

Chapter 7



Utilities and Infrastructure

Goals:

1. Plan infrastructure improvements carefully to guide and entice progressive, desired growth and development to planned growth areas, but plan with enough flexibility to accommodate change as new opportunities arise.
2. Plan and implement improvements only if they are affordable, both in their construction and their ongoing operation and maintenance, and if they can be supported with affordable and competitive user rates.
3. Monitor and evaluate the needs of residents, businesses, and institutions to ensure that those needs are being met, and to plan for prioritized improvements when they are not.
4. Continuously develop and follow a progressive schedule of maintenance and replacement for water and sewer systems, streets, sidewalks, and other elements of infrastructure.
5. Monitor utility services to ensure that all areas and sectors of the community are provided with needed technology, power, and water, and pressure energy providers to increase capacity to meet needs.
6. Strive to provide technology systems and networks that are “City of the art” in accessibility, capacity, and speed. Explore the feasibility of achieving a totally wireless community.

Introduction:

The community forum and focus groups yielded some residents’ considerations and priority issues regarding utilities and infrastructure. Among the comments received were the following:

- Infrastructure should keep pace with growth
- Develop a plan to increase Norwalk’s raw water supply; a “perpetual” supply of water; work to develop a water line from Lake Erie, possibly using the right of way purchased by the City from railroad. Work with other entities (such as Erie County, Northern Ohio Rural Water Authority, or NORWA) to obtain this alternative source of water.
- Continue the City’s sidewalk, curb, and gutter replacement program
- Encourage “green” sources of energy. For example, consider use of windmills for supplemental energy; could be located in industrial parks
- Continue with storm and sanitary sewer separation

- Rural Water can supply another source of water to the City
- Consider development of a backup power supply for the City
- Curb and gutter is needed on East and West Main Street
- Fiber optic installation should be implemented
- Expand water and sewer south beyond the Route 20 bypass
- Fiber optics and wiring should be extended as underground utilities
- Aggregate purchase of utility services for consumers; bulk buying gas or electricity
- Cell phones should work anywhere in the City (and County).
- Develop an “eastern utility district” to serve developing areas to the east
- Stay current with new technology
- Competition for cable television
- Increase public access on cable television
- Need exists for an agreement with Rural Water; must come to terms to preserve land for development as industrial or commercial, requiring more water pressure and capacity than may be available unless City provides water

Current Facilities: Water



Norwalk’s public drinking water supply originates from a series of three reservoirs on the City’s southeastern corner, drawing water from the east branch of the Norwalk Creek. The Norwalk water treatment plant is located adjacent to the reservoir on Old State Road. This plant has a capacity of 4.0 million gallons of treated water daily, well in excess of average daily use of 1.75 million gallons, and peak use of 2.0 to 2.5 MGD. Recent improvements have included chemical storage upgrades.



Plans are underway to upgrade the water treatment plant. One project will improve the reaction basins (pools for water and chemicals to mix together) and, later, membrane filtration. The reaction basins will resolve a recent THM problem, and further regulations will be addressed as needed. Another project will repair the reservoir spillway. Both projects together are estimated to cost \$1.25 million.

Treated water is stored in two elevated storage tanks: the 750,000 gallon tank at West Chestnut Street, and a newer 500,000 gallon tank at the Norwalk Reservoir.

Water tower at the reservoir

Water consumption in Norwalk in recent years has actually decreased, due in great part to cost-saving conservation practices put in place by industry, including internal water recycling processes, and aggressive leak detection by the water distribution department.

Current Facilities: Wastewater



Site of the Norwalk Wastewater Treatment Plant off of Lais Road.

Norwalk’s wastewater treatment plant has a maximum capacity of 8.0 million gallons a day, 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.

Improvements will include a new head works building and operations center, primary clarifiers, sludge storage tanks, and increased size of the equalization basin, providing a

buffer for storm flows. The cost is estimated to be \$7 to 8 million for the improvements at the plant site.

