

### 3.3 COMMUNITY FACILITIES ELEMENT

#### Background

Community facilities play a significant role in the dynamic of growth of our community. Well-timed and strategically located, these facilities are necessary to promote and sustain the growth pattern proposed in the Future Land Use Map. They are also critical to achieving and maintaining the high quality of life that Warren County residents aspire to, according to our 2030 Vision Statement.

Community facilities include both utility infrastructure and public services provided by Warren County, the municipal governments or other agencies, for the benefit of their residents. For the purposes of this Comprehensive Plan, the Community Facilities Element includes the following topics:

- Water and sewer
- Solid Waste
- Stormwater management
- Public safety services (police, fire, and emergency services)
- Schools
- Library services
- Telecommunications

Parks and recreation, while also providing services and programs in community facilities and sites, is not included in this catalog. Instead, a separate element addresses issues and goals related to the provision of recreational facilities and programs. Another type of infrastructure, transportation, also has its own element.

Sanitary sewer service is provided by Bowling Green Municipal Utilities (BGMU) and Warren County Water District (WCWD), which maintain separate wastewater collection systems. However, all collected sewage is treated at BGMU's treatment plant located near the south bank of the Barren River on the northern side of the City. With an average daily flow of 9.4 million gallons per day (MGD) and capacity of 10.6 MGD, this treatment facility is adequate for current demand.

#### Quick Facts 2009:

- Potable Water and Sanitary Sewer Service Providers: Bowling Green Municipal Utilities (BGMU) and Warren County Water District (WCWD).
- BGMU handles water and sewer treatment for both city and county.
- Current Sewer Treatment Plant:
  - Average Daily Flow (ADF) = 9.4 MGD
  - Capacity = 10.6 MGD.
  - Projected 2025 demand = 15 MGD (Expansion to 15 MGD underway).
- Current Water Treatment Plant (BGMU):
  - Capacity = 30 MGD
  - ADF = 16 MGD.
  - Projected demand: increasing faster than previously projected.
- Fire Safety:
  - Fire stations: BGFD = five; WCWD = nine.
  - Areas of the County not within 5 roadway miles of a station are ineligible for commercial, industrial or multi-family development.
  - Current Fire Flow Guidelines: min. 250 gallons per minute (GPM) at 20 pounds per square inch (psi) residual pressure for detached single-family residential; min. 600 GPM at 20 psi residual pressure for all other development types.
- Police Protection: Bowling Green Police Department, Warren County Sheriff's Department, WKU Police Dept. , KY State Police.
- Current Schools:
  - WCSD = 13 elementary schools, three middle schools and four high schools.
  - BGISD = five elementary schools, one middle school, one high school and one alternative school.
  - Post-Secondary Education: Western Kentucky University, Bowling Green Technical College, Daymar College.
- Libraries: WCPL system consisting of one main library and three branches plus a mobile branch.

However, with demand expected to increase to approximately 15 MGD by 2025, the plant is being expanded – a project expected to be complete in 2011 or 2012. Currently, any development that is within a municipality or located within 1,500 feet of a public sewer line is required to connect.



*All sewage collected in the City and County is treated at BGMUs Treatment Plant.*

For development *not* connected to the public sewer system, sewage collection and treatment is done through an on-site sewage system, typically a septic tank. The Barren River District Health Department is responsible for approving or denying permit applications for septic tanks, placing this decision outside the control of the County, the City or the City-County Planning Commission (CCPC). The use of septic tanks is a topic of concern because the Karst landscape and many of the soils in Warren County are not suited for them, resulting in a higher threat of groundwater contamination.



*Our Karst landscape, coupled with prevailing soil types, is not well suited to the use of septic tanks. (Photo Credit: Center for Cave and Karst Studies, WKU).*

Centralized potable water service also is provided by BGMU and WCWD, with the former serving approximately 18,200 customers and the latter 23,000 customers in Warren County plus another 7,800 customers by agreement with the Butler County Water System and the Simpson County Water District. As with wastewater, all treatment occurs at the BGMU plant. The treatment plant, which draws water from the Barren River, was most recently renovated in 2006 to bring its capacity to 30 MGD. The plant's average daily flow is 16 MGD, and the system maintains 14 million gallons of storage capacity. Although the treatment facility is not currently running near its capacity, concerns have been raised because potable water consumption is outpacing the most up-to-date projections.

