Chapter Eight

Infrastructure and Utilities

NORW water tower, Fitchville

Historically, the provision of water and wastewater services has been the task of a number of unconnected, largely municipal systems. Huron County's three cities and seven villages have independently developed their own methods for obtaining and storing raw water, treating it, and storing and distributing treated water that meets current health standards. Likewise, each of these entities has also developed a system for collecting and treating wastewater. Potentials exist for economies of scale by combining systems, and a regional water authority, Northern Ohio Rural Water, operating under the auspices of Chapter 6119 of the Ohio Revised Code, is installing rural water lines to bring potable water to customers in a number of the County's townships.

Huron County's utilities consist of a mix of local, mainly municipal, water and wastewater plants and distribution systems, with increased activity in unincorporated areas by regional water providers. The provision of drinking water and adequate wastewater treatment is a basic prerequisite for development, and thus the location and availability of these basic utilities is a fundamental determinant of land use and development. Also vital is the provision of energy throughout the county, and a number of electric distribution providers serve their portions of the county, as well as natural gas providers utilizing the Columbia Gas distribution system.

Of increased importance in this technology-oriented age is the capacity for broadband Internet access, and the degree of such accessibility varies throughout the county. As new systems and platforms are developed and for the transmission of data and information, a number of new infrastructure factors have become important, such as the quality and capacity of telephone lines (including optic fiber), cable television that also supports telephone and Internet connections, wireless broadband providers and their geographic reach, and cell telephone reception. The ability to support and house these new technologies, and the readiness for technologies to come, has important land use and developmental implications, as technology- and information-based businesses require access to the "information highway" just as manufacturers seek access to Interstate highways.

The following list provides the goals that were developed by the Steering Committee.

1. Evaluate the needs of county residents and businesses to ensure they are currently being met and will continue to be met as the county continues to grow.
2. Meet the needs of population growth while still addressing pollution control.
3. Encourage the properly designed and continued development and implementation of preventive maintenance practices to sustain the county's infrastructure, which in turn will allow it to operate in a cost effective manner.

4. Take steps to be able to provide water of adequate volume and pressure in areas designated for industrial or commercial growth. Target infrastructure to designated growth areas, and make leadership aware that utilities are the cornerstone of Huron County's growth.
5. Take steps to improve the reliability of power distribution throughout the county.
6. Develop a telecommunications infrastructure that provides desired broadband Internet and wireless communications accessibility.

Existing Conditions

It is important that the County and its municipalities be able to support the developmental needs of existing residential, business, and institutional entities within the County. Further, the capacity of existing infrastructure should be sufficient to accommodate planned and desired growth. A brief survey of the County's current systems can help shape a picture of the capacity of the County, viewed as a "system" of independent municipal, private, and regional providers, to accommodate balanced and desired growth, for indeed the availability of adequate levels of utilities (in terms of both the capacity of a system and access to the system through distribution lines to growth areas) will continue to be a primary determinant of new growth.

City of Norwalk

Norwalk's water treatment plant

Water: Norwalk's drinking water supply originates from three reservoirs in the southeast corner of the city, drawing water from the east branch of Norwalk Creek. The water treatment plant is adjacent to the reservoir, and it has a capacity of 4.0 million gallons of treated water daily (MGD). This far exceeds the average daily use of 1.75 MGD and its peak use of 2.0 to 2.5 MGD. Recent improvements have included chemical storage upgrades. Treated water is stored in two elevated storage tanks: a 750,000-gallon tank on West Chestnut Street and a newer 500,000-gallon tank at the Norwalk reservoir.

Wastewater: Norwalk's wastewater treatment plant has a maximum capacity of 8.0 MGD, with an average daily flow of 3.0 to 3.5 MGD. Construction is underway to correct and improve upon some deficiencies at the "front end" of the process, including a new head works building and operations center, primary clarifiers, sludge storage tanks, and increasing the equalization basin to provide a buffer for storm flows.

Distribution: The problems associated with combined storm and sanitary sewer lines are universal throughout Ohio's older communities, and Norwalk is no exception. Significant plans are underway to improve this system throughout the city and in several key locations, correcting inflow and infiltration problems.

Electricity: First Energy (Ohio Edison) Local telephone: Verizon Cable: Time-Warner

City of Bellevue

Water: Raw water for Bellevue is obtained from a system of five reservoirs that range from 70 million to 700 million gallons, with a combined capacity of a billion gallons. Two stand-by wells can augment the supply with some 500,000 gallons per day in drought conditions. Four of the reservoirs are within the city limits, and the largest is located five miles southeast of the treatment plant in Lyme Township. Water flows from two of the reservoirs to the other three through open ditches, and a recent study calls for the provision of a direct draw from each reservoir to the treatment plant. Bellevue is also contracted with Erie County to obtain up to 500,000 gallons per day from their system through a connection on SR 269 North.

