service areas in the County as a result of sub-regional and local facility sewerage system planning programs. Such planning

efforts are needed to evaluate specifically the existing onsite sewerage systems and their cost-effectiveness and the need for public sanitary sewer systems in selected areas.

Private Onsite Wastewater Treatment Systems (POWTS)

Waukesha County, under the authority in Chapter 145.20, Wisconsin Statutes, is the governing body for the administration of private sewage systems. This responsibility is assigned to the Department of Parks and Land Use, Environmental Health Division, as the government unit that provides assurance of compliance with State Statutes, Administrative Codes and County Ordinance by verification of soil and site conditions, plan review, permit issuance, on-site inspection at time of installation and an enforceable maintenance tracking program.

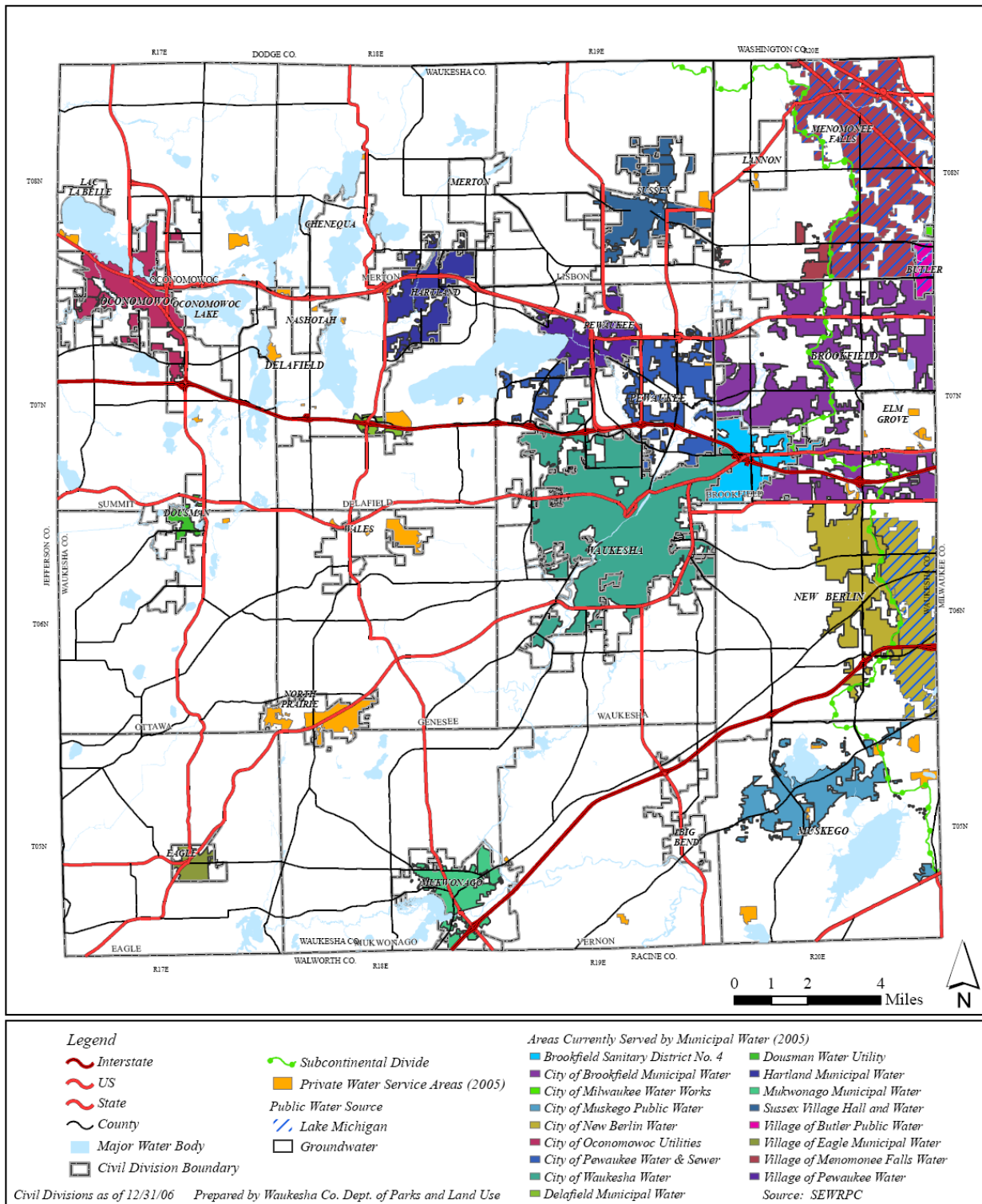
Water Supply Facilities

In 2005, 16 municipal water supply utility systems provided water to about 88 square miles of service area, or about 16 percent of the area of Waukesha County. These systems served a 2005 population of about 234,200 persons, or about 62 percent of the residential population in Waukesha County. Most of the water supply systems in Waukesha County rely on groundwater as the source of supply. The exceptions include the Village of Butler Public Water Utility, portions of the City of New Berlin Water Utility, and portions of the Village of Menomonee Falls Water Utility; these utilities purchase treated Lake Michigan surface water, which is returned to the Lake Michigan Basin via the Metropolitan Milwaukee Sewerage District. The existing service areas of these systems are shown on Map IV-3.

In addition to the 16 municipal water supply systems, there are two additional water service supply systems; the Prairie Village Water Trust and the Ethan Allen School. The Prairie Village Water Trust, located in the Village of North Prairie, serves about 1,600 residents, or approximately 85 percent of the residential population within the Village. This system is classified as “other than municipal, community water systems” by the WDNR. Located in the Town of Delafield, the Ethan Allen School is an institution operated by the Wisconsin Department of Corrections that serves a population of about 750 transient residents. This system is classified as “municipal, community water system” by the WDNR. Neither of these systems is required to provide annual reports to the Public Service Commission of Wisconsin.

In 2005, the total storage capacity for the seven municipal water systems operating in Waukesha County was approximately 45.8 million gallons, divided among the 40 elevated tanks and standpipes and 43 reservoirs. As the largest water provider, the City of Waukesha Water Utility maintained six elevated tanks and standpipes and six reservoirs, with a total storage capacity of about 15.3 million gallons. Based on Wisconsin Public Service Commission annual reports for the year 2005, approximately 29.3 million gallons per day of water were pumped for use in the 16 municipal systems concerned. The water use totaled about 25.6 mgd for residential, commercial, industrial, institutional, or other urban uses, with the remaining 3.7 mgd of total pumpage being used for purposes, such as water production and system maintenance, or being unaccounted-for water. Overall, about 13.7 mgd, or about 54 percent of total municipal water used, was for single- and two-family housing units residential purposes; about 8.3 mgd, or about 33 percent, for commercial, multi-family residential, institutional, and miscellaneous uses; and about 2.9 mgd, or about 11 percent, was for industrial uses. The remaining 0.7 mgd, or about 3 percent, was used for other municipal purposes. Based upon the population served and reported water use, residential water consumption within the seven water supply systems was approximately 72 gallons per person per day in 2005. When accounting for all municipal water uses, the average water consumption was about 134 gallons per person per day. In 2005, the amount of water, which was unaccounted for, ranged from 5 to 15 percent, with an average of 8 percent of the water pumped. This, unaccounted-for water was not included in the computed per capita consumption rates. It should be noted that the residential water use reported by the water utilities excludes that associated with the use of water by multiple-unit dwelling units with a single meter serving three or more units. Those uses are included with commercial water uses. Chapter 3 of this Plan contains a complete discussion of ground and surface water supplies.

**Map IV-3
EXISTING WATER SUPPLY SERVICE IN WAUKESHA COUNTY: 2006**



Radium in the Water Supply

Over the past few years, naturally occurring radium in groundwater has created some public health concerns. Radium in groundwater is derived from naturally occurring radioactive isotopes radium-226 and radium-228 in certain types of rock. Radium enters groundwater by dissolution of aquifer materials, desorption from rock or sediment surfaces, and ejection from minerals by radioactive decay. The human body metabolizes radium in much the same way that it metabolizes calcium. Ingestion of trace quantities of radium over time will result in an accumulation of radium in the skeleton. Ultimately, the damage from continuous exposure to radium can potentially cause bone and sinus cancer.

A number of water supply systems in Waukesha County exceeded the current five picocuries per liter U.S. Environmental Protection Agency (EPA) standard for radium. These water supply systems serve all or parts of the Cities of Brookfield, New Berlin, Pewaukee, and Waukesha and the Villages of Eagle, Mukwonago, Pewaukee, and Sussex. Water-treatment processes such as ion-exchange softening, lime softening, and filtration to remove iron can appreciably reduce radium concentrations in groundwater. Some communities dilute groundwater that contains elevated concentrations of radium by blending it with surface water or groundwater from aquifers with lower radium concentrations. Water softeners, ion exchange, or reverse osmosis water-treatment systems can be installed in the home to reduce radium concentrations.