Once these improvements are complete, the front end of the plant will be able to handle up to 15 MGD, but the back portion will still be limited to the current 8 MGD. In the longer term, that portion of the plant can be upgraded and capacity increased through the addition of secondary (biological dissolve organics and solids) and tertiary (phosphorous) processes.

In addition to imminent plant improvements, significant plans are being put in place to improve the sanitary sewer system at key locations throughout the City, separating storm from sanitary sewage and thus correcting inflow and infiltration problems. The separation plan will see implementation over a fifteen-year period, and will involve the construction of new trunk lines at South Pleasant Street (in the vicinity of the Jaycee Park area), Washington Street (with a line to the north of Washington, connecting to the plant) and Cline Street.

Another long-term need cited by wastewater treatment officials is to acquire additional land for the treatment plant. While significant acreage to the west is owned by the City, it cannot be built upon, and there is a need to acquire acreage to the north to effectively accommodate growth. Expansion to the east is not practical because of the commercial land uses within close proximity in that direction. Acquisition will become necessary when the City begins planning for the secondary, “back end” improvements described previously.

Current Facilities: Other Utilities in Norwalk

Natural gas distribution is provided in Norwalk by Columbia Gas of Ohio. Electricity is provided by First Energy (Ohio Edison). The available voltage varies throughout the City, with 69kVA lines in some industrial areas. Telephone service is supplied by Verizon, and there are plans to upgrade their lines through the installation of optical fiber throughout the City. This process may take several years.

Cable television service throughout the City is provided by Time Warner, which also offers “Road Runner” cable Internet service and a new digital telephone option. High speed telecommunications for broadband Internet access can be obtained through a number of Internet Service Providers, including Advanced Computer Connections, Time Warner’s “Road Runner” service, HMC Limited, Dragon Internet, and Linden’s Satellite Communications. While Norwalk has not developed any provision to be a wireless or “wi-fi” community, several locations within the City, including the campus of Fisher Titus Medical Center and some retail locations, have become wireless.

Future Infrastructure Needs Cited by Public Works Officials

Some of the City’s known infrastructure needs have been described under the water or wastewater descriptions. A major improvement is the long-term control plan, a combination of wastewater treatment plant and sewer system improvements, estimated at \$15 million in total, that will be undertaken over the next fifteen years. Other potential projects in various stages of conceptual development or planning include the following:

- Eventual need for infrastructure to serve new development occurring in the “Norwalk Commons” area, west from U.S. 250 along Stower Lane, and potentially further east.
- Infrastructure to service the growing north and northwest portion of the City. As noted, the sanitary sewer long-term control plan includes extending a new sewer trunk line north from North Pleasant Street to Shaffer Road, and east from Whittlesey Avenue to the treatment plant. A future extension of Westwind Drive or the development of additional subdivisions in this area will require new water distribution lines as well.
- The City continues to undertake a systematic replacement of deteriorating or undersized water lines. During the current year, a line will be replaced along Ohio and Jefferson Streets; a similar project was completed for Rose and Bouscay Avenues. In many such projects, smaller diameter lines (such as the four inch lines on Rose and Bouscay) are replaced with larger diameter lines.
- The provision of sanitary sewer lines, as well as water, to a potential growth area east of the City and roughly bounded by U.S. Route 20 to the north, S.R. 601 to the east, and S.R. 18 to the south has been under discussion for several years. This would enhance the development potential of land in the vicinity of the Norwalk-Huron County Airport, the Commerce Fields industrial park, and the Norwalk Raceway Park. While the City continues to study the feasibility, cost, and design of a sanitary sewer to cover this region, the provision of water would be subject to the newly executed agreement reached between the City of Norwalk and the Northern Ohio Rural Water Authority. Under this agreement, there are provisions for either entity to supply water in this region, depending upon the level of need and other factors.
- With steady growth occurring along Norwalk’s south side, a need has been perceived for a new water line just north of the U.S. 20 bypass, from the water treatment plant area west to

the Fisher Titus Medical Center and further west as needed. Currently, this area is only served by a twelve-inch line.

