

PUBLIC FACILITIES

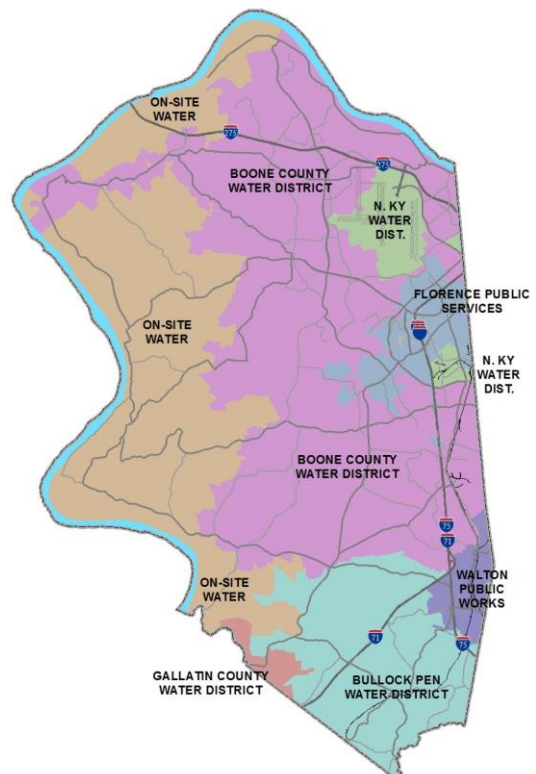
INTRODUCTION

This element discusses the public facilities and services within unincorporated Boone County and the Cities of Florence, Union, and Walton. Water distribution, sanitary sewage collection and treatment, gas and electric supply, municipal/public services, education, health care, and public communications are the services discussed. This element presents current data and provides insight into future expansion of these services in order to provide safe, efficient, and environmentally responsible public services and facilities for all residents and businesses.

WATER

Public water districts have a responsibility to provide cost-effective water service. The placement of water lines in rural areas has historically not been done in order to encourage responsible growth, but rather to giving residents access to the benefits of water service such as in fighting fires, lowering insurance rates, and providing public potable water. However, in several instances, water lines have been extended along main roads throughout the more rural portions of Boone County, but the cost for the residents in small, adjoining subdivisions to tap into the water system has been prohibitive. Cooperative funding agreements between the service providers and the residents should be explored and encouraged in order to provide the service they desire. Public water service should be correlated between the various water districts to use common mains and avoid duplication of services. If it makes sense from an efficiency standpoint to serve areas across political boundaries, then districts should be encouraged to do so.

Within the geographic areas of Boone County are seven different public water distribution systems. These current systems are the Boone County, City of Florence, Boone-Florence, City of Walton, Bullock Pen, Gallatin County, and Northern Kentucky districts. Broad areas of the east and northeastern parts of the county are currently served by public water. The majority of the remainder of the county is dependent on cisterns or occasional wells.



Boone-Florence Water Commission (BFWC)

This Commission was formed in 1998 to arrange for the supply of water to the Boone District and the City of Florence. In 1999, it contracted with Cincinnati Water Works for a supply of 30 million gallons per day of treated surface water from the Ohio River. In 2002 and 2003, a transmission line was constructed under the Ohio River as well as a new pumping station near the Anderson Ferry, new transmission lines in the eastern and northern portion of Boone County, and a 2 million gallon storage tank next to Ryle High School. As a result of the formation of this Commission, the Boone County and City of Florence no longer needs to obtain their water from the Northern Kentucky Water District, which now serves as a backup source.

Currently, the BFWC has initiated an engineering study looking into the possibility of adding a new water storage tank in the Hebron area due to continued growth and development in the area. Initial thoughts are that it could be a 2-3 million gallon ground level tank similar to the facility next Ryle High School. The final results of the study will be presented to the Boone-Florence Water Commission in the Spring of 2019.

City of Florence

The City of Florence, who obtains their water from the Boone-Florence Water Commission, maintains 147 miles of water lines, nearly 4,000 valves, over 1,600 hydrants, and about 9,000 metering devices and has three water towers with a storage capacity of 3.5 million gallons. The average daily water usage within the system is approximately 3 million gallons. The City of Florence Public Services Department is responsible for the maintenance and management of the system.

Boone County Water District (BCWD)

The Boone County Water District, who also obtains all of its water from the Boone-Florence Water District, provides water service to the east-central portion of the county including areas contiguous to the City of Florence, the Hebron and Bullittsville area, the Burlington area, the City of Union and surroundings, and the area southward from Florence to Richwood. Current storage capacity within the county system is 8.5 million gallons in water towers and tanks owned by the Boone-Florence Water Commission and located at Graves Road, the Ryle campus, and U.S. 25. An average daily use of approximately 7.1 million gallons is currently supplied by the District which has over 5,000 fire hydrants and maintains 505 miles of water lines as well as 29 miles of transmission lines for the Boone-Florence Water Commission. The Boone County Water District currently can provide 30 million gallons per day (MGD) to their customers and meets or exceeds all regulatory and compliance requirements from KY DOW, KY PSC, and EPA. As of January 2018 they had 25,830 meters in-service making their customer base 69,483 people (# of meters times 2.69). They currently have water line extensions along Hathaway Road and Beaver Road that will add at least 3 miles to the above total when complete with additional future expansions into western Boone County. Adding residential water lines to areas not served requires an assessment by the BCWD who would then prepare an estimate of project costs based on the construction cost divided per resident. If a majority of the residents agree to pay the assessment cost, then the project would go forward. If not, the project would fail and not be constructed.

Rural Water Program

In an effort to expand public water to areas that have not qualified for service, the Boone County Fiscal Court created a Rural Water Program in 2004 where new water lines are constructed and connected to the Boone County Water District lines but are owned by the Boone County Fiscal Court. In 2010, the Boone County Water District obtained ownership of the water lines from the Fiscal Court. The Rural Water Program indicates 65-70 miles of planned water main construction along the primary roadway corridors of western Boone County. Funding for these lines, of which over 40 miles have been installed, is paid for in-part by a monthly surcharge of \$25 collected from all Rural Water Program customers. This money goes directly towards the debt incurred for construction. As the number of users grows, the debt is reduced. As of 2018, there were 891 users participating in the Rural Water Program. The initial debt period was projected out 25 years (to the year 2029), however, with future customers connecting to these project areas paying the surcharge, the debt should be retired years prior to the maturity date.

