

*Our*  
**Boone**  
*County*

PLAN 2040

ADOPTED BY THE BOONE COUNTY PLANNING COMMISSION

**June 5, 2019**

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## INTRODUCTION

### ACKNOWLEDGEMENTS

The Boone County Planning Commission would like to thank all of the organizations and individuals who participated in this update of the Boone County Comprehensive Plan. The Planning Commission would also like to express its appreciation to former staff members Mitch Light (Assistant Zoning Administrator/Zoning Enforcement Officer) and Vinnie Fazzino (Zoning Enforcement Officer) for their contributions to this update. Also, thanks to former Planning Commissioner and Long Range Planning/Comprehensive Plan Committee member Greg Bretz for his service during the formulation of this plan.

### CITIZEN PARTICIPATION

In February 2017 the Long Range Planning/Comprehensive Plan Committee decided to proceed with the public review, evaluation, and revision of the Goals and Objectives prior to the full analysis and update of the individual Elements of the Comprehensive Plan based on the results of the Review of Original Research. On March 13, 2017, the Planning Commission sent information letters to 72 organizations and individuals who have been, or would likely be, involved in planning issues. The letters asked for their participation and involvement in the update process, beginning with the Goals & Objectives. In addition to the organizations and individuals, staff retained the services of Strategic Advisors in an effort to establish a social media presence to reach even more people than ever before as well as to assist in the creation, design, and maintenance of a web page ([www.ourboonecounty.com](http://www.ourboonecounty.com)) where information during the update process was to be made readily available for public review and comment. In March 2017 a series of “kick-off” events were presented at the March 6, 2017 City of Union Business Meeting, the March 6, 2017 Walton City Council Meeting, the March 21, 2017 Boone County Fiscal Court Meeting, and the March 28, 2017 Florence City Council Business Meeting. During the course of 2017, several meetings were held with individuals and agencies seeking input regarding the Goals & Objectives which were ultimately adopted by the Boone County Planning Commission (October 4, 2017), the City of Union (December 4, 2017), Boone County Fiscal Court (December 5, 2017), the City of Walton (December 11, 2017), and the City of Florence (January 23, 2018).

On January 24, 2018 a kick-off workshop for the elements/chapters and land use maps was held in Burlington. Draft elements and individual requests for changes were presented by staff at Long Range/Comp Plan Committee meetings throughout the year. As elements were approved for public release by the committee, they were made available in digital form on the Plan 2040 website, where on-line comment forms were also posted. Drafts of each chapter were made available for public comment throughout 2018 as follows: Demographics, Economy (May 2018), Environment, Natural & Cultural Resources, and Transportation (June 2018), Public Facilities (August 2018), and Land Use (December 2018). Again, staff met several times during the year with agencies and individuals as the chapters were being drafted.

In January 2019, two (2) workshops were held to gather even more public comment on the drafts that had been made available during the previous 8 months. The first was held in Burlington on January 17, 2019 and the second in Walton on January 22, 2019. On March 20, 2019 the Long Range/Comprehensive Plan Committee agreed to enter a revised draft of all the chapters and maps as New Business at the April 4, 2019 Boone County Planning Commission Business Meeting and a Public Hearing was set for May 1, 2019 for an additional round of public review and comment. The revised chapters and maps were published on the web page ([www.ourboonecounty.com](http://www.ourboonecounty.com)) on April 4, 2019.

During the drafting of the 2017 Goals and Objectives and the elements of the Comprehensive Plan, the Long Range Planning/Comprehensive Plan Committee met 24 times. All of these meetings were open to public attendance. Numerous meetings were also held between staff and interested citizens and organizations

throughout the process. In total, nearly 100 meetings with agencies, individuals, and the Committee were held. In addition to the required legal advertisements in the Boone County Recorder, posts were made by the Our Boone County - Plan 2040 Facebook group that drew nearly 1,300 followers and periodic newsletter e-mails were sent to the nearly 400 people who signed up during the update process. Lastly, in order to satisfy KRS 100 and to promote regional planning, the Boone County Planning Commission has notified the following cities, counties, and planning units about the Our Boone County - Plan 2040 update:

- |   |  |
|---|--|
| Boone County (KY) Fiscal Court                    | City of Walton (KY)                                    |
| Gallatin County (KY) Fiscal Court                 | City of Erlanger (KY)                                  |
| Kenton County (KY) Fiscal Court                   | City of Elsmere (KY)                                   |
| Grant County (KY) Fiscal Court                    | City of Independence (KY)                              |
| Grant County (KY) Planning Commission             | City of Villa Hills (KY)                               |
| Gallatin County (KY) Planning Commission          | City of Cincinnati (OH)                                |
| Hamilton County (OH) Regional Planning Commission | City of Addyston (OH)                                  |
| Hamilton County (OH) Board of Commissioners       | Village of North Bend (OH)                             |
| Cincinnati (OH) Planning Commission               | City of Rising Sun (IN)                                |
| Whitewater Township (OH) Board of Trustees        | City of Lawrenceburg (IN)                              |
| Delhi Township (OH) Zoning Commission             | Planning & Development Services of Kenton County (PDS) |
| Dearborn County (IN) Planning Commission          | Kenton County & Municipal Planning & Zoning Commission |
| Switzerland County (IN) Planning Commission       | Northern Kentucky Area Planning Council                |
| Ohio County (IN) Commission                       | Northern Kentucky Area Development District (NKADD)    |
| Lawrenceburg (IN) Advisory Plan Commission        | OKI Regional Council of Governments                    |
| Aurora (IN) Planning and Zoning                   |  |
| City of Florence (KY)                             |  |
| City of Union (KY)                                |  |

**PLANNING PROCESS**

The Comprehensive Plan is formulated from an extensive and continuing planning process. The process includes reconnaissance and analysis of data, the creation of a statement of Goals and Objectives, written elements (or chapters) on various subjects related to transportation, public facilities, land use, and other subjects affecting growth and development. These steps are described below:

**Reconnaissance**

The Reconnaissance portion of the plan is an inventory of existing conditions in Boone County. The Reconnaissance material is included within six planning elements. These are: Demographics, Environment, Natural & Cultural Resources, Economy, Public Facilities, and Transportation.

**Goals and Objectives**

The adopted 2017 Goals and Objectives for guiding preservation and development in the County are included in this document and are the basis for the remaining elements. They were developed and adopted by the Boone County Planning Commission and adopted by the Boone County Fiscal Court and the legislative bodies of the Cities of Florence, Union, and Walton prior to the writing of the remaining elements of the Comprehensive Plan.

**Comprehensive Plan Elements**

KRS 100.187 describes the required contents of a comprehensive plan as including chapters (or elements) in addition to the Goals & Objectives that address Land Use, Transportation, and Community Facilities (Public Facilities). This document meets those minimum requirements and also includes additional chapters not required but elements that will further serve the purposes of the comprehensive plan. The chapters included are as follows:

The **Demographics** element, a combination of the Population and Housing chapters in previous updates, describes the trends of the past, present, and projected population. Once this is achieved, a plan can be properly prepared to meet the needs of the population. By understanding the demographic makeup of a community, it becomes easier to identify needs and to provide opportunities and amenities that will not only attract new residents, but also retain current residents. Furthermore, appropriate services, jobs, and housing opportunities at the county-wide level can be provided as well as in specific regions of the county. This element assesses Boone County's past, present, and future demographic profile and examine the existing housing supply and present a plan to meet future housing needs.

**Environment** is defined by Webster's Dictionary as "the circumstances, objects, or conditions by which one is surrounded" and "the complex of physical, chemical, and biotic factors (as climate, soil, and living things) that act upon an organism or an ecological community and ultimately determine its form and survival." These amenities also provide additional, less visible qualities, such as cleaner air, recreational areas, and wildlife habitat that are important to a community. Boone County's rural character attracts people to the county. Agricultural land, woodlands, scenic valleys, streams, and hillsides are significant environmental resources. Development has an effect on the physical and social environment of a community, and this can affect many of a community's unique characteristics or qualities that its residents feel are important. Therefore, development should preserve and promote an overall high quality of life while allowing an economic return. This quality, which attracts many new residents, is often replaced by the development built to accommodate them. This element is prepared from an environmental perspective and is to be used as one factor in determining the future land use of this plan. This element establishes the fact that environmental impacts should be addressed up front rather than allowed to accumulate and therefore require much more expenditure in the future.

**Natural & Cultural Resources** combines three separate elements as they appeared in previous comprehensive plans including Recreation and Open Space, Agriculture, and Preservation. The importance of these resources cannot be understated and the need for them must be identified and accommodated as they contribute to the overall quality of life in Boone County. Active and passive recreation facilities and programs are needed to meet the changing demographics of Boone County. Furthermore, as development continues, it is vital to document and preserve the existing natural features, cultural resources, agricultural lands (and related uses), and open spaces.

The **Economy** element, a combination of the 'Economy' and 'Business Activity' chapters from previous plans, describes Boone County's current economic outlook as well as potential future development patterns. Characteristics such as labor force, employment levels, income, poverty, commuting patterns, the number and types of jobs are examined. This chapter also looks at ways to promote a vibrant, diverse, and sustainable economy by encouraging and incentivizing innovation and prosperity while at the same time, recognizing the value of the environment and developing in a way that is compatible with surrounding land uses. Identifying and understanding these factors are vital in creating an atmosphere for long-term, sustainable economic growth in Boone County.

The **Public Facilities** 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.

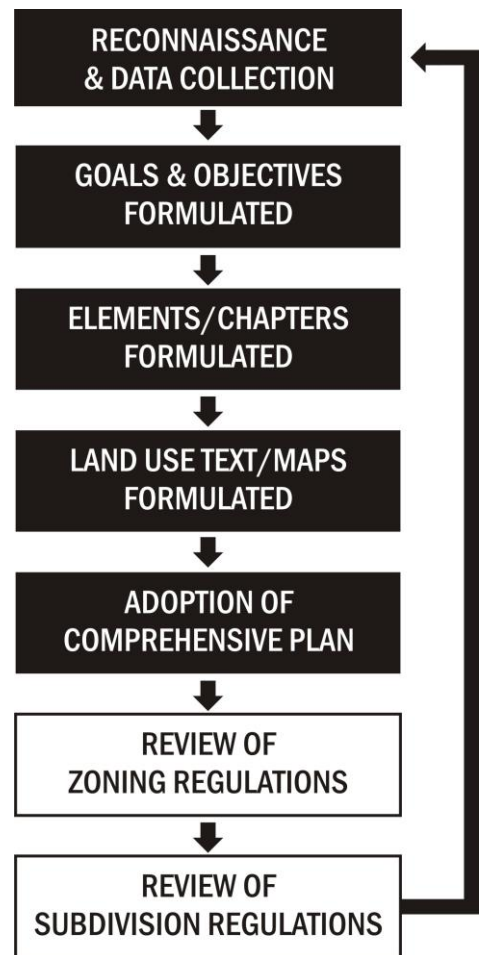
The **Transportation** element discusses the various modes of transportation used in Boone County. The Transportation System in Boone County is important because it allows for the movement of people and goods. This Element consists of the Boone County Transportation Plan, the CVG Airport Master Plan, Railroad and River Transport activities, and information about the Land Use/Transportation connection.

The **Land Use** element is the culmination of the preceding six elements of Our Boone County - Plan 2040. The Land Use element recommendations (both text and maps) are based upon the specific data and

recommendations of the preceding elements of the Comprehensive Plan. Compliance with the other elements of the Comprehensive Plan will result in the development or preservation of Boone County as specified in the Land Use element. The Land Use element includes development guidelines which relate to key development and preservation concerns: utilization of existing vegetation and topography, development layout/lot sizes/setbacks, buffering, landscaping, stormwater management and erosion control, access management, transportation, pedestrian network, design, signs, and historic preservation. Both the text and accompanying maps are consistent with each other, and both provide a written and graphic documentation for future development and preservation of Boone County in a 20-25 year planning horizon, more specifically, to the year 2040. In this element, the 2017 Existing Land Use and the 2040 Future Land Use classifications are explained. The text of the Land Use element further details the impact of the other elements on the land area in Boone County. Both the text and maps of the Land Use element assure that the Our Boone County - Plan 2040 is a guide for the future growth, development, and preservation of Boone County, Kentucky.

The Comprehensive Plan was developed through a multi-stage process designed to integrate the 2017 Goals and Objectives and to create consistency between the various elements of the Comprehensive Plan. The Reconnaissance material provided the foundation for the Comprehensive Plan. From the conditions of the County, as outlined in the Reconnaissance, Goals and Objectives were formulated for each of the elements. The Reconnaissance and the 2017 Goals and Objectives in turn set the direction for the recommendations contained in the Comprehensive Plan elements. The final step in the Comprehensive Plan's multi-stage process is the Land Use element which consists of text and a series of maps. The provisions of the previous six elements are represented spatially and in detailed written form to project the County's land use by the year 2040. The 2017 Goals and Objectives of the elements are also considered in the remaining Land Use element. The Land Use element is also developed in preparation for its chief implementation tool, the Zoning Regulations, to which there is a sufficient degree of consistency. The update of the Zoning Regulations begins immediately after adoption of the Comprehensive Plan and then an update of the Subdivision Regulations follows before returning to the Comprehensive Plan review process in a 5-year repeating cycle.

The process is continuous and evolving, as the Comprehensive Plan is re-evaluated periodically to respond to changing conditions. The Boone County Planning Commission is the public body charged with initiating and overseeing the comprehensive planning process in Boone County. The success of the process is largely dependent on those public agencies and bodies who can implement the plan through their day-to-day decision-making activities. Success is also dependent on the cooperation of the citizens of the community and developers who respect the Comprehensive Plan's intentions and seek to improve the Comprehensive Plan in accordance with changing community policies, goals, and objectives. While this document is the statement of a plan at one point in time, its full value will be in its flexibility to respond to changing conditions and its evolution within the context of a continuing comprehensive planning process.



## 2017 GOALS & OBJECTIVES

*Pursuant to Sections 100.187 and 100.193 of the Kentucky Revised Statutes and other applicable laws, this statement of Goals and Objectives has been prepared by the Boone County Planning Commission. Each Element of Plan 2040 reflects at least one goal which serves as a future desired condition or result that is considered to be an attainment not an action. Each goal is supported by a series of objectives, which are achievable action statements. The 2017 Goals and Objectives are general but provide a framework for the Plan 2040 Elements. The Elements address specific land use impacts and provide recommendations regarding future growth. The 2017 Goals and Objectives help guide public policy, but are not designed to solve specific problems.*

### **Adopted:**

*Boone County Planning Commission - October 4, 2017*

*City of Union - December 4, 2017*

*Boone County Fiscal Court - December 5, 2017*

*City of Walton - December 11, 2017*

*City of Florence - January 23, 2018*

## OVERALL

**Goal A:** Boone County is viewed as an integral part of the Greater Cincinnati Region through successful planning.

### **Objectives:**

1. Currently accepted and innovative design methods, land use management tools, and coordination among agencies as well as with public infrastructure shall be pursued to produce a healthy, well-designed community that supports residents and businesses.
2. Mixing of residential and other land uses shall be encouraged where appropriate.
3. Boone County shall strive to achieve diversity and balance in land use while protecting natural resources and natural systems.
4. Land uses and zoning decisions shall strive to balance the rights of landowners with the rights of neighbors and the community.
5. The unique characteristics of the legislative units and their different development and infrastructure needs should be recognized and accommodated.
6. The Elements of the Comprehensive Plan shall be interrelated and consider potential benefits and impacts of regulation and development.
7. The Future Land Use Element and Map shall be based on research and analysis in all the Elements.

## DEMOGRAPHICS

**Goal A:** The makeup of Boone County's population is identified and their needs met through orderly growth.

### **Objectives:**

1. Development policies shall not discriminate against any person.
2. The needs of an aging population (e.g., access to services, transportation, and support networks) shall be acknowledged and addressed.
3. Promote quality of life amenities to retain current residents and attract new residents in order to have a stable and diversified population.
4. Provide appropriate services, housing, employment, and shopping opportunities in order to meet the needs of the population in all geographic areas of the County.

**Goal B:** Safe, sound, and sanitary housing opportunities exist for all Boone County residents.

**Objectives:**

1. A broad range of housing opportunities shall be provided to meet the needs and desires of all household types and shall be balanced with affordability, employment centers, commercial areas, and educational needs. **[Unincorporated Boone County, City of Union, City of Walton only]**

A broad range of housing opportunities shall be provided to meet the needs and desires of all household types and shall be balanced with affordability, employment centers, commercial areas, and educational needs. The City of Florence acknowledges the need for affordable housing opportunities, but also desires an equal balance of housing options to maintain a diverse city. **[City of Florence only]**

2. Maintenance of sound existing housing and rehabilitation of deteriorating housing shall be encouraged and incentivized.
3. Home ownership shall be encouraged and incentivized as well as redevelopment and renovation of deteriorating housing stock.
4. Residential developments shall be evaluated for impact on infrastructure, environment, health and safety considerations, buffering, and design with secondary consideration given to dwelling unit type and density.
5. Airport noise levels shall be considered when new residential development is proposed near the Airport.
6. Mixed use, higher density neighborhoods shall be encouraged near existing or proposed transportation nodes and shall be designed to establish neighborhoods with a mix of retail, public, and recreational uses.
7. Clustered housing (or Open Space Subdivisions) shall be promoted by appropriate incentives.
8. Residential developments shall be encouraged to plan and build in a manner compatible with the general housing density and design planned for the area, with the existing conditions of the site, and significant site features.
9. Housing development shall be phased to coordinate with the provision of infrastructure, services, and education facilities.

**ENVIRONMENT**

**Goal A:** Land use planning should recognize and protect natural systems (streams, wetlands, forests, etc.) essential to safety, health, economic stability, and overall quality of life.

**Objectives:**

1. An evaluation of environmental factors identified in this Plan will be part of any development review process.
2. Areas possessing unique environmental characteristics should be preserved, used as passive or active recreational areas, or appropriately incorporated into development design.
3. Developmentally Sensitive and scenic areas shall be identified, mapped, and stabilized. Developments proposed in any of these areas shall be carefully designed and reviewed to minimize environmental impacts.
4. Developmentally Sensitive hillsides in Boone County must be given special consideration. Any proposed development on hillsides designated as such shall be reviewed and monitored to maintain the environmental and structural integrity of the hillsides.

5. Watersheds should be studied to better understand existing conditions of local streams and develop plans to address impacts of development and protect watershed resources.
6. Development design shall consider natural and ecological systems, such as wildlife habitats, air, soils, and water.
7. Development shall attempt to utilize existing topography and vegetation (including mature trees where possible) and preserve the existing character of the land where practical. **[Unincorporated Boone County, City of Union, City of Walton only]**  
  
Development shall utilize existing topography and vegetation (including mature trees) and preserve the existing character of the land. **[City of Florence only]**
8. Standards shall be established to specify methods during construction to properly manage impacts. If problems are encountered, the proper agencies will be notified and corrective measures taken.
9. Public environmental information and studies shall be accessible to the general public.

## **NATURAL & CULTURAL RESOURCES**

**Goal A:** Adequate Active Recreation facilities and programs are provided to meet changing demographics and significant natural features, cultural resources, and open spaces are preserved. **[Unincorporated Boone County, City of Union, City of Walton only]**

**Goal A:** Adequate Active and Passive Recreation facilities and programs are provided to meet changing demographics and significant natural features, cultural resources, and open spaces are preserved. **[City of Florence only]**

### **Objectives:**

1. Parks and open space shall be used to preserve scenic and natural areas with significant and unique qualities and provide activity centers close to or within established and developing residential areas.
2. Active Recreation areas and facilities shall be centrally located and easily and safely accessible to the population groups they are designed to serve. Active Transportation (bicycling and pedestrian) connections between parks and recreation facilities shall be encouraged.
3. Marginal development land shall be considered for its value as open space, farmland, or recreation. The Ohio River shoreline shall be studied for its potential for recreational development that retains the ecological integrity of the river area and creates sustainable economic opportunities.
4. Tourist oriented commercial facilities should be encouraged provided that the impacts on other land uses are minimal.
5. Cultural resources in/on recreational or education facilities shall be protected and park areas that make use of existing cultural resources shall be encouraged.
6. Education and recreation facilities shall be combined to provide the mutual benefits of service, safety, convenience, economy, and neighborhood scale.
7. Agencies and organizations that administer parks, recreation, and natural areas in Boone County should coordinate programming and activities.
8. Legislative bodies shall be active in creating new parks with an emphasis on accessibility, serving major areas of Boone County and furthering a regional parks system in Northern Kentucky.

**Goal B:** Appropriate land for agriculture and related uses is protected.

**Objectives:**

1. Specific areas, innovative land use planning concepts, and design incentives shall be identified to encourage the preservation of agricultural lands.
2. Diversification of agricultural uses shall be encouraged including markets and gardens for locally grown food crops.
3. The impacts of proposed adjacent residential development on existing agricultural operations shall be examined and addressed.
4. The needs of agricultural operations shall be considered in public infrastructure improvements and services.

**Goal C:** Significant cultural resources and natural features in Boone County are documented, preserved, and interpreted.

**Objectives:**

1. Inventories shall be maintained of natural and cultural features including historic, architectural, archaeological sites, cemeteries, documents, and traditions.
2. Major viewsheds should be inventoried to help identify scenic and natural areas. **[Unincorporated Boone County, City of Union, City of Walton only]**

Major viewsheds shall be inventoried to help identify scenic and natural areas. **[City of Florence only]**

3. Priorities shall be established for the conservation, restoration, preservation, and protection of natural and cultural features using land use regulatory tools and incentives as well as consideration for inclusion in potential park land development to serve as educational and recreational resources for the community.
4. Significant cultural resources that meet established criteria shall be encouraged for nomination to the National Register of Historic Places or inclusion in the Historic Landmark/Overlay (H) District.
5. The existing local historic landmark and district process should be utilized.
6. Heritage and agri-tourism shall be encouraged and evaluated as a catalyst for historic preservation and economic development.
7. Archaeology and cemetery preservation efforts shall follow permitting requirements and best practices where practical.
8. Plans for new or redeveloped commercial, industrial, institutional, and residential sites shall be reviewed and reasonable measures taken to ensure identification and protection of significant cultural resources.
9. Agencies and organizations involved in preservation and local history should coordinate their efforts.
10. Public and private sector awareness of historic preservation efforts and philosophy shall be encouraged.



## ECONOMY

**Goal A:** Boone County shall promote a vibrant, diverse, and sustainable economy that both recognizes the value of the environment and encourages and incentivizes innovation and prosperity with meaningful employment opportunities.

**Objectives:**

1. Employment opportunities for a highly skilled and educated workforce shall be encouraged and promoted for the residents and businesses of Boone County.
2. Industries shall be promoted in suitable locations to make the county a vital part of a strong regional economy.
3. Boone County shall evaluate and promote business and economic sectors of the future and explore ways to encourage existing industry to be competitive in a regional and global economy.
4. Local agriculture, business products, and services shall be encouraged and supported.
5. Recycling programs, recycled materials industries, energy conservation, industrial ecology, and the use of local renewable resources shall be encouraged.
6. The changing nature of the Cincinnati/Northern Kentucky International Airport (CVG) shall be recognized in order to address potential impacts and to support aviation growth for passengers and business.
7. Tourism (including agri-tourism and heritage tourism), telecommuting, and virtual employment shall be encouraged as an economic resource while minimizing potential impacts.
8. Boone County shall seek a combination of land uses that balances revenues generated from those uses with the expenditures required to support them.
9. The establishment of small business and incubator business assistance shall be encouraged.

**Goal B:** Boone County businesses are developed in appropriate locations and are compatible with surrounding land uses.

**Objectives:**

1. Compact, efficient development patterns shall be encouraged for industrial, commercial, and office uses with appropriately sized and well maintained buffer spaces between the business use and other land uses.
2. Mixing of commercial and non-commercial uses shall occur in areas where consideration has been given to assure compatibility with surrounding land uses and natural systems.
3. Commercial uses shall be designed and located to coordinate with the surrounding land uses and shall have safe access and adequate parking.
4. Interstate commercial uses, as well as the freight logistics industry, shall be in close proximity to interstate interchanges for maximum convenience and economy to the traveling public, while minimizing traffic congestion. **[Unincorporated Boone County, City of Union, City of Walton only]**

Interstate commercial uses, as well as the freight logistics industry, shall be in close proximity to interstate interchanges for maximum convenience and economy to the traveling public, while minimizing traffic congestion except in the City of Florence where overlay districts exist to promote this type of industry. **[City of Florence only]**

5. Industrial development shall be encouraged to locate near railroad lines, highways, the Ohio River, the Airport, and where infrastructure exists or is planned.

6. Future industrial districts should be identified in advance of residential development so that potential impacts are known and can be addressed. **[Unincorporated Boone County, City of Union, City of Walton only]**

Future industrial districts shall be identified in advance of residential development so that potential impacts are known and can be addressed. **[City of Florence only]**

7. Effective site placement, architectural design, and landscape design for industrial uses shall enable a favorable relationship with adjoining uses. Smoke, dust, noise, and odor impacts shall be kept at a minimum and site development and enforcement shall be carefully coordinated with regulatory agencies.
8. Provisions shall be made for proper control of industrial uses that involve processes or products that could be hazardous to human life and property.

## **PUBLIC FACILITIES**

**Goal A:** Safe, efficient, and environmentally responsible public services and facilities shall exist for all residents and businesses in Boone County.

### **Objectives:**

1. Existing infrastructure and services such as water, stormwater, wastewater, gas, electric, communication lines, and emergency and municipal services shall be utilized efficiently. The phasing of proposed development may be one way of addressing significant impacts on existing infrastructure and services.
2. Infrastructure systems, both natural and man-made, shall be built to planned and balanced capacities, for urban and rural forms, to support current and future growth.
3. Priorities for growth within any individual infrastructure system shall be based on the predicted needs of specific areas as prescribed by the future land use projections of this plan.
4. Cooperative and innovative funding agreements between the private and public sectors shall be encouraged to fund future utility extension and to maintain and improve existing infrastructure and public facilities.
5. The efficient coordination of and communication between sanitary sewer, storm sewer, water, schools, roads, electric utilities, telecommunications, and fire jurisdictions shall occur.
6. Public sanitary sewer systems shall be encouraged. Opportunities for regional stormwater management system(s) shall be examined and developed if appropriate. **[Unincorporated Boone County, City of Union, City of Walton only]**

Public sanitary sewer systems shall be encouraged. Opportunities for regional stormwater management system(s) shall be examined and developed if appropriate. The City of Florence acknowledges regional detention and water quality systems should be examined. Regionalism of sewer and storm sewer utilities is not recognized as being beneficial to the city. **[City of Florence only]**

7. Public facilities and services shall be in locations that are accessible to the population being served.
8. Installation of utilities and development around utilities shall occur with the safety of the general public in mind.
9. Wireless Communications (cellular towers and small cellular facilities) and similar facilities shall not be obtrusive to residential or scenic areas, and co-location shall be implemented wherever possible.
10. Access to Wi-Fi and the internet shall be provided throughout Boone County where practical.

11. Desirable library sites shall be near business or shopping centers, other public facilities, and in close proximity to surrounding residential areas and be accessible by public and private transportation as well as the Internet.
12. The education system shall provide a broad range of lifetime learning opportunities, as well as both private and public educational facilities and services.
13. The heaviest concentration of law enforcement, fire, and rescue services shall be located near central business districts, large industrial areas, and residential areas where the potential loss of life and property is greatest.
14. Fire stations shall be located near or along major arterials with adequate ingress and egress and without barriers such as hills, rivers, flooding land, railroad tracks, and general traffic congestion.
15. Diversified health care and emergency facilities shall be promoted at accessible locations.