Solid Waste Management

Solid waste management has become an increasingly important issue of concern to State, County, and local units of government. This concern stems from the growing per capita generation of solid wastes and the heightened public awareness of the need to process and dispose of those wastes in an environmentally sound and cost-effective manner. In 2005, Waukesha County generated 190,432 tons of residential solid waste. Of this total, 67,076 or 35 percent was recycled.

Landfills

Landfilling is still the primary method of disposal of solid wastes generated in Waukesha County. As of 2006, there were two active, licensed, privately owned and operated sanitary landfills accepting municipal wastes within the county; the Parkview/Orchard Ridge Landfill in Menomonee Falls and the Emerald Park Landfill in Muskego.

The Parkview Landfill, located in the northeastern portion of the Village of Menomonee Falls, is part of an over 700-acre complex. In addition to landfill operations, the complex also serves as a center for hauling operations and contains a yard waste management facility, a commercial materials recycling and recovery facility, a medical waste incinerator, and a chemical waste disposal facility. The Parkview Landfill reached capacity in early 1994; as a result, the Orchard Ridge Landfill, located adjacent to the Parkview Landfill, opened in early 1994. The initial phase of the Orchard Ridge landfill had an estimated life of 10 years. The initial phase of the Orchard Ridge Landfill reached capacity in 2004. The Orchard Ridge Landfill expanded by 75 acres in 2004, with an estimated life of 11 years based on a design capacity of 10,917,662 cubic yards.

The Emerald Park Landfill, located on 124th Street (USH 45), one-half mile south of Loomis Road, in the southeast portion of the City of Muskego, is part of a 480-acre complex. The Emerald Park Landfill opened in 1994 and began a three-phase expansion in 1996. The Emerald Park Landfill has an estimated life of 10 years.

Recycling

Wisconsin Statutes provide for designation of “responsible units” for implementing recycling programs throughout the State. The duties of responsible units include: 1) to develop and implement a recycling or other program to manage the solid waste generated within its region, 2) to submit to the Wisconsin Department of Natural Resources a report setting forth the manner in which the responsible unit intends to implement its program, and 3) to provide information to the DNR on the status of implementation of the program. The County became a Responsible Unit for recycling for 25 municipalities and receives state grant funding (Table IV-2). The total Population served is about 272,000. The remaining 12 municipalities maintain their own Responsible Unit status and receive state funds directly.

Waukesha County has operated a processing facility for residential recyclables, the Materials Recycling Facility (MRF), since 1991. The existing facility was enlarged and updated with full paper and container sort lines in 1995. It is a dual-stream MRF, with separation of paper and containers required by residents and haulers. The County hires a private company, currently FCR, Inc., under a multi-year contract to maintain and operate the facility and process and market the recyclables. Under the current contract, the county pays a per ton processing fee and receives 50% of the revenue from sale of recyclables. Annual tonnage processed is about 24,000 tons during one shift, five days per week. An average of 90-100 tons per day of recyclables are delivered by private haulers; approximately 64% paper and 36% bottles and cans by weight. Table IV-3 presents the solid waste tonnage generated and recycled by Waukesha County municipalities in 2005.

The 25 participating municipalities are responsible for collection contracts with private haulers to collect recyclables and solid waste. Four municipalities do not have municipal contracts, instead they license haulers to provide collection and residents subscribe directly with a private hauler. Haulers in participating municipalities are directed by contract or license agreement to deliver recyclables to the County Materials Recycling Facility (MRF).

A consultant was hired in 2007 to conduct a study of long term recycling needs, including recycling processing capacity and system design, comparison of two types of collection and processing systems (existing dual vs. new single stream), per capita generation and population projections, and review of landfill diversion goals in order to increase landfill diversion and position municipalities for increasing landfill costs and reduced capacity in the future.

The study examined the recycling processing capacity of the existing dual-stream Waukesha County Materials Recycling Facility, and the forces pushing new collection and processing systems. A cost/benefit analysis of single vs. dual stream recycling systems was conducted, including collection and processing costs, and its impact on recycling participation.

The study made the following recommendations:

1. Switch the system to automated single stream recycling and trash collection to save on collection costs and increase competition.
2. Coordinate municipal collection contracts to help communities realize cost savings from automated collection.
3. Greater tons make a new single stream recycling processing facility more cost effective, therefore the county should discuss with neighboring municipalities an opportunity to develop a regional single stream MRF.

Yard Waste

Waukesha County owns property in the Town of Genesee that had been mined of gravel and sand by the County and private vendors for several decades. The mining activity had left the property in need of reclamation. To generate enough topsoil to reclaim the site, the County in 2004 initiated operation of a municipal yard waste composting facility. Through a contract with a private vendor, municipalities in the County deliver yard and wood waste to the site. The yard waste material is processed and composted. The compost material is combined with the available subsoil on-site, to create topsoil for final restoration. The project will be completed within a 10- year period. The facility has processed over 6,600 tons of yard waste per year. As of 2005, 13 municipalities have signed agreements to participate in the yard waste composting project. Other communities in the County operate their own yard waste processing and composting facilities.

Table IV-2
WAUKESHA COUNTY RECYCLING PROGRAM, PARTICIPATING COMMUNITIES: 2006

| TOWN OF | VILLAGE OF | CITY OF |
|----------------|-------------------|----------------|
| Brookfield | Big Bend | Brookfield |
| Delafield | Chenequa | Delafield |
| Lisbon | Dousman | New Berlin |
| Merton | Eagle | Oconomowoc |
| Oconomowoc | Elm Grove | Pewaukee |
| Summit | Hartland | Waukesha |
| Waukesha | Lac La Belle | |
| | Merton | |
| | Nashotah | |
| | Oconomowoc Lake | |
| | Pewaukee | |
| | Wales | |

Source: Waukesha County Department of Parks and Land Use

Storm Water Management

Municipal storm water management systems are comprised of facilities that function to provide stormwater drainage, control runoff pollution and downstream flooding, and more recently, to increase infiltration of storm water. The facilities that perform these functions generally work as part of an integrated system, which ultimately connect to the streams, lakes, ponds, wetlands, and the groundwater system of the study area. Components of a storm water management system may include subsurface pipes and appurtenant inlets and outlets, streams and engineered open channels, detention basins, retention basins, pumping facilities, infiltration facilities, bioretention and constructed wetlands for treatment of runoff, and proprietary treatment devices based on settling processes and control of oil and grease. Those storm water practices that are designed to reduce water pollution are called “best management practices” (BMPs) under a variety of state and federal water pollution control regulations.

In Wisconsin, the U.S. Environmental Protection Agency has designated the Wisconsin Department of Natural Resources as the administering authority for the program to regulate storm water discharges as required under the 1972 Federal Clean Water Act. Under Chapter NR 216 Wisconsin Administrative Code, the Department administers Wisconsin Pollutant Discharge Elimination System (WPDES) permits for discharges from municipal separate storm sewer systems (“MS4 permits”). Under this program, MS4 permits were issued to 32 communities in the county in two phases. Map IV-4 shows the communities in Waukesha County that are impacted by this regulation and their MS4 permit phase. All MS4 permits have now been issued in the county, with Phase II communities permitted in the fall of 2006.