Solid waste services are provided by private companies franchised through Warren County Fiscal Court, the City of Smiths Grove or Western Kentucky University. Most of the solid waste in the BRADD region – which includes Warren County – goes to the Glasgow Regional Landfill or the Southern Sanitation Landfill in Logan County. However, some solid waste is hauled to the Ohio County Balefill, the Upper Cumberland Landfill or the Daviess County Landfill.

Stormwater management is generally addressed at the time of development approval. However, the issue is extremely important in Warren County due to the many areas vulnerable to severe flooding because of the topography and geology. The County's geology also makes it vulnerable in many places to groundwater contamination, as mentioned above, and contamination of surface waters continues to be a concern. In response to this, Warren County passed in 2006 a stormwater management ordinance enacting erosion prevention measures and sedimentation control procedures.

Both Bowling Green and Warren County maintain fire departments, with the City's department staffed by salaried workers and the County's by volunteers. Bowling Green provides fire protection within the City limits, and all development (except about .06 square miles) is located within five miles a station. The Warren County Fire Department

includes nine districts (20 stations) for the entire unincorporated area. Minimum fire flow and pressure requirements are in place, however, anecdotal evidence suggests that some areas may not meet these minimums, meaning that in some cases water to fight fires must be brought by truck.



*The Bowling Green Fire Department maintains five fire stations within the City's incorporated area.*

Warren County's library system maintains four permanent facilities, plus one mobile branch operating Monday through Friday.

Two school districts serve Warren County residents: The Bowling Green Independent School District, which currently operates five elementary schools, one middle school, one high school and one alternative school, together serving approximately 3,700 students. The Warren County School District currently has 13 elementary schools, three middle schools, four high schools, two alternative schools, and the district has enrollment of about 14,000 students. The City school district has four schools near or above their capacity, while the County district has seven facilities in the same situation, which tend to be near growing areas. The County district recently completed three projects to address capacity – including a joint middle and high school, the first new high school in the County since 1990, as well as the addition of two new elementary schools, one of which is the first net-zero school in the nation. The County district also plans to open another elementary school in 2012. These projects, in keeping with the District's Facilities Plan updated in 2006, are expected to meet needed capacity for the next 15 years.

While all these facilities and services should

be proactively planned, they need to be so in a manner that helps bring about the growth and land use patterns envisioned in the Focus 2030 Comprehensive Plan. However, this is not the way that many of these facilities and services have been typically provided in Warren County. While planning for and provision of certain public facilities has tended to follow the "catch-up" mode, common in similar communities experiencing rapid growth, certain "trigger" services (water and sewer infrastructure, specifically) have been installed by developers ahead of development pressures, opening up land area in excess of what is needed to accommodate projected growth.

The Focus 2030 Comprehensive Plan, through the Land Use Element, establishes growth management principles that can be directly related to the availability and capacity of infrastructure and public facilities. By influencing the location, and pattern of growth, the County will be able to protect land from premature or inefficient development. Conversely, a system for the rational expansion of (utilitarian as well as social) infrastructure will help minimize the risk of incurring unwarranted or excessive expenditures on public facilities and services that are associated with the current fragmented development patterns. This element supplements the policies and actions of the Land Use Element to attain those aims.