## TRANSPORTATION

**Goal A:** Boone County shall encourage a functional multi-modal regional transportation system with cooperation between the private and public sectors that is economically and energy efficient, environmentally sound, and equitable.

**Objectives:**

1. Priority shall be given towards maintaining, protecting, and improving the capacity and safety of the existing road system across jurisdictions.
2. Efficient coordination between all levels of government for transportation improvements shall be promoted to allow for greater efficiency in local and regional transportation systems especially in the movement of people and freight through the community and region.
3. Alternative commuting options such as carpooling, transit, use of electric and alternative fuel vehicles, as well as Active Transportation shall be encouraged.
4. Active Transportation opportunities shall be provided by the development of a network of sidewalks, pathways, and roadway lanes.
5. Multi-modal interfaces such as Park and Ride lots and Active Transportation facilities shall be promoted.
6. Employer trip reduction incentives and flexible and/or staggered work hours shall be promoted.
7. Transportation facilities and services shall provide equitable levels of service to transportation disadvantaged and transit dependent people.
8. Development of mixed use designed to lessen vehicle travel shall be encouraged.
9. The future impact of connected and autonomous vehicles (including private, fleet, and freight) shall be considered in all relevant aspects of land use planning.

**Goal B:** The local transportation system in Boone County shall be maintained and improved to enhance the overall safety and level of service.

**Objectives:**

1. The Boone County Transportation Plan shall be updated as necessary and the legislative bodies should establish a Capital Improvement Plan as an integral part of the Transportation Plan.
2. Roadways shall be properly classified and designed.

3. Inefficiencies in the transportation network, including road condition, intersection improvements, and signal enhancements shall be identified and addressed.
4. Roadway capacity shall be preserved by utilizing access management policies and guidelines.
5. New connector streets shall be developed where needed and feasible to lessen the dependence on arterial, collector, and local streets.
6. Proper vehicular and pedestrian access to adjoining property shall be provided and/or retained when a property develops or redevelops.
7. Transportation planning and development efforts shall provide sufficient rights-of-way for road improvements that include pedestrian and bicycle facilities separated from the roadway for safety.
8. Mixed use, higher density neighborhoods shall be designed to accommodate safe pedestrian access to mass transit, major streets and interstates, public facilities, and parks.
9. New land development shall be closely coordinated with the local transportation system to assure efficiency and continuity within Boone County and with the regional multi-modal transportation system.
10. Air quality, noise, and storm water runoff impacts from transportation improvements and the existing network shall be minimized.
11. The transporting of hazardous material through Boone County shall be monitored by the appropriate agencies.
12. The Ohio River shoreline shall be studied to ascertain its potential for various land uses such as business, residential, recreation, and port operations, and to determine the needed surface transportation connections to such uses.

**Goal C:** The interdependence between transportation systems and land use patterns is recognized and used to assure that future development and redevelopment is planned with multi-modal transportation facilities.

**Objectives:**

1. Transportation facilities and services shall support opportunities for economic development.
2. The incremental effects of developments on the transportation system shall be evaluated and provided for by exploring traditional, alternative, and creative methods of funding.
3. Traffic impact analysis should be used as a tool to address impacts to the existing transportation system.
4. Developers of planned, mixed-use neighborhoods shall design such projects so that residential, retail, office, and compatible light-industrial land uses can be served by transit stations or stops, pedestrian and bicycle facilities, open space, and public uses.
5. Transit corridors shall be recognized and designed as attractors for new economic development.
6. Roadways under local jurisdiction shall be designed to recognize the planned character of an area, and provide space for landscaping and entry features.
7. Redevelopable and infill sites shall be encouraged to develop as walkable, mixed-use districts.
8. The displacement of people, relocation of businesses and community facilities, and disruption of communities shall be minimized.

## DEMOGRAPHICS

### INTRODUCTION

*An important component of any plan is to understand the trends of the past, present, and projected population. Once this is achieved, a plan can be properly prepared to meet the needs of the population. By understanding the demographic makeup of a community, it becomes easier to identify needs and to provide opportunities and amenities that will not only attract new residents, but also retain current residents. Furthermore, appropriate services, jobs, and housing opportunities at the county-wide level can be provided as well as in specific regions of the county. This element will assess Boone County's past, present, and future demographic profile and examine the existing housing supply and present a plan to meet future housing needs.*

### POPULATION TRENDS

#### U.S. Census Population (1980-2010)

According to [U.S. Census Bureau](#) figures, during the 30 year period from 1980 to 2010, the population of Boone County more than doubled from 45,842 to 118,811. The three incorporated cities in Boone County (Florence, Union, & Walton) all experienced steady population growth during this period as well. Florence has remained the county's most populated city. Union was the county's smallest city in population until 2000 when it overtook Walton.

BOONE COUNTY POPULATION BY MUNICIPALITY, 1980-2010

	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2010</u>	<u>Avg. annual</u>
<b>BOONE COUNTY</b>	45,842	59,579	85,991	118,811	2,432
<b>Florence</b>	15,586	18,624	23,551	29,951	479
<b>Union</b>	601	1,001	2,893	5,379	159
<b>Walton</b>	1,651	2,034	2,450	3,635	66
<b>Unincorporated</b>	28,004	35,930	57,097	79,846	1,728

Source: U.S. Census Bureau

#### Post-2010 U.S. Census Estimates (2011-2017)

Population estimates since the 2010 Census are derived from the [American Community Survey](#) (ACS) conducted by the U.S. Census Bureau using monthly data samples from over 3.5 million addresses to produce annual (July 1) estimates between each decennial long form Census. Since the 2010 Census, Boone County has grown an average of 1,700 people per year to a July 1, 2017 estimate of 130,728. During the period from 2010 to 2017, the cities of Florence, Union, and Walton have all continued to grow at the same 1.2% annual rate as the entirety of Boone County. [Note: In 2017 the City of Erlanger, KY annexed 2 small portions of unincorporated land in Boone County but neither has any residents living on them.] Regionally, Boone County's growth rate is well above that of the Greater Cincinnati area (0.4%), Kenton County (0.6%), and Campbell County (0.4%).

**BOONE COUNTY POPULATION ESTIMATES BY MUNICIPALITY, 2010-2017**

	Census	July 1 Population Estimates							
	2010	2010	2011	2012	2013	2014	2015	2016	2017
<b>BOONE COUNTY</b>	118,811	119,362	121,510	122,986	124,495	126,241	127,793	129,154	130,728
<i>Florence</i>	29,951	29,662	30,175	30,519	30,871	31,279	31,640	31,946	32,305
<i>Union</i>	5,379	5,374	5,474	5,542	5,609	5,691	5,762	5,822	5,895
<i>Walton</i>	3,616	3,627	3,688	3,729	3,774	3,822	3,865	3,904	3,947
<i>Unincorporated</i>	79,865	80,699	82,173	83,196	84,241	85,449	86,526	87,482	88,581

*Source: U.S. Census Bureau, 2018*

**Projections to the year 2040**

Population projections are forecasts of the population in future time periods using a model that integrates recent historical data and standard demographic processes, and are generated based on historic patterns. The population projection model used by the [Kentucky State Data Center](#), located at the University of Louisville, is the Cohort Component Model which captures the impact of the primary components of population change (births, deaths, and net migration) in order to forecast changes in future population. Projections for Boone County show growth continuing through the year 2040 to an estimated population of 191,093 persons. This number may be a bit high based on current trends as the county is likely to fall short of the 139,018 population forecasted for 2020. The current trend suggests a 2020 population closer to 135,000. However, during the course of several decades, several increases and decreases in the growth occur and Boone County may still reach the 2040 projection if the growth rate increases as it has done in the past.

**NORTHERN KENTUCKY COUNTY POPULATION PROJECTIONS TO 2040**

	CENSUS	PROJECTIONS				
	2010	2020	2025	2030	2035	2040
<i>Boone</i>	118,811	139,018	150,928	163,722	177,141	191,093
<i>Campbell</i>	90,336	92,898	93,427	93,473	93,028	92,192
<i>Carroll</i>	10,811	10,766	10,757	10,675	10,608	10,539
<i>Gallatin</i>	8,589	8,857	9,006	9,100	9,137	9,111
<i>Grant</i>	24,662	24,793	24,758	24,595	24,377	24,017
<i>Kenton</i>	159,720	169,386	173,041	176,039	178,392	180,412
<i>Owen</i>	10,841	10,464	10,164	9,837	9,482	9,060
<i>Pendleton</i>	14,877	14,051	13,588	13,020	12,352	11,603

*Source: KY State Data Center, 2017*

**POPULATION CHARACTERISTICS**

**Age**

Boone County's median age has risen from 33.4 in 2000 to 36.6 in 2016. This trend is being seen across the nation as the large group of residents known as "baby boomers" (those born from 1946 to 1964) grow into retirement status. The larger this group becomes, the greater the tax burden on the county's economy will be in order to provide necessary community services.

**BOONE COUNTY AGE BREAKDOWN, 2000-2040**

Age	Census		Estimate	Projections		
	2000	2010	2015	2020	2030	2040
0-14	22,778	30,327	30,555	31,623	35,316	41,563
	26.5%	25.5%	24.0%	22.7%	21.6%	21.8%
15-64	58,272	79,181	83,824	90,404	100,489	111,787
	67.8%	66.6%	65.9%	65.0%	61.4%	58.5%
65+	6,941	11,313	14,799	19,011	29,947	39,783
	8.1%	9.5%	11.6%	13.7%	18.3%	20.8%
<i>Total Pop</i>	85,991	118,811	127,163	139,018	163,722	191,093
<i>Median Age</i>	33.4	35.7	36.7	38.2	38.9	39.3

*Source: U.S. Census Bureau; KY State Data Center, 2016*

**Race/Ethnicity**

Boone County's population is relatively homogeneous in racial composition with approximately 90% defined as white. The non-white population (Black, American Indian, Eskimo, Asian, etc.) has risen over the past couple of decades from 4.8% in 2000 to a 2016 estimate of 10.3% which is lower than that of the Commonwealth of Kentucky (12.5%) but higher than seen in Kenton County (9.6%) and Campbell County (6.2%). In a regional context, the Greater Cincinnati area as a whole has a non-white population of 20.0%.

The Hispanic population is not considered a separate race by the U.S. Census Bureau, but rather an ethnicity. Since 2010, Boone County's Hispanic population has grown from 3.5% to 3.9% in 2016. This is higher than both Kenton County (2.9%) and Campbell County (1.8%). Regionally, Boone County has a higher percentage of Hispanic population than the Cincinnati Metropolitan Statistical Area which stands at 3.0%.

**BOONE COUNTY RACIAL AND HISPANIC COMPOSITION, 2000-2016**

Race	2000 Census		2010 Census		2016 estimate	
	Number	Percent	Number	Percent	Number	Percent
Total Pop	85,991	100.0%	118,811	100.0%	128,536	100.0%
<i>White</i>	81,822	95.2%	109,050	91.8%	115,329	89.7%
<i>African-American</i>	1,306	1.5%	2,992	2.5%	3,473	2.7%
<i>American Indian</i>	200	0.2%	228	0.2%	214	0.2%
<i>Asian</i>	1,108	1.3%	2,534	2.1%	3,059	2.4%
<i>other</i>	1,555	1.8%	4,007	3.4%	6,461	5.0%
<i>Hispanic (any race)</i>	1,702	2.0%	4,205	3.5%	4,984	3.9%

*Source: U.S. Census Bureau; KY State Data Center, 2016*

**Education**

Educational attainment is measured in terms of the percentage of high school graduates among persons who are 25 years old and older. In 2016, Boone County's percentage of residents 25 years old or older with at least a high school diploma (or equivalent) was considerably higher than the national and Kentucky rates and slightly higher than the Greater Cincinnati area average. Boone County's rate is also above the national and Kentucky rate when it comes to population with a Bachelor's degree or higher.

**EDUCATIONAL ATTAINMENT - 2016**

	25+ years old with at least	
	<u>High School</u>	<u>Bachelors</u>
United States	87.0%	30.3%
Greater Cincinnati	90.4%	33.1%
Kentucky	84.6%	22.7%
Boone County	92.4%	31.1%
Kenton County	89.3%	29.1%
Campbell County	90.1%	30.6%

Source: U.S. Census Bureau; KY State Data Center, 2016

**Household and Family Size**

Household is one of the most basic reporting units of demographic data. Except for institutions or other forms of group housing, households are defined as the person(s) occupying a housing unit. According to 2010 Census results and the 2015 ACS estimates, the average household size in Boone County dropped slightly mirroring the trend nationally as household sizes will drop through the 2040 planning horizon. Regionally, Boone County's household size is larger than that of the Greater Cincinnati area (2.50) as well as the national average of 2.54.

**NORTHERN KENTUCKY HOUSEHOLDS AND AVERAGE HOUSEHOLD SIZE, 2010-2040**

	2010 CENSUS		2015 ESTIMATES		2020 PROJECTIONS		2030 PROJECTIONS		2040 PROJECTIONS	
	<u>No.</u>	<u>Avg. Size</u>	<u>No.</u>	<u>Avg. Size</u>	<u>No.</u>	<u>Avg. Size</u>	<u>No.</u>	<u>Avg. Size</u>	<u>No.</u>	<u>Avg. Size</u>
<i>Boone County</i>	43,216	2.73	47,458	2.67	52,880	2.61	64,688	2.52	76,648	2.48
<i>Campbell County</i>	36,069	2.42	37,671	2.36	38,574	2.32	39,824	2.26	40,031	2.21
<i>Kenton County</i>	62,768	2.51	66,157	2.46	68,753	2.43	73,182	2.37	76,244	2.33
<i>Northern KY ADD</i>	167,678	2.57	177,455	2.52	186,841	2.47	204,540	2.41	219,085	2.37

Source: U.S. Census Bureau; KY State Data Center, 2016

A household can further be classified as either a (1) family household or a (2) non-family household. The U.S. Census defines family households as two or more persons related by blood, legal adoption, or marriage. Family households largely represent married persons who are more likely to remain in the area in which they are currently residing. Non-family households are generally comprised of single persons who are more transitory and career mobile. In 2016, 23.1% of households in Boone County were non-family, down a bit from 2010. This compares favorably to the State (33.8%) and National (34.1%) averages and suggests that Boone County has a more stable population than Kentucky and the United States as a whole.

**Density**

Population density refers to the number of persons per square mile of land area and serves as an indicator of the degree of settlement in an area. The City of Florence is by far Boone County's most densely populated municipality. The higher densities of population in Boone County are located in the eastern half of the county while the lowest density areas are located in rural western Boone County with most developments in this region having less than one person per ten acres. Boone County's population density has increased in recent decades but is still much lower than that of its more urbanized neighboring counties in northern Kentucky.



POPULATION PER SQUARE MILE, 2010-2016

	2010 Census		2016 Estimate	
	population	/sq. mi.	population	/sq. mi.
Cincinnati MSA	2,114,580	440	2,137,406	445
Kentucky	4,339,367	107	4,436,974	110
Boone County	118,811	482	128,536	522
Florence	29,951	2,905	32,460	3,148
Union	5,379	1,681	5,807	1,815
Walton	3,616	847	3,903	914
unincorporated	79,865	349	86,366	378
Kenton County	159,720	998	164,945	1,031
Campbell County	90,336	598	92,034	610

Source: U.S. Census Bureau; KY State Data Center, 2017

### Migration

Migration measures all changes of residence including moving into, out of, or within a given area. Migration statistics are basic indicators of the economic situation within an area. Generally, if the local economic climate is poor, negative migration occurs as local residents relocate to areas with brighter economic opportunities. If the local economic climate is good, positive migration is experienced as outside residents move to the area. From 2010 through 2016, Boone County experienced a significant positive migration rate; higher than every other county in the Cincinnati metropolitan area with the exception of Warren County, OH. In fact, 12 of the 17 counties in the region actually experienced negative migration (more people moving out of their county than into it). The metropolitan area as a whole has experienced a very slight negative migration of -517 people over that same period.

NORTHERN KENTUCKY NET MIGRATION, 2010-2017

	Pop. +/-	Natural increase/decrease			Migration
		Births	Deaths	+/-	
<i>Kentucky</i>	114,849	402,569	-320,325	82,244	32,605
<i>Northern KY, ADD</i>	19,787	42,518	-27,049	15,469	4,318
<i>Boone County</i>	11,913	11,909	-5,754	6,155	5,758
<i>Campbell County</i>	2,152	7,725	-5,995	1,730	422
<i>Kenton County</i>	5,679	16,409	-10,280	6,129	-450

Source: U.S. Census Bureau, 2018

### HOUSING SUPPLY

#### Type

In primarily suburban areas such as Boone County, the majority of housing units are single family detached homes. In 2017, almost three-fourths of Boone County's 49,863 dwelling units were detached single family homes according to the Boone County Geographic Information System (GIS). Most of them (74%) were located in unincorporated areas of the county. Of the 13,875 multi-family (or attached) dwelling units in Boone County, over half of them (52%) were located in the City of Florence. In fact, over half (54%) of dwelling units in Florence were multi-family while only 18% of the remainder of the county's housing stock were multi-family.

**BOONE COUNTY HOUSING UNITS BY JURISDICTION, 2017**

	2010						2017					
	Single Family		Multi-Family		Total		Single Family		Multi-Family		Total	
<i>BOONE COUNTY</i>	33,470		11,839		45,309		35,988		13,875		49,863	
<i>City of Florence</i>	5,945	18%	6,399	54%	12,344	27%	6,091	17%	7,154	52%	13,245	27%
<i>City of Union</i>	1,669	5%	86	1%	1,755	4%	1,960	5%	366	3%	2,326	5%
<i>City of Walton</i>	1,085	3%	221	2%	1,306	3%	1,345	4%	318	2%	1,663	3%
<i>Unincorporated</i>	24,771	74%	5,133	43%	29,904	66%	26,592	74%	6,037	44%	32,629	65%

*Source: Boone County GIS, 2018*

**Age**

The majority of Boone County’s housing stock is fairly new with 62% of the homes built after the year 1990. In fact, the median construction year for a house in Boone County is 1994. Houses built prior to 1980 will likely see transition as the original owners grow to retirement age and consider other housing options (i.e. condominiums, retirement homes). The Cities of Florence (41%) and Walton (40%) have the highest concentration of homes built before 1980, whereas the City of Union has the lowest percentage of homes constructed prior to 1980 at 6.6%. In the remaining, unincorporated areas of Boone County, 20% of the housing was built before 1980.

**Value**

The median value of a single family housing unit in Boone County in 2017 was nearly \$198,564; up from \$182,300 in 2010. These figures include the cost of the structure, but not the land cost. According to the building industry a general rule of thumb is that the lot value is typically around one-fifth of the total home cost. With the rising cost of land in Boone County, the trend of increasing median housing value is expected to continue.

**Vacancy Rate**

In 2017, Boone County had an estimated 5.8% vacancy rate for all units, both single family and multi-family, which is down from the 6.4% 2010 rate. This is below the national average of 6.9% and usually leads to increasing housing prices as demand nears supply.

**HOUSING DEMAND**

**Population Trends**

The two major population factors affecting housing demand are total population and average household size. Besides the obvious increase in housing demand as population grows, the smaller the household size also adds to housing demand in a community. Boone County’s growth in population since 2000 will continue to be a factor in generating housing demand.

**Migration**

Migration is another factor that affects the amount of housing needed for future residents. One attractive feature of Boone County that encourages people to move here has been rapid growth in commercial and industrial jobs. Industrial growth has been strongest around the Cincinnati-Northern Kentucky International Airport and along the I-75 corridor south of Florence. Commercial developments continue to expand in the Houston Road and Mall Road areas. These industrial and commercial areas, along with the airport, constitute regional employment centers and are acting as attractions for new residential development to occur within commuting distances. Boone County’s continued positive net migration will only add to the demand for more housing.

**Age Composition**

Boone County’s population is becoming more elderly (65 years and older) in proportion as is the trend nationally. This "graying" of the population has an impact on housing demand as many of these "empty nesters" will want to move out of their high-maintenance, large lot single-family homes and into condominiums, landominiums, or small lot single-family homes, preferably with fewer flights of stairs or even moving to “granny flats” near family members. This demographic shift, in part, has led to the development of senior living centers throughout Boone County during the past decade.

**Marital Status**

Marital status is another demographic characteristic useful in determining housing demand. In general, married

couples with children tend to live in single-family houses, while other groups, such as young couples without children or empty nesters, tend to reside in multi-family or attached dwelling units. Boone County's percentage of population over 15 years of age who are married is 58.4%, well above the national average of 48.1%. This indicates higher demand for single family detached units than other areas.

### **Economic Status**

Economic variables of households also determine housing demand. Single family dwelling units tend to cost more to live in than multi-family rental units. An important factor in detached single-family housing development is the relative cost of a building lot. Rapid residential growth throughout the last 20 years has pushed the expense for developable land higher and has strengthened the trend toward smaller residential lots as developers try to offset high land costs. The demand for detached single-family units is evident in Burlington, Union, northern Hebron, and western Florence, where subdivision development is the most active.

Demand for multi-family housing has historically been in the Florence area. However, since 2010 an emphasis on new multi-family construction has shifted to the unincorporated county due in part to the continuing in-migration of a young, professional population, influx of unskilled labor jobs (such as warehousing and logistics employment centers) throughout the county, an increased growth of single-parent families, and the overall graying of the population. As a result, the demand for various multi-family housing options is likely to continue to extend into all developing areas of Boone County.

Another economic variable essential to identifying housing demand is the extent and location of poverty. The more people who are considered living in poverty in an area, the greater the demand will be for access to affordable housing or housing assistance. However, Boone County's 2016 estimated poverty rate of 7.9% is well below both the national average of 15.1% and the Kentucky average of 18.8% and should not be a major factor in housing demand as it is in urbanized areas with higher poverty rates. There are a few avenues in Boone County that provide assistance to the population looking for, or having trouble paying for adequate housing. [Boone County Assisted Housing Department](#) administers the local Section 8 Rental Assistance Program designed to help low to moderately low income families find safe, decent, and sanitary housing as well as helping them with their rent. In 2017, 234 vouchers were issued through the Rental Assistance Program but these numbers change from year to year due to being influenced by funding levels. Also, [Boone County Human Services Department](#) oversees the distribution of tax funds, some of which are designated to providing emergency and stabilizing services to homeless residents in Boone County.

### **Homelessness**

Recent Kentucky point-in-time counts (K-Count) have shown a wide range in the number of homeless persons in Northern Kentucky (Kenton, Campbell, and Boone Counties) since 2010. Those who are counted include individuals with a primary nighttime residence that is a public or private place not meant for human habitation or those living in a shelter designated to provide temporary living arrangements including congregate shelters, transitional housing, and hotels or motels paid for by charitable organizations or by federal, state, and local government programs. The counts, performed and published by the [Kentucky Housing Corporation](#), historically underrepresent the number of homeless in Boone County due to several factors: (1) the lack of shelters in the county; (2) the large geographic area; (3) the variable weather conditions from year to year on date of the count. Boone County's 2017 total homeless population was 33 (in comparison, Campbell County had 51 and Kenton County had 168). This number is down from 116 in their 2010 count. However, the preliminary 2018 K-Count results for Boone County shows an increase to 132 homeless people. These relatively low numbers have been offset by the fact that there are no permanent homeless shelters in Boone County, whereas Kenton and Campbell counties do provide some shelter and services to homeless Boone County residents. However, a couple of regional programs do exist in the county to address this issue such as the Brighton Recovery Center in Florence and the Women's Crisis Center near Burlington. In addition, the Welcome House and the Northern Kentucky Community Action Commission have experience in developing "affordable" housing options for those in need. Welcome House is initiating a new program in Boone County that employs an outreach specialist and a part time nurse practitioner to identify, meet, and address the needs of the homeless. Lastly, a regional Northern Kentucky task force has recently been set up to look at the issue of homelessness.

## **CONCLUSIONS AND RECOMMENDATIONS**

Boone County's steady and strong population growth is anticipated to continue through the year 2040. During this

time, it is imperative that the most recent population trends, estimates, and demographic makeup of Boone County's residents are gathered and analyzed in order to properly identify their needs and meet them through orderly growth. By understanding the demographic components of the population, adequate housing opportunities can be properly planned for and provided.

### **Identify the Needs of the Population**

Constant monitoring and analyzing the demographics of a population will give understanding as to the needs of the residents of Boone County. By doing this, the possibility of inadvertently discriminating against or not meeting the needs of any segment of the population is avoided as it becomes more diverse racially and ethnically. It is clear that Boone County's population will continue to grow older. Therefore, appropriate housing must be provided for the growing elderly population near transit, commercial areas, and public facilities and be consistent with the desires of that segment of the population. This can be addressed by providing multi-family dwellings such as apartments, condominiums, assisted living complexes, and even smaller 1-story single family homes or "granny flat" accessory units to single family homes.

Furthermore, by continuing to monitor the composition of the population, Boone County will be more prepared to provide proper and adequate amenities that encourage them to stay in the county rather than moving elsewhere for their needs to be met. Knowing the makeup of the population will assist in providing the appropriate housing, employment, and retail shopping opportunities to meet their needs at the countywide level as well as within specific areas within the county as development plans and zone change requests are reviewed.

### **Housing Types and Locations**

The main need of a population base is for safe, sound, and sanitary housing. Meeting this involves considering both housing supply and demand in order to determine what those future needs will be. It is important to forecast housing growth by areas in order to ensure that an equal balance of options exist to meet the needs of a diverse population. Furthermore, in order for Boone County to retain its youth, the county must provide housing choices that complement the educational opportunities, the current job market, and commercial attractions. Otherwise, an out-migration of the young population will occur. A variety of multi-family housing options should include apartments, townhouses, patio homes, condominiums, nursing homes, and retirement housing all ranging greatly in price per unit to accommodate a wide range of relative affordability. These types of units are increasing in demand beyond the established urban areas such as Florence and should be encouraged to occur in the unincorporated portions of Boone County as viable options for both the building community and the prospective resident, especially as the county's land values rise.

Older housing stock that can be rehabilitated without undue effort or expense should be retained and in some cases, incorporated into new subdivision design rather than being demolished. There are concentrations of older housing stock in need of restoration or rehabilitation in many of the older communities like Florence, Belleview-McVillie, Burlington, Constance, Hebron, Petersburg, Stringtown, Taylorsport, Union, Verona, and Walton. Home ownership, maintenance, and rehabilitation assistance of older homes in these areas should be incentivized and encouraged through Federal or local grants.

New residential development, regardless of the type, should be evaluated for its impact on the county's existing infrastructure and natural environment to ensure that it fits in with existing surrounding development through proper buffering and design. High density developments should be close to thoroughfares and urban services and be sensitively developed in terms of building height, setbacks, mass, and visual impact. A variety of housing opportunities within the established urban (and suburban) areas of Boone County would encourage mixing of different income levels. Most new construction of typical single-family housing should be encouraged to occur within undeveloped areas within the established suburban portion of the county in order to take advantage of existing infrastructure and services already in place and avoid placing strain on the more rural transportation network in the undeveloped portions of the county. Consideration must be given to existing conditions that may affect new development in established areas such as adjoining land uses and proximity to the Cincinnati-Northern Kentucky International Airport where commerce and airplane noise may be an issue.