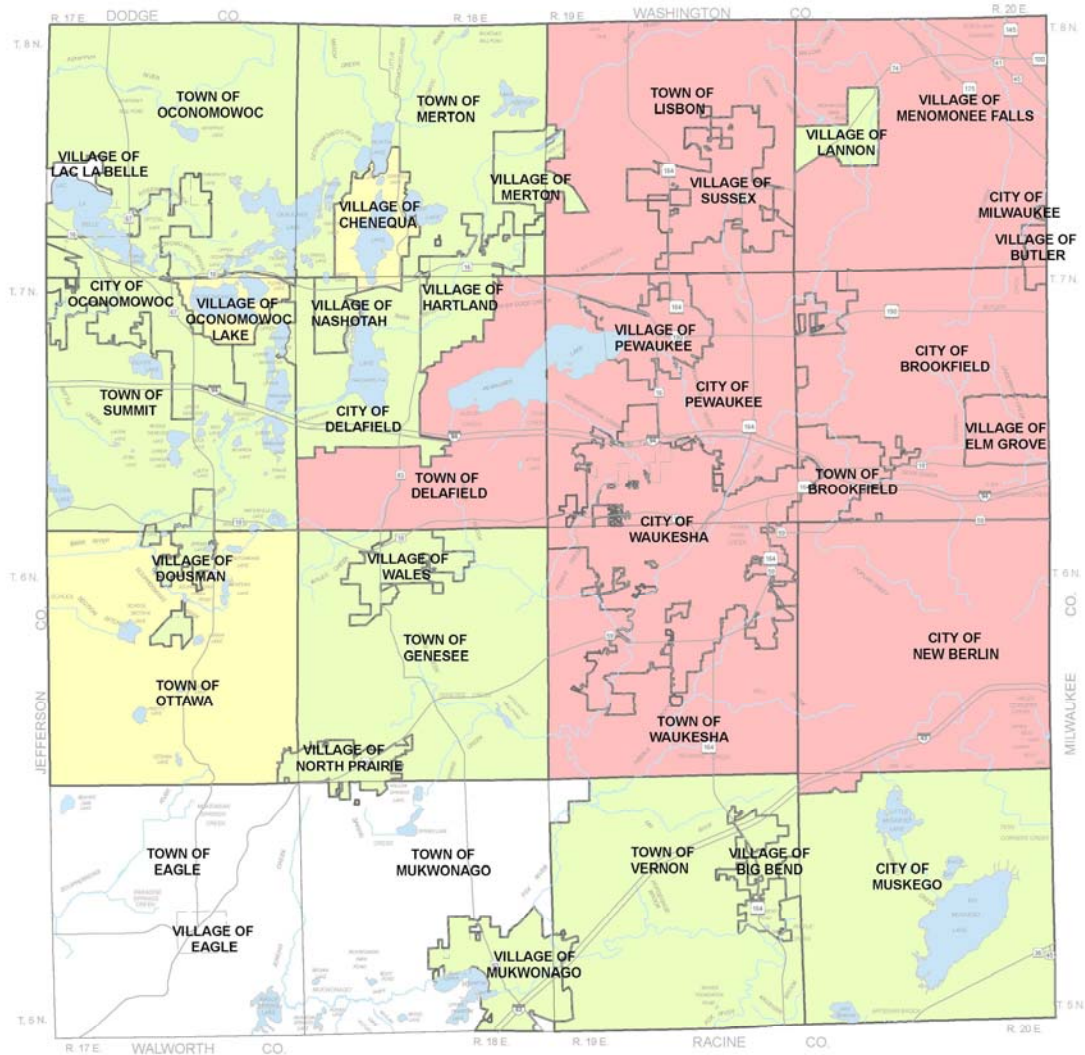
Phase 1 community discharge permits were issued for the cities of Brookfield, New Berlin, Pewaukee, and Waukesha, the Villages of Butler, Elm Grove, Menomonee Falls, Pewaukee, and Sussex, and the Towns of Brookfield, Delafield, Lisbon and Waukesha. Phase 2 community discharge permits were issued for Waukesha County, the Cities of Delafield, Muskego, and Oconomowoc, the Villages of Big Bend, Dousman, Hartland, Lannon, Merton, Mukwonago, Nashotah, North Prairie, Wales and the Towns of Genesee, Merton, Oconomowoc, Summit, and Vernon.

Table IV-3
WAUKESHA COUNTY MUNICIPALITIES SOLID WASTE
GENERATED AND RECYCLED IN TONS: 2005

| COMMUNITY | TOTAL RECYCLED | TOTAL WASTE | PERCENT RECYCLED |
|-------------------|-------------------|----------------|---------------------|
| CITIES | | | |
| BROOKFIELD | 16,444 | 29,958 | 55% |
| DELAFIELD | 595 | 2,966 | 20% |
| MUSKEGO | 3,502 | 10,762 | 33% |
| NEW BERLIN | 7,376 | 20,584 | 36% |
| OCONOMOWOC | 2,131 | 6,962 | 31% |
| PEWAUKEE | 2,001 | 7,186 | 28% |
| WAUKESHA | 9,404 | 26,722 | 35% |
| TOWNS | | | |
| BROOKFIELD | 778 | 2,752 | 28% |
| DELAFIELD | 753 | 4,243 | 18% |
| EAGLE | 510 | 2,083 | 24% |
| GENESEE | 1,109 | 3,728 | 30% |
| LISBON | 3,328 | 7,171 | 46% |
| MERTON | 1,509 | 4,384 | 34% |
| MUKWONAGO | 1,077 | 4,003 | 27% |
| OCONOMOWOC | 1,110 | 4,368 | 25% |
| OTTAWA | 412 | 1,588 | 26% |
| SUMMIT | 542 | 2,656 | 20% |
| VERNON | 1,339 | 3,211 | 42% |
| WAUKESHA | 1,348 | 4,791 | 28% |
| VILLAGES | | | |
| BIG BEND | 193 | 593 | 33% |
| BUTLER | 311 | 954 | 26% |
| CHENEQUA | 89 | 373 | 24% |
| DOUSMAN | 196 | 820 | 24% |
| EAGLE | 220 | 955 | 23% |
| ELM GROVE | 1,519 | 3,788 | 40% |
| HARTLAND | 984 | 3,682 | 27% |
| LAC LABELLE | 42 | 179 | 24% |
| LANNON | 78 | 298 | 26% |
| MEN. FALLS | 3,722 | 13,684 | 27% |
| MERTON | 186 | 1,047 | 18% |
| MUKWONAGO | 909 | 3,116 | 29% |
| NASHOTAH | 80 | 647 | 12% |
| NORTH PRAIRIE | 288 | 1,018 | 28% |
| OCONOMOWOC LAKE | 92 | 341 | 27% |
| PEWAUKEE | 1,439 | 3,627 | 40% |
| SUSSEX | 1,137 | 3,881 | 29% |
| WALES | 322 | 1,309 | 25% |
| TOTAL TONS | 67,076 | 190,432 | 35% |

Source: WDNR and Waukesha County.

Map IV –4
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) DISCHARGE PERMITS
WAUKESHA COUNTY: 2006

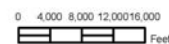
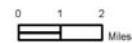


Legend

- Phase I Community
- Phase II Community
- Exempted Communities
- Communities Not Subject to MS4 Permit

*Townships - Only portions meeting the Urbanized Area designation by the EPA

Source: WDNR & Waukesha County



Planning storm water systems by watershed area has proven to be the most cost-effective way to address storm water management issues. Land use planning plays a large role in this process because different types of land use generate widely varying quantities and quality of storm water runoff. These facts often create challenges for intergovernmental cooperation since watershed boundaries rarely follow any municipal boundaries. Due to MS4 permits and the fiscal impacts that storm water management has on local budgets in general, storm water planning has become an important function of local governments.

Some local planning efforts combine land use and storm water planning together with a review of related local regulatory and educational efforts for the purpose of protecting a particular water resource. This is called watershed protection planning. A local example of this type of planning effort is the Pebble Creek Watershed Protection Plan, which was aimed to protect a cold-water stream in the center of the county that is experiencing significant development pressures.

Storm Water Utility Districts

Long-term maintenance of storm water best management practices (BMPs) is important to ensure that they continue to function as designed. Storm water BMP maintenance may involve considerable public and private expense and is one of the requirements of community MS4 permits. In order to establish a reliable funding source to meet this need, many communities in Waukesha County and across the nation are creating storm water utility districts. These districts usually create a segregated fund to be used for storm water planning, capital improvements and maintenance work. The source of funding is usually a graduated fee applied to all lands within the district boundaries based on the amount of impervious surface present.

Public Inland Lake Protection and Rehabilitation Districts

SEWRPC defines major inland lakes as those with a surface area of 50 acres or larger, a size capable of supporting reasonable recreational use with minimal degradation of the resource. Waukesha County contains all or portions of 33 major lakes of 50 or more acres in size with a combined surface area of approximately 14,000 acres. Under Wisconsin Statute 33.22, public inland lake protection and rehabilitation districts may be created for the purpose of undertaking a program of lake protection and rehabilitation. In 2005, there were 11 lake protection districts in Waukesha County (Table IV-4).

Any district organized under state statute 33.22, may have such powers of a town sanitary district. Lake districts also have powers to enter into contracts; own property; disburse funds; and bond, borrow, and/or levy special assessments to raise money. A lake district's specific lake management powers include: 1) study of existing water quality conditions to determine the causes of existing or expected water quality problems, 2) control of aquatic macrophytes and algae, 3) implementation of lake rehabilitation techniques, including aeration, diversion, nutrient removal, dredging, sediment covering, and water drawdown, 4) construction and operation of water level control structures, and 5) control of nonpoint runoff pollution

Management of the affairs of the district is designated to a board of commissioners. The board of commissioners consists of a person appointed by the county board and three owners of property within the district. Members of the board of commissioners serve staggered three-year terms.