- Development south of the bypass may reach a level that requires sanitary sewer service. While the concept of a second wastewater treatment plant on the City's south side has been discussed, preliminary engineering feasibility reports indicate that the construction of a trunk line with necessary lift stations, possibly following an alignment along the City's western edge and linking to the new North Pleasant trunk line described previously, will likely be more feasible.
- Finally, need has been expressed for a water line that can bring water from a source to the north into the City of Norwalk. While the existing reservoir system has historically supplied the City's needs, there have been incidents when the capacity of the reservoir system to provide for daily needs and also maintain adequate reserves has been strained. Therefore, it is agreed that a link to Lake Erie via some water resource, which may be Erie County or Northern Ohio Rural Water, should be explored, minimally to provide a secondary back-up source. Ultimately, it could become the City's primary source of raw - or treated - water.

Strategies and Recommendations

The following recommendations were developed from community forums, and from a series of meetings held by a Utilities and Infrastructure resource panel. Panel members included representatives from the City administration.

Strategy 1: *Planning infrastructure improvements to guide and entice progressive, desired growth*

The City of Norwalk needs to ensure that growth is anticipated, either because of new businesses and industries that are considering a location in Norwalk, or because of new residential areas being added. The City needs to be prepared to provide the infrastructure that will be needed.

1. Continue to strive to accommodate new and expanding businesses and other entities that may plan to locate or grow in Norwalk, by providing sites and facilities with suitable water capacity, wastewater treatment capacity, and through communication and cooperation with energy providers, necessary electrical power and natural gas. This ongoing activity involves City officials (public works officials, Mayor, Council, water and wastewater departments), developers, utility companies, and the Ohio Department of Development and other utility financing agencies and authorities.
2. Consider and research methods by which Norwalk can gain a competitive advantage over other prospective development locations through its provision of water, wastewater collection, utilities, and other infrastructure. Factors may include pricing and price structuring, quality, capacity, level of compliance with U.S. and State authorities, "shovel-ready" sites with infrastructure in place, responsiveness to needs, storm drainage capabilities, or other factors. In some cases, the cost of utilities may be a significant

economic development issue, and efforts are needed to provide competitive pricing. Beginning in 2007, it should be possible to assemble a “rapid response team” to respond to specific prospects’ utility needs. Depending upon the issue, the team should be composed of City officials and developers, plus, potentially, an advisory committee of local leaders, including representatives of public utilities, to adequately brainstorm the problem and reasonable solutions. Also, NEDC and the Chamber should be involved as project advocates.

3. As part of the ongoing effort to supply adequate utility quality and quantity, keep public utilities involved and engaged as growth is anticipated. Be prepared to consistently address issues of quality and delivery of services throughout the community. Officials from the City and utilities should be involved, as well as NEDC, County and township officials as appropriate, and affected developers and businesses.
4. Replace underground utility lines as needed and complete the City’s sewer separation program. Continue to maintain Norwalk’s facilities, budgeting appropriate funds for maintenance and operation, and continue to plan for growth, which, while bringing new revenue sources, will also add new costs as the system grows. Involve City officials, as well as outside project funding programs, which may include the Ohio Department of Development, USDA Rural Development, Ohio Water Development Authority (OWDA), Ohio EPA, and the Ohio Public Works Commission (OPWC), and financial consultants.

Strategy 2: *Coordinate long range infrastructure plans with financial planning and the search for outside resources.*

Long range facility and financial planning, including research for grants and low-interest loans, should be conducted concurrently and in a coordinated fashion. New sources of income may be needed to make a necessary project affordable, in addition to the existing and traditional sources of revenue. Revenues must not only fund and finance the construction of needed and desired improvements, but must also cover the maintenance, operation, and planned replacement of these facilities as needed. Thus, infrastructure planning must include a budgeting component (see “Capital Improvements Planning”, chapter 14).