Established single-family housing areas should not experience an influx of multi-family or duplex construction unless adequate buffering or proper development design can be provided to ease the transition. Duplexes are often more successful than multi-family housing in blending in with single-family residential surroundings. Therefore, when buffering is minimal between single-family housing areas and proposed multi-family units, an appropriate transitional area of duplexes may be designed. New subdivision development should include design

considerations and gradation of lot sizes to lessen the impact on the character of the area. This is particularly true in areas of agricultural zoning and could include larger lots or green space along the main road(s), larger lots or a buffer along adjacent low density residential uses, strategic open space, and detailed attention to the orientation of housing units. The bottom line is that infrastructure partners must work together and correlate improvements in order to ensure capacity and be sensitive to the surrounding area.

A progression of densities of residential uses from high (multi-family) to low (single family) shall be encouraged. Where traditional progressions of high to low net density are not possible through creative development design, an appropriate and attractive visual transition should be achieved. This could include existing vegetation or new landscaping and/or fencing. Existing vegetation (such as wooded fence rows) should be retained as much as possible to provide buffer strips and stormwater filters. The density of typical residential developments in Boone County over the past couple of decades has been consistent with the suburban residential densities reflected on the 2035 Future Land Use Map (up to 4 units per acre). However, there is a large segment of the population that desires to live in more rural areas while still having convenient access to centers of commercial, services, and employment activity. For residential development to occur in these outlying areas, adequate and proper infrastructure must be provided, and impact on the natural environment must be minimized. If significant large lot residential subdivision development does occur in some of these rural areas, roads and other components of infrastructure will have to be improved.

Existing and planned water, stormwater, and sanitary sewer services influence the locations of new residential construction. However, just because one form of public infrastructure exists or has been improved, does not automatically mean the area is ready for suburban development. Other forms of infrastructure may also be needed or improved first. Development phasing is an option to ensure that the timing of a new development corresponds with the provision of adequate infrastructure.

In order to support the densities needed to sustain mass transit and to foster new affordable housing options, average minimum densities should be encouraged for mixed-use, planned developments. This would allow a variety of housing types but also enable a logical progression of intensities. The highest residential densities would be in the activity centers of these mixed-use developments and would include neighborhood commercial, employment, public uses, as well as transit stations or stops.

### **Affordability**

The demand for more affordable residences, generated by the commercial and industrial employment growth centers, has resulted in the development of many new condominium and apartment complexes. However, attempts at more affordable new construction single-family or apartment developments are often met with localized resistance from the public. Creative site design and architecture can help overcome some of this opposition. Clustered housing or Open Space Subdivisions shall be promoted (via density bonuses) as they enable the development industry and local government to address density concerns and strengthen the sense of community, as well as meet the housing demands of a changing population. Mixed-use, planned developments that can provide a mix of housing options, commercial opportunities, offices, public uses, recreational uses, and multiple transportation options (i.e. transit, pedestrian, park-and-ride) could be one strategy for meeting this demand for higher density. Areas of employment growth in Boone County should experience development pressure for housing options relative in affordability to the jobs and shopping opportunities being created in the area.

Manufactured (or modular) homes are an economical alternative to conventional homes and can lower the cost of construction to help offset rising land costs. These manufactured homes have historically been in demand in the rural, western half of the county. Most manufactured homes are permitted throughout all of Boone County and can occur separately or in a subdivision, unless regulated by private deed restrictions or restrictive covenants. Mobile homes, however, are strictly limited to the few remaining mobile home parks in Boone County or in the Agricultural (A-1) zoning district which is primarily located in the western portion of the county. However, A-1 zoning requires a minimum five acre lot size making this a less economical housing alternative with the increasing land prices.

### **Government Assistance**

Despite Boone County's relatively low poverty rate and homeless population, the problem is still real and needs to be addressed. Every effort needs to be made to identify people who are having trouble obtaining sound housing and connect them with agencies such as the Boone County Assisted Housing Department or Boone County

Human Services. In addition, affordable housing development could be facilitated through non-profit housing organizations such as Habitat for Humanity. Also, homeless advocate organizations like Welcome House should be utilized whenever the situation of homelessness is suspected.

In conclusion, it is essential that the makeup of Boone County's population be accurately identified in order to make sure that all resident needs and housing opportunities are met and balanced with affordability, proximity to employment and commercial centers, access to educational resources, and proximity to public transportation as needed. Residential development has occurred at a lower density than planned in the Future Land Use Plan over the last several comprehensive plan updates in Boone County and the development has predominantly been in a limited variety of product, typified by mid-to high-range single-family subdivisions at approximately three units per acre. The demand for this product should remain fairly strong throughout the 25 year planning horizon; however, Boone County needs to be open to changes in the market as well as type and design of housing options in the coming years as the demographics of the county evolve.



## ENVIRONMENT

### INTRODUCTION

*Environment is defined by Webster's Dictionary as "the circumstances, objects, or conditions by which one is surrounded" and "the complex of physical, chemical, and biotic factors (as climate, soil, and living things) that act upon an organism or an ecological community and ultimately determine its form and survival." These amenities also provide additional, less visible qualities, such as cleaner air, recreational areas, and wildlife habitat that are important to a community. Boone County's rural character attracts people to the county. Agricultural land, woodlands, scenic valleys, streams, and hillsides are significant environmental resources. Development has an effect on the physical and social environment of a community, and this can affect many of a community's unique characteristics or qualities that its residents feel are important. Therefore, development should preserve and promote an overall high quality of life while allowing an economic return. This quality, which attracts many new residents, is often replaced by the development built to accommodate them. This element is prepared from an environmental perspective and is to be used as one factor in determining the future land use of this plan. This element establishes the fact that environmental impacts should be addressed up front rather than allowed to accumulate and therefore require much more expenditure in the future.*

### PHYSICAL CHARACTERISTICS AND POTENTIAL IMPACTS

This section discusses the defining characteristics of Boone County's environment and how they may be impacted by development and the infrastructure (water, sewer, roads, etc.) necessary to support it. As Boone County's growth continues, issues such as water quality, air quality, noise and light pollution, stormwater, and decreased open space can combine to affect the quality of life. This section details potential impacts and how they may be mitigated.

### GEOLOGY

The predominant bedrock of Boone County is interbedded shale and limestone with overlying alluvial and glacial deposits. Some of the deeper (about 1,000 feet) limestone layers can provide stone for mining. Of note, the Kope Formation of interbedded limestone and shale is poorly drained and prone to hillside slippage. The Cincinnati area is well known for landslides largely because of this formation. Kope is generally present at the surface along stream beds and lower portions of stream valley walls in Boone County. Kentucky Geological Survey maps show Kope prevalence in Big Bone Lick and southern portions of the county, as well as major hillsides in the western and northern parts of the county.

The Existing Land Use maps in this and prior Comprehensive Plans show that most gravel mining in Boone County has occurred along the Ohio riverfront. A few areas were mined years ago, and have been reclaimed or allowed to revert to natural vegetation. A dedicated study into how much minable gravel and sand remains in Boone County has not been conducted.

### Soils

The [Soil Survey of Boone, Campbell, and Kenton Counties, Kentucky](#) (1973) remains the primary reference document for soils information in Boone County. Soils provide for agricultural production, affect drainage, flooding, permeability, slope stability, siltation, and development practices and costs.

Alluvial Soils - Alluvial soils include the remains of former stream beds and deposits of materials generated by erosion. They are found in designated flood zones of major rivers and along the banks of tributary streams. Alluvial soils are highly permeable, subject to high water tables, and usually connected with underground streams or aquifers. Alluvial soils are often highly erodible, serve as aquifer recharge areas, and should be addressed in development. Erosion control during and following development is therefore critical.



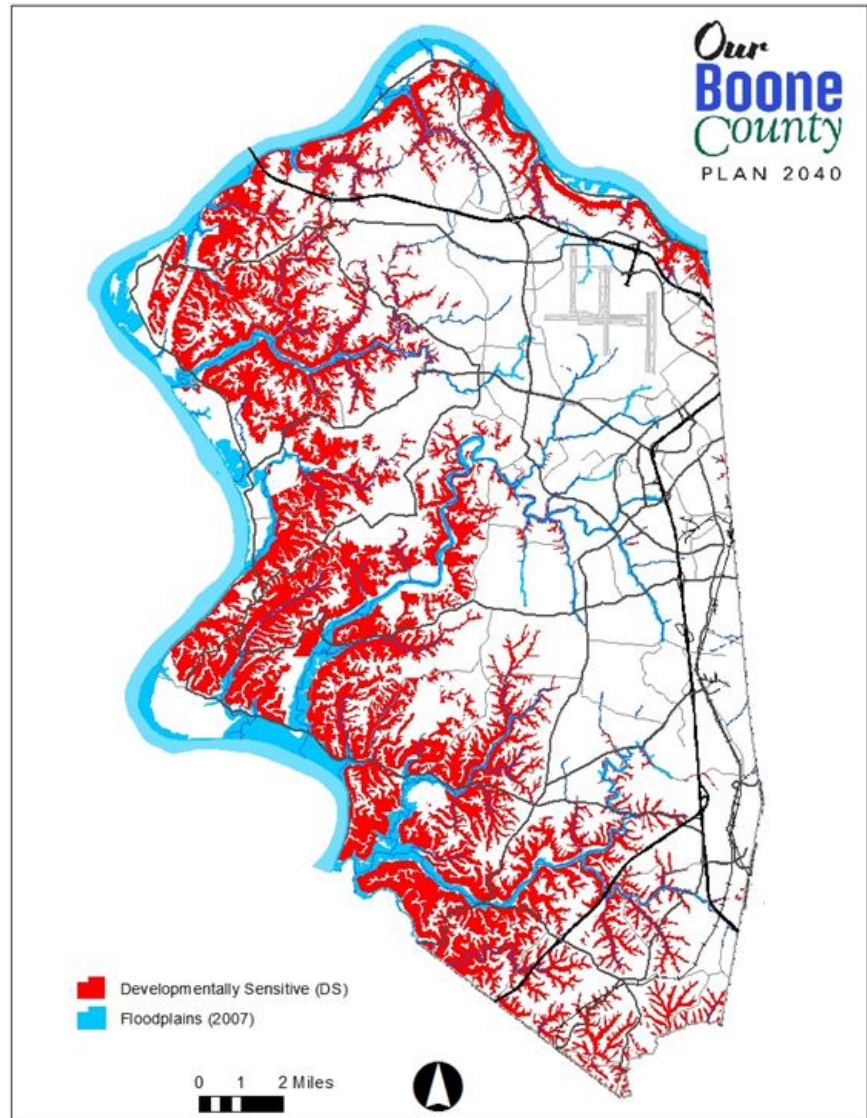
**Permeability** - Soil permeability is a measure of the rate and depth to which a soil absorbs water. Nearly half of the undeveloped land area in Boone County contains soils with poor permeability (0.63 inches per hour or lower). This land, located primarily in the southern and western areas of the county, has slopes of 20% or greater and is shown on **Figure 2.1** as Developmentally Sensitive (DS). Land with permeability of 0.63 to 2.00 inches per hour covers approximately 50% of the county and mostly has slopes under 20%. These areas are usually prime agricultural land or agricultural land of state-wide importance, and coincide with the parts of Boone County that are projected to develop within the 25 year planning horizon. Severely impermeable soils are found primarily along ridgelines where the bedrock is near the surface and in low-lying areas where the water table is high. Soils of poor permeability are subject to ponding and runoff. Nonporous surfaces of urban uses, on or adjacent to impermeable soils, can significantly increase the runoff volume, and aggravate ponding, erosion, and surface water pollution.

Soils of poor permeability will not filter water or filter/absorb septic effluent or other pollutants.

Conditions involving poor permeability and high water tables can result in pollutant spread into streams and ground water. Poorly drained soils are subject to frost action and settling which can crack foundations, fragment roads, displace utility lines, and generally damage or impair urban improvements. .

**Depth to Seasonal High Water Table** – The relationship between soils, water table and the underlying bedrock has implications for the mechanics of water filtration and ground water quality. A healthy system provides a naturally filtered water supply. In Boone County, extremely high water tables occur in only a small number of thin belts along the Ohio River and other scattered areas. Areas of moderate depth water tables are concentrated primarily on ridgelines in the County’s northeastern uplands. Such areas are easily polluted by runoff from urban areas passing pollutants directly into ground water. Heavy storms can also bring the water table to the surface, causing ponding and flooding, a problem aggravated by urban uses. Depth to water table should always be addressed prior to development. Very shallow water table depths pose risks to development, and should not contain urban uses. High and moderate depths are more developable.

**Figure 2.1 - Developmentally Sensitive & 100-Year Floodplains**



Strength of Soil - Soils vary considerably in compressive strength and stability and all soils have some limitation for urban uses, with soils on ridgelines, streambeds, sloping lands, and upper stream valleys the most notable. Rugged terrain in western and southwestern Boone County contains extensive areas of soils poorly suited to development. More moderate conditions prevail elsewhere in the county. All soil types are subject to erosion when ground cover is removed and will erode on moderate to steep slopes. Erosion control measures are vital to limit erosion during development.

Depth to Bedrock – In Boone County, shallow bedrock concentrations are found in:

- Northern areas of the county along steep hillsides overlooking the Ohio River
- Some stream beds
- Between Walton, Richwood and Beaverlick
- Many areas in the Gunpowder Creek and Woolper Creek valleys

Most of the land in the northeastern portion of the county, which includes the airport and most of the area within the City of Florence, does not contain this limitation for development. Shallow bedrock conditions increase trenching and other utility placement costs. Fill must sometimes be used to absorb storm runoff or provide pads for roadbeds, parking, and building foundations. While such actions are costly improvements, the resulting modifications are not environmentally hazardous. However, the occurrence of shallow bedrock depths and impermeable flat lands can lead to high water tables subject to flooding and/or groundwater contamination. Steep slopes with shallow bedrock depths, Kope geologic formations, and unstable soils without tree cover are landslide prone. When these situations exist, the land is minimally capable of supporting urban uses without serious environmental hazards.

Slope and Erosion - Erosion hazard is a combination of soil characteristics, absence of ground/tree cover, bedrock depth, and shallow surface drainage. Erosion from improperly modified slopes can disrupt natural drainage channels, pollute surface water runoff, and cause mudslides. The western and northern edges of Boone County are characterized by highly erodible steep slopes descending into stream valleys and bottom lands of small streams. Less steep upper slopes near ridgelines are moderately erodible, while ridgelines, plateaus, and large stream bed areas are free from significant erosion hazard. During development, sediment washing from sites can diminish water quality, impacting both water supply and recreation. Sediment that fills in drainage channels can aggravate flooding and cause more property damage. Requirements for the control of dust, noise, dirt on public right-of-ways, and erosion in public and private construction activity should be reviewed and revised where needed. In addition, the re-establishment of ground cover and reuse of resources such as removed trees for mulch, lumber, or firewood should be evaluated.

Agricultural Values - The USDA classifies soils for their agricultural suitability for field crops under normal conditions and considers prime agricultural land as important for the sustainability of a region (see Natural & Cultural Resources element). Agricultural lands provide much of the open space in a community and can create a character-defining visual identity for a community.

Across the nation, farmlands in metropolitan areas continue to be urbanized, partly because the qualities that make for desirable farm land (flat, well-drained, clear, etc.) coincide with those desired for urban development. Growing urban populations increase demand for agricultural productivity while also displacing it, at a time when desire for local food sources is rising. Future studies and visioning efforts should determine whether Boone County wants to retain its rural identity. If the agricultural lands should develop in a more urban manner, then standards should be established and incentives offered which attempt to preserve the unique character of these areas.

Topography – Boone County's unique glacial topography and steep forested hillsides offer astounding vistas, especially along the major stream valleys and 42 miles of Ohio River frontage. These natural vistas are an important amenity and a quality of life factor for residents of Boone County. Outstanding scenic areas include a series of cliffs along the Ohio River bordering the north edge of the county which affords dramatic views of the Ohio River and beyond. Notable man-made features such as individual historic homes/farm buildings and the towns of Burlington, Petersburg, Rabbit Hash, and Belleview/McVille also provide scenic amenities to the county.

Scenic areas identified by special study should be protected from insensitive development. Organizations such as [The Hillside Trust](#) endorse accepted design methodologies for development to minimize impact to hillsides and their scenic views. A study should be conducted to identify significant scenic areas and to outline measures to preserve or enhance these views. The Boone County GIS is an existing tool available to help with this task. If these areas are to develop, standards should be created which outline the procedures and methods necessary to protect and minimize negative impacts. Standards should also be developed for Developmentally Sensitive land, including procedures for how these areas may develop without creating an environmental hazard.

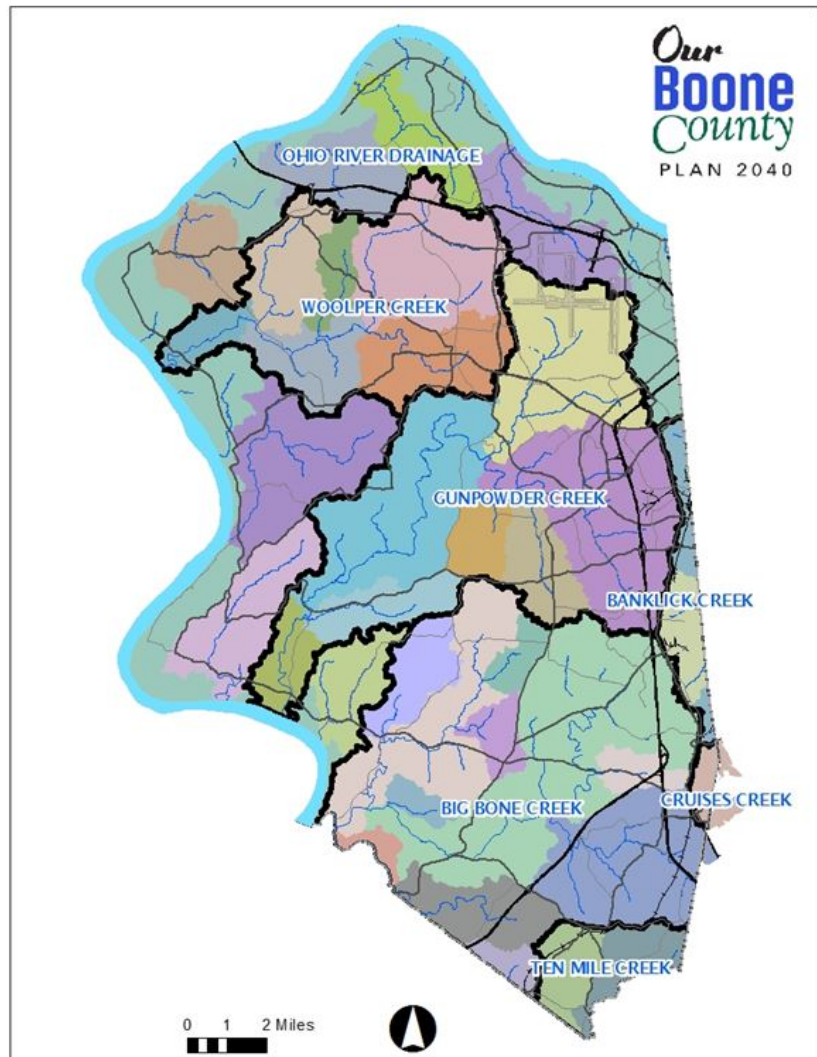
## WATER

**Stream Tributaries** – Glaciation created a vast network of streams across Boone County. Major tributaries draining down to the Ohio River include Mud Lick, Big Bone Creek, Gunpowder Creek, Lick Run, Middle Creek, Woolper Creek, Sand Run, and Elijah’s Creek. Also included are many smaller tributaries and intermittent streams. This natural drainage system provides an efficient storm water collection system and natural water supply. **Figure 2.2** shows the major watersheds so important to land use planning.

Along with loss of habitat, forests and farmland, impacts to water sources are among the most regularly documented in [development density studies](#). Such studies often conclude that the compact development afforded by higher densities reduce the amount of impervious surface and have less impact. Development impacts to streams include runoff from urban and agricultural uses, which add suspended soil particles and chemicals, lower water quality, and increase water purification costs. Runoff from land uses sited close to a stream’s natural drainage channel can contaminate a stream’s purity, fill stream channels with sediment, cause flooding and erosion, and damage the aquatic and animal life balance. Such changes can also promote algae and bacteria development. Artificial storm drainage systems can be designed to handle stormwater runoff volumes and to contribute to groundwater recharge.

However, such systems do not replace natural water filtering processes. Developments should look at a mix of artificial and natural stormwater mitigation measures and use structural solutions (e.g., detention basins, infiltration ditches & basins) with non-structural solutions such as natural vegetation buffers along streams. Maximum runoff limits, as established through specific drainage basin calculations, can also keep stream pollution levels within manageable limits and reduce flooding. In Boone County, the effects of commercial and industrial development on stormwater conditions are well

Figure 2.2 - Major Watersheds and Stream Tributaries



documented. The potential cumulative stormwater runoff impacts from residential development cannot be overlooked. Even with required detention basins and other facilities controlling the rate of stormwater flow, the amount of stormwater reaching the county's creeks increases due to new impervious areas. Because of the difficulties in implementing public regional stormwater detention, additional studies such as those of the Banklick Creek, Gunpowder Creek and Woolper Creek watersheds should be encouraged. These studies suggest vegetation and buffer areas as one way to minimize storm runoff.

Aside from regional detention, Boone County has made improvements in the upper Gunpowder Creek watershed that help water flow downstream. Sanitation District Number 1 (SD1) now administers stormwater management throughout most of the developed areas of Northern Kentucky. Two notable exceptions are the cities of Florence and Walton, who plan to continue to operate their own systems. In the meantime, municipalities and counties continue to administer stormwater requirements and maintain public stormwater facilities for parts of the system.

Floodplains - **Figure 2.1** depicts the 100-year floodplain identified by FEMA, which correspond to areas flooded by the 1937 Flood. While the 1937 Flood was the highest recorded on the Ohio River, it is not the worst that could occur. Significant floods have also occurred in 1883, 1884, 1913, 1945, 1964, 1997, and 2018. U.S. Army Corps of Engineers studies of the Ohio River Basin indicate that critical combinations of storms and runoff can be anticipated in the future. Flood control structures do not alleviate all flood zone hazards; dams can increase high water levels upstream, alter the natural channel through which a flooding pattern would be expected, or alter the water table and underground drainage pattern serving local areas.

In Boone County, the lands designated as flood zones include primarily bottom lands along the Ohio River and its major tributaries. Minor tributaries flood more frequently as the percentage of impervious surface increases in each watershed. Portions of the upper Gunpowder, Woolper, Elijah's Creek, and Mud Lick watersheds frequently experience flooding. The most extensive flood zone area is the lower East Bend Bottom at the mouth of Gunpowder Creek. Spots of moderate flood hazard are found downstream from small dammed lakes scattered throughout the county.

Floodplains are not suitable for permanent urban uses. These areas must also be protected from adjacent urban improvements which may alter drainage patterns and volumes. SD1 has conducted [watershed characterization reports](#) in an attempt to quantify the impacts of impervious area on the condition of each stream. This information can be used for planning purposes. GIS can also be used to plan infrastructure and help in emergency efforts. The [Boone County Building Department](#) administers the [National Flood Insurance Program](#) (NFIP) locally, which enables communities to buy insurance protection from losses due to flooding and is an alternative to disaster assistance.

Water Quality - The Clean Water Act of 1977 includes goals, water quality standards, monitoring, controls, and strategies designed to meet the stated goal "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." By statute, Kentucky designates water uses; water quality criteria have also been established to protect the uses. Anti-degradation, including minimum goals for each water body, is a required component of these standards.

The Kentucky Agriculture Water Quality Act was passed in 1994 to bring Kentucky into compliance with Federal laws. The goal of the act is to protect surface and ground water from potential pollutants resulting from agriculture and forestry operations. The act did not establish any new water quality laws other than requiring that all agriculture and forestry operations of ten or more acres develop and implement a water quality plan by October 23, 2001. The Boone County Conservation District assists farmers with individual water quality plans, which include recommended best management practices (BMP) to keep pollutants from reaching our waterways. Landowners are required to install best management practices and also document their efforts to improve and protect the natural resources of the Commonwealth. By writing and carrying out a water quality plan, producers and landowners can be assured that they are helping to protect our water.



In 2007, Sanitation District Number 1 (SD1) entered into a Consent Decree with the US Environmental Protection Agency (USEPA) and the Kentucky Division of Water (KDOW) that utilizes an adaptive watershed management approach to address water quality in the streams of Northern Kentucky. This approach has been endorsed by USEPA as offering the greatest opportunity for identifying and prioritizing cost-effective and protective solutions to local government waste-water and storm water management obligations.

As part of this Consent Decree, SD1 delineated sixteen (16) major watersheds throughout Northern Kentucky for intensive study and developed a [Watershed Characterization Report \(WCR\)](#) for each of them. These reports provided a starting point for further investigation into individual watershed condition. SD1 also began a monitoring program to establish a baseline of current conditions of streams within each watershed. Monitoring included biological, water quality, hydrological, and hydromodification surveys at nearly 80 stations across Northern Kentucky. The results of these surveys are crucial to understanding the linkage between receiving stream quality and changes in watershed land cover/use at the local level. Preliminary results of these surveys indicate that: 1) the highest quality streams in NKY are in the lesser developed areas of western Boone County, 2) there is a direct relationship between stream quality and the amount of impervious surface within a watershed.

Section 303(d) of the Clean Water Act requires Kentucky to maintain a list of impaired waterways and ideally establish a Total Maximum Daily Load (TMDL) or a TMDL alternative for each of them. The TMDL is regulatory and includes strategies and controls. Since the initial 1998 report by the Kentucky Natural Resources and Environmental Protection Cabinet - Division of Water (KDOW), segments of several Boone County streams have appeared on the 303(d) List of Impaired Waterways. This list is updated every 2 years. The 2016 list includes segments of the following Boone County streams:

- Allen Fork
- Dry Creek
- Fowlers Creek
- Gunpowder Creek
- Long Branch
- McCoys Fork
- Middle Creek
- Riddles Run
- South Fork Gunpowder Creek
- Woolper Creek

Most of the pollution issues center around siltation, high nutrient levels, bacteria, and low dissolved oxygen, while Gunpowder Creek in particular includes industrial sources and urban runoff issues. Current and past lists of impaired streams is online at the [Kentucky Division of Water's website](#).

KDOW monitors and collects data every 5 years. Data and reports, including the 2012 State Integrated 305b Report containing Boone County is available on [KDOW's website](#). Parts of Ashby's Fork, Double Lick, Little South Fork, Garrison Creek and Second Creek are designated Exceptional Use Water (aka Reference Reach Streams). KDOW indicates that Gunpowder Creek and Elijah's Creek have been "severely impacted" by de-icing fluids used by the airport. The airport began implementing a glycol recovery and recycling system and an aeration system in 2004 to decrease permit violations. These creeks have been impacted by this pollution for many years and may require an extended period of time to recover.

The Phase II Stormwater Rule was finalized by the EPA 1999 and places certain requirements on municipal separate storm sewer systems (MS4s) related to outreach, illicit discharges, permitting, construction and post-construction stormwater management, and pollution prevention. SD1 implements the stormwater quality management program to comply with Phase II requirements for most of NKY, including designated areas in Boone County, with the exceptions of the City of Florence and City of Walton. In addition to the permit required stormwater programs, two watershed management plans for Boone County streams have been developed by the Boone County Conservation District and regional partners, which were funded by Section 319(h) Nonpoint Source

grants through the Kentucky Division of Water. The [Gunpowder Creek Watershed Plan](#) (2014) and the [Woolper Creek Watershed Plan](#) (2016) and other reports are available online on [SD1's Documents and Forms page](#) and [Boone County Conservation District website](#). These projects are important because they enable strong citizen and land owner involvement, and are designed to protect public health, drinking water supplies, stewardship, property values, and recreation/tourism.