Table IV-4
LAKE DISTRICTS IN WAUKESHA COUNTY: 2005

| District Name | Lake Size |
|--|------------------|
| Ashippun Lake Inland Lake Protection and Management District | 84 Acres |
| Big Muskego/Bass Bay Lake Inland Lake Protection and Management District | 2360 Acres |
| Eagle Spring Lake Inland Lake Protection and Management District | 311 Acres |
| Fowler Lake Management District #2 | 78 Acres |
| Lac La Belle Inland Lake Protection and Management District | 1164 Acres |
| Lake Keesus Inland Lake Protection and Management District | 237 Acres |
| Little Muskego Lake Inland Lake Protection and Management District | 506 Acres |
| Lower Genesee Lake Management District | 66 Acres |
| Middle Genesee Lake Management District | 109 Acres |
| North Lake Inland Lake Protection and Management District | 437 Acres |
| Okauchee Lake Inland Lake Protection and Management District | 1187 Acres |
| Pewaukee Lake Sanitary District | 2493 Acres |
| Phantom Lake Inland Lake Protection and Management District | 433 Acres |
| Pretty Lake Inland Lake Protection and Management District | 64 Acres |
| School Section Lake Inland Lake Protection and Management District | 117 Acres |
| Upper Nemahbin Lake Inland Lake Protection and Management District | 283 Acres |
| Spring Brook Watershed Lake Management District – Willow Springs Lake | 40 Acres |

Source: Wisconsin Lake List, UW-Extension, 2005

Lake Associations

A lake association can be formed when any number of individuals concerned with lake issues decides to organize and deal with them. Many associations incorporate under Chapter 181 Wisconsin Statutes. Associations can be comprised of all or a few people living on a lake and may have members not living on the lake. Membership in associations is rarely mandatory; people may or may not decide to participate. Lake associations are run by officers elected by the membership. Associations use various fund-raising activities and voluntary dues to raise capital for their activities.

GAS AND ELECTRIC UTILITIES

WE Energies

WE Energies provides natural gas to all of Waukesha County and electric service to most of Waukesha County. With the exception of the City of Oconomowoc and a minor area surrounding the city limits, these areas are serviced by the City of Oconomowoc Electric Utility. Through expanded power production projects in Port Washington and Oak Creek, We Energies will increase total energy generation from 6,000 megawatts to 8,300 megawatts by 2010. This is crucial since the Region and state are facing an emerging electricity shortage. On average, electricity consumption increases by a rate of 2.5 to 3 percent per year due to population growth, business expansion, and higher usage among all customer segments. Projections show that Wisconsin will require an additional 7,000 megawatts of electricity in 2016 to keep pace with increasing demand. Because other areas of the country are facing the same supply situation, purchasing power is not a future option due to limited supplies and the need for an improved transmission line grid.

Oconomowoc Electric Utility

The City of Oconomowoc serves its residents and a minor area surrounding the City with electricity. This municipal utility serves approximately 10,000 people.

American Transmission Company

The electric system is comprised of three components: generating plants, transmission lines and distribution facilities. American Transmission Company is a public utility that owns and operates the transmission system,

which carries electricity from generating plants to load centers or areas where a considerable amount of electricity is needed. American Transmission Company delivers transmission power in southeastern Wisconsin with various transmission facilities including:

- North-south 345-kV lines extending from Edgewater, Point Beach and Sheboygan Energy power plants
- 345-kV lines from Pleasant Prairie Power Plant
- 345-kV, 230-kV and 138-kV lines from Oak Creek Power Plant and numerous 138-kV lines in and around metro Milwaukee

In 2006, American Transmission Company completed a ten year assessment. They identified low voltages, transmission facility overloads, and transmission service limitations in southeastern Wisconsin. Specifically, one area identified as vulnerable to low voltages is west of Milwaukee. These low voltages are mainly caused by low probability outages at substations. The low-voltage situation west of Milwaukee is an indication that load growth will exceed the load-serving capabilities of the 138-kV network serving that area, and the existing network will be insufficient without significant reinforcements. Currently, the City of Waukesha is most vulnerable to facility overloads and low voltages are a system limitation in Hartland, Menomonee Falls, and Delafield.

SCHOOL DISTRICTS

Public School Districts and Private Schools

Twenty public school districts and 54 private schools operate within the boundaries of Waukesha County (Map IV-5 and Table IV-6).

School Age Population Projections

Wisconsin Department of Public Instruction projections show that the school age population in Waukesha County will increase from 82,090 in 2005 to 86,700 in 2030 resulting in a 5 percent increase (Table IV-5). However, the projected school age population projections will decrease between 2005 and 2015 and begin to increase slowly after this period. This projection is lower than the projected intermediate population growth from 377,365 in 2005 to 440,289 in 2030 resulting in an increase of 14 percent. This is the result of a continuing trend of declining household size and a population that continues to grow older.

State Pre-Kindergarten Programs

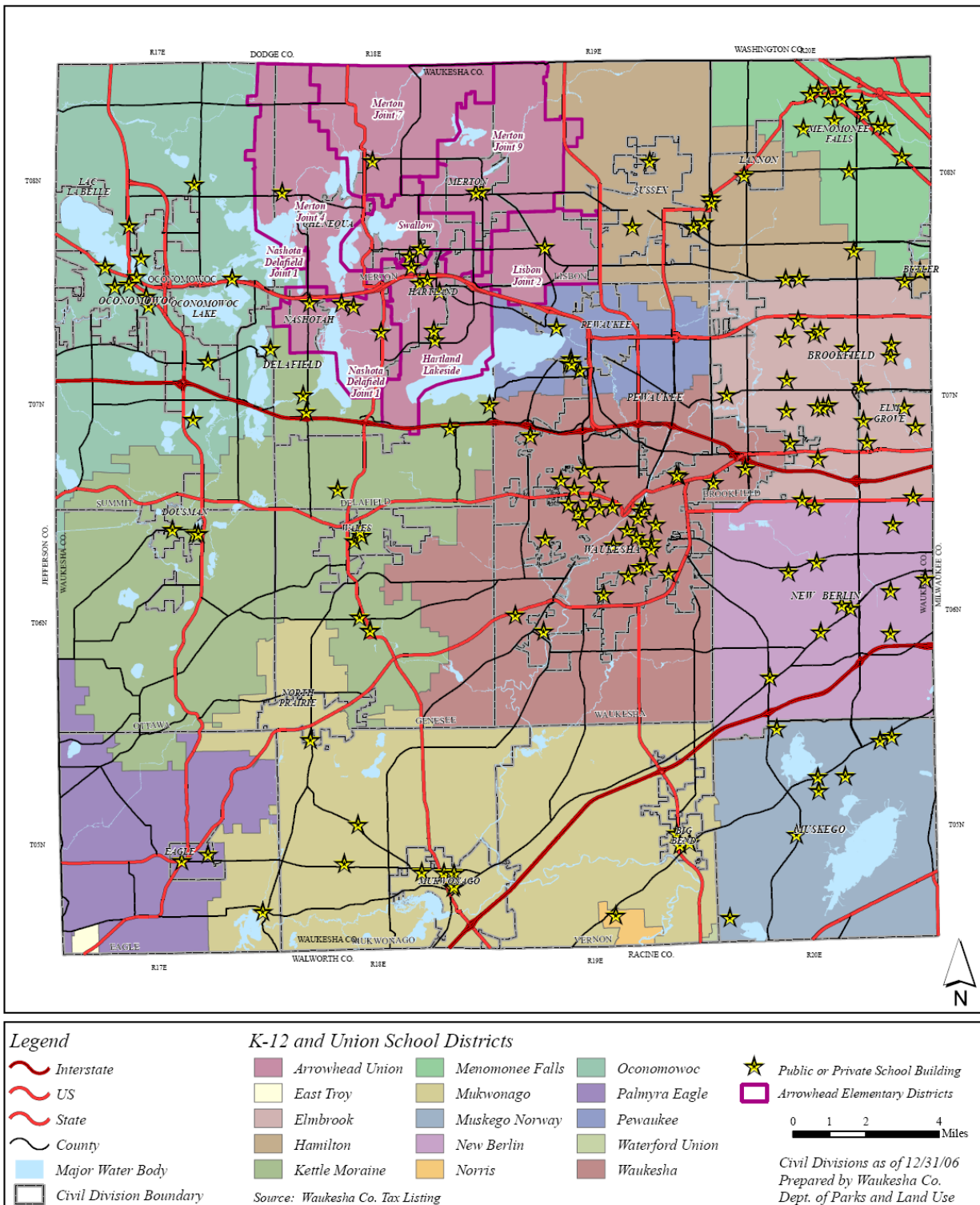
The 4-year-old kindergarten program is organized by school districts to provide educational experience for 4-year-old children. Twenty-five percent of school districts in Wisconsin offer this program, which serves over 16,500 four year old children from throughout the state. Teachers for this program must possess a Pre K-3 certification or a Pre K-6 certification.