Besides providing safe and sanitary drinking water to rural areas of Boone County, another benefit of such a program is fire protection as water will be available via hydrants to fight fire in areas previously served by firetrucks supplied with tanks or pumping abilities if a water body is nearby. However, one common negative phenomenon of water line construction in these types of rural areas is the change in habits of the residents. Households served by a cistern or well often exhibit a conservative use of water. When these households receive a continuing, inexpensive supply of water from a public system, water use often increases and impacts existing septic systems by aggravating soil saturation problems. A common solution to this problem is often the public outcry for public sanitary sewer service to the area which generally leads to increased development pressures for the area being served. In this way, the community needs to begin to realize that, although water lines do not always directly affect growth, they can trigger a series of changes that lead to growth. Likewise, the construction of a water line, by itself, does not entitle an area of the county to develop.

City of Walton

The City of Walton currently provides water service to areas within its incorporated limits and adjoining areas to the north along Dixie Highway (U.S. 25), Old Lexington Pike, and west to the Bullock Pen Water District. Previously the City treated its own water for their supply. However, in the early 1980's Walton began contracting with the Northern Kentucky Water District for their water supply. By this agreement, the City is limited to a

maximum daily supply of 1.5 million gallons of water. Currently, the system is not at capacity with average daily usage of 476,722 gallons and a storage capacity within the two water towers that total 500,000 gallons. Since Walton uses relatively little of their contracted amount of water, there is room for expansion to meet anticipated residential and industrial growth in the area.

Bullock Pen Water District

The Bullock Pen Water District currently serves an area around Verona and southward to Grant County and Gallatin County. The Bullock Pen Lake provides the water for this system and as of 2018 had 1,074 connections and just over 70 miles of water lines in Boone County. This area of the county is not expected to experience dramatic growth, but will see some residential construction in the general Verona interchange area. However, the Bullock Pen Water District does have some opportunity for expansion toward Walton. Any further expansion of this system can have the same land use impacts as discussed earlier under the Boone County Water District.

Gallatin County Water District

This district serves a small area along South Fork Church Road where U.S. 42 intersects the county line.

Northern Kentucky Water District

The Northern Kentucky Water District has 17 miles of water mains and 443 customers in the portions of Boone County they serve. They currently provide water service to the Cincinnati/Northern Kentucky International Airport, the Northern Kentucky Industrial Park, and the St. Henry High School campus and adjoining residential area to the Boone County border with Kenton County. The Northern Kentucky Water District maintains three water treatment plants along the Licking and Ohio Rivers with a net capacity of 64 million gallons per day (mgd). As of 2018, the District was not planning any expansion projects in Boone County. The Northern Kentucky Water District serves as a backup supplier of water to the Boone-Florence Water Commission.

SANITARY SEWAGE

Sanitary sewage collection and treatment in Boone County includes three public systems: City of Florence, Sanitation District #1 (SD1), and City of Walton. Sanitary sewage collection and treatment also includes private package treatment plants and individual on-site septic systems. The public sewer systems usually serve large areas or clusters of developments while private treatment plants tend to serve individual developments. Private, on-site systems, including leach fields, generally discharge into the soil for natural decomposition. In general, Boone County's soils are poor at accepting these discharges, and stream pollution often results. These systems also require larger lot sizes, often resulting in inefficient use of land. Therefore, public sanitary sewer systems are preferred over private systems. However, as technological improvements occur in the areas of individual plants, systems such as small biological treatment systems should be considered.

Sewers must be considered for their environmental impacts, not just for treatment plant discharges, but also for their influence on future development. Sewers should be extended only to areas that can support substantial development so that most efficient use of the services is made. Although historically necessary for proper county growth, public sewers are expensive to install, operate, and maintain. Development of collective sewer systems for low density uses outside urban areas is usually not economically feasible. Individual package treatment systems have historically accommodated development in these areas, but are now generally discouraged because of their environmental impacts. The following passages describe the public sanitary sewage treatment systems.

City of Florence

The City of Florence sanitary sewer collection system consists of 134 miles of sanitary sewer line (including the recent addition of 7,285 linear feet of force main), 3,487 manholes, and 6 pump stations. While the City of Florence Public Services Department is responsible for the maintenance and management of the system, the City does not own its own treatment facility so the sewage is treated by Sanitation District No.1 (SD1) through an agreement that expires in 2028.

Sanitation District #1

In Boone County, Sanitation District #1 (SD1) is currently responsible for 438.5 miles of sanitary sewer and 30,940 active accounts (including 8,318 in Florence). The capacity of the Dry Creek Treatment Plant is 46.5 million gallons per day and is SD1's largest treatment plant. The Western Regional Water Reclamation Facility began operating in 2012 and is SD1's second largest treatment plant and can treat up to 20 million gallons of wastewater a day. The biggest issue facing SD1 currently is pump station capacity which hinders getting volume to the treatment facilities. SD1 has implemented intermediate improvements at various targeted growth areas of unincorporated Boone to address anticipated economic growth over the next 10 to 15 years. In 2007 SD1 entered into a Consent Decree with the US Environmental Protection Agency (USEPA) and the Kentucky Division of Water (KDOW) to address wet weather overflows within its wastewater system. In response to this Federal Consent Decree, SD1 created an initial Watershed Plan in 2011 to address these wet weather overflows in the sewer system and this plan was later updated in 2014. The original Watershed Plan estimated that required improvements to be in compliance with the Consent Decree would carry a cost of approximately \$1.2 Billion in 2009 dollars.

SD1 is in the process of updating the 2014 Watershed Plan to take advantage of technological advances and other improved, lower costs strategies that have developed since the initial Watershed Plan was completed. This plan will be completed in January 2020 and will include looking at wastewater flow projections through 2040. The plan will include a list of system improvements to address wet weather capacity limitations within the system including the accommodation of growth projections for cities and unincorporated portions of the three counties served by SD1. Also, SD1 has budgeted in its long range capital plan and financial model funding for future economic growth projects. This funding source does not have specific projects at this time. Projects will be identified going forward through collaboration with the SD1 Board, development community, community leaders, planners, and engineers to determine how best to meet the needs of the communities.