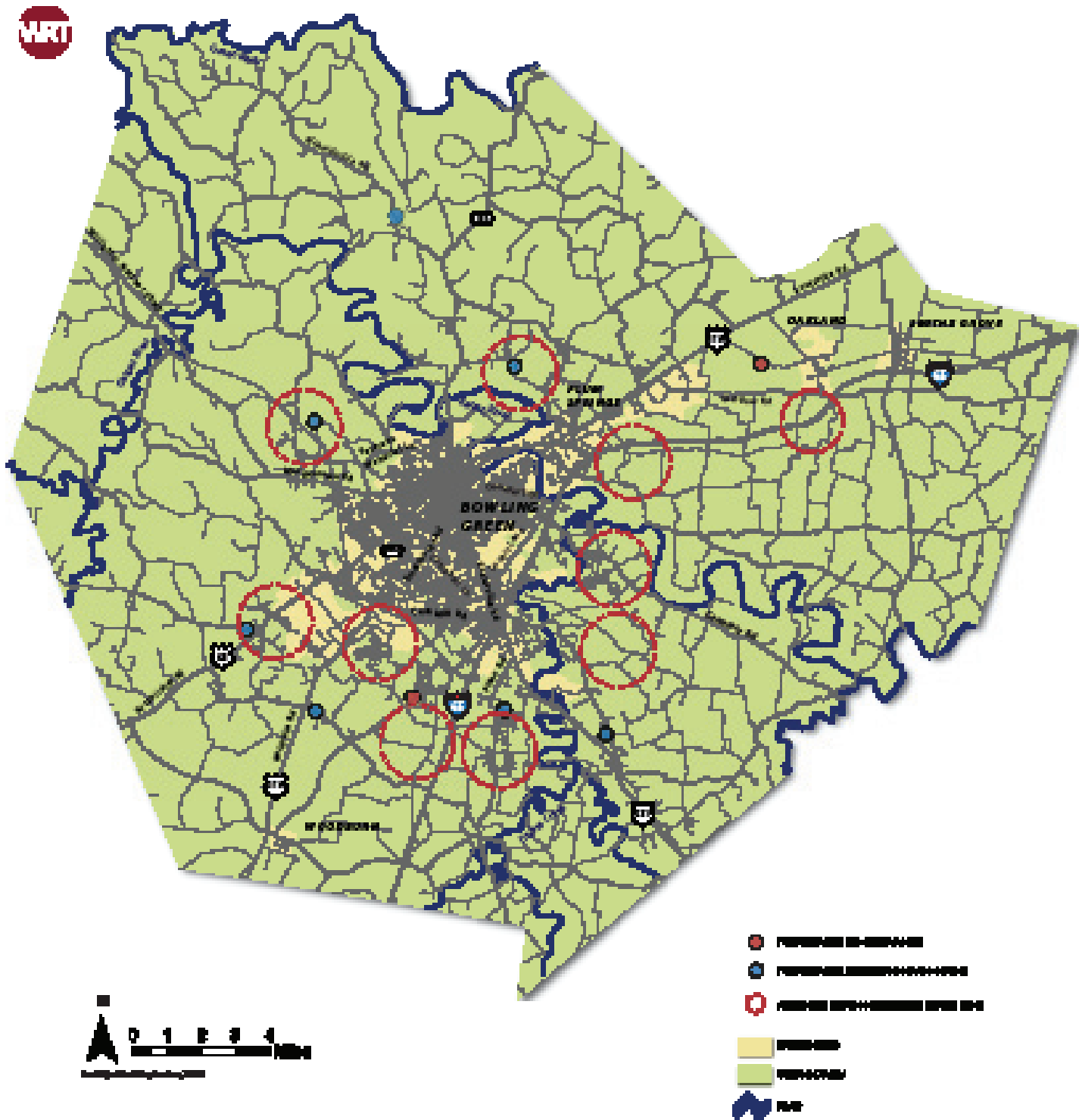


Figure CF-1: Anticipated Future Community Facilities Service Coverage Gaps (based on Future Land Use/Projected Population)

## COMMUNITY FACILITIES GOAL

***Provide community facilities and services that meet the physical, social, and cultural needs of the population of Warren County and its municipalities.***

### OBJECTIVES / ACTIONS

#### **Objective CF-1 General**

***Ensure the provision of adequate public facilities and related services to meet the demand of existing and future residents and associated commercial and industrial growth.***

- Action CF-1.1 Proactively plan all public facilities to support desired land use patterns. Complete plans within timeframes sufficient to allow strategies for meeting future needs to be implemented before current planned capacities are exceeded.

#### **Context:**

*Coordination of community facilities and service planning with land use and development policies is essential to ensure efficient, cost effective provision of future public facilities and infrastructure. This includes the staging of development to permit efficient service delivery and maximize use of available infrastructure before additions or expansions are necessary. Figure CF-1 indicates anticipated gaps for some of these facilities and services based on the proposed future land use pattern and development staging system.*

- Action CF-1.2 Consider the practicability of a variety of tools, such as special purpose/tax assessment districts or adequate public facilities regulations, to ensure the equitable financing of public facilities and services.
- Action CF-1.3 Consider the application of land dedication requirements for schools and other community facilities.
- Action CF-1.4 Consider establishing a process for coordinated development review with utility providers, Planning Commission staff, parks department representatives, school district representatives, postal service representatives, fire and police representatives and other such relevant agencies, to expedite and more effectively coordinate development reviews.