Bellevue's water treatment plant, built in 1937 and upgraded a half-dozen times since then, has a capacity of 2.6 MGD, and typically treats 1.7 to 2.0 MGD. Bellevue has also completed an agreement with Erie County to purchase treated water from that entity.

Water is now stored in three elevated storage tanks: two with 500,000-gallon capacity, and one with 400,000 gallon capacity. Two of these tanks were constructed over the past year to equalize pressure throughout the city.

Wastewater: The City's wastewater treatment plant, constructed in 1969, is located in the northeast section of Bellevue, with a design flow of 2.0 MGD and an average daily flow of 1.1 MGD. The City has completed a $7 million upgrade that includes a state-of-the-art treatment of bio solids, producing compost that can be used as a fertilizer that is made available to Bellevue residents.

Distribution: As Bellevue's water lines date back to the 1800's, a systematic plan has been designed for replacing aging waterlines, and new lines have been installed in the downtown area and along Center Street from the treatment plant to Southwest Street.

Electricity: First Energy (Ohio Edison) Local telephone: Verizon Cable: Time-Warner

City of Willard

Water: Raw water is obtained from the west branch of the Huron River and stored in the City's reservoir located east of the City on State Route 61. The reservoir holds 7 billion gallons of water. The City's water treatment plant has a new design capacity of 3.2 MGD, with an average daily use of 1.14 to 1.2 MGD, with a maximum use of up to 1.7 MGD. The plant appears to be adequate for handling existing and projected demands.

Treated water is stored in two ground clearwells, each holding 750,000 gallons, and an 800,000 gallon elevated storage tank. These combined facilities hold two days' supply of water.

Wastewater: Willard's wastewater treatment plant was constructed in 1993, and has a daily capacity of 4.5 MGD; average daily use is 2.3 MGD and peak use is 7.2 MGD. Normal peaks reach 3 MGD. Currently, wastewater is stored in a lagoon.

Electricity: American Electric Power Local telephone: Verizon Cable: Time-Warner

Villages:

Village of New London:

Scene at the New London Reservoir

Water: The Village has an upground reservoir, which holds approximately 1.4 billion gallons of water. Additionally, the Village has a direct water line from the Rural Lorain Water Authority and sells them .55 MGD, in addition to selling up to .037 MGD to the Northern Ohio Rural Water. Daily capacity of the Village water treatment plant is 0.5 MGD, and average daily use is 0.28 MGD. Peak daily use is 0.4 MGD. Treated water is stored in a 250,000 gallon elevated storage tank. Village water lines provide water to all of surrounding New London Township as well as the Village.

Wastewater: The Village wastewater treatment plant has a daily capacity of 1.2 MGD, with an average daily use of 0.67MGD and a peak use of 1.2 MGD, approximately the capacity of the plant. Overflow is sent to an equalization basin. The Village is working to obtain funds to separate its storm and sanitary sewers to cut its inflow and infiltration.

Electricity: Firelands Electric Co-Op Local telephone: Verizon Cable: Time-Warner

Village of Monroeville:

Water: Monroeville utilizes a reservoir that was constructed in 2001, with a storage capacity of 75 million gallons. The village water treatment plant handles a capacity of 0.5 MGD, with a 2005 average and peak daily use of .204 and .372 MGD respectively. No plans exist to expand production capacity. Treated water is stored in two elevated tanks of 200,000 and 250,000 gallons respectively, and an additional 100,000 gallons is stored at the water treatment plant. Water lines are extended outside Village limits on a case-by-case basis, and aging water line replacement and looping of lines are addressed as needed and as funds are available.

Wastewater: The Village wastewater treatment plant is in need of capital improvements, most of which are related to a significant infiltration and inflow problem. Its daily capacity is 0.5 MGD, 2005 average daily use was .250 MGD, and peak daily use was .682 MGD. The Village has been performing internal inspection of sanitary sewers in order to develop a plan for eliminating and reducing the infiltration/inflow problem, and has begin implementing sewer replacement projects based on the highest identified priorities, beginning with a replacement along the commercial corridor of U.S. Route 250.

Electricity: Municipal Local telephone: Verizon Cable: Time-Warner

Village of Greenwich:

Water: The Village obtains its raw water from a village-owned well field capable of drawing one million gallons a day. Its water treatment plant has a daily capacity of 0.25 MGD, with an average daily use of .14 MGD and a peak of .175 MGD. A new 100,000-gallon elevated water tower has replaced the previous standpipe. However, another 200,000-gallon tank would be helpful, and Ohio EPA has noted they would like to see more capacity. Water lines have been extended east of the Village to SR 13. Another looped line has been extended from New Street to Plymouth East and Greenwich Milan Townline Road.

Wastewater: The Village wastewater treatment plant has a daily capacity of 0.2 MGD and average daily use of .185 MGD, with peak use as high as .220 MGD. As with many rural Ohio villages, most of Greenwich's sewers are combined sanitary and storm sewers, presenting overflow problems that can exceed the capacity of the wastewater treatment plant during storm flows. The lines have been separated along US 224 from the west to east corporate lines.