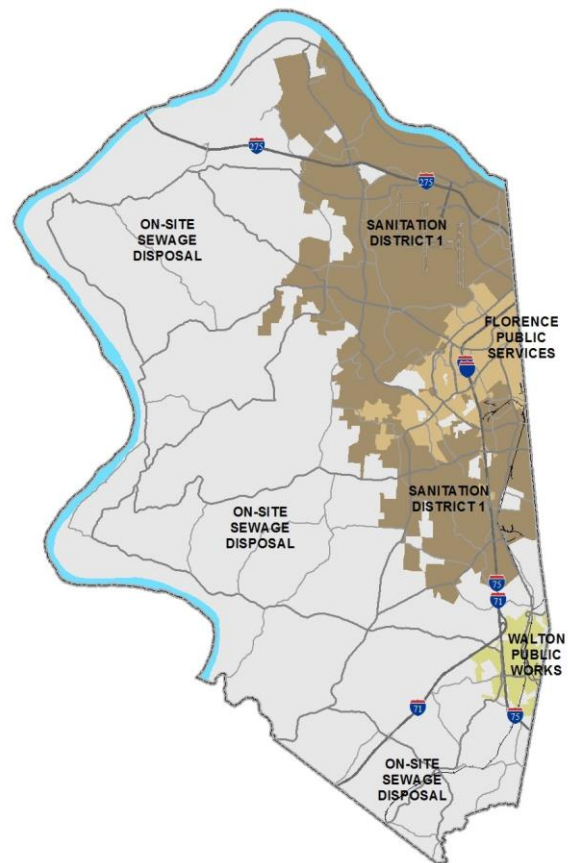
City of Walton

The City of Walton provides wastewater treatment at its plant for users within the corporate limits. The current capacity of the Walton facility is 850,000 gallons per day. The average daily flow into the plant is around 350,000 gallons into Mud Lick Creek. The City of Walton also has a 50,000 gallon per day plant serving the Walton Industrial Park, and the current flow is around 20,000 gallons per day. This plant will eventually be replaced with a 100,000 gallon per day pump station and therefore pumping waste to the Walton facility.

Private and Alternative Sewage Treatment

Package plants generally serve only one user, usually a business, industry, or school. Others serve a residential subdivision or mobile home park. Many are privately owned and operated, and are inspected by the State of Kentucky Department of Environmental Protection as well as the Kentucky Division of Waste Management regarding maintenance and effluent discharge. There are now fewer private package treatment plants in Boone County that serve individual users and developments than there were in 1990.

Individual septic systems are historically the prevalent method of wastewater treatment in developing areas like Boone County. Other than the above mentioned areas of public or private collection systems, all of the remaining areas of Boone County continue to rely on the use of a septic tank or similar individual systems. Even though the

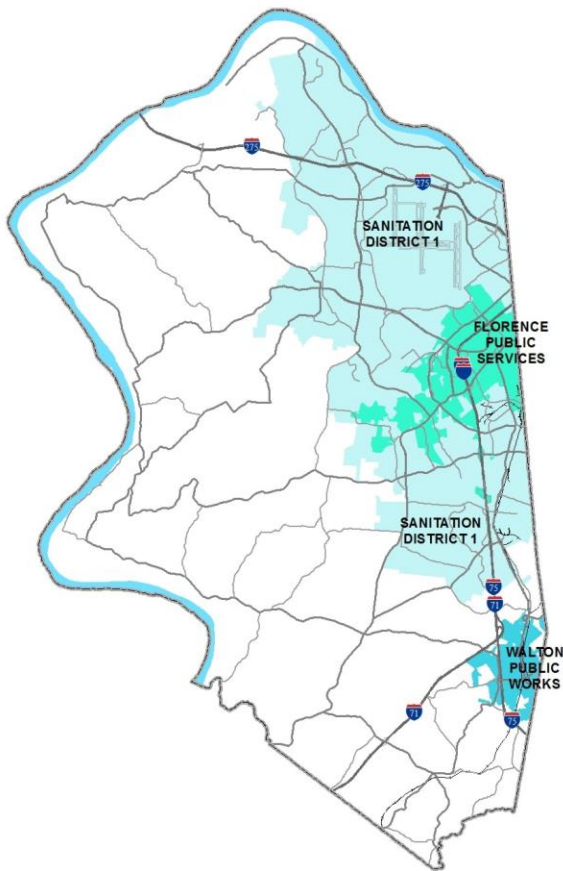


Burlington, Hebron, and Union areas contain many such systems, they should experience little additional septic tank construction in the future with the expansion of sewer service in the area and the limited capability of some of the soils to accept septic tank discharge. Septic tanks will likely remain prevalent for low density residential uses in rural areas of the county; however, there are biological treatment alternatives available.

Marsh systems and greenhouse (or living) aquatic systems can provide localized wastewater treatment in parts of Boone County but require more land area than conventional treatment plants. These systems may be considered for concentrated outlying development in western Boone County and be maintained by a responsive agency.

Boone County, as a community, needs to be careful that sewer service areas are developed in an efficient manner and that those areas are not over-developed. To develop properly in the future, land use and infrastructure planning must continue to be closely intertwined. Construction of future sewer facilities should reflect community and Planning Commission involvement because of the inherent relationship between infrastructure and land use. Government agencies should continue to work together to define future growth areas as well as to encourage and fund significant infrastructure in those regions.

STORMWATER



The rapid development of Boone County has resulted in a large increase in pavement and roof coverage of land area. These impervious surfaces have the effect of increasing both the amount and rate of stormwater runoff over the pre-development conditions. Often, existing stormwater pipes and stream channels are unable to handle this increased stormwater flow, resulting in property damage, loss in water quality, and potential injury. Since there are so many different types of development impacting each drainage system, public stormwater management systems represent the most effective and consistent method of establishing a coordinated approach to handling stormwater runoff problems. This includes exploring the possibilities of shared stormwater systems within large developments. The City of Florence has conducted extensive study in this area and produced a Stormwater Management Plan during the late 1980's. The Public Services Department is responsible for stormwater management in the City of Florence. SD1 provides stormwater management for Boone County Fiscal Court and the City of Union through an inter-local government agreement. The City of Walton handles its own stormwater management.

City of Florence

As of 2018, the City of Florence storm sewer system consists of 142 miles of storm conduit, 2,169 curb inlets, 730 manholes, 20 city maintained detention basins, and 245 privately maintained detention basins. The City of Florence Public Services Department is responsible for the maintenance and management of the system, as well as ensuring compliance

with the federally mandated Storm Water Phase II Program. They are also responsible for management, preventative maintenance, improvements, repairs, and regulatory compliance requirements for the system. The department is also responsible for project management of contracted work, oversight of engineering studies, as well as, inspection and acceptance of new construction by developers. The Public Services Department receives funding from the City's General Fund and Capital Improvement Fund. The City also charges a storm water user fee to help offset the cost of maintaining the system.