Table IV-5
SCHOOL AGE POPULATION PROJECTIONS FOR
WAUKESHA COUNTY: 2005-2030

| Age Group | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 5-9 | 26,237 | 25,444 | 25,796 | 26,792 | 28,343 | 28,894 |
| 10-14 | 27,986 | 27,764 | 26,871 | 27,244 | 28,478 | 29,968 |
| 15-19 | 27,867 | 27,232 | 27,033 | 26,182 | 26,752 | 27,838 |
| Total | 82,090 | 80,440 | 79,700 | 80,218 | 83,573 | 86,700 |

Source: Wisconsin Department of Public Instruction, 2005

Map IV-5 PUBLIC AND PRIVATE SCHOOLS IN WAUKESHA COUNTY: 2006



**Table IV-6
PUBLIC AND PRIVATE SCHOOLS AND SCHOOL DISTRICTS, WAUKESHA COUNTY: 2006-2007**

| Public Schools | Grades | Enrollment | Address |
|---|---------------|-------------------|---|
| Arrowhead UHS School District | | | |
| Arrowhead High | 9-12 | 2,344 | 700 North Ave, Hartland |
| Elmbrook School District | | | |
| Brookfield Elementary | K4-5 | 492 | 2530 N Brookfield Rd, Brookfield |
| Burleigh Elementary | K4-5 | 762 | 16185 Burleigh Pl, Brookfield |
| Central High | 9-12 | 1,414 | 16900 West Gebhardt Rd, Brookfield |
| Dixon Elementary | KG-5 | 445 | 2400 Pilgrim Square Dr, Brookfield |
| East High | 9-12 | 1,392 | 3305 North Lilly Rd, Brookfield |
| Fairview South | 02 | 19 | 3525 Bermuda Blvd, Brookfield |
| Hillside Elementary | KG | 388 | 2250 Lynette Ln, Brookfield |
| Pilgrim Park Middle | 6-8 | 878 | 1500 Pilgrim Pkwy, Elm Grove |
| Swanson Elementary | KG | 617 | 305 N Calhoun Rd, Brookfield |
| Tonawanda Elementary | KG | 397 | 13605 Underwood River Pkwy, Elm Grove |
| Wisconsin Hills Middle | 6-8 | 855 | 18700 W Wisconsin Ave, Brookfield |
| Hamilton School District | | | |
| Hamilton High | 9-12 | 1,279 | W220N6151 Town Line Rd, Sussex |
| Lannon Elementary | KG-5 | 271 | 7145 N Lannon Rd, Lannon |
| Maple Avenue Elementary | KG-5 | 466 | W240N6059 Maple Ave, Sussex |
| Marcy Elementary | KG-5 | 463 | W180N4851 Marcy Rd, Menomonee Falls |
| Passage Middle School | 7-9 | Not Reported | 9501 W Watertown Plank Rd, Wauwatosa |
| Templeton Middle | 6-8 | 954 | N59W22490 Silver Spring Dr, Sussex |
| Willow Springs Learning Ctr | K4-PK | 262 | W220N6660 Town Line Rd, Menomonee Falls |
| Woodside Elementary | KG-5 | 656 | W236N7465 Woodside Rd, Sussex |
| Hartland-Lakeside J3 Sch Dis | | | |
| North Elementary | K4-5 | 446 | 232 Church St, Hartland |
| North Shore Middle | 6-8 | 452 | 800 N Shore Dr, Hartland |
| South Elementary | K4-5 | 506 | 651 E Imperial Dr, Hartland |
| Kettle Moraine School District | | | |
| Cushing Elementary | PK-5 | 489 | 227 N Genesee St, Delafield |
| Dousman Elementary | PK-5 | 556 | 341 E Ottawa Ave, Dousman |
| Kettle Moraine High | 9-12 | 1,483 | 349 N Oak Crest Dr, Wales |
| Kettle Moraine Middle | 6-8 | 1,033 | 301 E Ottawa Ave, Dousman |
| Magee Elementary | PK-5 | 318 | PO Box 37, Genesee Depot |
| Wales Elementary | PK-5 | 537 | 219 N Oak Crest Dr, Wales |
| Lake Country School District | | | |
| Lake Country School | PK-8 | 517 | 1800 Vettelson Rd, Hartland |
| Menomonee Falls Sch Dis | | | |
| Benjamin Franklin Elementary | PK-5 | 874 | N81W14701 Franklin Dr, Menomonee Falls |
| Menomonee Falls High | 9-12 | 1,245 | W142N8101 Merrimac Dr, Menomonee Falls |
| North Jr Campus | 8-9 | 723 | N88W16750 Garfield Dr, Menomonee Falls |
| Riverside Elementary | PK-5 | 331 | W153N8681 Margaret Rd, Menomonee Falls |
| Shady Lane Elementary | PK-5 | 394 | W172N8959 Shady Ln, Menomonee Falls |
| Thomas Jefferson Middle | 6-7 | 712 | W165N8301 Lavergne Ave, Menomonee Falls |
| Valley View Elementary | PK-5 | 319 | W180N8130 Town Hall Rd, Menomonee Falls |
| Merton Community School District | | | |
| Merton Intermediate | 4-8 | 501 | PO Box 15, Merton |
| Merton Primary | K4-3 | 498 | PO Box 15, Merton |
| Mukwonago School District | | | |
| Big Bend Elementary | PK-6 | 453 | W230S8695 Big Bend Dr, Big Bend |
| Clarendon Avenue Elementary | PK-6 | 543 | 915 Clarendon Ave, Mukwonago |

| | | | |
|--|------|-------|-------------------------------------|
| Eagleville Charter School | 1-6 | 122 | S101 W34511 Hwy LO |
| Mukwonago High | 9-12 | 1,732 | 605 W School Rd, Mukwonago |
| Park View Middle | 7-8 | 816 | 930 N Rochester St, Mukwonago |
| Prairie View Elementary | PK-6 | 443 | W330S6473 Highway E, North Prairie |
| Rolling Hills Elementary | PK-6 | 578 | W322 S9230 Beulah Road, Mukwonago |
| Section Elementary | PK-6 | 397 | W318S8430 County Road EE, Mukwonago |
| Muskego-Norway School District | | | |
| Bay Lane Middle | 5-8 | 656 | S75W16399 Hilltop Dr, Muskego |
| Country Meadows Elementary | PK-4 | 290 | S75W16399 Hilltop Dr, Muskego |
| Lake Denoon Middle | 5-8 | 774 | W216S10586 Crowbar Drive, Muskego |
| Lakeview Elementary | PK-4 | 411 | 26335 Fries Ln, Wind Lake |
| Mill Valley Elementary | PK-4 | 343 | W191S6445 Hillendale Dr, Muskego |
| Muskego Elementary | PK-4 | 240 | S75W17476 Janesville Rd, Muskego |
| Muskego High | 9-12 | 1,753 | W183S8750 Racine Ave, Muskego |
| Tess Corners Elementary | PK-4 | 403 | W147S6800 Durham Dr, Muskego |
| New Berlin School District | | | |
| Eisenhower Middle/High | 7-12 | 1,253 | 4333 S Sunnyslope Rd, New Berlin |
| Elmwood Elementary | PK-6 | 551 | 5900 S Sunnyslope Rd, New Berlin |
| Glen Park Elementary | PK-6 | 317 | 3500 S Glen Park Rd, New Berlin |
| New Berlin Middle/High | 7-12 | 1,079 | 18695 W Cleveland Ave, New Berlin |
| Orchard Lane Elementary | PK-6 | 379 | 2015 S Sunnyslope Rd, New Berlin |
| Poplar Creek Elementary | PK-6 | 471 | 17401 W Cleveland Ave, New Berlin |
| Ronald Reagan Elementary | PK-6 | 618 | 4225 S Calhoun Rd, New Berlin |
| Norris School District | | | |
| Norris High | 6-12 | 78 | W247S10395 Center Rd, Mukwonago |
| North Lake School District | | | |
| North Lake Elementary | PK-8 | 355 | PO Box 188, North Lake |
| Oconomowoc Area School District | | | |
| Greenland Elementary | K4-6 | 467 | 440 Coolidge St, Oconomowoc |
| Ixonia Elementary | K4-6 | 194 | N8425 North St, Ixonia |
| Meadow View Elementary | K4-6 | 519 | W360N7077 Brown St, Oconomowoc |
| Oconomowoc High | 9-12 | 1,494 | 641 E Forest St, Oconomowoc |
| Oconomowoc Middle | 6-8 | 696 | 623 E Summit Ave, Oconomowoc |
| Park Lawn Elementary | K4-6 | 531 | 300 Parklawn St, Oconomowoc |
| Summit Elementary | K4-6 | 562 | 1680 Valley Rd, Oconomowoc |
| Pewaukee School District | | | |
| Asa Clark Middle | 7-8 | 330 | 472 Lake St, Pewaukee |
| Horizon School | 4-6 | 449 | 458 Lake St, Pewaukee |
| Pewaukee High | 9-12 | 743 | 510 Lake St, Pewaukee |
| Pewaukee Lake Elementary | PK-3 | 669 | 436 Lake St, Pewaukee |
| Richmond School District | | | |
| Richmond Elementary | K4-8 | 453 | N56W26530 Richmond Rd, Sussex |
| Stone Bank School District | | | |
| Stone Bank Elementary | KG-8 | 330 | N68W33866 County Rd K, Oconomowoc |
| Swallow School District | | | |
| Swallow Elementary | PK-8 | 502 | W299N5614 Highway E, Hartland |
| Waukesha School District | | | |
| Banting Elementary | K4-6 | 497 | 2019 Butler Dr, Waukesha |
| Bethesda Elementary | PK-6 | 543 | 730 S University Dr, Waukesha |
| Blair Elementary | K4-6 | 340 | 301 Hyde Park Ave, Waukesha |
| Butler Middle | 7-8 | 610 | 310 N Hine Ave, Waukesha |
| Central Middle | 7-8 | 661 | 400 N Grand Ave, Waukesha |
| Hadfield Elementary | K4-6 | 349 | 733 Linden St, Waukesha |