Electricity: American Electric Power Local telephone: Verizon Cable: Time-Warner

Village of Wakeman:

Water: Water is purchased from Northern Ohio Rural Water, with a capacity of up to 250,000 gallons per day, an average daily use of 77,000 gallons, and a peak daily use of 95,000 gallons. The Village stores 100,000 gallons of treated water in an elevated storage tank. Water line replacements are undertaken when funds are available.

Wastewater: The village uses a wastewater system that combines individual septic systems with a centralized treatment plant. The capacity of the plant is .765 MGD, and average daily use is .093 MGD, with a peak daily use of .368 MGD. This relatively new system was installed in 1994.

Electricity: First Energy (Ohio Edison) Local telephone: Verizon Cable: Time-Warner

Village of North Fairfield:

Water: North Fairfield obtains its drinking water from wells, and its treatment plant has a daily capacity of 0.45 MGD, with an average daily demand of 0.4 MGD and maximum demand of 0.65 MGD.

Wastewater: The Village relies upon individual septic systems on residents' lots for wastewater treatment.

Electricity: First Energy (Ohio Edison) Local telephone: Verizon Cable: Time-Warner

Village of Plymouth:

Water: The Village of Plymouth obtains treated water in sufficient quantity from the City of Willard. It has a daily capacity of .325 MGD, and average daily use is .194 MGD. There are plans to replace an existing 75,000 elevated storage tank with a 250,000-gallon tank.

Wastewater: Plymouth needs to increase the capacity of its lagoon system for wastewater. Daily capacity at the wastewater treatment plant is .235 MGD, but average daily use is .330 MGD, with peak daily use of .442 MGD. There are also plans to expand sanitary sewer capacity along State Route 61, which runs north to south through the village, and to continue their program of replacing old cast iron water mains throughout Plymouth.
Electricity: First Energy (Ohio Edison) Local telephone: Verizon Cable: Time-Warner

Village of Milan:

Water: The Village of Milan provides water to its customers from an underground aquifer located southeast of town. The well field consists of four drilled wells approximately 150' deep; these wells pump water as needed through an aeration and filtration process. Chlorine and fluoride are added after the filtration process. The finished water is stored in an underground reservoir at the water plant and is pumped from there to a relatively new 500,000-gallon storage tank on State Rt. 601. The village has a daily water treatment capacity of 0.7 MGD, well above its average daily demand of 0.22 MGD. The Village undertakes an annual program where the most needed water line replacement projects are carried out with budgeted funds.

Wastewater: The Village has a wastewater treatment plant constructed in the 1980's, and the plant provides adequate flows for community needs. Daily capacity is 0.37 MGD, and a daily average flow of 0.2 MGD. There is no standing order or requirement to upgrade or alter Milan's existing processes and facilities.

Electricity: Municipal (AMP Ohio) Local telephone: Verizon Cable: Time-Warner

Northern Ohio Rural Water Authority

A large and growing portion of unincorporated Huron County is served by the Northern Ohio Rural Water Authority (NORW), which is based on U.S. Route 20 in Townsend Township east of Norwalk. NORW was formed in December 1988 as the Erie Huron County Rural Water Authority under Chapter 6119 of the Ohio Revised Code. Since then, it has grown to encompass rural areas within Erie, Huron, Lorain, and Sandusky Counties. NORW has the current capacity to serve Huron County residents with 2.7 million gallons of treated water daily, but is typically serving 0.4 million gallons per day, and that entity has set a long-term goal of serving the entire rural portion of Huron County with adequate water. Sources and amounts of water for NORW include the City of Elyria (two million gallons per day), City of Lorain (minimum 250,000 gallons per day, no maximum), Erie County (150,000 gallons per day, increasing to 200,000 gallons in 2010), Rural Lorain County (100,000 gallons daily) and Village of New London (100,000 gallons daily).

The NORW system provides water to over 7,500 service connections serving over 26,000 residents, with over five hundred miles of water mains, seven pumping stations, nine water storage tanks with a combined capacity of 4.15 million gallons of water, and eight main line pressure-reducing stations. NORW supplies water to Huron County through its distribution system in five different locations; in 2007, this will be expanded to seven locations.

The first and main location and service area is through a 12" water main on Hartland Center Road at the Erie County line. This water originates from a 16" main two miles north of the County line, and comes from a 750,000-gallon storage tank. The 12" main runs from the County line on Hartland Center Rd. to Zenobia Rd. The same 12" main runs along S.R. 18 from Hartland Center to the Norwalk Raceway. There is a booster pump station on this main that supplies water to the 200,000 and 400,000-gallon storage tanks in Hartland Township.

The second location is a 6" main on SR 61 that supplies water to residents and businesses in northeastern Norwalk Township. The third is another 6"main on Plank Road that supplies water to residents and businesses in the northern portion of Norwalk Township. The fourth is an 8" main on US Route 224 that supplies water to residents and businesses in Greenwich Township. A fifth location is a 6" main on SR 60 and Cook Road from the Village of New London that supplies water to residents and businesses in Clarksfield Township.