WASTE MANAGEMENT

Garbage Collection/Recycling

Garbage collection is currently contracted out to private firms. Waste collection in Boone County is handled by four companies: Rumpke Waste Services, CSI Waste Services, Best Way, and Bavarian Waste Services. Bavarian owns and operates a landfill on McCoy Fork Road on the west side of I-71 just west of Walton, KY. The 660 acre landfill has a site life that extends to the year 2052. Also, Best Way recently added a garbage transfer station to its site in Commerce Park West which will reduce the number of miles traveled by the garbage pickup trucks. They will be able to bring product collected from the curbside to the transfer station where a large volume of waste will be hauled to a landfill in a single tractor trailer instead of each garbage truck having to make the trip. Boone County may have reached the point in its development where large scale recycling of garbage is feasible, including curbside recycling service. Large scale recycling is a key component of the concept of sustainability, which is addressed in detail in the Economy Element. Recycling drop-off sites in Boone County are handled by Boone County Public Works Department and are offered for free. As of February 2018, 17 boxes were located in several different locations and at schools throughout Boone County. The recycling of materials should be encouraged for residential, commercial, and industrial. Recycling should be treated as an important part of a complete Solid Waste Plan for Boone County and surrounding communities.

Northern Kentucky Solid Waste Plan

The Northern Kentucky Solid Waste Management Area (NKSWMMA) is required by law to update its Solid Waste Management Plan every five years through a process that includes a public hearing that allows for public comment and participation. The Plan includes solid waste information and the area's plans for the future regarding the topics of recycling, disposal participation, litter, illegal dumps, and education for Boone, Kenton, and Campbell Counties. The Plan was last updated in 2017.

ENERGY

Natural Gas

Duke Energy supplies natural gas in parts of Boone County. Currently much of the northeastern part of the county, the City of Florence, the City of Union, and the City of Walton are receiving natural gas service. Three major natural gas transmission lines pass through Boone County. All of these pipelines are located generally in the eastern half of the county. In 2017, Duke Energy completed the construction of a 10 mile section of 12" gas pipeline from Walton to the Big Bone area in order to meet anticipated demand as the system's capacity in the area was reaching its limits. The project connected two existing pipeline segments and provided a needed supply loop for nearly 100 square miles of service territory. Additional feeds to the system were also provided in order to support the predicted continued residential, commercial, and industrial growth in the area.

Electric Power

Electric power distribution is broadly provided by Duke Energy Kentucky and Owen Electric Cooperative. Some overlap within residential subdivisions and commercial developments exist. Duke Energy currently operates the East Bend Power Plant, a coal powered plant. This facility is located along the Ohio River in the western part of the county. The Ohio River serves this facility by supplying the cooling water and the transportation of coal delivery via barges. In 2016, the East Bend Power Plant began the process of closing its ash basins. This included the design and construction of new retention basins for water management; installing new wastewater treatment systems; and adding equipment to manage all coal ash dry rather than sending it to ash basins. Owen Electric purchases its wholesale power from the East Kentucky Power Cooperative in Winchester, Kentucky. East Kentucky Power operates three generating stations and three renewable energy plants of its own and has interconnections with Kentucky Utilities, Duke Energy Kentucky, Louisville Gas and Electric, and Tennessee Valley Authority. This network provides the power reliability that a developing area needs.

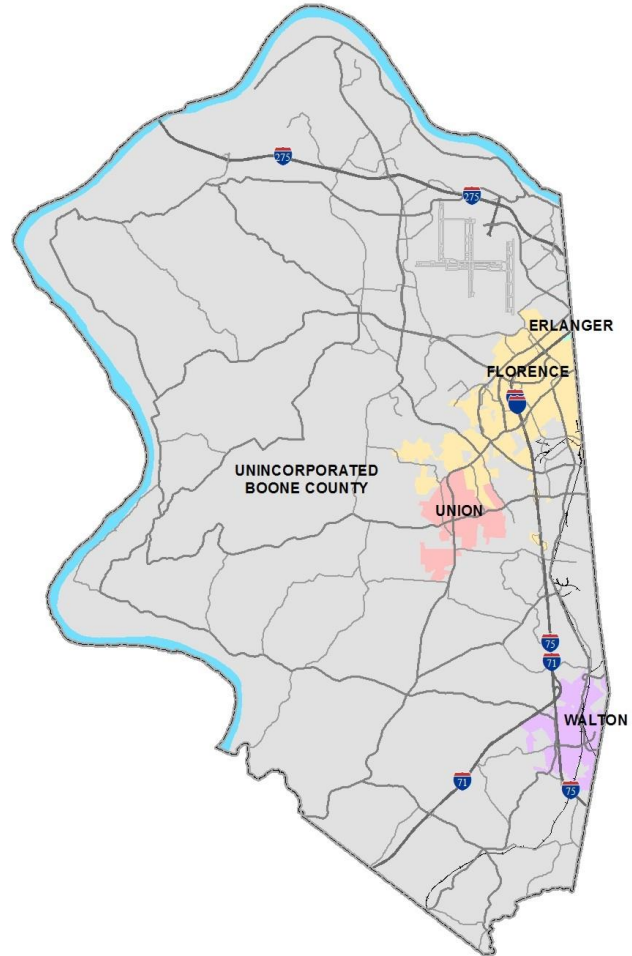
Electric (and gas) lines generally follow development instead of preceding it. Electric lines are versatile and can be extended to accommodate new development. For these reasons, these services do not have a great impact on directing residential development to specific areas. The fact that some industrial enterprises try to locate near energy sources should influence the placement of these facilities. The efficiency of many renewable sources of

power, such as wind, solar, geothermal, and biomass continues to improve. From the standpoint of sustainability, energy efficiency and the development of alternative energy sources are needed to keep the greater Cincinnati region economically competitive.

MUNICIPAL SERVICES

Municipal/County Offices

Currently, Boone County is comprised of 5 legislative units; (1) Unincorporated Boone County/Boone County Fiscal Court, (2) City of Florence, (3) City of Walton, (4) City of Union, and (5) City of Erlanger. The recent addition of Erlanger, which is primarily in Kenton County, is due to the recent annexation of two small pieces of property in Boone County (including the Erlanger Lions Club) with no residents living on the parcels. Each of the municipalities within the county operates their offices out of a city or municipal building providing a central location within the community for public services. A municipal complex on Ewing Boulevard houses the City of Florence offices as well as other government agencies. Expansion of this complex could include even more public services and needed meeting facilities which would serve the entire community. The City of Union City Building is located within the Union Town Center area and as a result of that area developing will likely see modifications and/or relocation. The City of Walton municipal services are located on Main Street in downtown Walton. Boone County Government Administrative offices are primarily located in central Burlington. The City of Erlanger offices are in Kenton County just off Commonwealth Avenue.