---

**Objective CF-2      *Water and Sewer***  
***Ensure an appropriately staged, efficient provision of water, sewer infrastructure to support the planned incremental growth of the community.***

- |               |   |
|---------------|---|
| Action CF-2.1 | During the next update of the long-range sewer facility master plan and related capital investment plans, aim for consistency with the Future Land Use Element.   |
| Action CF-2.2 | Give priority to upgrading and maintaining existing water and sewer infrastructure to encourage reinvestment in existing developed areas and to support existing and projected demands.   |
| Action CF-2.3 | Consider creating an equitable financing structure for the efficient and cost-effective provision of water and sewer infrastructure improvements necessary to serve new development. This structure may take the form of special purpose districts, while the financing mechanisms may include grants, special assessments, a utility service district, and others. (See also Action CF-1.2)  |
| Action CF-2.4 | Encourage developers to take advantage of statutory funding alternatives for infrastructure as provided in Chapter 107 of the Kentucky Revised Statutes.  |
| Action CF-2.5 | Consider requiring that any sewer or water trunk line or main extension required by new developments be sized to accommodate anticipated development in the surrounding service area.   |
| Action CF-2.6 | On-site sewage disposal systems may continue to be used provided that: <ul style="list-style-type: none"><li>• The Health Department must perform a site evaluation to determine the location, size and type of on-site system to install.</li><li>• The site evaluation must be performed and the on-site disposal system located on the site before obtaining a building permit.</li><li>• Every on-site disposal system installation, regardless of lot size, must be approved by the Health Department.</li></ul> |
| Action CF-2.7 | In coordination with the Health Department, consider establishing an on-site sewage disposal system preventive maintenance program to ensure continued proper functioning of these systems, particularly in areas where there may be a risk of water quality problems and threats to public health.   |

**Context:**

*The County's DRASTIC Index Map (Figure CF-2) shows that those areas of Warren County most likely to be developed with on-site sewage disposal systems (because of geology, topography, or lack of public infrastructure) are also the most vulnerable to groundwater contamination due to the widespread presence of Karst. While new on-site sewage disposal systems are becoming more effective, safer and easier to maintain, it is important that the County and the City work closely with the Health Department to require that state-of-the-art technologies are used as they become commercially available, and that existing systems are inspected regularly.*

- Action CF-2.8      Continue the practice of evaluating the entire water and sanitary sewer systems every five (5) years in order to maintain a high level of service.

**Objective CF-3**

**Solid Waste**

***Pursue active County participation in regional planning for solid waste facilities to ensure adequate landfill capacity to serve the needs of the projected population through the end of the Comprehensive Plan horizon and beyond.***

**Context:**

*Each residence, business and industry in Warren County is required to use approved solid waste disposal services. These services are provided through franchises approved by Warren County Fiscal Court, with the exception of Smiths Grove and Western Kentucky University, which manage their own service contracts. Most solid waste in the BRADD region, within which Warren County is included, goes to Glasgow Regional Landfill or Southern Sanitation Landfill in Logan County. Other landfills utilized by collection companies in the region include Ohio County Balefill, Upper Cumberland Landfill, and Daviess County Landfill. The Southern Sanitation Landfill in Logan County is also permitted as a construction/demolition debris landfill.*

- Action CF-3.1      Maintain and update city and county-wide solid waste management plans that include short and long-term waste reduction and recycling goals.

**Objective CF-4**

**Stormwater**

***In coordination with other responsible agencies, continue to develop and implement programs to manage stormwater runoff to prevent flooding, address water pollution, and improve the quality of the County's and the region's water bodies.***

- Action CF-4.1      Continue to modernize design standards for stormwater structures and outlets to reflect an emphasis on water quality, protection of stream