The sixth location, to be installed in 2007, will be an 8" connection with Erie County at SR 4 and SR 113 that will supply water to residents and businesses in Lyme, Ridgefield, Sherman, and Peru Townships. Finally, the seventh location, also to be installed in 2007, will be a 6" main on Lovers Lane Road at the Erie County line that will serve residents and businesses in northeastern Ridgefield and northwest Norwalk Townships.

NORW's water storage and distribution facilities within Huron County include a master meter vault in Wakeman and at Greenwich East Town Line Road and US 224, pressure reducing stations at Nash and Hartland Center Roads, in Wakeman, Zenobia and Greenwich-Milan Town Line, a pump station on Greenwich Milan Town Line Road north of US 250, and the following elevated tanks: a 200,000 and 400,000 gallon tank at Hartland Center near SR 18, and a 100,000 gallon elevated tank in Fitchville.

In general, the above-described plans depict a developmental push toward the south and west from the initial base of Huron County's more northeasterly townships, where lines have existed in Norwalk, Townsend, Wakeman, Bronson, Hartland, Clarksfield, and Fitchville Townships.

Efforts have been made in recent years to coordinate the growth of NORW with the expansion of the City of Norwalk. NORW has worked out a protocol for determining whether the municipal system or NORW will supply water to specific areas just beyond the city limits, where future growth and annexation may be likely. The Norwalk comprehensive plan includes the following goal:

The City should continue to coordinate with the Northern Ohio Rural Water Authority. Great strides have been made over the past year in developing a protocol for service to growth areas outside the traditional service area (bounded by the U.S 20 bypass). This process includes involvement of the City and Township,

NORW, developers and land owners, a consulting engineer, and economic development officials including NEDC and, as applicable, HCDC and other County officials.

Holiday Service Corporation

In addition to the municipal water providers, Holiday Service Corporation provides water connections to some 386 water customers (as of their 1999 report), with sufficient capacity to double their customer list to 780 customers. In 1999, Holiday Services produced and delivered 14,570,997 gallons of water in the Holiday Lakes area, with water obtained from wells and purified with filtration and chlorine.

Huron County Landfill

Entrance to the Huron County Landfill

The Huron County Landfill ceased landfill operations in the 1990's, but the site is still in active use as a transfer station. Currently, Huron County haulers deliver solid waste to the transfer station, where it is transferred and transported to the Richland County Noble Road landfill. Previously, solid waste was transported to Ottawa County, but the Richland County location is preferred because of its proximity.

The landfill site is on Town Line Road (C-131) in Greenfield Township, one mile west of SR 61. Plans call for continuing the transfer station's operations at this location, because it is centrally located within the County and within equal proximity of the major markets of Norwalk and Willard. The landfill property extends to 269 acres, of which only 17 acres were used for landfill operations. The remaining property served as a buffer to control land uses and development. Much of these acres are farmed by contract. The more southerly acreage is on environmentally sensitive lands near the West Branch of the Huron River, some of which may be set aside as restored wetlands in a contract with the Ohio Department of Transportation.

In 2005, the transfer station received 44,525 tons of solid waste, of which 30,899 tons were "general" (a mix of residential, commercial, and industrial refuse, received from haulers and municipalities), 9,805 tons were hauled in directly from industrial users, and 2,592 tons were construction debris.

Direct delivery of recyclables to the landfill (not counting municipal recyclables or materials obtained from recyclable drop boxes throughout the county) yielded 1,215 tons. However, this does not begin to measure overall recycling activity in the county. A current survey of county-wide recycling activity, including vast quantities of recyclables never going through the landfill's gates, reveals some 88,964 tons of recyclables, of which 26,553 tons were generated by commercial and residential uses, and 62,411 tons were industrial. The largest component by far was paper.

Existing Utility and Infrastructure Plans in Huron County

The previous County-wide plan in the 1970's was "designed to provide a coordinated plan for the development or expansion of utilities throughout those portions of the county where concentrated development is to be directed in the years ahead", pulling a countywide study together with the plans for the individual cities, thus creating a regional utilities plan. The plan addressed several components of an overall utilities strategy: The findings of that plan are briefly summarized here to provide some historical context with which to frame future planning decisions.

Storm water was viewed as an urban and rural issue. In rural areas, natural drainage ways should be preserved, while urban areas should operate with separated storm and sanitary sewer systems (which was not always the practice in the 1970's). In the absence of costly separated systems, the plan recommended holding lagoons, where excess flows could be held and treated under controlled circumstances at under peak times. While the importance of the county's watersheds, particularly related to the Huron and Vermilion Rivers, was stated, it was also recommended that the river valleys should be preserved for open space and maintained for unimpeded stream flows. Any emerging urban pattern should preserve the natural contour and character of the land.