The [Gunpowder Creek Watershed Initiative](#) was completed in 2014 and was strongly engaged with the community throughout the planning process. The plan provides an inventory of the 58.2 square mile Gunpowder Creek watershed, results and analysis of extensive monitoring, and recommended Best Management Practices (BMPs). So far, two projects have been completed as a direct result of the plan, including: the YMCA Bankfull Wetland project, which restored 5-7 acres of wetland on Gunpowder Creek at YMCA Camp Ernst and [removal of a circa 1950 low-head dam](#) from Gunpowder Creek at Camp Michaels.

The [Woolper Creek Watershed Initiative](#) was completed in 2016 and featured the same level of community engagement as the Gunpowder project. The [final report](#) includes inventories, analysis and recommended BMPs for the 33-square mile Woolper Creek Watershed. Two projects have been completed using BMPs from the report, including a [Bioretention Basin at the KY 18/237 Single Point Urban Interchange](#) in Burlington and a [water retention basin retrofit at the Toyota North American Parts Center of Kentucky](#).

Since its inception, [the Northern Kentucky University Center for Environmental Restoration](#) (NKU-CER) (formerly NKU Center for Applied Ecology) 'Stream and Wetland Restoration Program' has completed stream restoration projects at 8 sites in Boone County. These include:

- The former Split Rock Conservation Park
- Big Bone Lick State Park
- Adair Wildlife Management Area
- City of Florence World Of Golf Course, Boone Woods Park
- Sand Run
- Stream segment behind Burlington Elementary
- Big Bone Phase III Stream and Wetland Restoration Project

Boone County Fiscal Court has helped fund up to 1/3 of the assessment costs to extend sanitary sewer to existing subdivisions served by individual treatment plants. This type of activity should be encouraged. Public sewerage, artificial drainage systems, special road fills and foundation designs can also overcome some permeability limitations. Pump stations and the availability of sewer service could have a significant impact in western Boone County by enabling development at greater densities. The Public Facilities chapter explains this in greater detail and identifies some of the incremental effects of development within these areas. The rural character of western Boone County valued by residents may be at risk if development is not sensitive to environmental factors.

## **PLANT AND ANIMAL LIFE**

According to the [Kentucky Ecological Field Services Station](#), Boone County currently has 31 animal and 8 plant species listed as Endangered, Threatened, or Rare. The Endangered species includes 3 bat species, 10 bivalves and 1 plant – Running Buffalo Clover.

Wildlife Habitat - The USDA rates the potential of soils to accommodate three types of wildlife: wetland, woodland, and open land. Wetland wildlife requires soil conditions least capable of supporting urban uses. Woodland wildlife can exist within and adjacent to urban land uses, but is susceptible to habitat loss. Open land wildlife can be found within croplands, pasture and meadowlands, often adjacent to areas of urban use. Preservation of wildlife habitats is utilitarian but also has social value. Various species of wildlife perform ecological functions necessary to control bacteria, plant, and insect growth in natural drainage areas. Some

species of predator wildlife are required to control wildlife population cycles.

Habitat loss can result in animal control problems to residents and automobiles as displaced animals search for food and nesting areas. Woodland wildlife should be the primary concern in Boone County because of the extent of woodland habitat and its vulnerability to urban growth. Corresponding with the pattern of woodlands, woodland wildlife habitats appear predominantly in western Boone County, and diminish to small and isolated spots in the eastern/urbanized area.

**Woodlands** - Woodlands are significant natural resources and improve community quality of life by reducing noise, light, air pollution, and visual impacts between land uses. Tree roots also stabilize soils by reducing storm water volume and intensity, stabilize stream banks, and filter runoff before it reaches and pollutes streams. Woodland cover beautifies the landscape, diminishes the effects of strong winds, filters air pollutants, adds humidity, creates shade, and provides specialized wildlife habitats.

Stream valleys in western and northern Boone County are heavily wooded, while the eastern uplands have limited and scattered forest cover. Protecting wooded areas in the less developed areas of the county as well as scattered vegetation remaining in urbanized areas and along major public roadways serves functional and visual purposes.

As of 2017 Boone County contained approximately 58,405 acres of woodlands (see **Figure 2.3**), a decrease of 232 acres from 2009, primarily resulting from development in eastern parts of the county. Approximately 32,564 of these acres lie on slopes over 20 percent. The remaining 25,841 acres of woodlands if located on slopes under 20 percent considered easier to develop. These woodlands coincide primarily with areas projected to experience growth over the 25 year planning horizon.

Studies of Boone County's forest canopy cover from the early 2000s (see **Figure 2.4**) analyzed relative quality of forest as three crown size classifications, large, medium, and small, which correspond generally to the age and maturity of the forest. **Table 2.1** shows the summary acreage statistics for the county. In 2002, 66% of the Boone County's forest cover was classified as small crown. Such a pattern results from either routine timber harvesting or agricultural fields being left fallow for 20+ years. The large crown forest areas comprised only 5% of the total forest and only 1.7% of Boone County's land cover, mainly on steep slopes and in stream corridors. Only 1% of the county's forest resources fell within incorporated boundaries. These studies examined in detail forest effects on air quality, stormwater management, floodplains, ground water recharge, erosion and steep slopes, and analyzed where existing forest canopy lies in relation to future land use and zoning. They describe benefits of tree canopies for offsetting the effects of impervious areas.

Figure 2.3 - Woodlands

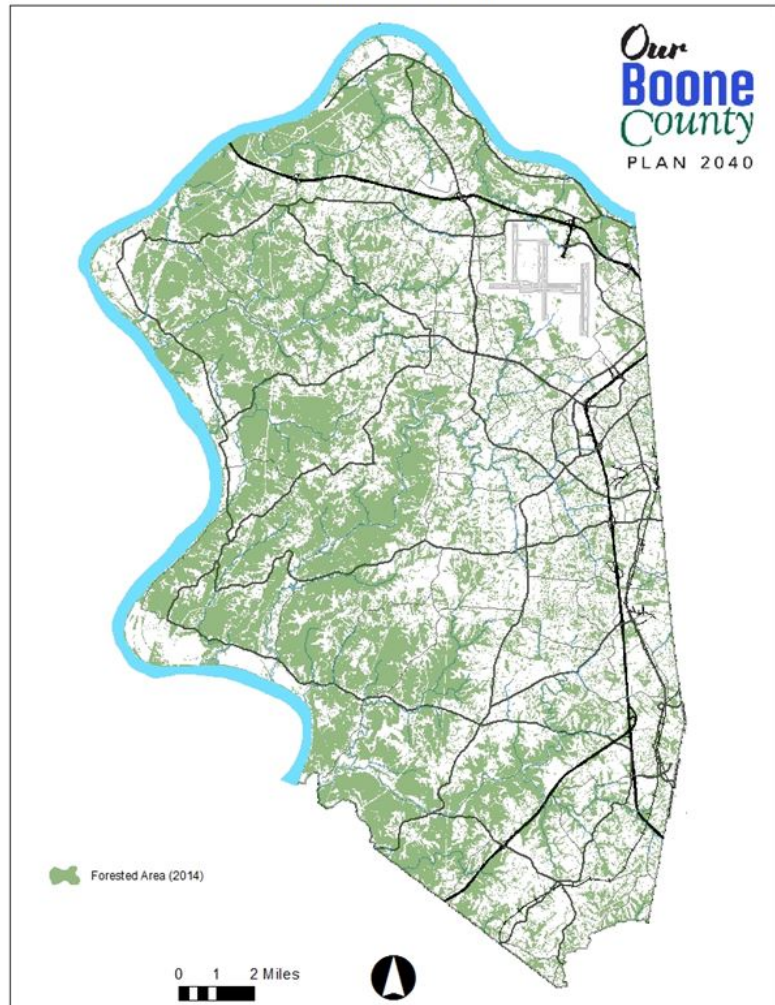




Figure 2.4 –Forest Canopy Cover

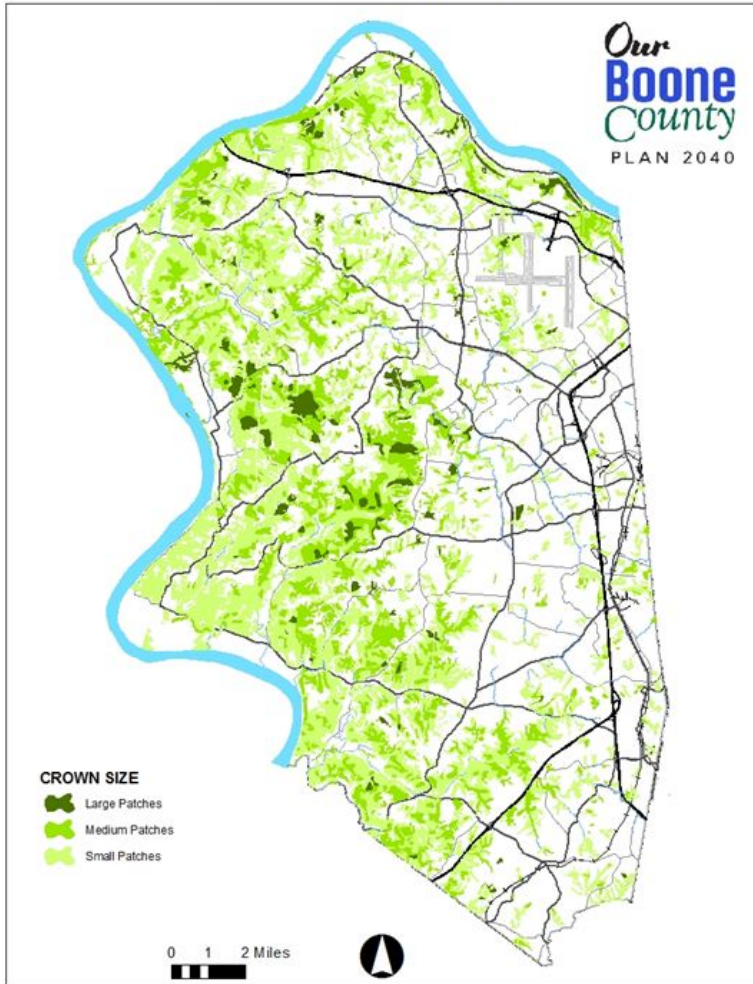


Table 2.1 - Boone County Canopy Forest Cover

	Area in acres	% of County
<b>Boone County</b>	164,469	
<b>Large crown canopy</b>	2,865	2%
<b>Medium crown canopy</b>	17,398	11%
<b>Small crown canopy</b>	39,132	24%
<b>Total canopy cover</b>	59,396	36%

Source: Boone County Forest Canopy Cover Study, 2002

Tree cover is directly related to environmental quality. Maintaining tree cover robust enough to function as green infrastructure reduces the need and expense of building infrastructure to manage air and water resources. Local agencies can use programs such as the [CITYgreen GIS](#) to calculate the environmental and economic values of the ecosystem services that trees provide. [American Forests](#) helps communities calculate the value of their trees so that leaders can make better decisions about integrating "green" into their urban infrastructure. Along these lines, an updated study of Boone County's forest cover should be conducted to track changes over the last 15 years.

**Stormwater Runoff Reduction** - Trees and soils function together to reduce stormwater runoff: trees by intercepting rainwater on leaves, branches, and trunks, where some of the intercepted water evaporates back into the atmosphere, and some soaks into the ground. Trees also slow storm flow, reducing the volume of water that a containment facility must store.

The Florence and Boone County Urban Forest Boards continue to implement urban forestry projects and have projects planned for the future. To date, the Urban Forest Boards have been effective on publically-owned land or right-of-way.

## AIR QUALITY

Congress adopted the Clean Air Act Amendments (CAAA) in 1990 as an attempt to address air pollution problems in the nation. Six major pollutants are regulated by the CAAA (sulfur dioxide, nitrogen dioxide, lead, carbon monoxide, particulate matter, and ozone). In April of 2004 the U.S. Environmental Protection Agency (EPA) classified the greater Cincinnati metropolitan area as basic nonattainment under the 0.084 ozone standard. This area of nonattainment included Boone County. In 2008, the U.S. EPA completed its review of the national air quality standard for ozone and replaced the 0.084 parts per million with a new 0.075 parts per million standard.



Furthermore, in December of 2004 the EPA designated the greater Cincinnati area as nonattainment under the annual fine particulate matter (PM2.5) standard. The particulate matter is dangerous especially to children and elderly as well as people with respiratory problems due to them being more prone to infection. In 2011 the EPA announced that northern Kentucky, including Boone County, has been re-designated as a fine particulate matter attainment area.

In 2015, the [American Lung Association](#) reported that the Cincinnati-Wilmington-Maysville area (which includes Boone County) ranked 37 of 228 US metropolitan areas for high ozone days, 72 of 186 for 24-hour particle pollution and 20 of 184 for annual particle pollution. While the metro region experiences 40.7 fewer high ozone days/year compared to 1996 levels, the region still grades poorly, with Hamilton, Butler, Clermont and Campbell Counties all receiving Ozone Grades of F. Boone County's Ozone Grade of B is quite favorable by comparison and clearly benefits by being upwind of much of the Cincinnati metropolitan area. Within the County, the international airport and 33 miles of interstate highway contribute negatively to air quality.

TABLE 3.2 – Emissions Measurements; Northern Kentucky Counties

	2005	2008	2010	2015	2020
<b>Boone County</b>					
VOC	4.33	4.00	3.92	3.17	2.96
CO	47.20	44.46	42.36	37.41	38.21
NO <sub>x</sub>	10.27	8.53	7.42	4.63	3.45
<b>Campbell County</b>					
VOC	2.52	2.29	2.21	1.74	1.55
CO	27.50	25.52	23.98	20.39	19.97
NO <sub>x</sub>	5.98	4.88	4.21	2.54	1.81
<b>Kenton County</b>					
VOC	4.32	3.85	3.65	2.85	2.56
CO	47.19	42.76	39.54	33.68	32.97
NO <sub>x</sub>	10.39	8.37	6.91	4.23	3.01
<b>OKI KY Total</b>					
VOC	11.17	10.14	9.78	7.79	7.09
CO	121.89	112.74	105.88	91.48	91.14
NO <sub>x</sub>	26.64	21.78	18.54	11.40	8.27

Source: OKI and Kentucky Division for Air Quality

Boone County should continue to work with the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) which develops strategies, programs, and plans that aim to improve the air quality in the greater Cincinnati region. Among these are the [2040 Regional Transportation Plan](#) and the [OKI Regional Clean Air Program](#).

[Studies of development density issues](#) generally conclude that [low density land uses generate longer trips](#), requiring people to travel farther between places of employment, schools, shopping, and recreation. Programs such as the Clean Air Act Amendments of 1990 (CAAA) and the Transportation Efficiency Act of the Twenty-first century (TEA 21) and its predecessors were created to limit the effect that increasing mobility has on air quality. The effect that low density development has on the transportation system and how it relates to these programs in Boone County and the region is explained in further detail in the Transportation Element.

According to OKI, vehicle emissions from transportation sources are projected to decrease as newer vehicles, meeting stricter federal emission standards, are incorporated into the fleet mix. **Table 3.2** compares different types of emission measurements in the three Northern Kentucky counties. VOC stands for Volatile Organic Compounds, CO stands for carbon compounds, and NO<sub>x</sub> stands for nitrogen compounds. New transportation facilities must undergo air quality analysis to attempt to forecast each facility's impact on future air quality. OKI generally performs this analysis in concert with federal agencies.

Air traffic at the Cincinnati-Northern Kentucky International Airport will continue to be a factor in the air quality of Boone County. The airport anticipates an increase in cargo and passenger traffic and will be addressing this issue in their Master Plan update.

## CONSERVATION TOOLS

The [Leadership In Energy and Environmental Design \(LEED\)](#) Green Building Rating System is an independent certification program for developing high-performance, sustainable buildings. The LEED program awards levels of certification (Certified, Silver, Gold, Platinum) to buildings that meet standards in 5 categories: sustainable site

development, water savings, energy efficiency, materials selection, and indoor environmental quality. LEED standards can be applied to homes, commercial facilities and neighborhood development. Rating systems are available for new construction and major renovations as well as existing buildings.

At present, the [US Green Buildings Council database](#) lists over 109,000 certified LEED projects in the US. The database includes nearly 600 Kentucky projects, including dozens in the larger Northern Kentucky cities of Newport and Covington. In Boone County, projects which have attained basic LEED certification to date include: [Thornwilde Elementary School](#) (2014), [L'Oreal Florence North Project](#) (2015), and [FTNK Hebron](#) (2015). The [PNC Bank Branch – Village Plaza](#) in Florence (2007), [Boone County Cooperative Extension](#) building (2016), and [Prologis Gateway International](#) in Hebron (2016) have all achieved Silver certification. The only Gold level local LEED project listed is the [Verst Group Logistics Warehouse Addition](#) (2012) in Hebron.

In 2001/2002 the BCPC completed the [2002 Study of PDR and TDR for Boone County, Kentucky](#), which concluded that Purchase of Development Rights was a workable tool for Boone County at that time. However, land prices were high enough that PDR was not likely to be used at that time. The study also emphasized that PDR is only one of a number of tools designed to preserve open space and make farming viable. Some tools (PDR, Ag Districts, differential assessment for taxes) help make farming more lucrative. Others (zoning and Conservation Subdivision Design) encourage orderly and cost-effective growth by concentrating development near existing or planned infrastructure and affecting the physical design of development. Transfer of Development Rights was determined to not be appropriate for Boone County due to lack of public acceptance of higher density development in the urbanizing areas. There is a state-level [Purchase of Agricultural Conservation Easement Program](#) (PACE) in Kentucky. However, Boone County land is generally too expensive to make this program viable by itself. Some communities have used a designated tax or leveraged PACE funds with a local bond.

One tool which is actively used Boone County is the conservation easement. See [Chapter 3: Natural & Cultural Resources](#) for a discussion of the land trusts and related organizations that preserve land and other resources through conservation easements (or ownership) in Boone County. They include The Boone Conservancy, Hillside Trust, Cincinnati Preservation Association, Nature Conservancy and Kentucky Heritage Council.

## CONCLUSIONS AND RECOMMENDATIONS

In Boone County, prime agricultural land, wooded hillsides, and stream corridors attract new residents, but can be easily impacted by new development. Special corridor studies should be conducted on a continuing basis to consider natural areas in Boone County for innovative development design, conservation, recreation, or preservation. Future development in the county should utilize environmentally sound design principles. Boone County needs to place a value on the mitigation of environmental impacts of development. Flooding caused by urban and suburban development is increasingly affecting both the major and minor tributaries. In the early 1990's relatively few creeks, such as Gunpowder and Elijah's Creeks experienced significant flooding, however, this Plan notes that many others now are partially affected, such as Sand Run, Woolper, Big Bone, and many smaller tributaries of the Gunpowder Creek watershed. Regional and local stormwater detention, erosion control and compliance must be addressed in more detail in local regulations. Soils in Boone County are generally not well suited for septic leach activity. Water line extensions must be carefully examined to determine the effect on water usage and resulting effect on septic performance. Stormwater regulations should be applicable to all types of development, and should be in effect before the undeveloped areas develop to prevent flooding, and costly stormwater control measures in the future.

A forecast of future development patterns will help anticipate changes to Boone County's environmental resources within the 25 year planning horizon. The Demographics and Economy chapters of Plan2040 identify areas in Boone County projected to experience rapid growth on short-term and longer range time frames. These chapters generally identify the type of land uses expected to develop and where. Considerations of future growth in Boone County should evaluate how to mitigate impacts of development within flood plains or areas of slopes over 20%, which are considered developmentally sensitive. Indirect environmental impacts can include extensions of public services, increased transportation distances, and greater consumption of natural resources

such as trees and oil.

Overall, land planning in Boone County should enable the higher density development on developable lands to reduce the pressure on developmentally sensitive areas. This is the most effective way to preserve environmental characteristics of rural Boone County, while reducing air pollution and making transit more feasible and effective. As Boone County's development continues, design will become increasingly important. Attention to water runoff, traffic congestion, and visual impacts will require more attention to mitigate the cumulative impacts of development on the environment.

## NATURAL & CULTURAL RESOURCES

### INTRODUCTION

*This chapter combines three separate elements as they appeared in previous comprehensive plans including Recreation and Open Space, Agriculture, and Preservation. The importance of these resources cannot be understated and the need for them must be identified and accommodated as they contribute to the overall quality of life in Boone County. Active and passive recreation facilities and programs are needed to meet the changing demographics of Boone County. Furthermore, as development continues, it is vital to document and preserve the existing natural features, cultural resources, agricultural lands (and related uses), and open spaces.*

### RECREATION AND OPEN SPACE

Much of this section necessarily comes from the [2006 Comprehensive Parks and Recreation Master Plan Update, Boone County, Kentucky](#), which is the most recent countywide plan of its type. It discusses the need for parks and open space and includes the numbers, types, and acreages of parks in Boone County as well as recommendations for future parks and open space based on the 2006 master plan update.

Local governments in Boone County manage approximately 1,965 acres of land designated for parks and recreation purposes. Schools operate additional campus and recreational areas. Boone County cooperates with the Cities of Walton, Florence and Union in the operations of parks within their jurisdictions. These agencies have the responsibility to manage this land efficiently and in a manner consistent with the health, safety and welfare of the community. For many residents, parks provide their only access to active recreational opportunities in the natural environment. Furthermore, the quality of a community's parks and recreation system is viewed as one of the indicators of the overall quality of life. Property values around parks tend to be considerably higher than other areas, thereby making an annual contribution to the community in the form of higher property tax revenues, as well as additional profits to the owners at point of sale. More valuable properties also tend to be maintained at a higher level, improving the appearance of the communities. Parks also preserve important cultural and natural features for future generations to enjoy.

#### **Public and Private Recreation Facilities**

The [Boone County Parks Department](#) manages over 30 properties on approximately 1,875 acres across Boone County. These properties range in size from small "neighborhood" parks such as the 1-acre Pete's Park in Burlington or 5-acre Petersburg landing to much larger parks like [Central Park & Arboretum](#) (122 acres), Middle Creek Park (230 acres), and England-Idlewild Park (290 acres). All of the larger parks have playgrounds, baseball fields, soccer fields, and shelters, with basketball courts (8 parks), tennis courts (4 parks), and paved and/or unpaved trails (12 parks) also available. Other amenities in the system include volleyball (3 parks), disc golf (4 parks), dog runs (2 parks), garden plots (2 parks), amphitheaters (3 parks), bocce ball (1 park), as well as swimming, fishing, horseshoes, river access, and even geocaching. The Union Park property features a 25-meter "L-shaped" swimming pool and concession stand.

A range of hiking, biking, and walking activities is available in the Boone County Park system. The trails at England-Idlewild and Central Park are the most popular paved trails in the county's system. The mountain bike trails at England-Idlewild are among the most well-known and frequently visited in the region falling under the [Cincinnati Off Road Alliance](#) chapter of the International Mountain Biking Association. Some of the most scenic recreational hiking in the region is found in the Middle Creek Valley at Dinsmore Woods, Middle Creek Park/Conservancy Park, and Boone County Cliffs. A new bridge recently opened at Middle Creek Park, where the trail system is a shared pedestrian/equestrian path and the parking area can accommodate vehicles with horse trailers. Boone County Cliffs reopened in May, 2018, after being closed for over a year for trail upgrading, new signage, and parking area redesign.

In addition to Parks Department facilities, Boone County also owns/operates [two public golf courses: Boone Links and Lassing Pointe](#). The Parks Department offers a broad range of programming and coordinates its efforts with both public and private entities including The Boone Conservancy, Arboretum at Central Park, school districts, and cities of Florence, Union, and Walton.

The [City of Florence Parks & Recreation Department](#) is wholly separate from County Parks and manages a number of facilities in Florence. These total approximately 100 acres and include 7 parks ranging in size from small neighborhood parks such as 2.5-acre Walnut Creek to 42-acre South Fork Park, which is the largest. Amenities in the system include playgrounds, ball fields, tennis, volleyball and basketball courts, paved paths and shelters. The Florence Nature Park includes the Evelyn M. Kalb Gathering House, a rentable retreat facility. The City of Florence also operates two unique facilities: the [Florence Family Aquatic Center](#) and Florence Skate Park. [World of Golf](#), the 3<sup>rd</sup> public golf course in the county, is also located in Florence. Florence has also developed an [online story map](#) for their trail system, as well as a [downloadable PDF map](#).

In addition to the facilities owned and/or managed by local governments, Boone County has state owned/operated and privately owned recreation facilities. The most noted among the State of Kentucky's properties is [Big Bone Lick State Historic Site](#) in the southwest part of the county. As mentioned below, the park's significant history and heritage is explored in the on-site museum and Discovery Trail. The 500-plus acre park also offers hiking trails, 62 camping sites with utility hookups, grills, swimming pool, playground areas and related amenities. To the north of Big Bone Lick, the state also owns the 635-acre [Dr. Norman and Martha Adair Wildlife Management Area](#) (WMA).

The largest private recreation sites in Boone County are [Sports of All Sorts](#) in Florence and the [R.C. Durr YMCA](#) in Burlington, both of which offer a wide array of primarily indoor recreation facilities and programming. Some of the many other privately-owned/operated recreation facilities in the county include:

- Baseball: Mountain Ballpark near Verona, [Rivershore Sports Park](#) in North Bend
- Golf: Traditions, Triple Crown
- Horse Racing: Turfway Park
- Auto Racing: Florence Speedway dirt track, annual 4-H Utopia Fair Demolition derbies
- Fishing: Camp Ernst YMCA, Crouch's Treasure Lake, England-Idlewild Park
- Ropes/Zip-Line Courses: Creation Museum, Potter Ranch
- Private Hunting/Fishing clubs such as Dutchman's and Moonlight
- Camping: YMCA Camp Ernst and Camp Michaels (Boy Scouts - Dan Beard Council)

Active and/or passive recreation is the primary function of most of the parks in Boone County, whether ownership is public or private. However, many of these facilities (especially the larger ones) serve other purposes such as protection of scenic or natural areas, parts of watersheds and cultural resources. Including nature preserves such as Carder-Dolwick, Dinsmore Woods and others, there is close to 4,000 acres of passive recreation property in Boone County.

Boone County has been proactive in acquiring properties with minimal development potential for conservation purposes and/or parks. Examples include the Gunpowder Creek Nature Park and the Volpenhein Property downstream on Gunpowder, which are not expected to develop for anything other than passive recreation. The largest National Register Historic District in the county is contiguous with Big Bone Lick State Historic Site, offering some protection to both archaeological sites and structures. Archaeological sites receive some protection on some recreational properties and even small family cemeteries find stewardship at Union Pool, Walton Park, Camp Ernst and Potters Ranch. Finally, it is important to note that most recreational facilities are subject to Planning Commission review/comment under local zoning through the [Recreation District of the Boone County Zoning Regulations](#). Planning Commission review is also one of the mechanisms that evaluates the appropriate siting of tourism facilities.