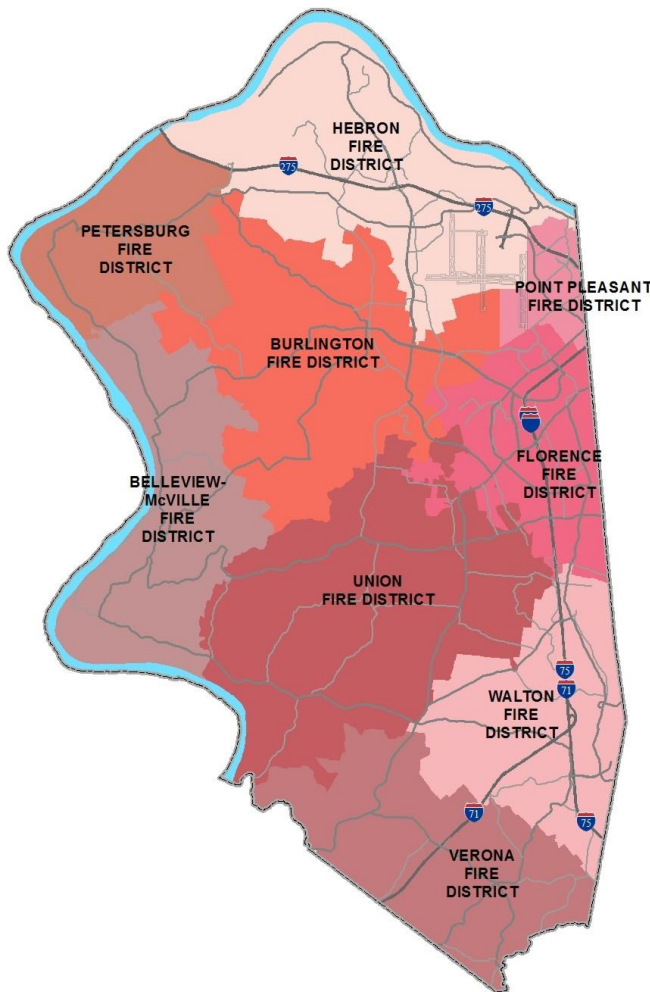


The Boone County Planning Commission is an important agency that is a vital tool for the community in dealing with rapid growth. Boone County is in a beneficial situation in that the Commission is a joint planning commission and is responsible for directing land use and development for all of Boone County, including the three cities of Florence, Union, and Walton. As a result, the four legislative bodies (sans Erlanger) operate under the same Comprehensive Plan and consistent regulations. The Planning Commission has historically functioned mainly by reviewing development plans and managing growth, with the assistance of four boards of adjustment. The overall goal for land use regulation in Boone County is a balance between the right of the property owner to utilize their land for economic purposes with the protection of public health safety and welfare. This includes having the heaviest concentration of emergency response services near central business districts, industrial areas, and concentrations of residential developments where potential loss of life and property is the greatest. The chief tool for accomplishing this task has been zoning regulations and subdivision regulations, but the future likely holds new methods of regulating land use, solving problems, pursuing opportunities, and affecting infrastructure provisions. The Boone County Geographic Information System (GIS) increases communication and cooperation between public and private organizations.

In addition, regional services are offered to the area by the Northern Kentucky Area Development District (NKADD) located on Spiral Drive in Florence. Among the services offered by NKADD are assistance with grant applications, ethics compliance, hazard mitigation, business assistance, workforce development, and demographic information and reports.

Law Enforcement

The City of Florence has their own police force of 66 officers (including 2 bicycle patrol officers), a fleet of 62 patrol cars, and a SWAT truck. The Florence Police Department has their office in the Florence Government Center. The remainder of the county, including the City of Union and the City of Walton, is served by Boone County Sheriff Department, which has substations at the Union City Building and Walton City Hall. The Boone County Sheriff's office contains 169 law enforcement personnel including 10 bicycle patrol deputies and a fleet of 109 patrol vehicles (with 16 more on the way), 1 SWAT van, and 1 SWAT armored vehicle. The Boone County Sheriffs' offices are located in the public safety campus just outside Burlington. The Cincinnati/Northern Kentucky International Airport has a separate force of officers and several dispatchers for the Airport and vicinity.



Fire and Rescue

Boone County has nine fire departments and districts (Florence, Burlington, Hebron, Walton, Union, Point Pleasant, Verona, Belleview/McVille, and Petersburg). All have full-time or part-time paid personnel with the exception of Petersburg which functions totally through volunteer participation. Petersburg has a Mutual Aid Agreement for Advanced Life Support (ALS) services with the Hebron Fire Department. All fire departments in Boone County, with the exception of Petersburg, are staffed with ALS personnel. The Boone County Fire Chiefs Association has a county wide fire training facility within the Boone County Public Safety Campus in Burlington on Conrad Lane and also operates a fire investigation team. In addition, there are currently two heliports (Florence and Walton) for emergency helicopter service. The Florence Fire Department also has a training facility located on Rosetta Drive that opened in the summer of 2018. In addition, the Cincinnati-Northern Kentucky International Airport has its own firefighting department and training facility/center.

With the continued growth of Boone County and the accompanying major roadways, transportation of hazardous materials and the emergency response to leaks and accidents will become increasingly important. Fire and rescue departments must be equipped and trained to deal with such emergencies. To help coordinate emergency response, new communication and data systems have been implemented at the communications center at the Florence Government Center. This incorporates the Boone County GIS and

should in the future continue the progression toward mobile graphics terminals and automated vehicle location technology for emergency response vehicles. Furthermore, any new fire stations need to be located along (or near to) major roadways with adequate ingress and egress in order to better serve the public in an emergency.

Several fire districts, such as Burlington, Hebron, Pt. Pleasant, Union, Florence, and Walton have experienced increasing demands for fire protection as a result of the county's growth. This growth is expected to continue over the 25-year planning horizon. Additional full-time fire personnel and paramedics will become necessary in each of these growing districts as new schools, residences, churches, commercial, industrial, and other facilities are built. In addition, as the service requirements increase through the more rural parts of the County, consideration must be given in the future to possible consolidation of fire district services to strengthen county-wide fire protection.