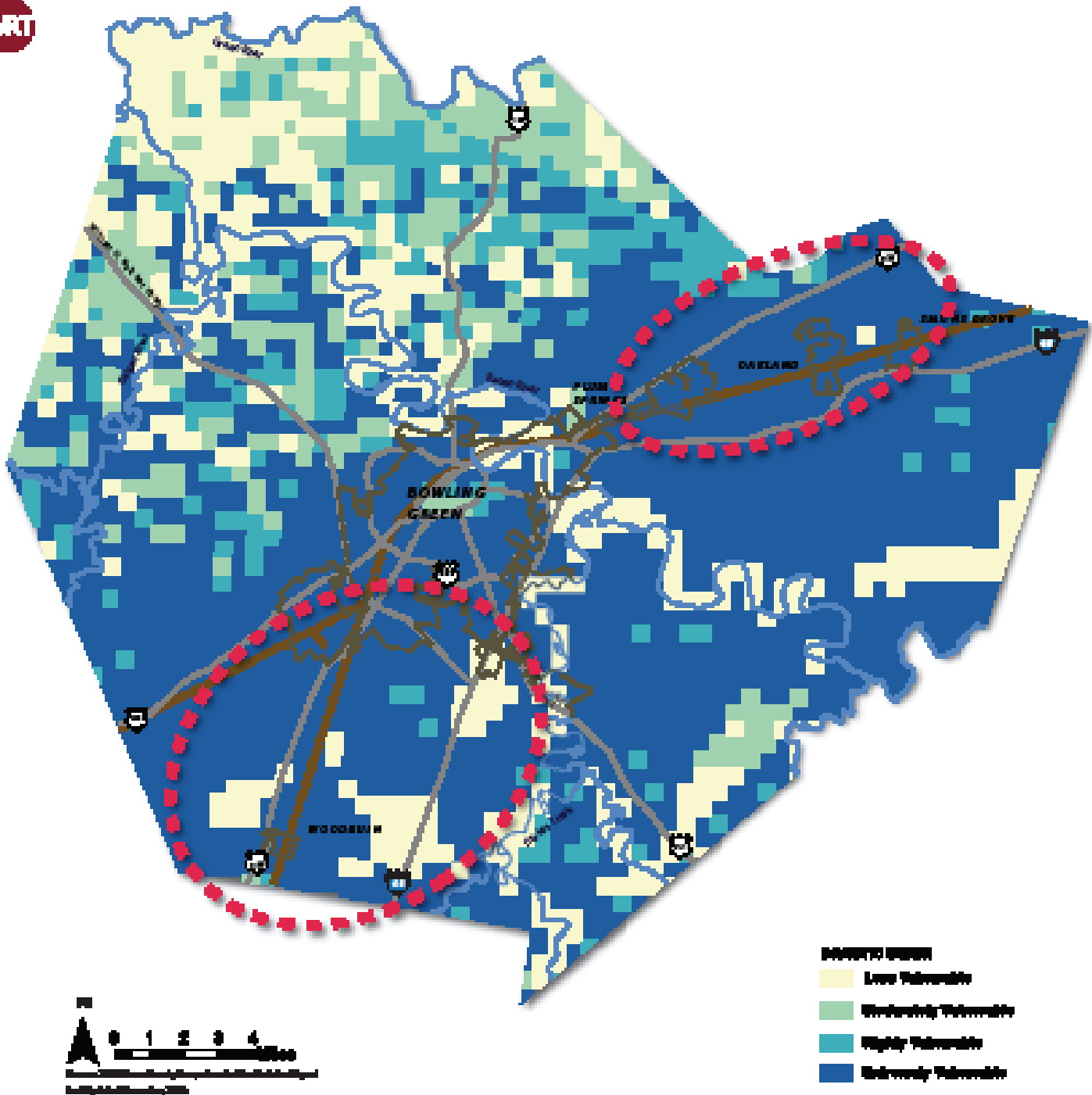


Figure CF-2: DRASTIC Index Map - Groundwater Contamination Vulnerability



ecology and conformity with state regulations. Where feasible, such structures should be designed as (scenic or recreational) amenities.

- Action CF-4.2      Continue to implement best management, “low impact” and “green” development standards and techniques to reduce the quantity and improve the quality of stormwater runoff from new and existing development.
- Action CF-4.3      Continue to require that all stormwater plans, construction and approvals be based on the 100-year flood event.
- Action CF-4.4      Continue to prohibit the construction of structures or on-site waste disposal systems in areas affected by the 100-year flood event.