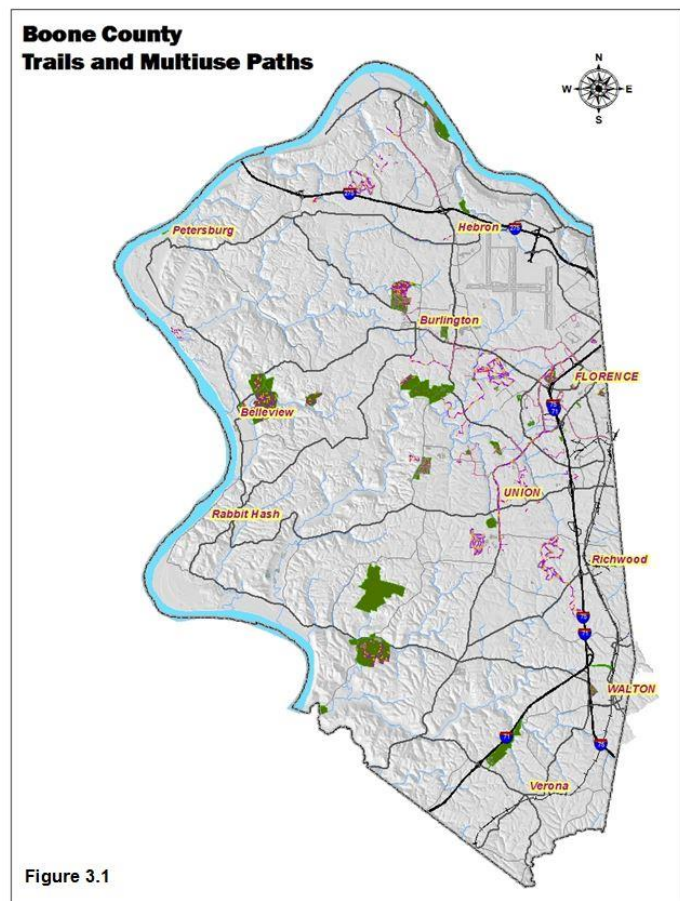
### Bicycle and Pedestrian Facilities

Sidewalks, multi-use paths, natural surface trails, and bike lanes are an important part of the recreation, active living, health, and transportation goals of Plan2040. As such, there is some overlap between this chapter and discussion elsewhere in the plan. According to GIS data, Boone County presently has approximately 700 miles of traditional Sidewalk, 41 miles of Multi-Use Trails and 33 miles of Natural Surface Trail (**Figure 3.1 – Trails & Multiuse Paths Map**). At present, on-road bike lanes are found only along Houston Road in Florence, US 42 through Union, and North Bend Road in Hebron.

*Multi-Use Trails* are designated in the GIS system as paved trails at least 8 feet in width. This captures closed loop recreational trails such as those at Central Park, England-Idlewild and Giles Conrad parks as well as privately owned trails in Orleans and Hearthstone subdivisions. Trails which serve a more inherent transportation function include those along Aero Parkway/Bushelman Blvd, Mall Road, Conrad Lane, and Industrial Road. Note that because they are less than 8 feet in width, some pedestrian facilities which experience significant recreational traffic are classed as Sidewalks, including those along North Bend Road and in the Oakbrook, Pebble Creek, Thornwilde, Bally Shannon and Triple Crown other subdivisions.

*Natural Surface Trails* are of earth and/or crushed stone construction and include hiking trails in parks such as Middle Creek, Gunpowder Creek Nature Park or Big Bone Lick. Also included in the total is the 11-mile E/I Hike/Bike Trail system at England-Idlewild Park, which was designed for mountain biking but is very popular with hikers.

Based on current plans, an additional 8 miles of Multi-Use Trail and nearly 6 miles of Sidewalk will be built in Boone County over in the next two years. This includes Multi-Use Trail along KY 237 from KY 18 north to Cougar Path, KY 237 from Rogers Lane south to Valley View, and over 5 miles of Mt. Zion Road from US 42 to I-71/75. Some other projects classed as Sidewalk will complete critical pedestrian links, including along KY 18 from Oakbrook to the existing walkway into Burlington and to the fairgrounds and England/Idlewild Park from Burlington. Together, these initiatives are realizing important pedestrian connections such as those between Boone Woods Park, Burlington, England/Idlewild Park and the Conner school campus. Continued movement in this direction will only strengthen Parks - School District coordination such as the Walton-Verona Sports Complex at Waller-Stephenson Park. Over the last decade, the county has proactively used the Federally funded Safe Routes to School program to make other key pedestrian connections.



After the KY 18 and KY 237 projects are finished, 7 miles of the proposed *CVG Trail* will be complete. Future completion of this 14-mile loop trail around the north and east sides of Cincinnati/Northern Kentucky International Airport will be a major accomplishment. It would function as a hub for non-motorized transportation within the county as well as a regional recreation draw with the potential for significant local economic impact.

Studies across the US and elsewhere have proven the economic impact of recreational trail systems. Links to several dozen such studies are available online at <https://www.americantrails.org/resources/benefits-of-trails/economic>. Two recent studies in the NKY/SW Ohio region looked at trails closer to Boone County, including

the [2018 Economic Analysis of the Devou Park Backcountry Trails](#). This study analyzed trail user surveys and concluded that Devou Park's Natural Surface Trail system generates 35,000 visits and \$1.8 million economic impact annually. On a larger scale, the [Miami Valley Trail User Survey Report](#) (2013) analyzed user data from points in a 240-mile paved trail system and concluded "regional economic impact from the network is estimated at just over \$13 million per year." An [older study completed in 2008](#) analyzed single family home values along the Little Miami Scenic Trail and concluded that "distance each foot increase in distance to the trail decreases the sale price of a sample property by \$7.05. In other words, being closer to the Little Miami Scenic Trail adds value to the single family residential properties."

Regional trail advocacy group [Tri-State Trails](#) (TST) actively supports bike & pedestrian initiatives in NKY, SW Ohio and SE Indiana. In addition to advocacy and education, the organization updates members on current regional initiatives, funding and other activities. In 2017, TST received funding to place trail counters along trails in the region, including AeroParkway. The results of the analysis of these data are expected soon.

### **Previous Studies And Surveys**

The vision for much of the County's existing and proposed parks and recreation facilities is based on prior master plans, studies and citizen surveys. Some of the more recent and relevant ones are touched on here. Together, the [Natural Areas Inventory of Boone and Gallatin Counties](#) (1989) and [Natural Areas Inventory](#) (2001) identified over 50 Potential Natural Areas (PNAs) in Boone County. To date, only the italicized properties in the following list have been acquired and/or preserved as or parks or other green spaces:

- Middle Creek Valley, including *Boone County Cliffs, Dinsmore Woods*, Split Rock and adjacent areas
- *Big Bend of Gunpowder Creek*
- Belleview Woods
- *David T. Young Center*
- Bald Point, near Camp Michaels
- Steep Gut Creek, north of Belleview
- Petersburg Indian mound areas
- *Big Bone Lick*: land around existing state park
- Elijah's Creek: land around existing Carder-Dolwick Preserve
- Intact forested slopes of the Ohio River
- Existing Beech-Maple forest along East Bend Rd and near I-71/75 interchange

The [Western Boone County Study](#) (1998) evaluated development processes appropriate to the topography, urban services, river frontage, and access issues of the western part of Boone County (WBC). The study concluded that traditional land use planning is not the best way to guide the future of WBC and recommended a series of projects relating to parks and recreation services, including:

- *Creation of a non-profit foundation* to guide acquisition of riverfront access/recreation properties for the County through contributions to the foundation
- A preservation plan for the Middle Creek Valley
- Design of a conceptual path system for WBC to connect large green areas and stream valleys
- A plan for Big Bone Lick State Park to include park layout/theme, expansion, riverfront access, retreat facilities, etc.

*The Boone Conservancy (TBC)* formed in 1999 based on recommendations in the WBC Study and other prior recreation plans with the understanding that planning for appropriate land conservation improves the quality of life and increases economic prosperity in Boone County. TBC has a 10-member Board of Directors, 12-member Advisory Committee (all volunteers) and a small paid staff. The non-profit 501C(3) is funded through grants, private foundations, fundraising events and donations and accepts donations of land that meet mission goals. TBC works with county, local and state partners to achieve conservation of a particular area, with a focus in the County's major watersheds.

As of early 2018, TBC holds conservation easements over 465 acres in the Union, Petersburg, Florence, Burlington, and Walton areas and monitors a deed restriction over the 229-acre Piner Property in Big Bone Lick. The organization owns 173 acres in the Middle Creek watershed (including the 45-acre Conservancy Park at Belleview) and 117 acres in Hebron. Although TBC is the most active land trust in Boone County, the Hillside Trust owns a 34-acre preserve in the Dry Creek Watershed and monitors easements over 1,000+ acres in North Bend. Other land trusts which hold easements in Boone County include the NKY University Research Foundation, Kentucky Heritage Council, and Kentucky State Nature Preserves.

The 1997 report titled *A Strategy for Meeting Boone County's Recreation Future* included results of the *1996 Parks And Recreation Survey* mailed to 1,000 randomly selected Boone County residents. Respondents indicated that the preferred funding and acquisition methods for parks should be a combination of state and local taxes (28%) and land donation (24%). Top-rated needs included swimming pools, bike trails and horse trails.

The *2002 Florence Pedestrian/Bicycle Plan* guided the City of Florence in decision making for capital improvements in Bike/Ped infrastructure, recommending that the city prioritize sidewalk projects in work programs in the early stages of plan implementation and seek connections to adjacent parts of Boone County. The plan's data was later used to create the city's [online trails story map](#) and [downloadable PDF map](#).

The *2006 Comprehensive Parks and Recreation Master Plan Update* is the county's most recent evaluation of countywide parks and recreation needs, resources, and services. While over 10 years old, it remains the guiding document for parks/rec planning in Boone County. A [PDF of the Plan's Executive Summary](#) is available on the county's website. Prepared by Brandstetter Carroll, Inc., the plan developed a Needs Analysis of existing facilities, distribution, programming, and past surveys, along with input from public workshops and new survey data.

In 2006, there were 1,906 acres of parkland in Boone County. Of this, 973 acres were considered developed and another 384 acres were scheduled for development on land already acquired. **Table 3.1** lists the existing and proposed parks recommended in the 2006 plan, updated to 2018 as follows: planning is at least underway for *italicized projects* and ***bold/italicized projects*** are completed. The 2006 Update recommended 1,668 acres of new parks throughout the County, 575 of which has been at least partially addressed. This table does not include Boone County Cliffs and Dinsmore Woods, acquired in 2009. The 117-acre Central Park Seven Hills property became the Boone County Extension Environmental and Nature Center, rather than an expansion of Central Park. While a number of the identified parks needs from the 2006 plan have been met, as of 2018 the following have not: 2 Neighborhood Parks, 7 Community Parks, 7 County Parks, and 3 Special Use Parks.

The *2006 Master Plan Update* included a web-based survey which was promoted and sent by mail

TABLE 3.1 – NEW PARK DEVELOPMENT SUMMARY (2006-2018)		
PARK TYPE	PARK/SITE NAME	ACRES
NEIGHBORHOOD	<i>Big Bone Landing addition</i>	5
	Florence Expand Nature Center Site	10
	Florence Glen Rose Site	13
	<i>North Pointe</i>	5
	<b>Subtotal</b>	<b>33</b>
COMMUNITY	Boone Woods east addition	10
	Bullittsville Community Park	25
	<b><i>Boone Conservancy Land</i></b>	<b>45</b>
	<i>Erpenbeck-Plantation Pointe</i>	20
	Frogtown Park	25
	<b><i>Mountain Ballpark (private)</i></b>	<b>44</b>
	Hopeful Church Road Area	50
	McEvoy Site	50
	North Bend Road Area	25
	Southwest Burlington	25
	<i>Union Park</i>	45
	<b>Subtotal</b>	<b>364</b>
COUNTY	Central Park east addition	100
	Central Park Seven Hills area	117
	England-Idlewild west addition	80
	Ethans Glen addition	100
	Future Union addition	150
	<b><i>Hempfling Park</i></b>	<b>89</b>
	Richwood Park	100
	Waller-Stephenson Mill future addition	100
	<b><i>Waller-Stephenson Mill Park</i></b>	<b>225</b>
	<b>Subtotal</b>	<b>1,061</b>
	SPECIAL USE	Belleview River Park
Hobby Park		50
<b><i>Petersburg River Park</i></b>		<b>5</b>
Power Plant Horse Trails		150
<b>Subtotal</b>		<b>210</b>
<b>TOTAL 2006:</b>		<b>1,668</b>
<b>TOTAL INCOMPLETE 2018:</b>		<b>1,210</b>

Source: 2006 BC Parks/Rec Master Plan, updated per 2018 data



to residents as needed. Just over 1,100 households responded and for the most part were at least “Somewhat Satisfied” with current facilities. However, 64% replied that they did not feel that existing facilities were adequate to serve Boone County’s future needs. The top 4 most-desired amenities from the survey were (1) open space, (2) jogging/walking trails, (3) hiking trails, and (4) bike trails/paths. Written comments reaffirmed these results, with many citizens suggesting that Boone County has provided sufficient athletic fields and other active recreation, but that the county needs more publicly accessible open space and trail facilities.

Based on analysis of existing facilities, future needs, and citizen-driving priorities, the 2006 Parks Master Plan Update concluded the following:

- General shortage of park land in the areas of Hebron and north of I-275, southern part of Florence to Richwood and Union and the Verona areas.
- The need for a wide variety of specific recreation facilities in primarily the same locations.
- The strong desire for more open space and land preserved as future green space and natural areas.
- The development of non-traditional activities such as a dog park, hobby park, and others.
- The realization that the demand for park land, recreation facilities and programs will also need to expand alongside population growth to meet the County’s demands and expectations.
- High demand for all types of trails including jogging, walking, nature, bicycle and horseback.
- Demand for indoor activities including an indoor swimming pool, youth center, gymnasium and other activities.

The vision for Parks and Recreation in Boone County included in the 2006 Parks Master Plan Update is as follows:

- Land is acquired for the development of parks in the areas that currently need parks; land is also set aside for the expansion of these parks as population grows.
- Land will be acquired open space preservation.
- Develop a system of greenways, hike and bike ways, and linkages that connect the parks, schools, playgrounds, neighborhoods, and green spaces throughout the County.
- Unique or significant natural areas of Boone County are studied and preserved.
- The parks are developed for the most needed park and recreation facilities identified through public input.
- Indoor recreation facilities are developed to allow increased programming and provide for residents’ recreation and fitness needs.

Finally, the 2006 Plan recommended that the County revisit the watersheds and significant natural areas Significant Natural Areas Study concept to determine the most desirable areas for preservation. Several watershed areas have been studied and preliminary indications include recommendations to preserve many watershed areas for natural areas. Some specific items on the priority list include:

- Split Rock at the confluence of Woolper Creek and the Ohio River
- Bald Point in the Gunpowder Creek watershed
- Steep Gut Creek along the Ohio River
- Sand Run Creek watershed,
- North and East Gunpowder Creek watersheds
- The Woolper Creek/Ohio River quadrant area

Other areas recommended for preservation include the Ohio River waterfront near Federal Hall (just south of the I-275 Carroll Cropper Bridge), expansion of the Middle Creek watershed including the lands adjacent to Middle Creek Park and the lands adjacent to Boone Cliffs Nature Preserve.

## **AGRICULTURE**

The Agriculture section summarizes data pertaining to farms, farmland and agricultural production in Boone County. Regarding agriculture, the [Boone County Cooperative Extension Service](#) describes Boone County as “rich in natural history with an outstanding agricultural presence...Similar to other industries...agriculture has transitioned over the years to a new dynamic as it has grown with the economy and culture.” The Extension

Service observes that while the “number of farms has decreased” and fewer people may be farming, the “size of the operations are significantly greater.” Agriculture in Boone County is diverse and ranges from “agritourism operations with a variety of farm commodities” to multiple operations specializing in one commodity [relied upon for] income.” There are also “equine operations with boarding stables...breeding operations...and the famous Turfway Park.”

Some of the more telling statistics in this section come from the “Agricultural Profile: Boone County, Kentucky” in the Boone County Conservation District’s 2010 study titled Rural Treasure – The State of Boone County Agriculture. That Agricultural Profile is based on data contained in the USDA’s 2007 Census of Agriculture, updated here where possible with 2012 Census of Agriculture figures. The 2017 Census of Agriculture is underway, but results are not expected until 2019. Also included in Rural Treasure are the results of a “Survey of Agricultural Land Owners in Boone County” and a “Boone County Cost of Community Services Study,” both of which are summarized here.

**Farmland Inventory**

A farm, as defined by the U.S. Census, is any place from which \$1,000+ worth of agricultural products was sold during the census year. From its founding into the mid-20<sup>th</sup> Century, Boone County’s economy was primarily agricultural. Most residents either farmed themselves or worked in an industry or supply-side business related to farming, a trend that began to decline between the World Wars. Average farm size fluctuated little during the 20<sup>th</sup> Century: 93 acres in 1900 and 102 acres in 1969. The 2012 Ag Census shows that farm acreage fell from 74,750 in 2007 to 67,211 acres in 2012. The number of farms declined slightly from 682 to 608 in that 5-year span, although average farm size remained consistent at about 110 acres. While the number of farms and total acreage devoted to agriculture in Boone County is declining, the Extension Service notes that “These numbers do not include the ever- increasing population of homeowners interested in the local food movement or producing their own food at home.”

Prime Farmland and Farmland of Statewide Importance

Estimates by the U.S.D.A. Natural Resources Conservation Service (NRCS) indicate that 40,577 acres of Boone County land are classed as Prime Farmland (as of 2014). Prime Farmland is defined in the National Soils Handbook based on criteria of crop production potential, land availability, and climate. According to the Soil Conservation Service Soil Survey (1973 and 1989), historically, much of the best farm soils were located in the eastern half of Boone County, however, development has displaced many of these areas. Soils of Statewide Importance encompass an additional 23,987 acres in Boone County (**See Figure 3.2 – Prime Farmland Map**). Together, the two land classifications total 64,564 acres. However, the amount of impervious surface in Boone County continues to increase, much of it at the expense of farmland. According to GIS analysis, there are presently (2018) 15,328 acres of impervious surface in the county: 6,564 acres on Prime Farmland (16.2% of the total) and 3,870 acres on Farmland of Statewide Importance (16.1%). As of 2018, approximately 16.2% of Boone County’s best agricultural land is now impervious surface, which includes buildings, pavement, bridges, patios, swimming pools, etc. The Extension Service observes that many of Boone County farms thrive on lands which are not classed as either prime farmland or farmland of statewide importance.



Figure 3.2

## Farms and Farm Tenure

Since 1940, Boone County has transitioned from a primarily agricultural community and economy to a much more diverse economy. Population has increased by over 100,000 since then and the percentage of people living on farms has dropped from 59% to 1%. The amount of available farmland has gradually declined as the population has risen since the mid-20<sup>th</sup> Century. Land zoned primarily for agricultural use has also declined. This is an ongoing process assisted by the location of new sewer and water lines encroaching into existing farming regions.

Between 1969 and 2012 average farm size in Boone County fluctuated between 101 and 124 acres and was at 111 acres in 2012. Compared with Campbell and Kenton counties, Boone County had more farms with larger average size in 2012. Between 2002 and 2007, total farmland acreage in Boone County declined just 0.2%; but declined 8.5% in Kenton County and 6.0% in Campbell County. Farm acreage in Kentucky rose 1.1% during the same period. **Table 3.2** further describes Boone County farms by size in acres since 1909.

YEAR	FARMS	ACRES	AVG. AC.
1900	1,598	149,191	93
1909	1,540	145,693	95
1919	1,831	151,242	83
1929	1,563	149,159	95
1939	1,443	146,424	102
1949	1,314	134,105	102
1959	1,204	121,222	101
1969	1,245	126,706	102
1978	847	104,882	124
1982	962	105,390	110
1992	798	80,864	101
1997	783	83,258	106
2002	743	74,915	101
2007	682	74,750	110
2012	608	67,211	111
Kenton*	459	38,144	83
Campbell*	504	42,164	84
Kentucky*	77,064	13,049,347	169

Source: 2012 U.S. Census of Agriculture (\* 2012 data)

ACRES	1909	1929	1949	1969	1978	1982	2002	2012
1-9	158	132	111	200	90	136	65	65
10-49	439	437	356	353	240	324	307	260
50-179	720	758	636	485	345	321	265	189
180-499	211	228	206	183	140	149	88	73
500-999	11	8	4	20	30	30	12	13
1000+	1	0	1	4	4	2	6	8
TOTAL	1540	1563	1314	1245	849	932	743	608

Source: U.S. Census of Agriculture

While farms and farmlands have decreased in Boone County (see **Tables 3.2** and **Table 3.3**), the county remains agriculturally viable. Through 2012, Boone County ranked within the top 72 counties out of the total 120 Kentucky counties in all major crop and livestock categories, including corn, soybean, tobacco, hay, cattle, and hogs. Boone County ranks 3<sup>rd</sup> in the state in numbers of acres of nursery stock crops, up from 4<sup>th</sup> in 2007, which shows the importance of nursery

stock in the county. [Agricultural statistics from 2017 show that Boone County reported](#) 10,000 head of Cattle & Calves and 33,600 tons of Hay (Other) were harvested from 15,700 acres. In addition, 2,620 acres of soybeans yielded 158,000 bushels and 259,000 bushels of corn were harvested from 1,730 acres. The Extension Service adds that “burley tobacco varieties are grown on over 3000 acres and sold at local markets...for over \$842,000 in sales for growers.” The County’s numbers in these categories are consistently higher than those reported from Kenton County and Campbell County. Boone County is also well represented with poultry growers with “multiple farmers raising upwards of several hundred chickens for meat and egg production” and a “multitude of grain crop producers who raise a variety of corn, soybeans, and other small grains and producers...receiving top production awards in the state in bushels grown per acre.”

As of 2010, 96.5% of Boone County's 658 farms were classified as Small Family Farms with \$100,000 to \$250,000 in sales (2010 U.S. Census). Of the 658 Small Family Farms in Boone County that year, 41.5% (n=273) were categorized as Residential/Lifestyle Farms where the operator reported their primary occupation as something other than farming. The next largest farm category (28.6%) in the county was Retirement Farms (n=188). These patterns are seen in neighboring northern Kentucky counties and across the state as well. The Extension Service notes that “many farmers found off farm jobs because of elevated self-insurance costs” and that retirement is often “the first time people have the financial capability and stability to return to the farm after saving throughout their off farm career.”

Further analyses of the 2012 Agriculture Census show that Boone County is tracking with state and national trends in terms of farmer age. Between 2002 and 2012, the average age of the Boone County farmer increased from 56.6 to 60.1 years. Regarding tenure, the numbers in Boone

TENURE	BOONE	KENTON	CAMPBELL	KY
Full Owners	81.6%	77.8%	78.6%	76.1%
Part Owners	15.5%	17.6%	20.2%	19.8%
Tenants	2.9%	4.6%	1.2%	4.1%

Source: 2012 U.S. Census of Agriculture



County vary somewhat from those of Kenton, Campbell and the state as a whole, with larger percentages of full ownership relative to part ownership seen in Boone (see **Table 3.4**). Tenant farming is down 1% from 2007 and remains below the state average.

### Agricultural Zoning Districts

The Boone County Zoning Regulations allows farming as a permitted use in most zoning districts, but has two agriculturally oriented zoning districts: Agriculture (A-1) and Agricultural Estate (A-2), both of which allow all agricultural uses and sales of agricultural products. Residential construction is allowed on minimum 5-acre lots in the A-1 zone and 2-acre lots in the A-2 zone. The A-1 zoning district currently includes 49,420 acres, mostly in the rural western half of the county. Agricultural Estate (A-2) covers 48,686 acres, mainly between A-1 areas and more developed eastern Boone County. Together these two Agricultural districts cover approximately two-thirds of the county's 164,120 acres (see **Figure 3.3**).

### Agricultural Districts

The Kentucky Division of Conservation's Agricultural (Ag) District Program is administered locally by the Boone County Conservation District under KRS 262.850 (enacted 1982). Agricultural Districts are distinct from zoning districts and are aimed at protecting the best agricultural land for food and fiber production and discouraging its conversion to non-agricultural uses. In addition, these Agricultural Districts are voluntary and offer members the following protection under the law:

- The right to have their land assessed at the land's agricultural use value;
- Protection against involuntary annexation;
- Deferred assessment of fees for water service extensions unless the land is sold for non-agricultural purposes;
- Right to a public hearing to contest condemnation by certain utilities.

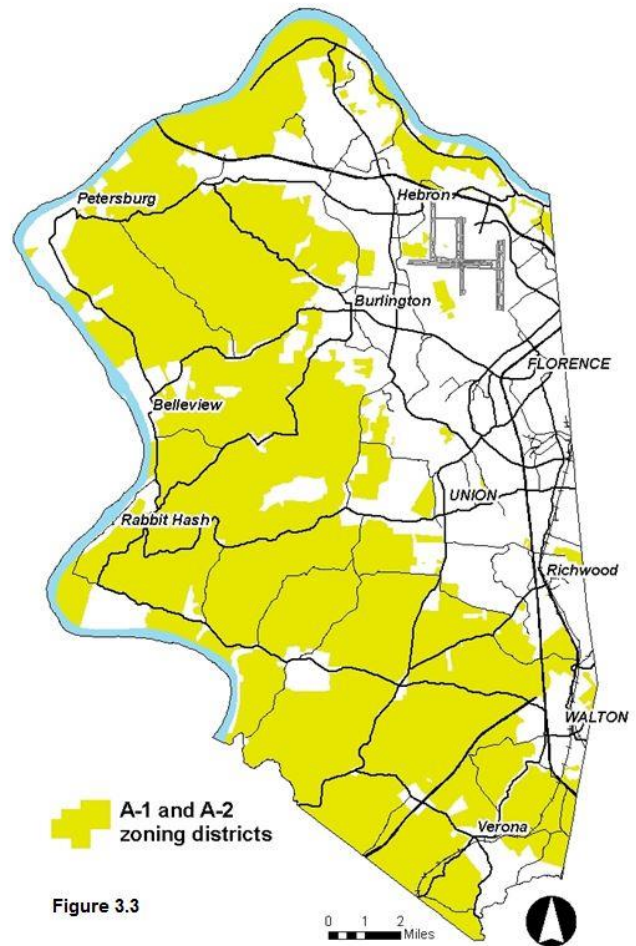


Figure 3.3

An Agricultural District must include a minimum of 250 contiguous acres, with certain parcel size requirements, and must meet the state definition of agricultural land in KRS 132.010. In 1995, Boone County had five Agricultural Districts totaling 3,343 acres. In 2004, there were 13 districts comprising 6,770 acres. There are currently 16 districts encompassing 8,227 acres of land owned by 80 families (Boone County Conservation District Annual Report 6/30/10; Boone County GIS 2017).

### Farm Assistance Programs

As mentioned in the Environment Element, the 1994 Kentucky Agriculture Water Quality Act protects surface and ground water from potential pollutants from agriculture and forestry operations. The Act also requires that all agriculture and forestry operations of 10+ acres develop and implement a water quality plan by 2001. As of March, 2018, 558 water quality plan certificates have been received by the Boone County Conservation District (BCCD 5/30/18).

In addition to water quality, the Boone County Conservation District assists landowners with conservation measures under various programs. As of 2010, district staff is assisting nine farmers who have begun or completed Environmental Quality Incentives Program (EQIP) contracts under the Federal Farm Security and

Rural Investment Act of 2002 (2002 Farm Bill). Program goals include reduction of soil erosion, reduction of non-point source pollution, and promotion of habitat conservation for at-risk species. EQIP has helped fund nearly \$255,000 in conservation practices on 2,685 acres in Boone County. Under the Food, Conservation, and Energy Act of 2008 (2008 Farm Bill), “21 contracts have been obligated for \$374,161.12 on 12,481.2 acres” (BCCD 6/30/10). In addition to the EQIP program, eight other Boone County landowners are implementing conservation practices on 1,256 acres under the Federal Conservation Security Program. As of May 30, 2010, the conservation district reports that conservation plans have been written on 3,250 acres, soil quality improvement practices have been applied to 1,312 acres of cropland, and water quality improvement practices have been applied to 1,599 acres in Boone County (BCCD 5/30/10).