Sanitary Sewers were noted to be combined systems in most communities. Since this report was published, EPA mandates and orders have accelerated some communities' plans to separate their sewers and reduce inflow. It was noted that, generally speaking, only areas within municipal corporate boundaries were provided with sanitary sewer service. The plan cited a 1971 report that indicated that "none of the existing treatment plants in Huron County are providing adequate treatment of sewage." Fortunately, the level of treatment has improved in the intervening decades, additional users have been mandated to connect with the systems, and measurements of downstream pollutants have largely diminished. One issue that remains, however, is the inability of some county soils to provide adequate leaching for on-site rural septic systems. This unsuitability of soils will continue to deter development in many unincorporated portions of the county.

In terms of planning, the report projected that most future urban growth would take place in the Huron River watershed, and that communities developing wastewater treatment facilities in the southern portion of the county would be impacting those communities downstream, to the north. The plan conceptualized the construction of a number of strategically placed regional waste treatment plants that serve areas beyond specific municipal boundaries, with smaller plants serving growth area "subdistricts" installed in the more short term. The plan advocated for a more regional approach, where annexation would not be a prerequisite for a municipality's water or sewer service, and with compensating equalization of taxes to pay for services.

To date, the provision of sanitary sewers has remained largely within the province of the municipalities of Huron County, impacting land uses in that heavy users of sanitary sewer services are drawn to municipal areas or their urban fringes, where they can be affordably connected to existing systems.

Water service: The report noted that water resources were very limited in portions of the county, with a significant underground supply generally along SR 61 from the southern edge of the county north to the Erie County line, yielding a reported 60 to 200 gallons per minute. Milan, Greenwich, and North Fairfield draw their water supplies from wells. For the most part, however, the county's water is obtained by pumping it from the county's streams to upground reservoirs. The plan cited an Ohio Department of Natural Resources report that the Huron River should yield some 77 billion gallons per year, and the Vermilion River another 57 billion gallons. It was noted, however, that in 1968, more than 2.3 million gallons of water were hauled into some of the township areas and more than 63 percent of that was for domestic or residential usage. Despite this fact, the plan noted that "Future growth of Huron County is not expected to be restricted by a lack of water. If there are limitations to growth, it is more likely that this will result from the cost of piping water long distances. Therefore, the alternative is to control the location of intense development in order to keep the cost of servicing with water at a reasonable level." This recommendation holds today as well.

Additional regional upground reservoirs were proposed for Sherman Township (serving Bellevue) and in the vicinity of North Fairfield (to serve the mid section of the county), and it was suggested that the City of Norwalk should construct a low level dam on the East Branch of the Huron River to pipe additional water to their reservoirs. As with sanitary sewerage, some means or vehicle for water services that "transcend political boundaries" was suggested, through a "Huron County Water Authority". The plan did not foresee the emergence of a Northern Ohio Water Authority, which has arranged to purchase and obtain water from such sources as Erie County and the City of Elyria (both with intakes on Lake Erie) and the Village of New London.

Other Topics: The plan discussed the potential for the Huron County Landfill to continue to collect and store 100 tons of waste daily. Since the plan's development, the Landfill has been closed and its site includes a recycling and transfer station; material is transported from this central Huron County site to landfills in nearby counties. The plan found no shortage of electrical power in the county, with generating capacity in excess of anticipated demands. The plan recommended concentrated land uses that allow for the most efficient, economical distribution and delivery of electricity and natural gas.

Norwalk Comprehensive Plan 2006

The 2006 comprehensive plan for the City of Norwalk included a chapter devoted to utilities and infrastructure. Among its recommendations were the following:

- Sites and facilities for new and expanding businesses should have access to suitable water and wastewater treatment capacity, as well as sufficient electric power and natural gas. Further, methods should be employed to ensure that the needs of City businesses, institutions, and residents are being met.

- Underground utility lines should be replaced as needed, including completion of the City's sewer separation program and the construction of new or expanded sewer trunk lines, with funds budgeted for such improvements and for operation and maintenance.

- Alternatives and policies regarding the financing of infrastructure improvements should be explored to assist desirable development. Methods could include Tax Increment Financing. In cases where development will occur outside the City limits, the City and Township should explore partnering through a Joint Economic Development District (JEDD) or Cooperative Economic Development Agreement (CEDA) to share and distribute revenues.

- Consider extending water and sewer service to the east, with potential line extensions along U.S. 20 to the north, S.R. 601 to the east, and S.R. 18 to the south.

- Continue to coordinate with the Northern Ohio Rural Water Authority, including use of the established protocol for serving areas near the City.

- Commit to achieve a connection with a raw or treated water provider on the Lake Erie grid. The ability to obtain water from Lake Erie can be a backup to the existing water supply from reservoirs. This connection can potentially be made by using the City-owned right-of-way along a former rail line running north from Norwalk to the Milan area.