---

**Objective CF-5      *Public Safety***  
***In coordination with other responsible agencies, continue to monitor the community needs for expansion of staff and facilities to meet fire and police protection.***

- Action CF-5.1      Consider enacting a “facility planning system” based upon objective level of service standards, such as response times, for fire and police facilities and services.
- Action CF-5.2      Establish consistent zoning and subdivision standards to require that any sewer or water trunk line or main extension required by all development be sized within that development to accommodate anticipated development in the surrounding service area. Developments shall demonstrate compliance with local fire suppression standards for each development type, including any necessary mitigating measures (water towers, cisterns, sprinklers, etc.). Documents submitted to demonstrate such compliance shall be certified by a professional engineer.
- Action CF-5.3      Any new subdivision encompassing 5 lots or more shall be required to provide a minimum fire flow of 250 GPM. An exemption for subdivisions consisting of no more than 4 lots will continue to apply.
- Action CF-5.4      Periodically, and as may be consistent with the proposed “facility planning system” described in CF-5.1, review the above fire flow standards to ensure their adequacy to serve future growth.
- Action CF-5.5      Pursue neighborhood conservation, economic development and other programs and policies that will foster a “safe community.”



*Maintain and update city- and county-wide solid waste management plans with an eye toward waste reduction and increased recycling.*



*Continue to implement best management / green techniques, such as using rain gardens to collect and treat rainwater runoff in parking lots.*

**Sidebar: Action CF-4.2.** Examples of BMPs (many in place in the Bowling Green Stormwater Best Practices Manual):

- Waste/debris containment
- Disturbed area reduction
- Slopes and water channel protection
- Bio-retention, evapotranspiration, infiltration: retention grading, rain gardens, rooftop gardens, vegetated swales, ponds.
- Rain barrels
- Site tree preservation, strategic tree planting, mulching
- Permeable paving/Impervious cover reductions
- Good housekeeping/post-construction maintenance.

**Context:**

*Safety is related to many different factors, including economic opportunity, healthy neighborhoods with involved residents and a good public school system. The support of governmental agencies other than those directly involved in public safety is important; for example, recreational programs for youths; small business, employment and training programs for disadvantaged minorities, etc.*

- |               |   |
|---------------|---|
| Action CF-5.6 | Review and revise zoning and subdivision regulations as necessary to promote the application of CPTED (Crime Prevention Through Environmental Design) and “safe-by-design” principles and techniques in new and existing development. |
|---------------|---|

**Objective CF-6**

**Schools**

***Coordinate with Warren County Public Schools and Bowling Green Independent School District to identify school sites, consistent with the Comprehensive Plan’s policies for growth and development.***

**Context:**

*Like public facilities and services provided by the County and the City, it is critical that schools be systematically planned for, to ensure that future needs are met and that schools are appropriately located to support land use and development policies.*

- |               |  |
|---------------|--|
| Action CF-6.1 | Support the School districts in providing quality public education, including school facilities that adequately meet future enrollment projections.  |
| Action CF-6.2 | Pursue an interlocal agreement between the County and Warren County Public Schools to jointly identify and reserve appropriately located sites for new schools.  |
| Action CF-6.3 | Work with the School districts to establish shared or joint facilities (e.g., school/library/recreation area), to promote cost and land efficiencies, take advantage of locations convenient to neighborhoods, and provide more comprehensive services to residents. |

**Context:**

*Shared or multi-use facilities are one way to achieve cost savings and more efficiency in service delivery. They also benefit residents through the convenience of providing more than one type of service in one location. Moreover, if properly situated, these joint “service centers” could serve as an anchor for existing or new mixed-use areas. While*





*Establish zoning and subdivision regulation standards that ensure adequate fire flow for different development types*

**Sidebar: Action CF-5.2.** Examples of potential mitigation measures for fire protection in low-flow situations:

- On-site water storage: water towers, cisterns, etc.
- Sprinkler systems
- Monitored alarms
- Fire-resistant shells/ignition resistant/non-combustible materials and construction.



*Support the School Districts' effort to provide quality public education, including the development of facilities that adequately meet future enrollment projections.*

*existing facilities may not always easily lend themselves to shared use because of design or other factors, the County's agencies, in coordination with the incorporated cities, Warren County Public Schools and the Bowling Green Independent School District, should identify and pursue every possible opportunity to apply this concept in future facilities.*

## Objective CF-7

### WKU

***Continue to coordinate efforts with WKU to ensure that the institution's growth is served in a manner that minimizes negative impacts on areas surrounding the school's local campuses, while capitalizing on the advantages of a positive University/host community synergy.***