Emergency Telecommunications

Telecommunications, or the transmission of signals containing voice or data over a distance, is essential for public safety. Beginning in 2015, Boone, Campbell, and Kenton Counties engaged in a 2-year study of their emergency communications systems and concluded that their current system and its technology is unsatisfactory in coverage, poor signal strength in large buildings, and lacks the ability for law enforcement and fire agencies to communicate directly with each other. As a result of these findings, in 2017 the Boone County Fiscal Court, Campbell County Consolidated Dispatch Board, and Kenton County Fiscal Court contracted to have a new 700/800 MHz P25 radio communication system designed, built, and implemented. This system, due to go on-line in June 2019, would provide the best available technology to meet the short and long-term needs of public safety personnel in protecting the community. This type of system is already in place at the Cincinnati-Northern Kentucky International Airport CVG airport. While the regional system will provide seamless ability for agencies across northern Kentucky to communicate among each other, no agencies or county dispatch operations will merge.

In summary, public facilities services such as law enforcement, fire and rescue services, and other services provided by municipal and county agencies are vital to Boone County. Consolidation studies have been conducted by private consultants to examine the advantages and disadvantages of combining some city and county services, including law enforcement and utilities. GIS data and analysis will continue to be important in helping Boone County agencies work together in concert, and will be increasingly connected through wireless and cellular technologies. Consolidation needs to continue to be an option when exploring ways of improving municipal services.

HEALTH CARE

St. Elizabeth Florence, located in Florence on Houston Road, is the only hospital in Boone County. The hospital, which has access almost directly to I-71/75, is a full service facility with 139 beds and a 24-hour full service emergency unit. The hospital recently added 36,000 square feet to the emergency and outpatient services. The county's medical services are presently well concentrated in the urbanized areas.

The **Northern Kentucky Health Department** serves Boone, Campbell, Grant, and Kenton Counties and provides district-wide services from its building at 8001 Veterans Memorial Drive in Florence that opened in 2018. The Health Department has approximately 150 employees providing administration/accounting, clinical, environmental health and safety, and population health services. The Department also operates a health center in each county, including the Boone County Health Center located at 7505 Burlington Pike in Florence.

The following are private medical and senior assisted and skilled care living facilities located in Boone County:

- **Gateway Rehabilitation Hospital**, located on Merchants Street in Florence, is a free-standing comprehensive acute In-Patient Rehabilitation Hospital with 40 private rooms, overnight family accommodations, and an outpatient center. It provides several types of therapy, radiology, and lab services.
- **Bridge Point Center**, located on Woodspoint Drive, is a 151-bed facility located in the Florence that offers both short-term rehabilitation services and long-term care and has a designated Rehab Recovery Unit to assist individuals in their transition from hospital to home.
- **Florence Park Nursing and Rehab Center**, located on Burlington Pike in Florence, is a 150 bed facility with 120 intermediate care and 30 skilled care beds, as well as 200 assisted living and provide assistance with cardio, stroke recovery, arthritis, orthopedic, and fall prevention.
- **Colonial Heights and Gardens**, located on Hopeful Rd in Florence, is a retirement apartment community (The Heights) with 179 units as well as an additional 69 units in The Gardens that offer assistance with daily tasks and a secure living environment to those with mild to moderate memory-impairments.
- **Boonespring** is a 94,000 sq. ft. state-of-the-art nursing facility located on U.S. 42 in Union set to open in late 2018 with 143 beds.
- **StoryPoint** is currently constructing a new 162-unit, 187,000 sq. ft. senior living community on U.S. 42 in Union with both independent and enhanced living options designed to provide residents access to different levels of care based on their needs. The facility is scheduled to open in 2019.

- **Magnolia Springs**, located on Ewing Blvd. in Florence, contains 88 assisted living apartments and 23 memory care apartments for residents with dementia or Alzheimer's disease.
- **Dominion Senior Living**, on Seligman Drive in Florence, set to open in late 2018, will provide 84 assisted living units in their 46,700 sq. ft. building.
- **Elmcroft**, located on Main Street in Florence, provides 100 units of assisted living and memory care in there 103,000 sq. ft. facility.
- **Griesser Farm**, located on KY 18 west of Burlington, is an assisted living facility set in a rural setting with staff present 24 hours a day to provide minor medical assistance such as monitoring insulin levels and helping residents move from beds to wheelchairs. Griesser Farm also provided meals and offers activities for residents to maintain healthy lifestyles and socializing with their peers.

With increasing traffic congestion on the interstates, increased air traffic, increased resident population and daytime employee population of Boone County, a trauma unit will be necessary to deal with potentially large emergencies. This unit should be located near I-75 in the Florence area. Currently, trauma situations are flown by helicopter to the trauma unit at University Hospital in Cincinnati. There are currently 2 heliports in Boone County; one at St. Elizabeth Hospital in Florence, and the UC Health Heliport behind the Walton Fire Station in the Walton Towne Center. Several urgent care facilities have been locating across the region which provides 24-hour care that may not be deemed an emergency. It is anticipated that these facilities will continue to appear in Boone County. As the county's residential growth extends to the south and west, the placement of additional diversified medical services will have to reflect this growth pattern and be located at accessible locations. There is the potential to expand public health care facilities due to the growing and aging population as well as with business expansion.

EDUCATION

There are two public school systems in Boone County, the Boone County School District and the Walton-Verona Independent School District. Each system offers education for grades 1 through 12 along with kindergarten classes. Both districts excelled in the Kentucky Core Content Test with Boone County placing sixth in the state for county districts and Walton-Verona finishing fourth of all the state's independent districts. Throughout Boone County there are also several private/parochial schools. Furthermore, the Boone County Success By 6 program has been in existence for over 10 years and is now improving the quality of life for children and families in Boone County.

The goal of education in Boone County is to provide a broad range of lifetime learning opportunities, but due to the dynamics of population migration in and out of Boone County, the usual population pyramid approach to forecasting future enrollments may not always be reliable. School districts have to examine many factors in addition to natural population increase including future land uses such as residential, commercial, and industrial as shown on the Future Land Use Map. Continuing industrial and commercial development in Boone County increases the tax revenues available to education while the increasing residential areas will increase the need for these revenues. Correlation of school size and location with approved residential development, as well as the Future Land Use Map, is a major focus of both school districts. This can continue to be assisted by the Boone County GIS in order to minimize student travel time and problems with traffic congestion while addressing the areas that are most in need of additional classroom space. In addition, both school districts should continue to work with the Boone County Parks and Recreation Department in providing joint use facilities which can be beneficial in terms of land costs, maintenance costs, and provision of facilities.