### 2010 Survey Of Agricultural Land Owners

The 2010 [Rural Treasure: The State of Boone County Agriculture](#) study included a [Survey of Agricultural Land Owners](#) and an analysis of the cost of community services in Boone County. The survey was designed to gather data on farmer and farm demographics and tenure, as well as opinions on farmland preservation and future plans. A total 340 valid surveys were received, a return rate of 20.4% considered “above average” by the researcher.

The survey results are consistent with 2012 Agricultural Census figures, but go into greater detail about some aspects of farming. The typical survey respondent is a 62-year old male with some college and annual income of \$50,000 to \$100,000. Less than \$1,000 of that income comes from agriculture and he is employed at least part-time off the farm. Collectively, respondents own 48% (17,356) of Boone County’s cropland, although 62.4% of this land is in active production. Most respondents had learned farming as children and had been farming for at least 20 years. The survey also asked farmers to classify their type of farming in the form of self-perception, future plans, views on the importance of farming, and willingness to participate in farm incentive programs. These and other data available in the online [Rural Treasure report \(PDF\)](#).

### Cost of Community Services Study

The *Cost of Community Services Study* included in [Rural Treasure](#) was a stand-alone report completed by Associate Professor Alison F. Davis, UK Department of Agricultural Economics. The purpose of the study was to answer the question: “Do property taxes and other revenues generated by residential land uses exceed the amount of publicly-provided services required by them?” The analysis employed a methodology used by the American Farmland Trust in hundreds of communities in the US and used tax data to define three land use classes: Residential, Commercial and Farmland. The county budget for Fiscal Year 2009 (7/1/09 – 6/30/10) was analyzed to determine the amount of revenue generated and expenditures used by each land use class. The results are presented in **Table 3.5**.

LAND USE CATEGORY	REVENUE %	EXPENDITURE %
RESIDENTIAL	64.8%	93.9%
COMMERCIAL	32.3%	5.0%
AGRICULTURE	2.9%	1.1%

*Source: 2010 Boone County Cost of Community Services Study*

### Recent Agricultural Trends in Boone County

The Boone County Extension Service is working to help farmers extend the growing season and explore different crops in Boone County. The agency is encouraging farmers to utilize “high tunnels” and/or “low tunnels” to push the growing season up into late winter. They built a 30 x 96-foot demonstration high tunnel – a sturdy skeleton frame covered with clear plastic (**Figure 3.4**) – at the Boone County Extension Environmental and Nature Center on Camp Ernst Road in 2017. A dozen local growers attended to learn how to build and use the technique. Compared to greenhouses, high tunnels are meant to be temporary, less expensive, unheated, and provide less climate control. Low tunnels are a smaller scale version meant to cover perhaps just a single row of low growth crops at a time.

The Extension Service noted that Boone County has “many growers utilizing high and low tunnels to...grow conventional vegetables...and get them to market earlier. Tomatoes, lettuce, greens, and peppers are all being grown in them.” Growing high quality produce and extending the growing season are key concepts endorsed by the Extension Center.



Figure 3.4

Truck farming flourished in Boone County through the mid-20<sup>th</sup> Century, and there has been a resurgence of that in recent years. Scott Farms in Belleview and McGlasson Farms on Rt. 8 market apples, peaches, and vegetables on site and/or to local farm markets. Other crops being grown on a small scale in Boone County include 3 wine grape growers, 2 wineries, paw paws and a grower in Verona who grows only sun sugar cherry tomatoes marketed exclusively to Kroger. Going forward, Koester is planning a demonstration on Shittake mushroom production and is actively encouraging more growers to take interest in small fruit production (blackberries, raspberries, strawberries, blueberries), which “are much less demanding than tree fruit” if pests can be controlled.

Many of Boone County’s farms are adaptable to visitation and tours, as are some of the horse farms and other non-traditional operations such as Eagle Bend Alpacas. Together, these agricultural operations are a viable source of locally grown foods and a solid foundation for agritourism, which has flourished in part due to “a population separated from the farm and interested in educating themselves and their families on the importance of production agriculture” (Extension Service). The [Boone County Farm Tour](#) takes place annually in June, usually with self-guided stops at 8 to 10 local farms, along with the [Boone County Farmers Market](#) in Burlington, which serves as Tour Headquarters. Elsewhere, [The Friendly Market of Northern Kentucky](#) off Mt. Zion Rd. in Florence has several small businesses operating indoors along with a seasonal outdoor pavilion for local farm produce and vendors.

## HISTORIC PRESERVATION

The Historic Preservation section offers guidance for preserving and enhancing Boone County's Cultural Resources, which include historic, architectural, and archaeological sites and cemeteries, as well as other resources such as documents, cultural traditions, and oral histories. As with the county’s Environmental, Agricultural, and Recreational resources, these Cultural Resources impact quality of life and give the county a sense of identity, making their preservation essential.

### Historic Preservation in Boone County: A Collaborative Approach

No single agency or group is responsible for all preservation activities in Boone County. Rather, preservation and local heritage initiatives are carried out by a number of organizations with overlapping missions and scopes ranging from countywide to site-specific. Many positive outcomes and successful projects are a result of strong partnerships between local preservation groups working together and with others at the regional and state levels.

At the local government level, the [Boone County Historic Preservation Review Board \(Review Board\)](#)’s mission is “To lead and educate Boone County government and its citizens in the preservation and protection of Boone County's prehistoric and historic resources.” The Review Board is a 7-member volunteer board appointed by Fiscal Court established when Boone County became a Certified Local Government (CLG) in 1986. With staff assistance from the Planning Commission, the board follows the recommendations of the [Boone County Historic Preservation Plan](#), adopted in 1999. The Preservation Plan provides information and suggests guidelines for recommendations of the REVIEW BOARD to the Boone County Planning Commission and the four legislative units concerning historic preservation issues. The REVIEW BOARD’s tasks include:

- Oversee historic preservation policy in the county
- Monitor projects that require Federal Section 106 Review
- Enforce of the county’s family cemetery ordinance



- Maintain inventories of cultural resources
- Review National Register nominations
- Provide technical assistance to owners of historic properties
- Provide heritage education
- Develop publications about local heritage.

The REVIEW BOARD meets monthly and sponsors special events such as the annual Boone County Preservation Awards, although its primary role is to advocate for preservation at the local level.

Boone County's status as a CLG helped Fiscal Court to secure nearly \$200,000 in Federal Survey & Planning matching grants ranging from \$5,000 to \$20,000 between 1986-2013 for historic preservation activities. These projects have funded:

- Comprehensive architectural survey of Boone County
- Publication of [Historic Structures of Boone County, Kentucky](#)
- National Register nominations for Big Bone Lick, Rabbit Hash, Walton, Burlington and numerous individual properties around the county
- Archaeological surveys of numerous properties around the county
- A GIS cemetery mapping project
- *River Born, Kentucky Bred*, an elementary level heritage education curriculum
- Multiple Cemetery preservation workshops

The [Local History and Genealogy Department of the Boone County Public Library \(BCPL\)](#) is the most active and wide-reaching local heritage organization in the county. Local History has the most comprehensive collection of historical information on Boone County. The collection is available at the Main Branch in Burlington and much of it is available through the online catalog or through [Chronicles of Boone County](#). Library staff provide local history reference and genealogy reference service. Since 2010, the BCPL has been very active with heritage programming, including Underground Railroad and Civil War tours and "ghost walks" of various historic communities. The Main Branch of the BCPL has also become the default recipient of documents which might otherwise be lost. Since the Library lacks the space and resources of a dedicated archival facility, it has actively pursued archiving these materials digitally.

In addition to the government-sponsored REVIEW BOARD and BCPL, Boone County's heritage is stewarded by numerous local private non-profits, some of which include:

- The [Boone County Historical Society \(BCHS\)](#) has the largest membership and has its roots in the initial creation of Big Bone Lick State Park in the late 1950s. The group meets regularly in the Old Boone County Clerk's Building, which they maintain as a small museum of local history. The society also sponsors presentations and special event relating to local history.
- The [Rabbit Hash Historical Society \(RHHS\)](#) is dedicated primarily to the preservation of Rabbit Hash. The RHHS's leadership and dedicated membership led to the unprecedented total reconstruction of the centerpiece Rabbit Hash General Store. Nearly destroyed by fire in early 2016, the store was rebuilt using historic materials and techniques in just 13 months.
- The **Friends of Big Bone (FOBB)** ([www.friendsofbigbone.org](http://www.friendsofbigbone.org)) "purpose is to promote, preserve, research, and memorialize the history and prehistory of the Big Bone Lick Valley." The group focuses primarily on advocacy and education and is a valuable partner in the preservation and interpretation of Big Bone.
- The [Dinsmore Homestead Foundation](#) maintains the c. 1842 Greek Revival James Dinsmore House, surrounding buildings, acreage, and collection. The Dinsmore Homestead is a living history farm with regular and a variety of special.

Boone County's local preservation groups frequently collaborate with and seek assistance from others at the regional and state levels. The most active regional group is the [Cincinnati Preservation Association](#), which offers technical support and opportunities for hands-on training to residents and agencies in the area, but also holds conservation easements on several significant cultural resources in Boone County. Kentucky's State Historic Preservation Office is the [Kentucky Heritage Council \(KHC\)](#), which has provided invaluable guidance to agencies and property owners in Boone County since before Boone County became a CLG in 1986. The KHC just



completed an update to state's preservation plan titled [A Map Made of Memory: Kentucky's State Historic Preservation Plan 2017-2021](#).

### Historic Context

A summary of historic (and prehistoric) occupation of Boone County is presented here. For a more extensive discussion of historic context, see the Preservation Element of the 2010 Boone County Comprehensive Plan (online here). The best source for more in depth discussion about local history is the BCPL's [Chronicles of Boone County](#).

Prior to contact with European explorers and settlers, Boone County was occupied by successive groups of Native Americans starting with highly mobile hunters and gatherers referred to as the Paleo-Indian culture (c. 9500 – 8000 B.C). Later Archaic peoples (c. 8000 – 1,000 B.C) were more diversified, relying on choices from a variety of local options. The use of cultivated plants for food began during the Woodland period (c. 1000 B.C. - A.D. 1000) when people began living in larger communities for longer periods. Late Woodland activities and social organization elaborated further during the Late Prehistoric or Fort Ancient period (c. A.D. 1000-1700). Settlements were large villages located mostly in valley bottoms with smaller seasonal sites on tributary streams. Remnants of these large villages were first encountered in the early 18<sup>th</sup> Century by Europeans exploring the Ohio River and visiting Big Bone Lick. Evidence of European contact has been found through archaeology at some Fort Ancient village sites.

Historic period settlement in what would become Boone County began in the late 18<sup>th</sup> Century. Boone County was formalized in 1799 when a 74-acre tract near the county's center was chosen as the county seat. Originally called Craig's Camp and later Wilmington, the town was renamed Burlington in 1816. Although Burlington was the county seat, Boone County's earliest major town was Petersburg. First settled in 1789 as Tanner's Station, it was renamed Petersburg in 1816. Petersburg was an economic powerhouse throughout much of the 19<sup>th</sup> Century thanks to the Petersburg Distillery, which grew to become Kentucky's largest.

In the southeast part of Boone County another early settlement grew along the Lexington Pike around a stagecoach stop at Gaines Tavern. Begun in the 1790's, it became Walton in 1840. Another settlement north of Walton along the pike became Florence in 1830. The town of Union also grew up around a crossroads, gaining its current name in 1830. Other early historic period communities included Rabbit Hash, Belleview, Constance, Taylorsport, and Big Bone Springs.

Although just a few miles downriver from Cincinnati, Boone County's 19<sup>th</sup> Century growth was largely isolated from that of its large urban neighbor. Boone County's agrarian economy benefitted from proximity to the large Cincinnati markets and industry, but remained a farming community into the mid-20<sup>th</sup> Century. Boone County's population reached 10,000 by 1840 and fluctuated up to about 13,000 for more than a century (see **Figure 3.5**). The population began to rise consistently in the 1950's

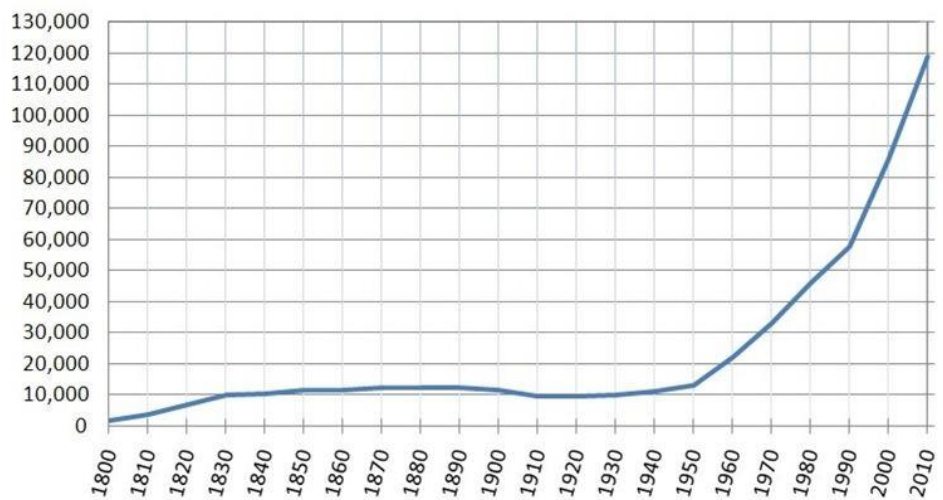


Figure 3.5

Source: U.S. Census Bureau

and has been doubling roughly every 20 years since 1960. In 1946 the airport for Cincinnati was dedicated in northeastern Boone County. The population of Boone County grew by twenty percent from 1940 to 1950. With the construction of Interstates 71 and 75 in the 1960s, Boone County became one of the fastest growing counties in the nation.

## Resource Inventory

The combination of 10,000 plus years of human occupation (particularly the last 225+ years) has resulted in a range of cultural resources in Boone County, many of which have implications for land use planning. The most numerous of these are archaeological sites (both prehistoric and historic), architectural sites (buildings, bridges, etc.) and small cemeteries. Other resources include historic documents, traditions and stories and also natural features (e.g., Big Bone Lick) and viewsheds such as those of major stream valleys that have gained at least local cultural significance. The level to which these resource types have been documented and studied varies but is discussed here.

### Geological/Natural Sites and Viewsheds

The bedrock of Boone County is primarily limestone and shale with glacial deposits occurring in northern and western parts of the county. Notable remnants of glacial terraces are visible at Boone Cliffs in Middle Creek and at Split Rock at the confluence of Woolper Creek and the Ohio River. The oxbow of Woolper Creek just upstream from this confluence is recognized as very unusual and was restored in the last few years. Boone County is also noted for its numerous mineral springs. The most famous of these is Big Bone Lick but others are noted on early maps of the county.

The relevance of viewsheds in Boone County was first explored in the Western Boone County Study (1998), which considered “prominent views of stream valleys and hillsides...characteristic agricultural scenery...rural highways with vistas” and other visual criteria in the planning process. Viewshed is a factor considered in the evaluation of a property’s Integrity of Setting relative to the National Register of Historic Places (NRHP). See [https://www.nps.gov/nr/publications/bulletins/nrb15/nrb15\\_8.htm](https://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm) for National Park Service guidelines for Integrity. Viewshed impact must also be considered relative to certain Native American sites containing human remains. The sites chosen by Native Americans for burial mounds have sacred significance and, for example, placement of a cellular tower (or similar visual intrusion) within the viewshed of such a site is considered an indirect impact under Federal environmental guidelines.

### Archaeological Resources

The Kentucky Archaeological Survey (KAS) at [Kentucky Office of State Archaeology](#) (OSA) currently lists over 590 archaeological sites in Boone County, most of which have not been studied beyond the survey level. Archaeological sites in Boone County are known to include (but are not limited to): cemeteries, the communities or camps of Native Americans, the remains of demolished or deteriorated buildings, former community sites (now obscured on the surface), former industrial sites such as grist mills, former commercial sites such as toll houses, sites of Civil War activity, and the yards of existing historic structures.

Several Boone County archaeological sites are listed in the National Register of Historic Places (NRHP), including those within the 500-acre Big Bone Lick Archaeological District as well as one of the most significant Paleo-Indian sites in the region. Also listed are two Fort Ancient village sites (Arrasmith and Cleek-McCabe), a Woodland mound and habitation complex (the Rogers Site), and the Adena-era Reeves Mound. Other potentially eligible sites include a multi-component Fort Ancient village site in Petersburg and the ruins of a Crisler-Gulley Mill on Gunpowder Creek. The 2 volume set titled [The Archaeology of Kentucky](#) presents detailed contexts and recommendations for archaeological sites across the state.

Over the years, many sites in the KAS database were reported by amateurs collecting artifacts from the surface; some have also been excavated by amateurs operating without a permit. The [OSA administers excavation permits](#) for archaeology on publicly owned lands and all publicly or privately owned caves. The Review Board does not recommend or support archaeology anywhere in Boone County without such permits.

Boone County has been the focus of archaeological investigation by professionals and amateurs since at least the 1930s (see [Archaeological Survey of Kentucky](#), Funkhouser and Webb, 1932). During the Works Progress Administration (WPA) era (1938-1941), seven Adena mounds and a Fort Ancient mound/village site were excavated. The Northern Kentucky Archaeological Society under the direction of Ellis Crawford conducted investigations at the Rogers mound and village site in the 1950s.

In compliance with the National Historic Preservation Act of 1966 and National Environmental Policy Act of 1969, formal archaeological surveys have been performed in Boone County since the late 1960s. Archaeological surveys (and sometimes testing) have been conducted for projects involving road construction, airport expansion, power plant development, sewer lines, cell towers, and other undertakings requiring Federal permits or funding.

Since the 1730s, Big Bone Lick has been noted as a place where bones of extinct megafauna could be found and has received national and international attention for its significant role in vertebrate paleontology. In 2009, Big Bone Lick was designated a National Natural Landmark; a National Historic Landmark nomination is still in the works.

The first phase of a new museum at Big Bone Lick was dedicated in November, 2004. Subsequent phases of construction depend on funding through the State Department of Parks. Ongoing archaeological and paleontological research remains the core of the facility's interpretive mission.

The Boone County Historic Preservation Review Board (Review Board) has initiated a number of archaeological projects using Federal Survey and Planning Grants available to Certified Local Governments (CLG). Among them was an extensive survey and testing program in Petersburg in 1990-1992, designed to help define the extent of the prehistoric site beneath the historic town. Over 1,200 school children and adults benefitted from on-site visits, workshops, and classroom presentations. Periodic archaeological surveys have been completed elsewhere in the county since 1992, including the watersheds of Gunpowder Creek (2007), Mud Lick (2007) and Woolper Creek (2007 and 2008). The goals were to identify and document unknown sites as well as others previously reported by county residents and amateur archaeologists. In 1996, another CLG project focused exclusively on documenting Native American burial mounds. In 2008, an intensive survey of the Gaines Tavern Site in Walton produced a much better understanding of the site's archaeology, which in turn led to the expansion of the property's National Register boundary and including of archaeology as one of the site's criteria for listing. In 2004, archaeologists from the Kentucky Heritage Council, Kentucky Archaeological Survey and University of Kentucky returned to the Petersburg Site following the accidental discovery of human remains during construction of a house foundation. These organizations were assisted by the volunteer efforts of nearly 20 trained archaeologists. Over a period of 10 days, 35 prehistoric burials representing 38 individuals were excavated from the area impacted by the house foundation. Analysis of the remains and associated artifacts helped redefine archaeologists' understanding of the Fort Ancient occupation of Petersburg and the Ohio Valley. The cemetery excavation was a key element of the interpretations of late prehistoric life presented in [The Prehistoric Farmers of Boone County, Kentucky](#) (2006).

The demonstrated potential for prehistoric human burials in Petersburg led to the preemptive excavation in 2013 of over 1 mile of 3-foot wide trenches prior to water line installation in the town. That project documented over 1000 archaeological features, including 28 human burials, 1 prehistoric dog burial and over 11,660 artifacts. Although 7 of the 28 burials were excavated and later reburied, the other 21 burials were avoided and preserved in place. The project succeeded in providing public water and fire protection to much of Petersburg while minimizing impacts to prehistoric burials. The extent of the burial grounds in Petersburg is now also much better understood.

#### Family Cemeteries

Cemetery preservation has been an issue in Boone County since the 1980s. An inventory of known family cemeteries is maintained by the Boone County Historic Preservation Review Board (REVIEW BOARD). Location, site size and other data are mapped in the [Boone County GIS](#). Copies of Cemetery forms may be obtained from the county's Historic Preservation Office or from the Boone County Public Library. As of 2018, the locations of 211 of 225 previously recorded family cemeteries are plotted in the GIS. Detailed information such as known names and birth/death dates of those interred is shared with [the Boone County Public Library](#), which is the community's most accessible genealogical resource. Fifty or more additional small family cemeteries are believed to be located across the county, a few of which were recorded in the 1960s (without reliable location information).

A thesis prepared by a graduate student in community planning in 2002 studied the cemetery preservation issue, comparing cemetery preservation strategies and results in Boone County with those of Cobb County, Georgia.

The thesis compiled information about Boone County cemeteries that have been relocated and/or preserved in place as a result of the cemetery regulations adopted in 1990. The thesis made a number of recommendations, including:

- Boone County should develop an Adopt-a-Cemetery Program and offer small grants to encourage cleanup and maintenance of cemeteries on private property;
- Cemetery relocations should be managed by a licensed archaeologist;
- An oversight organization (with authority to review site plans and zone change applications) dedicated to cemetery preservation issues should be formed.

The Review Board should be notified and involved in any matter affecting the status of a family cemetery. While a non-profit cemetery advocacy group (Johnson-Wilson Cemetery Stewards Association) was active in Boone County from 2003 to 2009, it dissolved largely due to a lack of reliable funding. The [Boone County Cemetery Preservation Plan](#) approved in 1990 was one of the first of its kind in the country and has been copied elsewhere in the nation. Key recommendations of the plan included buffer and maintenance requirements for cemeteries preserved within developments, which are codified in the [Boone County Zoning Regulations](#) (2013, Section 3166) (and [Boone County Subdivision Regulations](#) (2014, Section 315(f))). These local requirements apply only to cemeteries preserved within subdivided properties in Boone County and do not supersede the Kentucky Revised Statutes pertaining to cemetery maintenance and relocation. To date, 20 cemeteries have been preserved in Boone County under Section 3166; failure to follow maintenance requirements is a zoning violation.

While local regulations can govern the disposition of cemeteries preserved in Boone County, State law includes procedures for relocating burials and cemeteries (see KRS 381:755). That process was administered by the Kentucky Office of Vital Records until sometime in 2016 but is now left to counties to oversee. Interest in the cemetery relocation process has increased in Boone County in the last few years, especially in previously undeveloped property near the airport. With the approval of County Administration, the REVIEW BOARD developed a set of [recommended guidelines for those seeking to relocate graves in Boone County](#).

#### Architectural Resources

The initial architectural survey of Boone County was conducted in 1976-1977 by the Kentucky Heritage Council (or KHC, then known as the Kentucky Heritage Commission). The survey documented 353 resources and was comprehensive in that every passable road was traveled. Twentieth century resources, barns and outbuildings, and simple vernacular structures were largely neglected. In 1979, the KHC published the results of that survey in [Survey of Historic Sites in Kentucky: Boone County](#).

In 1988, all of the original 353 resources surveyed were re-examined, and 60 sites were listed on the National Register of Historic Places (NRHP) through a multiple resource nomination. In 2000, 14 additional properties were listed in the NRHP. A new Multiple Properties Documentation Form entitled [Historic and Architectural Resources of the County of Boone, Kentucky, 1789-1950](#) was also developed. In 2005, 10 more Boone County properties were listed individually in the NRHP.

Between 1992 and 1996, a countywide architectural survey (funded by a county-matched CLG grant) inventoried nearly all Boone County buildings and structures build before c. 1945. The final report, titled [Comprehensive Architectural Survey of Boone County, Kentucky](#) made recommendations for potential NRHP Districts in Petersburg, Belleview, Rabbit Hash, Verona and Walton. The inventory is continually added to, primarily due to publicly funded development projects, including road construction, airport expansion and cellular tower installation.

As of 2017, 1,628 Kentucky Historic Inventory numbers have been assigned in Boone County, although the true number of sites documented since the survey in the 1990s is estimated at around 1,600. Of those, approximately 250 have been lost (primarily to demolition) putting the current estimated number of properties in the Historic Inventory at 1,350. The inventory provides a foundation for the 1999 county-wide [Preservation Plan](#), and gives documented evidence of the wealth of historic resources found across the county. This information is used in the review of plans for development, by citizens completing historic or genealogical research, and as a guideline for future historic preservation projects and initiatives in Boone County.



In 2002, the Boone County Historic Preservation Review Board published Historic Structures of Boone County, Kentucky as a follow-up to the KHC's 1979 Survey of Historic Sites in Kentucky: Boone County. Based on data from the mid-1990s survey, Historic Structures showcases 192 of Boone County's historic properties. The book is a glossy paper bound volume with black and white photographs. It is available through the Boone County Planning Commission; all of the images in the book are available online at the Boone County Public Library's Chronicles of Boone County wiki.

Kentucky Historic Resources inventory forms, as well as the final report are public information and copies can be obtained from the Boone County Historic Preservation Office or the KHC office in Frankfort. The location and basic information about each inventory site is maintained in the Boone County GIS. Some of that information, including site location, is readily available to the public through the online [Boone County GIS Interactive Mapping Services](#).

### Burlington National Register Historic District

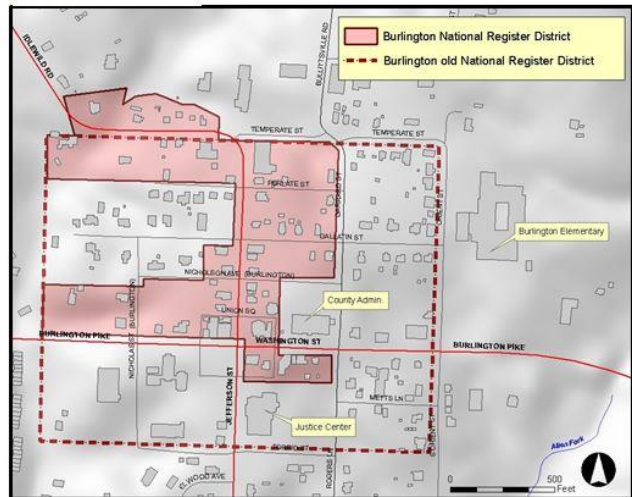
Burlington, the county seat of Boone County, was originally listed in the NRHP in 1979 as a grid rectangle of 74 acres comprising the original town. The Burlington district was revised in 2005 and the boundary redrawn to reflect current NRHP criteria (see **Figure 3.6**). The 33-acre district has 71 resources, 63 of which were previously listed in the NRHP. The district is significant under NRHP criteria for its reflection of patterns of politics/government in Boone County and for architecture, which includes fine examples of Greek Revival, Federal and Bungalow styles. The period of significance extends from c. 1790 to c. 1950.