| | | | |
|---------------------------------------|---------------|-------------------|---|
| Harvey Philip Alt Charter School | 9-12 | 85 | 621 W College Ave, Waukesha |
| Hawthorne Elementary | PK-6 | 308 | 1111 Maitland Dr, Waukesha |
| Heyer Elementary | PK-6 | 459 | 1209 Heyer Dr, Waukesha |
| Hillcrest Elementary | PK-6 | 352 | 2200 Davidson Rd, Waukesha |
| Horning Middle | 7-8 | 593 | 2000 Wolf Rd, Waukesha |
| iQ Academies of Wisconsin | 9-12 | 739 | 222 Maple Ave, Waukesha |
| Lowell Elementary | PK-6 | 418 | 140 N Grandview Blvd, Waukesha |
| Meadowbrook Elementary | PK-6 | 358 | 3130 Rolling Ridge Dr, Waukesha |
| North High | 9-12 | 1,265 | 2222 Michigan Ave, Waukesha |
| Pleasant Hill Elementary | PK-6 | 183 | 175 S Barker Rd |
| Prairie Elementary | PK-6 | 410 | 1801 Center Rd, Waukesha |
| Project Change | 9-12 | 3 | 111 E Main St, Waukesha |
| Randall Elementary | PK-6 | 360 | 114 S Charles St, Waukesha |
| Rose Glen Elementary | PK-6 | 556 | W273S3845 Brookhill Dr, Waukesha |
| Saratoga Elementary | K4-6 | 261 | 130 Walton Ave, Waukesha |
| South High | 9-12 | 1,353 | 401 E Roberta Ave, Waukesha |
| Summit View Elementary | PK-6 | 628 | 2100 Summit Ave, Waukesha |
| Waukesha Acad Health Profs | 9-10 | Not Reported | 401 E Roberta Ave, Waukesha |
| West High | 9-12 | 1,548 | 3301 Saylesville Rd, Waukesha |
| White Rock Elementary | KG-6 | 341 | 1150 Whiterock Ave, Waukesha |
| Whittier Elementary | PK-6 | 357 | 1103 S East Ave, Waukesha |
| Private Schools | Grades | Enrollment | Address |
| Arrowhead UHS School District | | | |
| University Lake School | PK-12 | 339 | 4024 Nagawicka Rd, Hartland |
| Elmbrook School District | | | |
| Brookfield Academy | PK-12 | 759 | 3460 N Brookfield Rd, Brookfield |
| Christ the Lord Ev Luth School | PK-8 | 92 | 1650 N Brookfield Rd, Brookfield |
| Elm Grove Lutheran School | PK-8 | 144 | 945 North Terrace Drive, Elm Grove |
| Heritage Christian Elementary | PK-5 | 317 | 1275 S Elm Grove Rd, Brookfield |
| Immanuel Lutheran School | PK-8 | 168 | 13445 Hampton Rd, Brookfield |
| Milw/Brookfield Christian School | PK-8 | 155 | 14155 W Burleigh Rd, Brookfield |
| St Dominic Catholic Gr School | PK-8 | 396 | 18105 West Capitol Dr, Brookfield |
| St. John Vianney Gr School | PK-8 | 514 | 17500 Gebhardt Rd, Brookfield |
| St. Luke Catholic School | PK-8 | 178 | 18000 Greenfield Ave, Brookfield |
| St. Mary Grade School | KG-8 | 359 | 13000 Juneau Blvd, Elm Grove |
| Hamilton School District | | | |
| Peace Lutheran Academy | PK-8 | 46 | W240N6145 Maple Ave, Sussex |
| Pilgrim Evang Lutheran School | KG-8 | 69 | W156N5429 Bette Dr, Menomonee Falls |
| St. Agnes Catholic Grade School | PK-8 | 163 | |
| St. Johns Luth Grade School | KG-8 | 149 | 20813 Forest View Dr, Lannon |
| Zion Lutheran Grade School | PK-8 | 50 | W188N4868 Emerald Hills Dr, Menomonee Falls |
| Hartland-Lakeside J3 Sch Dis | | | |
| St. Charles Grade School | KG-8 | 208 | 526 Renson Rd, Hartland |
| Zion Lutheran School | PK-8 | 70 | 1023 E Capitol Dr, Hartland |
| Kettle Moraine School District | | | |
| Abundant Life Christian Acad | KG-12 | 33 | 995 S Sawyer Rd, Oconomowoc |
| Lakewood School | UE-US | 43 | PO Box 15, Dousman |
| Prairie Hill Waldorf School | PK-08 | 209 | N14S29143 Silvernail Rd, Pewaukee |
| St. Anthony Grade School | KG-8 | 201 | W280N2101 Highway SS, Pewaukee |
| St. Bruno Grade School | PK-8 | 116 | 266 W Ottawa Ave, Dousman |
| St. Paul Grade School | KG-8 | 166 | S38W31602 Hwy, Genesee Depot |
| St. Johns NW Military Academy | 7-12 | 309 | 1101 N Genesee St, Delafield |

| | | | |
|--|-------|--------------|---|
| Lake Country School District | | | |
| Country Christian School | PK-8 | 172 | 4476 Lakeland Dr, Nashotah |
| Divine Redeemer Luth School | PK-8 | 365 | 31385 Hill Rd, Hartland |
| St. Joan of Arc School | PK-8 | 137 | 120 Nashotah Rd, Nashotah |
| Menomonee Falls School District | | | |
| Bethlehem Evang Lutheran Sch | 5-8 | 99 | N108W14290 Bel Aire La, Germantown |
| Calvary Baptist School | 5-8 | 256 | N84W19049 Menomonee Ave, Menomonee Falls |
| Falls Baptist Academy | KG-12 | 116 | N69W12703 Appleton Ave, Menomonee Falls |
| Grace Evang Lutheran School | PK-8 | 223 | N87W16171 Kenwood Blvd, Menomonee Falls |
| Isa Inc/Aquinas Academy | PK-6 | Not reported | N72W15935 Good Hope Rd, Menomonee Falls |
| St. Anthony Grade School | PK-8 | 195 | N74W13604 Appleton Ave, Menomonee Falls |
| St. Mary Grade School | PK-8 | 353 | N89W16297 Cleveland Ave, Menomonee Falls |
| Mukwonago School District | | | |
| Christ Lutheran School | PK-8 | 97 | W229S8930 Clark, Big Bend |
| Rooster Loft Montessori Children | PK-KG | 6 | W243S7125 Cameron Dr, Waukesha |
| St. James Grade School | PK-8 | 148 | 830 Co Hwy NN East, Mukwonago |
| St. Johns Lutheran School | PK-8 | 118 | 410 County Road NN East Unit 3, Mukwonago |
| St. Joseph Grade School | PK-8 | 139 | W227S8930 St. Joseph Dr, Big Bend |
| St. Pius V Catholic School | PK-8 | Not reported | 425 Grand Avenue, Mukwonago |
| Muskego-Norway School District | | | |
| St. Leonard School | KG-8 | 199 | W173S7777 Westwood Dr, Muskego |
| St. Pauls Lutheran School | PK-8 | 278 | S66W14325 Janesville Rd, Muskego |
| New Berlin School District | | | |
| Holy Apostles Grade School | KG-8 | 487 | 16010 W National Ave, New Berlin |
| Star of Bethlehem Evang Luth | PK-8 | 184 | 3700 South Casper Dr, New Berlin |
| Oconomowoc Area School District | | | |
| Holy Trinity Evan Luth School | PK-8 | 104 | N49W35199 E Wisconsin Ave, Okauchee |
| Impact Sch of Oconomowoc Inc | PK-8 | 22 | 206 W Jefferson, Oconomowoc |
| Lake Country Lutheran Hi School | 9-12 | 184 | 1101 S Silver Lake, Oconomowoc |
| Oconomowoc Dvlp Training Ctr | 1-US | 119 | 36100 Genesee Lake Rd, Oconomowoc |
| St. Jerome Parish School | PK-8 | 327 | 1001 S Silver Lake St, Oconomowoc |
| St. Pauls Evan Lutheran School | PK-8 | 168 | 210 E Pleasant St, Oconomowoc |
| St Matthew Lutheran School | PK-8 | 149 | 818 West Wisconsin Ave, Oconomowoc |
| Pewaukee School District | | | |
| Queen of Apostles School | PK-8 | 164 | 449 West Wisconsin Ave, Pewaukee |
| Trinity Academy | KG-12 | 157 | Pewaukee |
| Waukesha School District | | | |
| Beautiful Savior Lutheran School | PK-8 | 74 | 1205 S East Ave, Waukesha |
| Catholic Memorial High | 9-12 | 732 | 601 E College Ave, Waukesha |
| Lake Country Montessori | PK-KG | 32 | 3031 Summit Ave, Waukesha |
| Montessori School of Waukesha I | PK-8 | 197 | 2600 Summit Ave, Waukesha |
| Mount Calvary Lutheran School | PK-8 | 189 | 1941 Madison St, Waukesha |
| St Joseph Middle | 6-8 | 238 | 818 N East Ave, Waukesha |
| St Mary Grade School | PK-5 | 323 | 520 E Newhall Ave, Waukesha |
| St William Campus WCSS | PK-5 | 173 | 444 N Moreland Blvd, Waukesha |
| Trinity Lutheran School | PK-8 | 244 | 1060 White Rock Ave, Waukesha |
| Waukesha Christian Academy | KG-12 | 70 | W271S2470 Merrill Hills Rd, Waukesha |
| West Suburban Christian Academy | PK-8 | 310 | 1615 Silvernail Rd, Waukesha |