1. The Norwalk water and wastewater departments maintain a capital improvement plan in spreadsheet form. It is recommended that this procedure be developed into a City-wide capital improvements planning process that would incorporate other items such as City building maintenance and construction, vehicles, possibly computer and IT systems, and other major capital expenditures. A Citywide capital improvements plan should be put in place and functional by 2009.
2. Investigate options for coordinating the City’s grant application processes. For example, one entity could be responsible as a clearinghouse for coordinating the application process when applying for grants to support the development of utility improvements. That entity could rely on City staff’s collective knowledge base that includes the variety of State and Federal programs funding water and wastewater projects, including grants and low interest loans. Grant research, proposal writing, and funding coordination

should be an ongoing effort, and may involve City officials, as well as business and economic development entities (NEDC) as applicable, and WSOS CAC, Inc., which provides information on environmental infrastructure financing and budgeting.

3. Options and policies should be explored where developers would share the cost of new infrastructure development that will serve the site of their development projects with the City. One possible form of assistance would be the use of tax increment financing, where a portion of a new development's property taxes would be diverted to finance the cost of a needed public improvement. Tap fees can also be used to recoup initial costs of utility hookups. The use of such options, as well as other means to include private funding of improvements that benefit a specified private development, should be explored in every applicable case. This process will involve officials from the City administration, applicable developers, and in the case of economic development projects, may also involve NEDC.
4. Similarly, in cases where infrastructure is desired for a project outside the current City corporate limits, City officials should partner with applicable township officials, possibly using vehicles such as a Joint Economic Development District (JEDD) or Cooperative Economic Development Agreement (CEDA) to share and distribute revenues from a given project. It may be necessary for the City and a township to jointly contribute to project costs initially, with an agreement to share revenues and hence a return on their joint investment. This should be an ongoing policy, and would involve City and applicable township officials, as well as officials at the County level, including the Commissioners, developers and land owners in the affected area, and economic development offices such as NEDC, HCDC, and the Chamber.
5. The inevitable spread of broadband Internet service may provide a future income source as well, helping finance public improvements related to communications infrastructure. This may emerge as a long-range public revenue source during the twenty-year planning period covered by this plan. City officials, Internet service providers, and development officials may be included in the development of this option.

Strategy 3: *Monitor and evaluate the needs of residents, businesses, and institutions to ensure that needs are met and to plan for prioritized improvements when they are not.*

1. Explore methods by which the City can discern whether the needs of community businesses, institutions, and residents are being met with regard to City-provided utilities. A task force can be employed to determine whether the entire population or a sample should be surveyed, other entities that should be included in a survey of needs, and the type of survey method that should be employed (door-to-door written questionnaire, telephone survey, Internet survey such as "Zoomerang", or other methods). This survey should be convened by 2009. It would involve City officials, the appointed task force, and a consultant to oversee survey design and deployment.

2. Plan community forums, if feasible, to supplement the survey input, and to obtain additional input. City officials and other involved parties can be used to plan and complete the forums, by 2009.

Strategy 4: *Develop and follow a progressive schedule of maintenance and replacement for water and sewer systems, streets, sidewalks, and other elements of infrastructure.*

In recent years, the City has conducted or commissioned a number of engineering studies concerning specific projects. The development of such studies is an ongoing effort, and will always be necessary. It is also important to organize a long-range schedule for all maintenance and replacement projects. This is part of the capital improvements planning process described in chapter 14, and involves an effort to consider each project and its benefits and impact within the greater context of the City as a whole.