Rehabilitation and adaptive reuse of National Register buildings in Burlington began in the early 1990's, with the pace of activity increasing in the early 2000's. Most of this activity has been in the form of private sector projects along North Jefferson Street, with the rehabilitation of three restaurants, a Bed & Breakfast Inn, and several other shops specializing in crafts, books and/or antiques. Public involvement has included the rehabilitation by the county of the former Burlington Presbyterian Church as a maintenance garage and rehabilitation projects for the Old Courthouse in 2003 and again in 2017. The 1889 Boone County Courthouse is arguably the centerpiece of the Burlington NRHP district. It was designed by the McDonald Brothers of Louisville, who specialized in courthouse designs. The original clock tower was replaced in 1898 with the cupola designed by the renowned Cincinnati architectural firm Samuel Hannaford and Sons. A [history of the Old Courthouse](#) is online here..

In 2015, the county initiated a feasibility study for rehabilitation of the Old Courthouse. Based on community input, the 2017 rehabilitation of the building was much more comprehensive than the 2003 project. The building houses offices as it did before (Child Support, Historic Preservation), but also functions as a community center. A conference room on the first floor can be reserved and two other rooms are available for pre-event space. Rehabilitation of the upstairs courtroom into a community hall included leveling the floor, restoring the original pressed tin ceiling and rebuilding one of the 12-foot arched windows removed in the 1960s for a fire escape. The hall holds 125 to 200 people depending on seating and can be reserved through the county's [Property Maintenance Department](#).

The Burlington Historic District presents a crucial preservation challenge. Efforts should be made to insure that a mixture of governmental, commercial, and residential activity continues to function in Burlington. Burlington has the rare opportunity to capitalize on its unique architectural landscape, small town charm and rural atmosphere. Poorly designed new construction, already apparent in several Burlington locations, will destroy this valuable character. Rehabilitation and adaptive reuse of the town's historic buildings should be encouraged to meet the realities of a rapidly changing county.

Figure 3.6



The [Burlington Town Strategic Plan](#) (2003) was developed with the mission statement “to energize the central town of Burlington into a healthy business and residential center of Boone County by using the public services, special events activity, and historical character of the town as a foundation.” The plan includes recommendations designed to enhance the infrastructure, streetscape, architectural design, marketing and tourism potential of Burlington. To date, a number of the plan’s recommendations have been completed or initiated, including:

- Update the Burlington National Register District nomination
- The relocated Boone County Clerk’s Building serves as a local history museum
- A design review procedure is now in place
- Reconstruction of the Temperate St/Idlewild Rd. intersection (2018)
- Numerous sidewalk improvements, including pedestrian access (in 2018) to the Fairgrounds and England-Idlewild Park on Idlewild Rd. and Boone Woods Park along Burlington Pike
- Planting of street trees in cooperation with the Urban Forest Commission
- Adaptive Reuse/Rehabilitation of the Old Boone Courthouse (2017)
- Improved wayfinding signage and lighting in part thanks to a 2008 Preserve America Communities Grant (for \$22,500).

In Burlington, Union, and throughout the county, it is imperative that more of a balance between old and new be encouraged and supported. Boone County deserves to retain its own unique identity as it continues to grow and prosper.

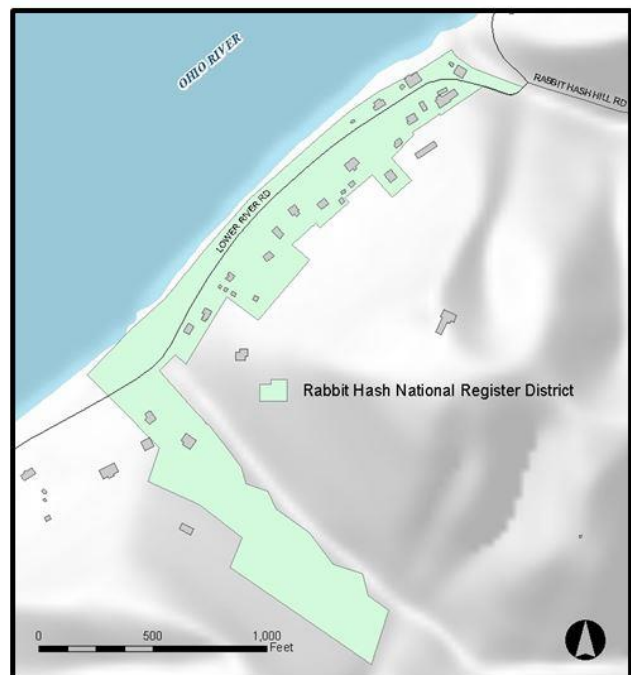
#### Rabbit Hash National Register Historic District

The Rabbit Hash NRHP District was listed in 2003 and (see **Figure 3.7**) is anchored by the c. 1831 Rabbit Hash General Store. The 33-acre district includes the General Store and 11 other structures and extends from Parks Branch north of the General Store to 10410 Lower River Road. The district nomination is based on Rabbit Hash’s significance in the context of ‘Boone County River Towns, c. 1814-1945.’ The General Store and late 19<sup>th</sup> Century B.C. Calvert House were previously listed in the NRHP in 1989. The 3.5 acres at the core of Rabbit Hash (including the General Store and 7 other buildings) are also designated a Boone County Local Historic Landmark District, subject to design review under the Zoning Regulations.

In February, 2016, the General Store was nearly destroyed by a catastrophic fire. Originally thought to be a total loss, the store was completely restored to its pre-fire state in 13 months. The unprecedented project used period materials and construction techniques and maintained the store’s National Register status. It was funded largely through crowd-sourced donations and supported by thousands of hours of volunteer labor. This was just one in a long list of preservation initiatives spearheaded by the RHHS, which has included erection of signage and a historic marker in town, and rehabilitation and maintenance of historic buildings. Rabbit Hash remains one of Boone County’s most well-known tourist destinations and was the subject of a full-length documentary film entitled “Rabbit Hash: Center of the Universe.” In 2004, Rabbit Hash joined Boone County on the list of 50 Kentucky communities recognized by the Federal government as Preserve America Communities.

The popularity of Rabbit Hash as a unique tourist destination has resulted in some noise and traffic impacts that the RHHS continues to try and address. The future success of the society’s efforts could serve as an example for other historic places in Boone County experiencing heavy visitation.

**Figure 3.7**

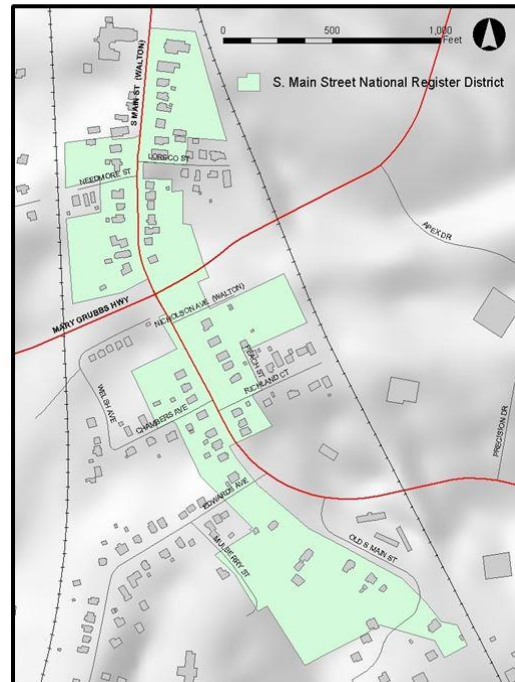


### Walton South Main Street National Register Historic District

In 2005, a NRHP District nomination for the residential portion of South Main Street in Walton was approved by the National Park Service. Three Walton residences on (or adjacent to) North Main Street were nominated separately in the NRHP that same year. The Walton South Main Street Historic District (see **Figure 3.8**) is a linear district straddling Walton's primary thoroughfare - US 25. The 31-acre district includes 47 primary buildings, mostly residences built between c. 1900 and 1925 and also 2 churches. Three houses previously listed in the NR fall within the district as well. The district is bounded by Depot Street on the north and the Norfolk Southern overpass on the south. The district is significant in the area of Community Development from 1868 to 1950.

The City of Walton purchased bronze plaques to designate every historic property in the South Main Street district. The City also acquired the Abner Gaines House and rehabilitated it as the Gaines Tavern History Center. Walton was recognized for celebrating its history with Boone County Preservation Awards in 1999, 2005, and 2007. Continuation of the mixed-use development that characterizes Walton's Main Street is encouraged by a special Walton Downtown District in the Boone County Zoning Regulations, which does not include design guidelines.

Figure 3.8



Main Street in Walton is the most intact and functional historic downtown in Boone County. Like Burlington, new development along Walton's Main Street should be carefully reviewed to encourage development that is compatible with the mixed-use character of this historic downtown. Rehabilitation and adaptive reuse of historic structures should be strongly encouraged. In 2010, the Boone County Historic Preservation Review Board prepared a draft set of design guidelines for Walton's Main Street Business District although they were not adopted by the City. In December 2015, the city passed a resolution supporting the [Walton Main Street Strategic Plan](#) prepared by the Planning Commission.

### **Preservation Strategies For Boone County**

Many of the recommendations here derive from the Boone County Historic Preservation Plan (1999) which clarifies the role of historic preservation efforts in Boone County. The Plan provides specific guidelines and recommendations as well as pertinent background information for the preservation program in Boone County. The plan establishes preservation priorities for natural and cultural features, recommends appropriate regulatory tools, incentives, and strategies. Historic preservation efforts should focus on balancing new development with preserving the history and character of Boone County. This could include strategies such as adapting a historic building for a modern commercial or retail use, including an existing building in plans for a new subdivision, or a creative building design that blends with the existing landscape.

While Boone County has changed in the nearly 20 years since the Preservation Plan's adoption, its goals remain relevant, and include:

1. **Promote** cultural resources as a viable part of the county's lively past and vibrant future
2. **Identify** cultural resources as valuable assets to the county and to its citizens
3. **Protect** cultural resources from physical threats, which endanger their preservation
4. **Preserve** cultural resources through a variety of economic and other programs

Promotion and education are key themes of the Preservation Plan, reflected in the first goal. The Review Board has addressed this goal in the past through educational workshops, lectures, publications, and by developing a heritage education curriculum for use in local elementary schools. Other preservation partners meet this goal in various ways such as the BCHS bi-monthly lecture series, BCPL's Underground Railroad tours or lectures sponsored by the FOBB. While some printed brochures, maps and publications remain available, their digital



counterparts are more accessible today. These include Facebook pages, websites such as [Chronicles of Boone County](#), [Northern Kentucky Views](#), and [Kentucky Libraries Unbound](#), online story maps, the [History in Your Own Backyard](#) video series, and even QR codes attached to historical markers/sites that link to additional online information.

Identification and documentation of cultural resources in Boone County has been going on since before the Review Board formed. As discussed above, archaeologists have been active in Boone County since the Depression and the first countywide survey of historic structures was completed in the 1970s. In fact, survey results from the 1990s formed the basis for the Boone County Preservation Plan. Surveys and subsequent Multiple Resource nominations to the NRHP include historic contexts and themes which place resources in appropriate historic or architectural perspectives and help in evaluating their significance. The Review Board continues to advocate for identification and documentation of historic resources, including cemeteries, archaeological sites, and buildings. An Review Board also recognizes the need to update the countywide survey, although the logistics of recording every structure built prior to 1968 are daunting.

The Preservation Plan does not propose specific regulatory measures for the protection and preservation of historic resources. Rather, it provides guidelines the Review Board and others may use in making decisions and recommendations regarding potential impacts to historic resources. The Plan suggests ways historic preservation can be a part of the planning process and outlines research questions that support specific Goals and Objectives. In terms of regulation, Boone County Zoning Regulations includes a Historic Landmark/Overlay (H) District, but the central portion of Rabbit Hash is the only area so designated. By comparison, the Cemeteries section of the zoning code is utilized much more frequently. A non-regulatory administrative agreement between the Planning Commission and Building Department pertaining to demolition permits also exists. This provides an opportunity for Review Board staff to review demolition permits and at a minimum document historic properties prior to demolition. In 2012, this procedure led to the successful salvage and relocation of an early 19<sup>th</sup> Century log house located near the intersection of Burlington Pike and KY 237.

Preservation strategies recommended for Boone County are varied and integral to the above promotion, identification and regulatory goals. While to date the Local Landmark/Overlay (H) District has only been used in Rabbit Hash, it remains an available tool that includes design review. Design review processes are in place along Florence's Main Street and in Burlington, although to a limited extent. To date, there has not been sufficient support for more comprehensive design review processes elsewhere in the county. Local governments have taken steps to preserve resources through acquisition and stewardship. Examples include the Gaines Tavern in Walton and Renaker House in Burlington. Some cemeteries and archaeological sites are preserved within county owned parks. Some of the most viable and potentially successful preservation strategies are discussed separately below.

### **Heritage Tourism**

The 2000 Boone County Comprehensive Plan recognized the importance of heritage tourism in Boone County and in 2002, the Boone County, Kentucky, Heritage Tourism Plan was developed and adopted by the Historic Preservation Review Board. The Heritage Tourism Plan catalogued Boone County's numerous heritage resources into seven categories "considered representative, unique, irreplaceable, or distinctly characteristic of" Boone County, Kentucky. The plan recommended that the county's existing heritage-oriented businesses and organizations should coordinate their efforts to market local heritage and utilize potential heritage tourism markets. Markets identified in the plan included the Cincinnati, Dayton, and Columbus, Ohio, metropolitan areas, southeast Indiana, central Kentucky, and the rapidly growing population of Boone County. The plan argued that the economic benefits of heritage tourism might be realized if an area's heritage is conserved and shared with visitors. Many recommendations of the plan were implemented, including development of the Boone County Heritage Tourism Council, creation of a heritage tourism website and shared event calendar, and printing and distribution of 3 editions (totaling over 67,000 copies) of the Boone County Heritage Tourism Map. The Heritage Tourism Council met on a regular basis for two years before disbanding in late 2005.

Then as now, the most recognized heritage tourism resources include the Burlington Historic District, Dinsmore Homestead, Big Bone Lick State Historic Site, and Rabbit Hash. According to the NKY Convention and Visitors Bureau, the Creation Museum near Petersburg and Ark Encounter (near Williamstown, Gallatin County) are the

primary drivers of a burgeoning “faith-based” tourism in the region. Together, they have helped generate increased demand for hotel rooms in spurred the creation of a significant number of Airbnb and VRBO (Vacation Rental By Owner) properties in Boone County. A number of houses and other buildings in Petersburg and elsewhere in Boone County have been rehabilitated for rental through these online booking sites.

### **Federal Rehabilitation Tax Credits**

Tax credits for the rehabilitation of historic structures were first created by the Federal Tax Reform Act of 1986, which established a 20% tax credit for certified expenses on income-producing properties. The law also allowed a 10% credit for rehabilitation of non-historic structures built prior to 1936. Program details are modified periodically but current information is available through the [National Park Service website](#). Generally speaking, qualifying rehabilitation must follow the [Secretary of the Interior's Standards for Rehabilitation](#). In Fiscal Year 2016, 50 projects in Kentucky successfully earned Federal tax credits with investment totaling \$74,235,891. Kentucky ranked 6th in the nation in numbers of successfully completed projects. The [Fiscal Year 2017 report of the Federal Tax Incentive program](#) indicates that the program has generated nearly \$90 billion in rehabilitation investment since 1977.

### **Kentucky Historic Preservation Tax Credits**

Created in 2005, the [Kentucky Historic Preservation Tax Credit program](#) also requires NRHP listing or eligibility as a prerequisite. However, the Kentucky program allows credits for owner-occupied residential properties at a 30% rate, with a minimum investment of \$20,000 and total credit cap of \$60,000. For all other properties, 20% of rehabilitation expenses may receive credits, with a \$20,000 minimum investment and total credit not to exceed \$400,000. These credits are transferrable, which is an incentive for non-profits and governmental agencies to adhere to Secretary of the Interior Standards when work is performed on their historic properties. The 2016-2017 Old Boone County Courthouse Rehabilitation project was awarded \$147,000 in Kentucky tax credits under this program. Kentucky's application process and paperwork are designed to allow projects simultaneously apply for both state and Federal 20% tax credits for income-producing properties.

In 2016, 131 of 138 applications for the state tax credit (from 27 counties) were approved by the KHC pending completion of the work. Thee approved projects represent nearly \$92 million in private investment in rehabilitation. Since the program began in 2005, 738 buildings in Kentucky have been rehabilitated, representing \$433 million in private funds invested in historic buildings. The average investment has been \$1.2 million for commercial projects and \$120,000 for residential.

### **Historic Conservation Easements**

An easement is a legal document through which a property owner grants limited rights in his or her property to another. Easements for driveways and utilities have existed for some time. Conservation easements, under Kentucky law, can now be utilized to protect natural, scenic or open space areas and natural resources or to preserve historically and architecturally significant properties and archaeological sites. Such an easement limits the right of the owner to alter the historic or natural character of the property. Because the easement is given in perpetuity, it continues to protect the property even after ownership changes hands. Easements can be complex and owners interested in pursuing one should consult a tax professional or attorney. The National Park Service publication [Easements to Protect Historic Properties: A Useful Historic Preservation Tool with Potential Tax Benefits is an excellent resource](#).

The KHC currently holds or administers easements on several NRHP properties in Boone County. Other organizations holding conservation easements on historic properties in Boone County include The Archaeological Conservancy, Hillside Trust, The Boone Conservancy and the Cincinnati Preservation Association. The continued use of conservation easement programs should be encouraged for Boone County.

## **CONCLUSIONS AND RECOMMENDATIONS**

Agricultural land has value beyond the production of goods and services, according to the Boone County Conservation District, including benefits for storm water filtration, ground water recharge, flood reduction, soil retention, wildlife habitat, air purification, historic sites, scenic corridors, as well as the economic benefit of visual

character. However, recent statistics show that development of the county's rural areas continues. To protect farming, a combination of tax structures, planning efforts, incentive programs, conservation easements, and utility expansions should continue to be explored. New residential development should be correlated with sufficient infrastructure, including sewer, adequate roads, fire hydrant water pressure, storm water management, and emergency response are necessary to support residential development in the long term. This adds to the cost of providing community services. Agriculture, on the other hand, enables an economic use of the land and requires relatively little infrastructure support or public expenditure.

New residential development can conflict with existing farming in the form of trespassing, vandalism, and complaints about agricultural odors and noises. Farmers also face transportation challenges accessing fields located away from their equipment storage locations because of increased suburban traffic, driver impatience, and lack of knowledge about proper passing techniques. However, large, concentrated agricultural production of livestock and similar operations (aka "mega-farms") should still be treated as industrial uses per state law, because of potential noise, visual, traffic, and other impacts on surrounding land uses.

Existing Right to Farm statutes and the Agricultural District program mitigate but do not alleviate farming-housing conflicts. The [County's Agricultural Grievance Board](#) can help mediate conflicts between farmers and their neighbors and provide assistance to a farmer dealing with trespassing or vandalism. Other mechanisms are already in place in the [Boone County Zoning Regulations](#) (Section 3158) and the [Boone County Subdivision Regulations](#) (Section 308) to help minimize negative impacts of development locating next to farmland.

In the post-tobacco agricultural economy, efforts to promote innovation and crop diversification such as those pursued by the Extension Service are helping to preserve existing farmlands as economically viable. Other potential crop alternatives include herbal crops, hay, timber (wood products), textiles, aquaculture, medical industry crops and even ostrich, bison or mink. A good farmer's market network can supplement the successful Boone County Farmer's Market to link farmers with consumers and promote regional sustainability by meeting local food demand with local supply.

The [2010 Comprehensive Plan](#) notes that Boone County conducted a series of open space plans, citizen surveys, parks/rec master plans and related documents between the late 1980s and late 2000s,. The parks system made notable progress toward meeting the needs of a population that began growing significantly in the early 1960s. A number of large parks and properties were developed or at least acquired, including England-Idlewild Park, Central Park, Conrad Park, Gunpowder Creek Nature Park, and the Volpenhein and Waller-Stephenson properties. Much of the land for these facilities came from opportunities that presented themselves during site development. Since 2006, only a few proposed projects (**see Table 3.1**) have been addressed, the most notable being The Conservancy Park in Belleview. Boone County's growing population is increasing the need parks and recreational opportunities, while the resources adequate to meet those needs have not increased proportionally. Continued rising land costs and development pressure further complicates land acquisition for parks facilities. According to Boone County Park's Director, the Department's top priorities for the immediate future are:

- Additional park land in the Hebron Area and North of 275
- Additional park land in the Richwood, Union and Verona Area
- Concentrating on Non recreational Open Space (for environmental purposes)

Feedback collected during the public involvement process for Plan2040 provides some insight into current citizen sentiment about parks and recreation in Boone County. Survey responses were relatively neutral to the question "*The existing parks and recreation facilities are sufficient to meet the needs of Boone County.*" Of 248 people responding, 103 either agreed or strongly agreed with this statement. Ninety disagreed or strongly disagreed and 55 neither agreed nor disagreed. This seems to suggest that most residents are at least satisfied with the amount and quality of existing parks and recreation facilities.

However, when asked to complete the following open-ended statement: “My vision for the future of Boone County is \_\_\_\_\_.” The top responses fell into three categories:

- Family Friendly/Friendly to Live In/Happy Community” (n=67; 15.2%)
- Plenty of Parks & Recreation/More Green Spaces/Public Facilities (n=58; 13.2%)
- Better Roads/Lack of Congestion/Less Traffic (n=46; 10.5%)

The open-ended statement “What do you feel is needed in Boone County to improve the quality of life for businesses and residents?” generated top responses broken down as follows:

- Better Roads/Lack of Congestion/Less Traffic (n=86; 19.3%)
- Plenty of Parks & Recreation/More Green Spaces/Public Facilities (n=67; 15.1%)
- Sustainability in Construction/Protect the Environment/Renewable Resources (n=28; 6.3%)

Comments received during the planning process align with these percentages. Most public input focused on transportation issues, particularly roads and vehicular traffic. The next most common category of comments related in some way to open space, parks or recreation. Comments about bicycling and good pedestrian access were also prominent, with the following examples being typical:

*“A community that has sufficient areas set aside for recreation, green spaces, cycling opportunities, walking trails that are easily accessible throughout the county.” and “I would like to see Boone County add more safe lanes and paths for bicyclists and runners. I would also like to see some green space preserved for the growth of our parks just as our population grows. We also need some regulations that keep heavy trucks (18 wheelers) off of our residential neighborhood streets. This has become a real safety problem lately.”*

Also of note, both Tri-State Trails and the Building Industry of Northern Kentucky encouraged connectivity between existing facilities and cooperation among jurisdictions to develop a more regional parks system.

Regarding parks, recreation and open space, this plan recommends that Boone County should:

- Complete another Parks and Recreation assessment, either an update or a new plan
- Partner with other jurisdictions and agencies (e.g., Healthcare) to maximize resources on a broader scale
- Seek all opportunities to connect existing parks via pedestrian and bike-friendly facilities with the goal of establishing a system which meets both recreational and transportation needs.

Historic preservation in Boone continues to benefit from collaboration between government, non-profit, and private entities, working in their own way to meet the broad goals of preservation. Recommendations to address issues which need attention going forward include:

- Update the 1999 Preservation Plan, which is nearly 20 years old
- Update the countywide survey of historic structures, with particular emphasis on documenting the large number of Post-WWII resources built in the eastern Boone County
- Work toward developing an archival location capable of storing artifacts and materials not suitable for digital archiving
- Investigate ways to address threats to prehistoric cemeteries before the development process begins
- Continue to promote heritage tourism and agritourism as tools for conservation, preservation and economic development and encourage completion of studies by agencies such as the BCCD or NKYCVB to evaluate their economic benefit
- Encourage additional National Register listings of eligible properties and the potential benefits of rehabilitation tax credits available at the State and Federal levels
- Find ways to establish local incentive programs to encourage preservation of family cemeteries and historic buildings.

Boone County’s natural and cultural resources must be properly and accurately identified in order to continue contributing to the overall quality of life in Boone County. Recreation facilities and programs of all kinds are needed to meet the changing demographics of Boone County. As this development continues, it is vital to document and preserve cultural resources, natural features, agricultural lands (and related uses), and open spaces.





# ECONOMY

## INTRODUCTION

*This element, a combination of the former 'Economy' and 'Business Activity' chapters from previous plans, describes Boone County's current economic outlook as well as potential future development patterns. Characteristics such as labor force, employment levels, income, poverty, commuting patterns, the number and types of jobs are examined. This chapter also looks at ways to promote a vibrant, diverse, and sustainable economy by encouraging and incentivizing innovation and prosperity while at the same time, recognizing the value of the environment and developing in a way that is compatible with surrounding land uses. Identifying and understanding these factors are vital in creating an atmosphere for long-term, sustainable economic growth in Boone County.*

## CURRENT ECONOMIC CONDITIONS AND TRENDS

### Income

Per capita income measures the average income earned by each person in a given area. Therefore, two wage earners in the same family (or household) are counted separately when measuring per capita income. Household income, on the other hand, considers the earnings of all persons 15 years or older living in the same dwelling unit, regardless if they are related or not. In this case, the wages of two workers living in the same home would be counted together. From 2000 to 2016, per capita income figures for Boone County residents increased steadily and were higher than Kenton and Campbell counties and even more so than the State of Kentucky. Boone County's per capita income is slightly higher than that of the nation (\$31,128) as well as that of the greater Cincinnati area as a whole (\$32,229). Furthermore, the median household income of Boone County residents is much higher than that of Kenton and Campbell counties as well as that of Kentucky (\$43,470) and the Greater Cincinnati area (\$60,260). The steady increase in the per capita and median household incomes of Boone County is representative of the county's economic growth over the past couple of decades. Comparing per capita and median household incomes with nearby and larger geographic areas provides a glimpse as to where citizens enjoy the highest quality of life. The higher the income levels, the higher a standard of living that can be assumed. The most affluent area of Boone County is in the City of Union where the per capita income is near county-wide levels, but the median household income is far above any other portion of the county.

PER CAPITA AND MEDIAN HOUSEHOLD INCOME BY JURISDICTION, 2000-2016

	Per Capita Income			Median Household Income		
	<u>2000</u>	<u>2010</u>	<u>2016</u>	<u>2000</u>	<u>2010</u>	<u>2016</u>
Boone County	\$ 23,535	\$ 29,010	\$ 33,961	\$ 53,593	\$ 64,008	\$ 72,374
City of Florence	\$ 20,451	\$ 24,023	\$ 27,535	\$ 42,567	\$ 48,443	\$ 52,053
City of Union	\$ 27,626	\$ 33,034	\$ 36,496	\$ 84,454	\$ 98,438	\$ 102,253
City of Walton	\$ 17,296	\$ 19,476	\$ 23,682	\$ 42,462	\$ 48,913	\$ 61,835
Kenton County	\$ 22,085	\$ 27,205	\$ 28,785	\$ 43,906	\$ 53,213	\$ 56,568
Campbell County	\$ 20,637	\$ 27,096	\$ 29,834	\$ 41,903	\$ 51,482	\$ 56,772
Kentucky	\$ 18,093	\$ 22,515	\$ 24,063	\$ 33,672	\$ 40,062	\$ 43,740
United States	\$ 21,587	\$ 26,059	\$ 31,128	\$ 41,994	\$ 49,445	\$ 57,617

Source: U.S. Census, American Community Survey (ACS), 2012-2016

### Unemployment

During the period from 1990 to 2016, Boone County's unemployment rate remained in the 3-4% range with the exception of an increase up to nearly 10% around 2010 due to the economic downturn. Boone County's economy tends to fluctuate up and down with the economies of the larger economic bodies such as Kentucky and the United States as a whole. However its unemployment has consistently remained slightly below the state and national levels. Boone County has tended to fare better in terms of unemployment both during periods of national economic recession and growth.