Source: Wisconsin Department of Public Instruction, 2007

Colleges and Universities

Cardinal Stritch University, Carroll College, the Keller Graduate School of Management, Ottawa University, the University of Phoenix, the University of Wisconsin-Waukesha, Upper Iowa University, and Waukesha County Technical College offer associate or bachelor degrees at locations in Waukesha County. In addition, the University of Wisconsin-Whitewater and the University of Wisconsin-Milwaukee provide Master of Business Administration (MBA) Degree programs at UW-Waukesha. The University of Phoenix and the Keller Graduate School of Management also offer graduate degrees at locations within the county. In addition, the University of Wisconsin Cooperative Extension through a partnership with Waukesha County provides university outreach and life long learning opportunities to residents of Waukesha County.

LIBRARIES

Waukesha County Federated Library System

Sixteen public libraries operate in Waukesha County. They are all members of the Waukesha County Federated Library System. These libraries are located within the Cities of Brookfield, Delafield, Muskego, New Berlin, Oconomowoc, and Waukesha; the Villages of Big Bend, Butler, Eagle, Elm Grove, Hartland, Menomonee Falls, Mukwonago, Pewaukee, and Sussex, and the Town of Merton. The libraries in the federated system serve the needs of all library and non-library communities within the county.

In 2002, the Waukesha Federated Library System conducted a countywide telephone survey of residents that used at least one of the libraries in Waukesha County. This survey replicated a national survey conducted by the American Library Association. Some of the key survey findings are noted below:

- Almost 45% of the respondents had used a library within Waukesha County more than 11 times in the past year compared to 25% nationally.
- Individuals use from home of a computerized library catalog was only 11% in Waukesha County and 46% nationally. (Note that fewer libraries have web accessible catalog in Waukesha County).
- Waukesha County residents reported use of a computer in the library at a 59% rate compared to 31% nationally.
- Nearly 83% of Waukesha County residents were either extremely satisfied or very satisfied with their public library. That compared to 60% of U.S library users.
- Nearly 88% of Waukesha County residents rated their library's use of tax funds as good or excellent, comparable to the rate found nationally.
- Nearly 80% of those that responded in Waukesha County thought that \$26 per capita or more was a proper amount of library taxes to pay. That compared to 52% nationally.
- In Waukesha County, 95% of respondents believe that libraries will continue to exist despite the Internet. That compares to 91% nationally.

In 2006, the Waukesha County Board of Supervisors appointed a long term library planning committee pursuant to the provisions of Wisconsin Act 150. The Committee report concluded that it was not cost effective to consolidate any of the 16 libraries within the County. The planning recommendations can be found at <http://www/wcfls.lib.wi.us/150/index.htm>.

CEMETERIES

Waukesha County has a total of 74 cemeteries, which includes mausoleums. Fifty-seven of these cemeteries, or 77 percent, are less than 5 acres in size. The remaining 17 cemeteries are five acres in size or larger. In addition, the State Historical Society of Wisconsin lists four historic burial mound sites within the County. Additional information on the cultural resources within Waukesha County is presented in Chapter 3 and Appendix B.

HEALTHCARE FACILITIES

Waukesha County has five operating hospitals that provide care to county residents (See Table IV-7). In addition, over 600 physicians practicing in Waukesha County provide a variety of healthcare services for residents. Aurora Healthcare is in the process of developing a new 110-bed hospital in the Town of Summit near Interstate I-94.

Table IV-7
HOSPITALS IN WAUKESHA COUNTY: 2006

| Name of Hospital | City | Number of Beds |
|------------------------------|-----------------|-----------------------|
| Waukesha Memorial Hospital | Waukesha | 400 |
| Community Memorial Hospital | Menomonee Falls | 208 |
| Elmbrook Memorial Hospital | Brookfield | 166 |
| Oconomowoc Memorial Hospital | Oconomowoc | 130 |
| Rogers Memorial Hospital | Oconomowoc | 90 |
| Total | | 994 |

CHILDCARE FACILITIES

Adequate childcare facilities are necessary in order to provide maximum participation in the county labor force. In order to become a child care provider in Wisconsin, you must obtain a certificate, unless you are a relative of the child. There are several qualifications a person must meet to become a certified childcare provider. They include:

- Must be at least 18 years of age.
- Written verification of negative TB test.
- References regarding his/her child care abilities.
- Agency and Police Background check on all household members.
- In-Home inspection to insure the safeness of the home facility for child care.
- If all requirements are met, a provisional certification will be issued.
- A regular certification will be issued if the day care provider chooses to take a 15-hour course in childcare.
- Recertification will be done every two years after the initial certification is issued.

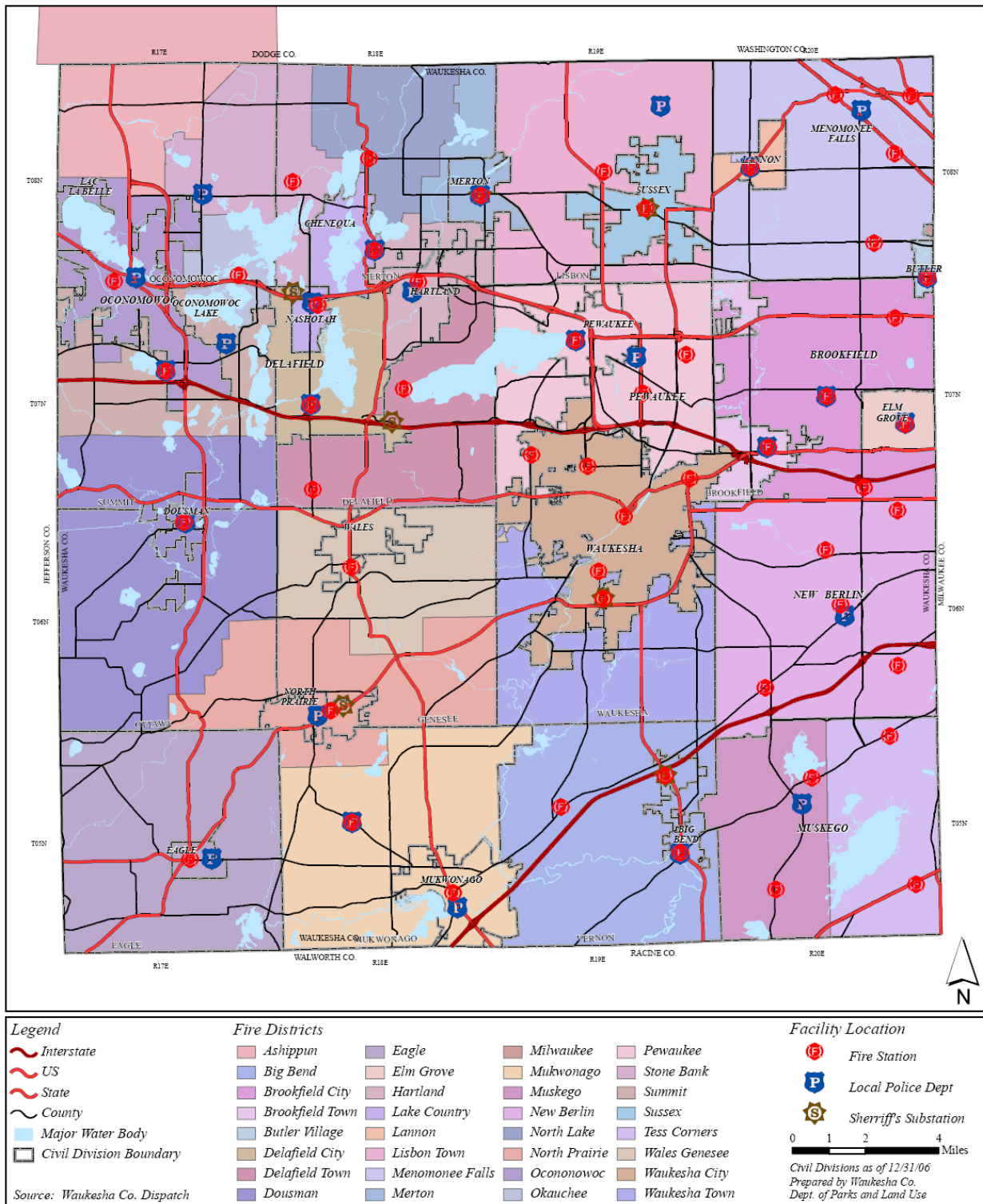
The Bureau of Regulation and Licensing (BRL) in the Division of Children and Family Services is responsible for licensing and regulating child care centers, residential care facilities for children and private child welfare agencies in Wisconsin. More information on licensed childcare facilities can be found at http://www.dhfs.state.wi.us/rl_dcfs/index.htm.