Boone County School District

The Boone County School District currently operated 23 schools during the 2017-18 school year with a total traditional enrollment of 19,763 from kindergarten through 12th grade and a total design capacity of 20,585. This enrollment number climbs to 20,339 when the student population at the Alternative Center and at the Technology Center is added. When broken down by elementary, middle, and high schools, design capacity becomes an issue. While the elementary schools are well under capacity, both the middle and high schools are operating over capacity. A new middle school (Ballyshannon) opened in the fall of 2018 with a design capacity of 500 and had an immediate impact on this problem. In addition to these traditional school facilities, the Boone County School

District also operates the Alternative Center for Education of Boone County (grades 6-12) located in Florence with an enrollment of an additional 326 students in the 2017-18 school year, including several who utilize the virtual programs so they can “attend” remotely. This school is geared towards assisting students with special needs or situations in getting placed back into the traditional middle and high schools from which they came. Also, the Boone County Area Technology Center in Hebron, with an enrollment of 250 11th and 12th graders during the 2017-18 school year, instructs students in vocational trades.

According to the Boone County District Facility Plan approved in 2016, improvements over the next decade include new elementary schools in central and northern Boone County as well as in the Richwood/Union area. It also identifies the creation of a new STEAM-based (Science, Technology, Engineering, the Arts, and Mathematics) education center, the Ignite Institute, which will serve a total of 1,000 students (grades 9-12) from Boone County as well as students from the region. The school, located in the former Toyota Quality and Production Engineering Lab in Erlanger, is set to open in the Fall of 2019 and will focus on project-based learning in science, technology, engineering, arts, and mathematics, with real industry-case methodology. In addition, a new middle school will be sought in the northern portion of Boone County. Furthermore, as the number of high school age students increases, eventually a new high school will likely have to be added within the next decade or major renovations must be made to the existing high schools to increase capacity.

Transportation can also have an impact on the education system in terms of miles traveled and number of students. Included in this are noise mitigation measures such as sound insulation should aviation noise levels increase over time. In terms of land acquisition, suitable land donation to the school district by the development community should be encouraged within large scaled residential planned developments or subdivisions, as long as the sites are somewhat level and strategically located to avoid future redistricting problems. Recent major redistricting efforts have utilized the Boone County GIS, which is also being used in the planning for the most efficient locations for new schools in the future as the Boone County student population continues to grow.

BOONE COUNTY SCHOOL DISTRICT			
<u>Elementary schools</u>	<u>2010-11</u>	<u>2017-18</u>	<u>Capacity</u>
Burlington	886	796	985
Collins	608	790	670
Erpenbeck	666	676	800
Florence	662	541	650
Goodridge	845	689	653
Kelly	247	227	440
Longbranch	744	794	900
Mann	839	752	900
New Haven	719	880	950
North Pointe	1,042	451	925
Ockerman	750	737	825
Stephens	740	611	900
Thornwilde	n/a	650	700
Yealey	626	539	687
Elementary sub-total	9,374	9,133	10,985
<u>Middle schools</u>	<u>2010-11</u>	<u>2017-18</u>	<u>Capacity</u>
Camp Ernst	953	1,001	900
Conner	1,026	1,114	815
Gray	981	1,066	950
Jones	647	735	630
Ockerman	849	784	900
Middle sub-total	4,456	4,700	4,195
<u>High schools</u>	<u>2010-11</u>	<u>2017-18</u>	<u>Capacity</u>
Boone County	1,400	1,336	1,100
Conner	1,213	1,398	1,285
Cooper	986	1,330	1,265
Ryle	1,556	1,866	1,755
High sub-total	5,155	5,930	5,405
TOTAL	18,985	19,763	20,585

As mentioned earlier, overall elementary school enrollment is lower than the designed capacity of the buildings. However, concentric locations of elementary schools have made the distribution of students more difficult without transporting children excessive distances. In fact, during the 2017-18 school year, only two (Goodridge and Collins) of the fourteen elementary schools were operating over capacity. However, four of the five middle schools were operating over capacity. This problem will be helped in the 2018-19 school year by the opening of Ballyshannon Middle School which will add 500 to the capacity with potential for expansion. Although most of the middle schools are all located in the eastern section of the county, they are strategically placed so that the rural sections of the county (south and west) are directly accessible by road. Ballyshannon Middle School, located in central Boone County just west of the City of Union, will further help in the providing convenient access to the more rural portions of the county. All four high schools in the district are operating over capacity. Like the middle schools, the high schools are located in the most populous areas with convenient road access to most of the

county. An additional high school will likely have to be added within the next decade to accommodate the number of students coming up through the middle schools. In the interim, the Ignite Institute will relieve capacity pressure at the high school level.

Walton-Verona School District

Enrollment growth has historically been relatively small in the Walton-Verona Schools. This school system operates an elementary school just west of Verona and a middle/high school in Walton. While population growth projected for that area is not anticipated to be dramatic, the enrollment numbers for the district have increased at a much higher rate over the past decade. The Walton-Verona school system had a 2017-2018 enrollment of 1,764 students from pre-school through 12. Currently, the elementary school consists of pre-school through 4th grade; middle school includes 5th through 8th grades; and the high school is comprised of 9th graders through the 12th. According to the Walton-Verona Independent District Plan (approved in 2017), a separate building for pre-school is being constructed for the 2019-2020 school year and as a result, the elementary school will then become a K-4 center. As a whole, the District is operating under capacity but while the high and elementary schools are under capacity, the number of middle school students is exceeding the space needed. Land is set aside in the Waller Stephenson Mill Park for the long range construction of a new school building at the Verona interchange. This property currently contains the sports facilities for the district. Due to limited bonding potential, Walton-Verona is not planning on a new high school in the near future. Instead, they will be utilizing the Walton campus for middle and high school for the time being.