Bellevue Comprehensive Plan 2005

The 2005 Bellevue Comprehensive Plan included the following recommendations regarding utilities and infrastructure:

- With regard to water, the City will continue to implement the necessary improvements to replace aging waterlines, increase water capacity, improve water treatment, and meet new regulations to provide residents with a safe and adequate water supply. Strategies include budgeting funds for replacement of water lines, scheduling improvements to meet future water quality standards, providing capacity for reservoirs #4 and #5 to tie directly into the water treatment plant, executing an agreement with Erie County to provide additional water, and ramping up efforts to supply Flat Rock, as well as Lyme and York Townships. (Note: Lyme Township is in northwest Huron County, and NORW intends to service a significant portion of the township in the near future).

- In the area of wastewater, the overall goal is to continue to maintain and upgrade the wastewater treatment plant and collection system as needed to provide adequate service. This includes investigating the purchase or option of land north of the existing plant for expansion, and providing a buffer of green space surrounding the WWTP to protect future land uses.

- The City has also set a goal regarding fiber optics, considered an economic development tool. The goals are for the City and Bellevue Development Corporation to study the need and potential for providing high-speed fiber, including meeting with other communities that have initiated such a project, surveying local business to determine needs, study best practices, and identify financing opportunities to support the installation of a fiber optics system.

The City of Willard's water policy is that they will extend lines outside the City limits when asked and when it is cost effective to do so. However, the City will not extend sanitary sewer lines without an annexation agreement. Plans call for development of two ground clearwells to hold another 750,000 gallons of treated water. Sewer separation remains a need in Willard, but it is not a top priority.

Village Plans for Infrastructure Improvements

Individual Villages have created some plans for further growth or improvement to their infrastructure. In Monroeville, the extension of water lines to areas outside the Village is considered on a case-by-case basis. The Village has considered extending water to the north on River Road and west on Route 20. The limited user base makes the cost of extending water lines to these areas cost prohibitive. The Village also works to loop dead-end lines to improve flow and pressure. Monroeville's sanitary sewer system is subject to considerable infiltration and inflow of storm water, and plans are underway to undertake the necessary sewer separation and other measures, coupled with capital improvements to the wastewater treatment plant, to lessen the overflow.

In Greenwich, there are needs for an additional 200,000-gallon tank to hold treated water. Like most villages, Greenwich also has overflow problems because of the predominance of combined sewers; sewers have been separated from the east to the west corporate limits along US 224. Water lines have been extended east of Greenwich to SR 13, and looped along New Street to Plymouth East and Greenwich-Milan Town Line Road.

In New London, sewer separation is a large priority, with an EPA mandate to reduce infiltration and inflow. The Village intends to smoke test and videotape its systems, then derive cost estimates and a "storm sewer master plan" for financing and construction of improvements.

Technology Infrastructure

Cell tower near U.S. 250 in Fitchville

In the twenty-first century, Broadband computer access to the Internet and cell telephone availability has become as important to some businesses and residents as such basic infrastructure items as water and sewer. Huron County is served by a number of Internet Service Providers and wireless telephone services. Most municipalities are also served by Time Warner for television cable connectivity, and Time Warner also offers cable Internet ("Roadrunner") service as well as digital telephone service. DSL service is available in many areas from Verizon, and a number of local providers also offer dial-up, DSL, or wireless service. Public access to the Internet can be gained at several public library facilities throughout the county. However, the number of computers at each library is limited and users may have time limitations imposed on them in order to serve everyone's needs.

While local wired telephone service throughout the county is provided by Verizon, there are a number of wireless cell phone services that can be received in the county. However, there are notable areas within Huron County, such as east on the SR 18 corridor and in several locations in the southern portion of the county, where reception is inadequate. It is important to advocate for satisfactory reception throughout the county, for safety reasons as well as for business and personal use. There is also reason for local officials to advocate for toll-free calling throughout Huron County.

Local officials should also advocate for the proper placement and provision of telecommunications services throughout the county. For purposes of local planning, it is important to note that the Telecommunications Reform Act of 1996 defined the ability of local government to regulate telecommunications through zoning. While the Act forbids local government from using zoning to prohibit such uses as communications towers, it asserts the right of local governments to protect the public interest through zoning, by encouraging the co-location of transmission devices operated by competing companies on the same tower, for example. Counties must deal with requests to construct such towers in a timely and nondiscriminatory fashion. It is recommended that the county develop comprehensive policies to address future requests to construct such towers.

It may be advantageous to promote joint ventures with local governments. Some local governments have invited private telecommunications providers to bid on construction of towers to be shared with the local government for the installation of public safety communications, along with the private company's needs.

Coordinating Infrastructure Development with Orderly Growth

In general, this comprehensive plan encourages development patterns where most new growth and development occurs within or contiguous to existing cities and villages. When this tenet is followed, the cost of extending necessary infrastructure is minimized. As a corollary to this basic guideline, industrial site planning should concentrate on designated growth areas such as planned industrial parks, where multiple facilities, both existing and planned, can utilize a single sewer or water line extension. Huron County is served by a number of economic development practitioners and offices. Those entities and individuals should continue their existing practice of identifying and promoting established industrial sites and parks that can be marketed for intensive future investment and development, and coordinating the selection and focused marketing of such sites with municipal and county officials who can ensure adequate and cost-effective provision of infrastructure, as well as adequate sources of energy to accommodate industrial processes.