PUBLIC SAFETY

Fire Departments and Emergency Medical Services

Waukesha County has 30 fire departments (Map IV-6). Municipalities operate twenty-four (24) of these departments and six (6) are privately managed. The majority of these fire departments rely on volunteers, paid on call, or a combination of the two. These 30 fire departments have 51 fire stations within the County, with 90 fire engines, 20 ladder trucks, and 64 ambulances. These fire departments serve areas from 1 square mile to 57 square miles ranging in populations of 1,000 residents to over 65,000 residents. In 2003, there were approximately 6,500 fire calls within the County and an additional 19,000 Emergency Medical Service (EMS) calls. Within the County, the Cities of Brookfield, Delafield, New Berlin, and Waukesha; the Villages of Big Bend/Vernon, Elm Grove, and Mukwonago; and the Town of Brookfield provide paramedic services. Discussions continue among several municipalities in the County regarding the appropriateness of I-99 advanced life support service versus paramedic service. I-99 service is just below the paramedic level. I-99's are able to administer certain cardiac

Map IV -6 **FIRE STATIONS, LOCAL POLICE DEPARTMENTS AND** **SHERIFF SUBSTATIONS IN WAUKESHA COUNTY: 2006**



drugs via IV's. The IV Tech, also known as the Intermediate Technician can start IV's, however they are only authorized to administer certain fluids, such as dextrose and glucagons. The IV Techs do not have the authority to administer cardiac drugs. Waukesha County contracts with the City of Waukesha to provide HAZMAT (Hazardous Materials) services to all communities within Waukesha County.

Full-Time Fire Department/District

A municipality may by ordinance establish a full-time fire department. A full-time department provides around the clock service seven days a week using full-time professional fire fighters. Only the Cities of Brookfield and Waukesha have full-time fire departments in Waukesha County.

Combination Full-time, Part-time Volunteer Fire Department/District

A combination fire department consists of at least one full-time staff and other staff serving in a part-time, volunteer, or paid-per call capacity. The average population of a community with a combination fire department in Wisconsin is 12,269. The Cities of Delafield, New Berlin, Oconomowoc, and Pewaukee, the Villages of Big Bend/Town of Vernon, Dousman, Eagle, Hartland, Menomonee Falls, Mukwonago, Sussex and Wales/Town of Genesee and the Towns of Brookfield, Delafield, Lisbon, and Waukesha operate combination fire departments in Waukesha County.

Volunteer Fire Department

Volunteer fire departments are the most common method of fire protection in Wisconsin. A volunteer department has no full-time paid staff. The volunteers may receive a minimal stipend when responding to calls. In Waukesha County, Ashippun, Stone Bank, the Villages of Chenequa, Elm Grove, Lannon, Nashotah, and North Prairie, and the Town of Summit operate volunteer fire departments.

Private Fire Companies

Municipalities can contract with private fire companies for fire protection services. Contracts can be written in several ways. In some cases, the municipality owns the fire equipment and buildings housing the equipment, while the company provides the personnel. In other situations, a municipality might own the fire station, while the company provides the equipment and personnel. Private fire companies in Waukesha County serve the Village of Butler, Merton, North Lake, the City of Muskego, Tess Corners, and Okauchee.

Private fire companies can be organized in four ways:

- As a volunteer fire company under ch. 213, Wisconsin Statutes
- As a nonprofit corporation organized under ch. 181, Wisconsin Statutes
- As a business corporation organized under ch. 180 Wisconsin Statutes
- As a non-profit association organized under ch. 184, Wisconsin Statutes

Law Enforcement Departments

Twenty-four municipal police departments, the Waukesha County Sheriffs Department, and the Wisconsin State Patrol provide law enforcement services to Waukesha County residents. The Cities of Brookfield, Delafield, Muskego, Pewaukee, New Berlin, Oconomowoc, and Waukesha; the Villages of Big Bend, Butler, Chenequa, Dousman, Eagle, Elm Grove, Hartland, Lannon, Lisbon, Mukwonago, North Prairie, Oconomowoc Lake, and Pewaukee; and the Towns of Brookfield, Mukwonago, Oconomowoc, and Summit all operate municipal police departments. In 2005, the Waukesha County Sheriffs Department contracted to provide law enforcement services to the Villages of Merton and Sussex and the Towns of Merton and Waukesha. Waukesha County pays for light coverage by the Waukesha County Sheriff's Department in the Towns of Delafield, Eagle, Genesee, Lisbon, Ottawa, and Vernon and the Villages of Lac La Belle and Nashotah.

The Waukesha County Sheriff's Department Jail Division operates the Waukesha County Jail and Huber Facility. In 2005, these correctional facilities housed an average of 333 inmates a day at the jail and 269 inmates at the Huber facility. The jail division booked 9,310 inmates in 2005. Corrections make up nearly 43 percent of the \$28

million dollar Waukesha County Sheriff's Department budget. Patrol is the second highest expenditure making up nearly 29 percent of the total budget.

Shared Dispatch

In 2005, Waukesha County began shared dispatch where 911 police, fire, and emergency management calls for service go to the County's central communication center in Waukesha. In addition, all 911 calls made from cell phones in Waukesha County go directly to the Waukesha County Central Communication Center. Currently, 24 of 37 communities participate in shared dispatch. The Cities of Brookfield, Delafield, and Pewaukee; the Villages of Butler, Chenequa, Dousman, Eagle, Hartland, Lac La Belle, Merton, Nashotah, North Prairie, Oconomowoc Lake, Pewaukee, Sussex, and Wales; and the Towns of Brookfield, Delafield, Genesee, Lisbon, Merton, Ottawa, Summit, and Waukesha participate in shared dispatch.

IMPLEMENTATION RECOMMENDATIONS

1. The County should work with the Southeastern Wisconsin Regional Planning Commission (SEWRPC) as part of the regional water supply planning process to identify groundwater aquifers that can sustain planned development.
2. The County should consider modifying its Park and Open Space Planning process to identify lands that may need to be preserved for municipal groundwater supplies, specifically meeting the use isolation distances required for high capacity wells.
3. Municipalities should be encouraged to work on a county-wide basis to plan for the future placement and current use of emergency service facilities to optimize emergency response times and to eliminate overlap of service areas and equipment.
4. Since watershed boundaries rarely follow municipal boundaries, municipalities and Waukesha County should work to develop storm water system plans based on watershed areas.
5. Where unique surface water resources exist in Waukesha County (Outstanding or Exceptional Resource Waters or Cold Water Streams), local and County planning efforts should combine land use and storm water planning together with a review of related local regulatory and educational efforts to prepare watershed protection plans.
6. Waukesha County, in cooperation with SEWRPC and local municipalities, should develop a long-range wireless facilities plan to enhance business competitiveness, public safety and government communications.
7. School Districts should be encouraged to work with Waukesha County to use the demographic data and land use projections contained in this Plan for facility and sub-district planning. Often, School Districts are in a reactionary mode in responding to increases and decreases in the school age population. The population and trend data as well as the land use projections contained in a comprehensive development plan can be invaluable information to forecast facility demands for the school age population. In addition, it is suggested that school districts use the information contained in this Plan as baseline and conduct an annual assessment of actual enrollment to verify projections contained in this Plan.
8. In 2000, the Waukesha County Land Development Workgroup, consisting of many of the municipalities in the County, addressed several issues created by current land division and development processes. The goal was to create a consistent definition for land development projects to be considered subdivisions as well as a uniform checklist for the review of subdivisions. Municipalities in the County should continue to consistently use and cooperatively amend the review checklist as necessary.