1. In order to provide for contingency or succession planning in the event of the retirement of a key City official with specialized and unique knowledge of public works projects and plans, all existing infrastructure and a history of its repair and replacement should be cataloged as accurately as possible. Research should be conducted into computer programs that can be used to set up the inventory, as well as helping plan for the systematic replacement or maintenance of these systems. Once the software options have been analyzed, the City should choose and purchase the most effective software. This process should be completed by the end of 2008, and will involve City officials, advisory consultants, and software vendors.
2. Using the expertise of department heads and managers, organize all existing schedules into a clear-cut plan for ongoing maintenance and replacement for the next twenty years. This would be a component of the overall capital improvements planning that is recommended as a formalized and Citywide process previously in this chapter, and should also involve a wide-ranging financing plan for improvements, including a formalized debt policy. A consultant and City officials should be involved in this process, which should be put in place during 2008. Officials should build in the necessary flexibility to allow for changes that will be necessary in the event of unexpected emergencies, new State or Federal mandates, or other unknown variables that may impact prioritization of projects and scheduling of maintenance or replacement.
3. As an ongoing element of the planning process, monitor the needed funds for all planned action items, and work with the administration and Council to set aside and revise, as necessary, the necessary funds for the planned maintenance and replacement program. This should be an ongoing activity, involving department leaders, the Mayor, the Finance Director, and City Council.

Strategy 5: *Monitor utility and infrastructure needs to allow for planned and orderly growth, and to ensure that a lack of infrastructure will not present a bottleneck to that development.*

If the community is to grow, utility companies, and the City as the provider of water and sanitary sewer services, must be proactive in providing needed sources of power, communication services, and other basic services. There should be an ongoing effort to work and communicate with utility companies to keep them aware of potential plans for growth.

1. As growth areas move from planning concepts to actual sites for planned growth, water and sanitary sewer lines must be planned, designed, and constructed. Resources must be identified to pay for these extensions, and may include grant and loan proceeds from applicable programs of USDA Rural Development, Ohio and US EPA, OWDA, OPWC, and other sources; tap fees for users; utility rate billing for users; and other sources such as tax increment financing as applicable. City and, as applicable, Township officials should be involved, as well as engineering firms, and landowners and developers. This is an ongoing process that will take place over the twenty-year planning period.
2. Maintain the City's wastewater treatment plant and undertake, through 2008, the planned improvements to the "front end" of the plant as described earlier in this chapter. This step, already underway, involves the City administration and wastewater treatment department, the project engineer, and the project contractor.
3. Plan for the future expansion of the wastewater treatment plant, by taking the following steps:
 - Consider new methods for the biological treatment process. After the plant improvements now underway are complete, the bottleneck to increased capacity will occur at the secondary and tertiary treatment processes. The City should then, subject to available finances, install the new secondary and increase the capacity of the tertiary processes, as the need becomes apparent (ongoing).
 - In order for the plant to undertake an expansion with an optimal design, the City should purchase the necessary land to the north, to allow for expansion. This should occur by 2009.
4. Coordinate with other elements of this comprehensive plan to implement the economic development and land use recommendations regarding growth areas. Specifically, consider extending water and sewer services to the east, with potential line extensions along U.S. 20 to the south, S.R. 601 to the east, and S.R. 18 to the north. Elements of this process include:
 - Further study of the eastern district growth area and its potential for specific land uses, as well as needs of present land uses, including the Norwalk-Huron County Airport and the Norwalk Raceway Park.
 - Coordinated study of likely water and sewer system demands placed by new uses.

- Costing of appropriate extension of water and sewer service, which may include, in addition to the distribution lines, such elements as pump stations, storm water retainage, and an elevated storage tower for water.
- Budgeting of expenses, likely utility billing revenues, and other revenue sources.

This process will involve City and Township officials, the Airport authority, property owners, the consulting engineer, and economic development officials from the City and County, and NEDC. Planning should begin in the short term, with the eastern district served by needed utilities by 2011.