In areas where development is driving the need for water or wastewater treatment facilities in non-municipal areas, the County should encourage the use of alternative treatment technologies when such methods are cost-effective and functional. Such technologies worth possible consideration may include decentralized systems, land treatment, wastewater irrigation, and mound or wetland systems.

In cases where utility extensions should be made to such areas, all communities and utility providers should have in place a specified policy for determining the method by which such extensions are made. In such cases, when the proposed development is compatible with this

Land Use Plan as well as any applicable local jurisdiction's comprehensive plan, utility service should be extended but limited to the generalized areas targeted for growth. This is important because the construction of utility extensions, as well as roadways, can often determine the direction and location of growth throughout the County, and will in turn determine future land use patterns. For example, the size and capacity of a water line can determine whether an area is suitable for industrial processes that require a significant water supply. However, it is also possible, if determined economically feasible, to upsize a water line in order to accommodate growth plans.

The construction of a large-capacity water line will not prepare a site or area for "urbanizing" growth unless it is accompanied by the provision of a means for wastewater collection. For example, development has been somewhat hindered in the vicinity of Summit Racing Equipment Motorsports Park (formerly Norwalk Raceway Park) in Norwalk Township because, although potable water is available, there is no sanitary sewer system in the area. It is proposed that the provision of sanitary sewer lines, coupled with possible upgrades to the water distribution system, will help spur further development and increase development options in this designated growth area.

It is important to analyze the potential impact and benefit of utility extension projects in rural areas such as Huron County. While it is true that rural water and sewer facilities generate private investment and public funds and increase the property tax base, it is also true that the average urban facility, typically costing only about one-third more than the average rural facility, has been found to create about twice the number of permanent jobs, induce three times more private investment, leverage twice as much in public funds, and add three times more to the local property tax base, as reported in the USDA publication "Rural America" in winter 2002. In planning for such investments, local governments should project their likely benefits, including revenues through tap-ins and utility bill payments, as well as other measurable impacts such as jobs and payroll created, tax base increases, and, on the other end of the balance sheet, public costs to extend and maintain services the new service area.

Policy Statements and Recommendations

1. The county will need to increase its access to a more substantial source of raw or treated water, and the logical source is Lake Erie. Methods should be encouraged to obtain water from sources along Lake Erie, including Erie County. Water in sufficient supply may be available in the Milan area, or within the NASA Plum Brook facility. Further, NORW is finalizing an agreement with Erie County to connect with their distribution system to furnish water to northwestern Huron County. Significant residential growth has been noted in the county's easternmost townships. Water, throughout the county, and especially in targeted growth areas, is a necessity in order to promote growth.

2. Options should be investigated in which larger municipal sources of water furnish treated water to nearby smaller developed areas and villages. Cooperative efforts should result in the provision of water for all within the County. For example, Willard has furnished water to the village of Plymouth for many years, and New London

extended distribution lines to every household in New London Township. Willard and New London have significant water capacity, and can furnish water either directly or indirectly by providing water to NORW. Indeed, New London is now providing water to NORW for distribution in nearby unincorporated areas.

One potential area that could eventually be served by an outside entity is North Fairfield. Either NORWA, Norwalk, or Willard could provide water to this village's customers, who currently obtain village water from shallow wells. Similarly, New London's reservoir could supply Greenwich. In such cases, the County could help facilitate such a project and help in finding funding or endorsing applications. Lowest-cost alternatives that are the most logistically feasible (such as when NORW already has adequate lines within close proximity of a potential service area) should be recommended.

3. The creation of one or more water districts may become a feasible option for the provision of water to developing areas outside but within close proximity to current municipal borders. A Willard water supply district could provide water to growth areas in nearby townships, and Willard has provided water to nearby areas where residences have inadequate water. As noted previously, New London has constructed water lines for all of New London Township. Further expansion into adjacent developed land can help guide land use if it is carefully planned, with larger capacity lines targeted to state highway corridors and sites where industrial and commercial development is desired.

4. Huron County water providers should work to collaborate and negotiate with Northern Ohio Regional Water Authority in determining their respective service areas. This process of collaboration has been carried out between the City of Norwalk and NORW. Regardless of the outcome of such planning, care should be taken to ensure that designated growth areas would be served with adequate water (for drinking and fire protection) volume and pressure for the type of land use envisioned for that specific area. Planned industrial growth areas must receive sufficient water, with hydrants, to provide for necessary fire flows, as well as to serve any anticipated manufacturing processes.

5. Another land use that may require additional infrastructure is rural recreational development. Erie County has provided water and sewer service to a number of significant recreational facilities such as the new Kalahari resort and convention center. Huron County could be the site for growth resulting from the growing significance of the area as a tourism destination.