#### Context:

*WKU is the third largest public university in Kentucky and one of the top local employers and economic engines. Clearly, there are many benefits that the University's presence brings to the region, including an attractive campus, an advantageous relationship relative to downtown, a lively array of cultural, athletic, and other activities, and the kind of intellectual environment that is fostered by an academic community. These benefits are increasingly valuable, as Warren County and Bowling Green seek to shift toward a more knowledge-based, technology-driven economy. At the same time, both the University and the community need to be mindful of the potentially less positive impacts that campuses can have on their surroundings, including traffic, parking conflicts and changes in nearby neighborhoods caused by institutional growth.*

*Ultimately, the goal should be to establish processes for collaborative planning, joint decision-making, and coordinated growth and development, in order to build a better community for all. The importance of effective coordination and communication between the University, the City of Bowling Green, and the numerous agencies and companies that provide services to the institution will increase as the pace of development steps up, both in the University context area and on campus.*

- |               |   |
|---------------|---|
| Action CF-7.1 | Continue to develop a collaborative review process that assesses the impacts of proposed campus development on local and regional resources and facilities.                   |
| Action CF-7.2 | Establish an overlay zoning or tailored development and design guidelines to ensure compatibility of uses, development intensities, and designs at the "town/gown" interface. |
| Action CF-7.3 | Jointly explore and pursue opportunities to leverage the university's presence into resources for improving the community, including:   |





*Continue to develop a collaborative review process to assess the impacts of proposed campus development on local and regional resources and facilities.*



*Establish overlay zoning or tailored guidelines to address design and development issues, especially related to residential development at the town/gown interface.*



- Programs responsive to local economic and demographic opportunities.
- Technical assistance for small businesses.
- Improved K-12 education
- Economic development initiatives to support families in the community.
- Cultural and recreational resources to serve the community.

---

**Objective CF-8**     ***Libraries***  
***Develop and implement a plan to meet future community needs for library services.***

- |               |   |
|---------------|---|
| Action CF-8.1 | Explore non-traditional means to use library facilities to provide multiple government services to residents, including exhibit and performance spaces, service kiosks, etc.  |
| Action CF-8.2 | Support the library's effort to respond to the unique needs of Warren County's increasingly diverse population with new services and expanded access through the use of new technologies. (For example, building up digital libraries, creating social networks, providing translation technologies to serve other language groups and/or disabilities of various types, etc.). |

---

**Objective CF-9**     ***Telecommunications***  
***Promote the development a state-of-the-art telecommunications network throughout the County.***

- |               |  |
|---------------|--|
| Action CF-9.1 | Continue to advance the establishment of a Countywide broadband and wireless infrastructure.   |
| Action CF-9.2 | Support the use of wireless technologies by the County's and City's public safety services (i.e., police and fire).  |
| Action CF-9.3 | Review zoning and other related regulations to ensure that appropriate locations and standards are provided for free-standing, co-located or attached telecommunications facilities throughout the County. |

---

**Objective CF-10**     ***Sustainability***  
***Encourage resource conservation and sustainability.***

- |                |   |
|----------------|---|
| Action CF-10.1 | Promote technologies that reduce the impact of development and human activities on the environment, including sustainable development patterns, green building (e.g., encourage the use of green technologies |
|----------------|---|



Develop and implement a plan to meet future library service needs. This may include new branch libraries or expanded branches.



Explore non-traditional means to provide library services, such as e-library kiosks in other government facilities or in shopping centers.



Review zoning and other regulations to ensure appropriate locations and standards for free-standing, co-located or attached telecommunications facilities.

in new construction, but also place an emphasis on adaptive reuse of existing buildings, and responsible deconstruction and reuse of building materials), alternative transportation, etc.

- Action CF-10.2 Identify and promote long-term alternative methods to provide increased water capacity while reducing consumption (cooperative arrangements, indirect potable water reuse, conservation measures, etc.)
- Action CF-10.3 Identify the potential for joint utility corridors to promote land and cost efficiencies, after determining corridor compatibility among systems and combining system maps to indicate the location of potential corridor alignments. Coordinate the timing of system improvements to lessen impacts on resources and uses.



*Identify and introduce state-of-the-art techniques and technologies which reduce the impact of development on the environment, including green building, following the lead of WKU (above, the College of Education and Behavioral Sciences) and the Warren County Public Schools and Bowling Green Independent School districts.*