5. Public utility companies serving Norwalk (Ohio Edison/First Energy, Columbia Gas of Ohio, Verizon) should be involved and engaged in planning for future growth, within developed areas and planned growth areas. This may be best achieved through scheduled, infrequent progress meetings (perhaps quarterly) or Internet correspondence that can update all parties on previous issues, new items of concern, and planned changes and growth. This process should be initiated in 2006.
6. 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, NORWA, developers and land owners, a consulting engineer, and economic development officials including NEDC and, as applicable, HCDC and other County officials.

Strategy 6: *Provision of technology networks that are “state of the art” in accessibility, capacity, and speed.*

In order to remain competitive, there is a need for Norwalk to keep up with the continued proliferation of advances in available technology. Voice, video, and data communication should all be included in plans to move forward within the City, as well as in cooperation with Huron County and the region. City officials will need to work with County officials and others to plan for systems that will serve the broad area necessary for providing needed services and anticipating technology changes into the future. Since technology advances and new platforms cannot be predicted with any reliability, the most important guidance is for the City to be flexible enough to adapt to new and emerging technologies that will best benefit the community, its business base, and its residents.

1. A meeting should be held with one or more consultants (including any qualified local-based provider) to lay groundwork for a master plan to provide needed and desired services. The broad-based team helping shape the configuration of Norwalk's technology should include City and County officials, one or more consultants, the Chamber, NEDC, Fisher Titus Medical Center, the Norwalk Public and Norwalk Catholic school systems, and emergency management organizations. If it is deemed appropriate, a task force can be appointed to conduct the research and make recommendations.

All three areas of communication (voice, video, and data) should be included in the plan, along with consideration of quality of service and prioritization of data. A network design can be developed with licensed and unlicensed spectrums in wireless, providing the proper design to avoid interference and other pitfalls. The plan must include, in addition to a listing of necessary capital improvements and equipment costs, a revenue and cost projection. The plan should be monitored continuously by the task force.

Any such plan must also include input from current communications providers, including Time Warner, which supplies digital television, cable Internet, and, now, digital telephone service within the City of Norwalk. The other primary service provider is Verizon, which has a plan to serve the entire community with fiber optic cable, providing an opportunity for high-speed Internet service as well as improved telephone service.

Strategy 7 *Provide a perpetual supply of sufficient water to support the future population and business base.*

A critical goal of this comprehensive plan is to ensure that there will be an adequate source for the provision of water to supply future growth and needs. It is believed that the best plan will involve joining the Lake Erie grid. A worthwhile plan to use Huron River water was developed several years ago, but it is widely believed (and it is the consensus of the Utilities and Infrastructure Resource Panel) that this new opportunity will be most advantageous to the City of Norwalk.

1. Make a commitment to achieve a connection with a raw or treated water provider on the Lake Erie grid. Potential suppliers include the City of Sandusky and/or Erie County, and the Northern Ohio Rural Water Authority, all of which are capable of supplying water of sufficient volume to serve the City of Norwalk. This can be a backup to the existing water supply, now derived from Norwalk Creek through the use of an upground reservoir. It is possible that the connection can be made by using the City-owned right-of-way to a former rail line running north from the City to the Milan area. Alternatively, a new line can be constructed by or in cooperation with Erie County or NORWA.

Construction should be complete with the new supply connected within ten years.

2. Plans should be made to increase water storage or treatment facilities as required to meet future water quality standards and fire code benchmarks. Such planning is an ongoing effort, involving the City Water Department and consulting engineers, as well as the Ohio EPA and other regulatory agencies. No short-term need for additional treated water storage has been identified at present.
3. Over the longer range of this plan, the City will need to assess the benefits and costs resulting from remaining in the business of treating and supplying water. At some critical point (possibly when a new mandate requires a significant capital expenditure to upgrade water treatment or distribution), this analysis should be performed, with one of two outcomes: either the City's system will be upgraded under City ownership, or the City will contract with an outside provider for the provision of sufficient treated water,

subject to all regulations and requirements. When and if this becomes a significant issue, it is recommended that a blue ribbon panel be empanelled to discuss the alternatives available, and the relative benefits and costs of each.