6. As smaller wastewater treatment plants become obsolete or fall under mandates, communities should explore regional options with larger wastewater treatment plants linking smaller communities.

7. Alternative sewage treatment technologies should be promoted in areas that exhibit special problems where there are documented health or environmental issues. Such alternatives as maintenance of septic systems, decentralized systems, and gray water systems should be explored.

8. Local officials should obtain input from industrial and commercial businesses regarding their energy utility (especially electrical) needs and whether current and projected needs are being met. This information could be obtained through the retention and expansion program undertaken by HCDC. Data on business needs in areas where needs or projections are not being met should be communicated to the relevant utility provider, with provision for continued communication until needs can be met. Similarly, utility companies should inform local governments of planned improvements. A special need is for industrial parks to be in communication and coordinated with electricity and other utility (natural gas, broadband) suppliers to ensure that the needs of current and potential future users will be met in a manner that makes Huron County competitive as a business location.

9. All areas of Huron County should be served by adequate cellular telephone service, and providers should be informed of any area in the county where service is inadequate. Currently, several areas and highway corridors are noted for unsatisfactory cellular service. Noted areas include US 20 and SR 18 east of Norwalk, and segments of Routes 4, 103, 224,99, 547, 162, and 250 (south of Fitchville).

10. All areas of Huron County should be served by a level of Internet service that corresponds to the needs of the specific land use for that area. For example, designated industrial growth areas should be able to obtain adequate broadband service, through T-1 lines, cable service, DSL, wireless, or other means. Key target areas should also be developed that have wireless capabilities as well. Many areas within the county have no broadband capacity. However, many agricultural concerns have turned to satellite service for GPS and other needs, rather then broadband.

11. The Huron County Landfill, which now serves as a transfer station, should continue to maximize its ability to handle recyclables of all types.

12. Industrial sites, parks, and planned growth areas should be planned and located in designated growth areas that can be served by adequate infrastructure.

13. Stormwater management should be addressed throughout the county by aggressively eliminating combined sewers, including provisions for retention and other mitigation measures in new subdivision regulations, enclosing highway ditches where feasible, and including stormwater standards within a county thoroughfare plan.

Tax Sharing Provisions: JEDDs and CEDAs

Ohio law provides for the facilitation of cooperative economic development projects between a municipality and one or more adjacent Townships. One option is the Joint Economic Development District (JEDD). JEDDS often help provide for water and sewer, fire and police, street maintenance, trash pickup, and planning and zoning services. JEDDs can pay for the cost of these services by imposing an income tax on non-residential property owners within the district. JEDDs allow for the levying of a district-wide income tax and provision of municipal services in the unincorporated areas. One or more municipalities and one or more Townships may create a JEDD to facilitate economic development. The JEDD must be located within the territory of one or more of the contracting parties and may consist of all of that territory. The territory may not include existing residential areas or areas zoned for residential use.

A public hearing must be held and the public must be able to examine the plan for the JEDD, including a schedule of new services, improvements, and facilities, a schedule for the collection of any income taxes to be levied within the JEDD, and a description of the land to be included within the JEDD. Documents must be filed with the County Commissioners, who must approve the creation of the JEDD by resolution. Under some conditions, a vote of the electors in each participating Township may be required.

A JEDD is governed by a board of directors, and powers of the JEDD include the power to levy an income tax at a rate not higher than the highest rate being levied by a participating municipality, with an amount set aside for the long-term maintenance of the JEDD; the power to determine the substance and administration of zoning and other land use regulations, building codes, permanent public improvements, and other regulatory matters; the power to limit and control annexation of unincorporated territory within the JEDD; and the power to limit the granting of property tax abatements and other tax incentives within the JEDD.

Another economic development tool is the Cooperative Economic Development Agreement, or CEDA. Similar to a JEDD, one or more municipalities and Townships may enter to a CEDA; unlike JEDDs, however, a County, the State, or a State agency may also become parties. Creation of a CEDA requires public notification and a hearing process. A CEDA may have the following powers: provision of joint services and permanent improvements; services and improvements by the municipality in the unincorporated portion of the Township; provision of County or Township services or improvements within the municipality; payment of service fees to a municipality by a Township or County; payment of service fees to a Township or County by a municipality; issuance of bonds and notes by a municipality, County, or Township for public purposes authorized by the CEDA and provision for the allocation of the debt service payments and other costs related to the issuance and servicing of the debt; issuance of industrial development bonds and debt of a municipality to finance projects outside the municipality; limitations on annexation within the CEDA; agreements with landowners or developers concerning provision of public improvements; limitations on the use of tax abatements; and other specified powers.

JEDDs can be more difficult to create because they require participation of property owners, and may require a vote of electors. However, a JEDD can be powerful in generating revenue to pay for the costs of infrastructure improvements and services by imposing an income tax. The CEDA does not create a new or distinct revenue stream, but no approval of affected property owners is required.