WALTON-VERONA INDEPENDENT SCHOOL DISTRICT

<u>Schools</u>	<u>2017-18</u>	<u>Capacity</u>
Walton-Verona Elementary School	581	775
Walton-Verona Middle School	543	396
Walton-Verona High School	539	800
TOTAL	1,663	1,971

Private Schools

Private schools, primarily in conjunction with religious institutions, ease part of the pressure placed on public schools as new residents come into the county. As the county continues to grow, new private schools can be expected to emerge and should be encouraged as long as they meet or surpass the standards of public schools. Currently, several private or parochial schools exist in Boone County:

- **St. Paul School** - U.S. 25 (Dixie Highway) Florence; Enrollment: 260 (PS-8).
- **Mary, Queen of Heaven Elementary** - Donaldson Road at Turfway Road; Enrollment: 170 (K-8).
- **Immaculate Heart of Mary School** - KY 18; Enrollment: 507 (PS-8).
- **St. Joseph Academy** - Needmore Street, Walton; Enrollment: 145 (PS-8).
- **Heritage Academy** - U.S. 42, Florence; Enrollment: 140 (PS-12).
- **St. Henry District High School** - Donaldson Rd; Enrollment: 537 (9-12).
- **Assumption Academy** - Beaver Road; Enrollment: 95 (6-12).
- **Our Lady of the Sacred Heart Academy** - Beaver Road; Enrollment: 122 (K-7).
- **St. Timothy School** - US 42 & Frogtown Road; Enrollment: 170 (K-8).
- **Union Pointe Academy** - KY 18; Enrollment: 64 (1-12).

Colleges/Trade Schools

Boone County is home to the Gateway Community & Technical College at the I-75/Mt. Zion Road interchange which includes the Center for Advanced Manufacturing. In addition, there are several private business and trade schools located in the Florence area including the Enzweiler Building Institute, Cumberland College, Beckfield College, Southwestern College, American National University, and College And Beyond. These are not regional campuses, but primarily serve individuals from the immediate Northern Kentucky area. As the population of the county grows and the employment sectors continue their current trends towards manufacturing, expansion of these schools or construction of new schools can be expected. The continued increase in industrial activity indicated that Boone County would be an ideal location for a state technical college provided that it is located in a more urbanized area that is easily accessible to their students.

LIBRARIES

The Boone County Public Library is an important educational asset that provides educational resources and services to the community as a whole. The library has grown to serve the needs of a rapidly growing county with six locations in Burlington, Florence, Hebron, Petersburg, Union, and Walton housing a collection of over 473,428 books, videos, DVDs, audiotapes, and CDs. The library is a presence in the community reflected in programs ranging from lectures to concerts. The library also provides training classes, job fairs, and coordinates with public, private, and post-secondary schools and home schooling parents to provide programming and educational services. The Main Library in Burlington is home to the Local History Department which serves as the county hub for genealogical and historical research.

The Library District is currently building a new library in the north Hebron area on KY 237 at Cardinal Way and has purchased land in Walton for the eventual replacement of the Walton branch. In the long range planning horizon of 25 years, it is anticipated that the Florence Branch, the oldest in the system (1976), will be in need of renovation or replacement. Consideration should be given by the Library District to working with the City of Florence to develop a new Florence Branch on property adjoining the existing Florence Library that used to be the Florence Nursery & Landscaping site which would allow for the potential of having a much larger site (10 acres) for the new facility. New library sites should be located near existing or proposed business and/or residential centers so as to maximize their accessibility by the public and as the demands of the 21st Century Boone County change so too should the services that the Library District provides.

PERFORMING ARTS

During 2010, the Union Theatre Group began to offer for-pay play performances. Currently, the group has an agreement to utilize the Ferguson Community Center at the Boone County Historic Courthouse in Burlington. Also, a Florence Community Band exists comprised of approximately 70 volunteer musicians who perform concerts of traditional concert band material, popular, and contemporary music. In addition, the Florence Community Chorus, comprised of about 30 volunteers, perform a variety of music from show tunes, popular music, religious, classical, and patriotic works. Both the Florence Community Band and Chorus rehearse at the Florence Community Center and perform throughout the County. However, there are very few venues in Boone County for these groups to perform. The addition of places such as the outdoor amphitheater at Boone Woods Park would greatly help and promote the performing arts in Boone County.

PUBLIC COMMUNICATIONS

Written/Broadcast Media

The local written media serving Boone County includes one weekly newspaper (Boone County Recorder) and one daily newspaper (Kentucky/Cincinnati Enquirer). The visual medium for Boone County involves several local television stations in Cincinnati as well as cable television services provided by Cincinnati Bell and Spectrum.

Wireless Communications

Providing 100% wireless communication coverage throughout all of Boone County is essential for public safety and personal use. The wireless industry changed since the 2010 Boone County Comprehensive Plan was adopted because of unanticipated data usage by cell phone users. To address this problem, service providers sought to construct small cellular poles in right-of-ways and private property. Sections 3197 and 4000 of the Boone County Zoning Regulations were updated in 2016/2017 and now include regulations and definitions for cellular antenna towers and small cellular poles. The regulations were drafted to facilitate the planning for and placement of the facilities in coordination with the recommendations of the Boone County Comprehensive Plan. Further changes to the regulations may be needed in the future if data usage by consumers continues to increase and the wireless industry evolves. Where possible, wireless communications such as cellular towers (and small cellular facilities) need to be located so as to not be visually obtrusive to residential or scenic areas. This can be aided by the policy of co-location of facilities. Furthermore, in order to better communication, access to Wi-Fi

should be provided in areas throughout Boone County where public gatherings occur or would be encouraged to happen such as a town square or public civic spaces.

CONCLUSIONS AND RECOMMENDATIONS

As stated earlier, the goal of this chapter is to see that safe and sufficient public services and facilities are provided for all residents in Boone County. These facilities and services shall be in locations that make them easily accessible to the residents and businesses being served. Public officials are finding nationwide that in most communities revenues are not keeping pace with resources needed to provide services. In the suburbs, this is largely a result of the inefficient pattern of lower density development, while in the central cities, this is usually due to losing resources to the suburbs. As a result, controversial topics like development moratoriums and impact fees have received nationwide attention over the past few decades as proposed methods to balance the revenues needed with services to be provided.

Boone County has relatively low tax rates compared to more urbanized communities in the metropolitan area and its budget situation has seen increasing revenue from commercial and industrial development. In order to accommodate continued growth, Boone County government needs to determine whether or not taxes and other revenues adequately pay for public services and facilities and identify the deficiencies as the first steps in preparing an effective Capital Improvement Plan. The costs of providing public facilities and services for different suburban land uses should be determined. Property values can also change where public improvements have been made, and some development directly results from publically-provided infrastructure. Cooperative funding arrangements and agreements between the private and public sectors shall be pursued in order to fund utility extension as well as ensuring that the existing infrastructure is maintained.

The phasing of proposed developments could also reduce the impacts on an insufficient infrastructure system and public services. Coordination with utility and service providers, as well as infrastructure systems both natural and man-made, can ensure that they are sufficient in order to support not only current, but also future growth. This can be achieved using the Boone County Geographic Information System (GIS) with the Future Land Use Map to determine predicted needs within specific areas within Boone County.