### UNEMPLOYMENT RATE, 1990-2016

	<u>1990</u>	<u>2000</u>	<u>2010</u>	<u>2016</u>
Boone County	3.4%	3.1%	9.9%	3.8%
Northern Kentucky	3.6%	3.7%	10.6%	3.9%
Kentucky	5.8%	3.8%	11.7%	5.0%
United States	5.5%	3.6%	10.6%	4.9%

*Source: KY Cabinet for Human Resources, Northern KY Chamber of Commerce*

### Poverty

The U.S. Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is considered to be living in poverty. If the total income for a family (or unrelated individual) falls below the relevant poverty threshold, then the family and every individual in it (or unrelated individual) is considered to be living in poverty. The level of poverty in an area reflects the degree of economic stress in an area. Obviously, a low poverty rate is an indication of a strong economy. Over the past few decades, Boone County's poverty rate has consistently been lower than neighboring counties and the Commonwealth of Kentucky as well as the Greater Cincinnati area, which stands at 12.6% currently.

### POVERTY LEVEL, 2000-2016

	<u>2000</u>	<u>2010</u>	<u>2016</u>
Boone County	5.6%	9.2%	7.6%
Kenton County	8.9%	13.3%	12.6%
Campbell County	9.1%	13.0%	12.8%
Kentucky	15.8%	18.9%	18.5%
United States	11.3%	15.3%	14.1%

*Source: U.S. Census, American Community Survey (ACS), 2012-2016*

### Labor Force

The labor force of an area is defined as the number of residents over 16 years of age who are eligible to be employed whether they have a job or not. The labor force participation rate is the percentage of persons 16 years and over currently employed or seeking employment. Individuals not looking for a job such as full-time students, homemakers, or people above the age of 64, are not part of this data set. During a recession, the labor force participation rate goes down due to fewer jobs available. When there are fewer jobs, people are discouraged to seek out employment which results in a lower participation rate.

The higher the labor participation rate, the better, but if it is low, it can also act as a warning sign for any economy. For that reason, participation rate as well as unemployment data should be evaluated simultaneously to understand the overall employment status in the economy. Boone County's labor force and employment have remained relatively high over the decade and compares favorably to that of Kenton and Campbell Counties.

### LABOR FORCE AND EMPLOYMENT, 2010-2016

	<u>2010</u>			<u>2016</u>		
	Total Population	Pop. age 16+	Labor Force Participation Rate	Total Population	Pop. age 16+	Labor Force Participation Rate
Boone County	118,811	85,506	73.8%	128,536	95,134	71.0%
Kenton County	159,720	122,683	69.6%	164,945	127,720	68.4%
Campbell County	90,336	71,034	67.8%	92,211	73,934	66.4%

*Source: U.S. Census, American Community Survey (ACS), 2012-2016*

### Commuting Patterns

The relationship of county commuting patterns to the metropolitan region is a valuable tool for analyzing the county's economy, as well as its relationship to the region's economy and transportation systems. These job-related commuting patterns are termed transpositions. Commuting patterns can reveal whether or not the residents of a community are working locally or having to go outside the community for employment. Conversely, it can also reveal if there are not enough workers in a community due to commuters having to come to work from

their housing units located outside of the area (non-resident workers). Transpositions are generally viewed negatively by transportation planners because a commuter most often travels in a single occupant vehicle. If no changes in commuting habits are seen, or no major roadway capacity improvements or transit improvements (i.e. light-rail, feeder bus) are implemented, economic development could result in increased congestion and pollution problems for the whole region.

TABLE 4.10 – BOONE COUNTY COMMUTING PATTERNS, 2010-2014

	2000		2009		2014	
<b>Working Boone County Residents:</b>	44,507	100%	52,619	100%	56,636	100%
working in Boone County	23,589	53%	19,575	37%	22,142	39%
commuting out of Boone County	20,918	47%	33,044	63%	34,494	61%
<b>People working in Boone County:</b>	45,323	100%	63,717	100%	76,273	100%
from Boone County	23,589	52%	19,575	31%	22,142	29%
commuting into Boone County	21,734	48%	44,142	69%	54,131	71%

Source: U.S. Census, Department of Commerce

During the past couple of decades, Boone County has seen a steady decrease in the percentage of residents who work in Boone County verses having to travel outside the county to their place of employment. Conversely, the number of people commuting to Boone County from outside areas is increasing as well. What this data is telling us is that the jobs in Boone County do not match the skill set of the resident workers. If these trends continue, traffic congestion and pollution will only get worse. However, this is also an indication of the value of the buildable lots in the county. Real estate costs (and demand) are driving the construction of higher end housing which increases the assessed values and therefore provides a higher tax base for local schools and public services.

COMMUTING TIMES/HOME EMPLOYMENT, 2010-2016

	2010		2016	
Mean travel time to work	24.1 min.		23.7 min.	
Worked from home	1,659	2.8%	2,554	4.1%

Source: U.S. Census, American Community Survey (ACS), 2012-2016

A few trends that are impacting congestion and pollution in a positive way are the slight decrease in travel time to work as well as the steady increase of people working from home (or telecommuting). The shorter the commute time and the fewer number of people who are driving to work can have a positive impact on congestion and pollution. The closer a job is to one's home, the less impact their commute will have on traffic and pollution. In addition, the more people who are able to "telecommute", or work from home, the lessening of traffic congestion and pollution will be even greater.

### Occupation by Industry

The types of occupations that Boone County's residents are employed in provide a social/economic profile of the population. Prior to 1960, most Boone County residents were employed in "blue collar" industries. This trend began to shift during the 1970's and by 1980, "white collar" employment accounted for over half of the total county employment. As of 2016, approximately 70% of the county's residents are employed in "white collar" jobs.

Boone County's resident worker population has become more professional than in the past. Of the represented industries, "blue collar" jobs are primarily Agriculture-Mining, Construction, Manufacturing, and Transportation-Warehousing-Public Utilities, whereas "white collar" jobs would include Trade (wholesale-retail), Professional (finance, insurance, real estate, scientific, management, administrative, and information), Education and Health Care, Services (arts-entertainment, hospitality, and food), and Public Administration.

Over the course of the past decade, the U.S. Census re-categorized the industry employment descriptions, so direct comparison to previous trends is difficult. However, general trends are evident. Currently, education and health care lead the way in Boone County with nearly 20% of the workforce in those related fields. Manufacturing is still holding steady with approximately 15% of the workforce. Retail jobs are slightly increasing while transportation and warehousing are slowly slipping.

## BOONE COUNTY CITIZENS (16 YEARS AND OVER) - JOBS BY MAJOR INDUSTRY, 2005-2016

INDUSTRY	2005		2010		2016	
Ag/Mining	158	0.3%	396	0.6%	342	0.5%
Construction	3,827	6.6%	2,977	4.6%	3,339	5.2%
Manufacturing	7,364	12.6%	7,868	12.2%	9,327	14.6%
Transportation/Warehousing/Utilities	7,813	13.4%	5,871	9.1%	5,467	8.6%
Trade	10,872	18.6%	9,342	14.5%	n/a	
Wholesale Trade	n/a		n/a		2,209	3.5%
Retail Trade	n/a		n/a		8,266	13.0%
Professional	8,402	14.4%	9,285	14.5%	6,394	10.0%
Education/Health Care	8,494	14.6%	12,362	19.2%	12,534	19.7%
Services	9,019	15.5%	7,290	11.3%	n/a	
Other Services (besides Public Admin.)	n/a		n/a		2,548	4.0%
Public Administration	2,349	4.0%	2,546	4.0%	2,280	3.6%
Information	n/a		n/a		1,176	1.8%
Finance/Insurance/Real Estate	n/a		n/a		5,144	8.1%
Arts/Entertainment/Recreation	n/a		n/a		4,731	7.4%
Total Workforce (16+ years old)	58,298	100.0%	64,234	100.0%	63,757	100.0%

*Source: U.S. Census, American Community Survey (ACS), 2012-2016*

### Employment Levels

According to the data, the top three industries in Boone County are Educational/Health Care, Manufacturing, and Retail Trade. In fact, 47.3 percent of the workers in Boone County were employed in one of these three industries. Some industries show evidence of being fairly volatile in terms of employment, with important shifts from year to year in the number of workers employed including professional jobs which is experiencing a sharp downward turn in numbers since 2010. This analysis of employment numbers suggests that Boone County's economic complexion is a mix of traditional base industries such as Manufacturing and non-base industries like Retail Trade, Professional Services, and the Education/Health Care industries.

### Employment Trends

Future trends should include the rapidly growing warehousing and logistics industry around the Cincinnati-Northern Kentucky International Airport (CVG) as well as in the Hebron and Richwood areas. Also, a continuation in the growth of wholesale/retail employment is expected being led by the recent redevelopment of the regionally-oriented commercial district in the Mall Road Area into a mixed use urban community and the continued commercial expansion of the Houston/Donaldson area as well as potentially the Marydale site. There should also be continued growth in manufacturing employment with the expansion of industrial development around the airport and along U.S. 25 near Richwood.

## BUSINESS AND EMPLOYMENT ACTIVITY

Boone County's economy and related business activity is closely tied to and interrelated with the larger Cincinnati Metropolitan Area's economy. Industrial, business park, and commercial development in Boone County has occurred hand-in-hand with expansion of the Cincinnati/Northern Kentucky International Airport (CVG) and has provided the economic prosperity and exceptional quality of life experienced over the past several decades. Numerous factors indigenous to Boone County have allowed it to lead the region in many growth and prosperity indicators. The continued economic vitality of Boone County is of even greater importance to the success of the Northern Kentucky region.

## **Base and Non-Base Industries**

There are two categories of industrial activity; base and non-base. Base industries furnish the products which sustain a society, such as those derived from agriculture, mining, and manufacturing activities. Non-base industries, on the other hand, are users and marketers of base industrial products. These support (or service) activities have developed beyond the simple distribution of physical products to the provision of human services. The two industry types are interrelated and interdependent. Base industrial activities are responsible for bringing outside income into a community. Non-base industries then circulate that income while providing the services necessary both for the operation of base industries and for daily activities of all residents in the community.

While base industries provide the foundation for a long term employment sector, base industry products, employees and families immediately generate the need for non-base support industries. This develops an urban growth cycle of population, products, and service, in terms of both volume and diversity. Growth may be considered to be an increase in volume. Base industries increase their activities and expand their employment rolls in response to market demand for their products. Such growth generates population increases and requirements for additional non-base services.

It is important to realize the constraints of the comparison. With the shift of the past few decades in the United States to a post-industrial economy, the base and non-base distinction no longer strictly follows traditional lines. Boone County's strong retail, office, and service sectors serve as a regional base and act as a regional draw resulting in significant outside dollars flowing into the county's economy. The U.S. Census and other data sources also change, combine, or split categories over time, which often makes data difficult to compare.

Furthermore, Boone County's economy is strongly tied to the Greater Cincinnati Metropolitan Area's economy. It is important to note that several factors outside the county have an important effect on the county's economy. However, despite these constraints the base to non-base analysis does reveal important aspects of the county's economic anatomy, and this comparison is useful in establishing the current status of economic factors.

**Tables 5.1** and **5.2** demonstrate how the Information and Transportation/Warehousing sectors have seen considerable growth since the last comprehensive plan update as it has at the statewide level. Manufacturing increased in Boone County in the past decade, but decreased in Kentucky overall. This reflects that Boone County's development trends specific to Northern Kentucky are different than other parts of the state. In fact, 59% of jobs located in Boone County in 2015 were "blue collar" jobs whereas at the state level it was only 24%. Boone County's more "blue collar" employment opportunities do not match up with the mostly "white collar" jobs Boone County residents have. This explains the disparity between the "white collar" income earned by Boone County residents and the "blue collar" income of job opportunities in the county. Residents of the county have to travel to other counties for employment, whereas, establishments located in Boone County rely on a workforce that commutes into the county. This is also further complicated by the housing costs within the county as most new construction is aimed at the "white collar" worker instead of the "blue collar", or more affordable homes that would match workers in the area to homes.

## **Manufacturing**

The growth of Manufacturing businesses and employment in Boone County is an important indication of the economy of the area. Manufacturing businesses, and other base industries, create the need for new non-base industries. Additional commercial and service businesses spin-off whenever base industries expand or new ones locate in Boone County.

## **Transportation**

One of the most significant increases in base employment in Boone County has been the transportation industry. The presence and expansion of the Cincinnati/Northern Kentucky International Airport has had both a local and a regional economic impact. Furthermore, the decision by CVG to allow for development of its land surrounding the airport for aviation and non-aviation related uses is adding to the regional economic impact. CVG is currently in the process of updating its Master Plan and is expected to be completed with the process by early 2019.



## Retail/Services

With the continuing development of the Mall Road, Houston Road, and Walton Town Center areas as regional shopping districts, the Retail and Services industries have remained major components of Boone County's economy. Additional retail development and opportunities in the Union Town Center area will certainly arrive as the completion of the realigned Mt. Zion Road nears. However, the steady increase of people shopping on-line will no doubt continue to negatively impact brick and mortar retail stores across the country as goods are delivered from warehouses directly to one's home.

### 5.1 - BOONE COUNTY INDUSTRY ESTABLISHMENTS AND EMPLOYEES, 2000-2015

INDUSTRY NAICS code	2005			2010			2015		
	Est.	Emp.	Percent	Est.	Emp.	Percent	Est.	Emp.	Percent
Total for all sectors	2,758	60,042	100.0%	2,820	61,688	100.0%	3,076	77,322	100.0%
Agriculture, forestry, fishing and hunting	5	a		3	a		2	a	
Mining, quarrying, and oil and gas extraction	5	b		3	b		3	a	
Utilities	10	e		7	c		13	e	
Construction	338	2,793	4.7%	279	1,984	3.2%	274	2,329	3.0%
Manufacturing	169	11,200	18.7%	169	10,183	16.5%	197	14,094	18.2%
Wholesale trade	166	3,923	6.5%	178	4,951	8.0%	216	7,728	10.0%
Retail trade	465	9,999	16.7%	452	9,338	15.1%	468	9,189	11.9%
Transportation and warehousing	135	7,689	12.8%	156	8,307	13.5%	209	12,314	15.9%
Information	36	432	0.7%	23	686	1.1%	30	935	1.2%
Finance and insurance	173	3,276	5.5%	187	3,667	5.9%	196	3,797	4.9%
Real estate and rental and leasing	138	1,002	1.7%	110	656	1.1%	123	707	0.9%
Professional, scientific, and technical services	229	2,616	4.4%	237	2,531	4.1%	236	2,134	2.8%
Management of companies and enterprises	24	664	1.1%	22	f		32	1,257	1.6%
Admin. and support/waste management/remediation services	163	3,300	5.5%	165	4,313	7.0%	173	5,429	7.0%
Educational services	18	187	0.3%	26	424	0.7%	26	2,399	3.1%
Health care and social assistance	201	3,405	5.7%	225	4,472	7.2%	262	4,623	6.0%
Arts, entertainment, and recreation	31	645	1.1%	42	761	1.2%	49	675	0.9%
Accommodation and food services	233	6,330	10.5%	281	6,118	9.9%	307	6,931	9.0%
Other services (except public administration)	216	2,157	3.6%	250	2,247	3.6%	256	2,489	3.2%
Industries not classified	3	2	0.0%	5	2	0.0%	4	4	0.0%

a = 0-19 employees;

b = 20-99 employees; c = 100-249 employees

e = 250-499 employees; f = 500-999 employees

Source: U.S. Census County Business Patterns (NAICS), 2015

### 5.2 - KENTUCKY INDUSTRY ESTABLISHMENTS AND EMPLOYEES, 2000-2015

INDUSTRY 2012 NAICS code	2005			2010			2015		
	Est.	Emp.	Percent	Est.	Emp.	Percent	Est.	Emp.	Percent
Total for all sectors	92,176	1,514,199	100.0%	90,771	1,456,790	100.0%	91,845	1,579,477	100.0%
Agriculture, forestry, fishing and hunting	299	1,680	0.1%	242	1,856	0.1%	224	1,313	0.1%
Mining, quarrying, and oil and gas extraction	667	20,198	1.3%	640	21,192	1.5%	487	14,068	0.9%
Utilities	330	8,179	0.5%	341	8,310	0.6%	335	8,413	0.5%
Construction	9,318	82,815	5.5%	7,770	64,267	4.4%	7,108	65,891	4.2%
Manufacturing	4,152	253,804	16.8%	3,778	202,990	13.9%	3,692	232,007	14.7%
Wholesale trade	4,560	69,769	4.6%	4,284	67,931	4.7%	4,293	72,254	4.6%
Retail trade	16,566	223,666	14.8%	15,579	217,746	14.9%	15,187	207,315	13.1%
Transportation and warehousing	3,167	75,975	5.0%	2,951	79,895	5.5%	2,938	92,858	5.9%
Information	1,688	31,102	2.1%	1,487	31,808	2.2%	1,507	35,992	2.3%
Finance and insurance	6,189	66,124	4.4%	6,393	66,811	4.6%	6,395	73,587	4.7%
Real estate and rental and leasing	3,734	19,162	1.3%	3,604	18,045	1.2%	3,680	17,217	1.1%
Professional, scientific, and technical services	8,004	60,829	4.0%	8,132	65,537	4.5%	8,290	72,731	4.6%
Management of companies and enterprises	631	24,527	1.6%	639	25,386	1.7%	705	30,671	1.9%
Admin. and support/waste management/remediation services	3,670	89,259	5.9%	4,011	81,964	5.6%	4,058	119,443	7.6%
Educational services	865	28,076	1.9%	874	27,931	1.9%	906	28,599	1.8%
Health care and social assistance	10,083	224,193	14.8%	10,960	241,385	16.6%	12,875	253,185	16.0%
Arts, entertainment, and recreation	1,301	17,294	1.1%	1,274	17,032	1.2%	1,332	16,931	1.1%
Accommodation and food services	6,965	147,371	9.7%	7,517	150,583	10.3%	7,910	170,344	10.8%
Other services (except public administration)	9,791	69,897	4.6%	9,578	65,690	4.5%	9,371	65,799	4.2%
Industries not classified	196	279	0.0%	717	431	0.0%	552	859	0.1%

Source: U.S. Census County Business Patterns (NAICS), 2015

## **ECONOMIC DEVELOPMENT**

### **Tourism**

Tourism in and of itself is not necessarily a component of economic development but it does attract outside dollars into the community in a number of ways. Visitors coming to Boone County not only spend time in the community, but also spend money while here as they stay in hotels, eat in restaurants, shop in retail stores, or pay for services. Tourism is having a large impact on Boone County as seen in the recent trend of new hotels being built and proposed. Some of Boone County's main attractors include the Creation Museum, Big Bone Lick State Park, Rabbit Hash, Turfway Racetrack, the Florence Freedom minor league ballpark, the official designation of northern Kentucky as a "gateway" to the Bourbon Trail and associated distilleries and breweries, the many commercial areas, as well as the Cincinnati-Northern Kentucky International Airport which, along with the hotels located in Northern Kentucky (2/3 of which are located in Boone County), serves as a base for additional regional tourism outside of Boone County to such destinations as downtown Cincinnati, the Kentucky Speedway in Sparta, KY and the Ark Encounter in Williamstown, KY.

### **Recreation and Activity Areas**

Overall quality of life and local economic health can be improved by the presence of a strong pedestrian and bike system that connects neighborhoods, employment uses, retail centers, recreation parks and facilities, government services, and community identifiers such as historic sites. These systems connected to individual paths can give identity to an area of the county and encourage small business growth. Examples include the Mary Ingles (historic pioneer) trail system along the Ohio River, the General John Hunt Morgan (Civil War) trail through the center of the county, or the beginning of an airport perimeter multi-use trail system. There are many commercial recreational opportunities in Boone County including the World of Golf driving range facility and golf course in Florence, Sports of All Sorts in the Florence/Union area, the Florence Freedom minor league baseball team, and Turfway Park, which offers live horse racing, as well as many passive and active recreational areas that provide places to hike, bike, walk, run, play sports, and listen to concerts. These opportunities regularly attract people from all around the greater Cincinnati area into Boone County.

### **Sustainability**

A sustainable economy is one that remains viable from generation to generation and not as affected by national recessions or dependent upon national expansions. The goal of a truly sustainable economy is to experience local economic development while at the same time remaining a vital part of the overall metropolitan region's economy. Coordinating the components of a continually renewing and changing economic system includes not only having a diversity of jobs, but also providing an appropriate supply of employees living in the area who are suited for those jobs. The diversity of industry and employment opportunities has long been the strength of Boone County's economy, but the challenge of providing local housing opportunities for workers in all industries remains.

## **CONCLUSIONS AND RECOMMENDATIONS**

The Goals for the Economy element suggests promoting a vibrant, diverse, and sustainable economy while at the same time recognizing the value of the environment. They also recommend innovation and prosperity with meaningful employment opportunities that are developed in appropriate locations and compatible with the surrounding land uses. The Objectives describe many ways to achieve these goals.

Boone County needs to identify and promote business and economic sectors of the future in order to remain competitive in a regional and global economy. This can be done by staying informed as to the latest economic trends not only locally, but nationally and internationally. A detailed economic study or analysis of Boone County and the region and what lies ahead would be a way to prepare for the future economic sectors and industries. Furthermore, the encouragement of programs assisting in entrepreneurial start-ups could ensure that the up and coming businesses would find Boone County a friendly place to start and hopefully remain. These high-end, skilled businesses could take advantage of the highly educated Boone County residents who would normally have to travel outside of the county for employment of this type.

In addition, the continually changing nature of the Cincinnati/Northern Kentucky International Airport (CVG) needs to be understood in order to address potential impacts and to support aviation growth for passengers and business in the future. Boone County must be ready to adjust to any further shifts in this dynamic by remaining involved with the Airport as it updates its Master Plan.

Tourism is a valuable and vital part of not only Boone County's economy, but also that of the region as a whole and needs to be promoted and accommodated as an economic resource and to promote sustainability. Besides the obvious tourism attractions such as the Creation Museum, Florence Freedom, Turfway Park, golf courses, and parks (both passive and active) throughout the county, there are other types of tourism such as agri-tourism and heritage tourism that could benefit from simple promotion. The result of these segments of tourism will continue to draw economic resources to Boone County with little financial investment.

American companies are regularly outsourcing portions of their operations. The intellectual talent and skilled workers needed to support this activity is being developed outside the U.S. as well, to the point where jobs in some industries in the U.S. (e.g., skilled and experienced engineers and scientists in biotech and aerospace industries) remain unfilled. In order to compete in this changing global economy, efforts must be made to educate and develop local talent and workforces in order to draw these industries back to the U.S. and sustain them.

High paying jobs for a highly skilled and educated workforce needs to be encouraged and promoted for the residents and businesses of Boone County. This is a two-fold process. Besides promoting these types of jobs, the education system in Boone County needs to insure that they are producing the skilled workers who can fill these jobs. Education is paramount when preparing the future workforce of the community. College and career-ready programs and the Early College Program need to continue to be stressed and utilized as do the opportunities provided by Gateway and the Ignite Institute which can more than adequately prepare the next generation of workers to match whatever jobs come to the area. This will help Boone County identify and promote economic jobs and sectors of the future while at the same time preparing the future workforce for them and remain competitive in the regional and global economy.

While it's important to understand the types of jobs and industries in a community, it is equally important to know the location of these jobs and industries. They must be promoted in suitable locations to keep the county a vital part of a strong regional economy. For example, industrial development needs to be encouraged to locate near railroad lines, highways, the Ohio River, the Airport, and where infrastructure exists or is planned. The most efficient way to do this is by having compact, efficient development patterns with appropriately sized and well maintained buffer spaces between other land uses. Furthermore, larger scale interstate commercial uses, as well as the freight logistics industry, should occur within close proximity to interstate interchanges not only for maximum convenience and economy to the traveling public, but also to minimize traffic congestion in areas not necessarily close to interchanges. Recently, semi-trucks have been parked in roadways, specifically in the Hebron and Richwood areas, waiting their turn to enter warehouse facilities in order to receive or deliver goods. If the facilities are not located close to interchanges and with ample parking and/or stacking, the need for a regional logistics parking lot for staging arises.

Boone County currently has two Tax Increment Financing (TIF) districts located between Richwood Road and Chambers Road on the east side of I-71/75, which allows for tax revenues from new developments to pay for public improvements in the area. In the future, other TIF districts may be formed by the legislative units. Also, the Hebron area is the home to a Foreign Trade Zone (FTZ No. 47) which is an area exempt from Customs payment, taxes, and duties normally associated with international trade. Such FTZ's are designed to stimulate economic growth while encouraging companies to keep their operations in the United States. Lastly, the U.S. Department of Treasury and Internal Revenue Service recently certified 144 census tracts in Kentucky as "Opportunity Zones" — low-income areas where major investors would be incentivized by significantly reduced and deferred capital gains taxes. One of these zones is located in Boone County. It includes the area wraps around south and east portions of the Cincinnati-Northern Kentucky International Airport with a southern boundary along Burlington Pike and along I-75/I-71 and the Boone County line with Kenton County to the east. These mechanisms and districts need to be promoted to further the economic viability and opportunities in Boone County moving forward.

Ample future industrial districts need to continue being identified on the Future Land Use Map so that potential impacts on residential developments are known and can be avoided and/or addressed. Boone County must be sensitive to the mixing of commercial uses of any kind with residential developments. The recent emergence of Airbnb, which operates as an online service for people to lease or rent homes for short-term lodging, is one example of a commercial use impacting residential uses. While this can facilitate in the promotion of the tourism industry, it also can have negative impacts such as parking or additional traffic if not appropriately located as it is essentially mixing commercial uses with non-commercial uses. More research and consideration needs to be given to this fairly new phenomenon in order to find ways to make it compatible with surrounding land uses. Furthermore, commercial and industrial uses need to be compatible with surrounding natural systems as well. Effective site placement, architectural design, and landscape design for these uses are critical so that they do not negatively impact adjoining uses with smoke, dust, noise, and odor. Therefore, site development and enforcement of the standards described in the Boone County Subdivision Regulations need to be carefully coordinated with the proper regulatory agencies so that they do not develop into a situation that is hazardous to human life or the environment.

Boone County and other metropolitan regions are making the transition to a sustainable, regional economy. What are now viewed as environmental problems (e.g. energy inefficient construction methods) will actually become opportunities for new, innovative sustainable businesses (e.g. retrofitting older structures for energy conservation). The goal should be to achieve a combination of land uses that balances revenues generated from those uses with the expenditures required to support them. There are numerous ways to achieve this. One is the promotion and support of local agriculture. Examples of local support for agriculture include the farmers' market in Burlington. The State of Kentucky has promoted this Farmers' Market as the ideal outlet for traditional tobacco farmers to sell alternative crops like fruits and vegetables and to help shorten the distances our foodstuffs are transported as well as enabling our local farmers.

Encouraging the establishment of recycling programs and recycled materials industries is another way to achieve a more sustainable, regional economy. Boone County has maintained a volunteer curbside recycling program for the community. Another step that could be taken would be maximizing the use of the local governments' purchasing power so that recycled products would be encouraged to be purchased. Maximizing energy conservation and the development of local renewable resources are also two other attributes of a regional, sustainable economy. Duke Energy promotes energy conservation through its Energy Home rebates program that includes recommendations for replacing normal light bulbs with long-life, energy-efficient, LED bulbs, as well as providing energy assessments for homes that give homeowners tips on energy savings. Duke Energy also offers energy incentive programs to businesses through a variety of tools and resources to help them save money make their business more efficient. In addition, the encouragement of telecommuting and virtual employment can minimize potential impacts on traffic as well as air quality as fewer vehicles will be on the roadways during rush hour commute times.

## **Conclusion**

Boone County's specific resources and strengths should be nurtured as catalysts for economic development and should start taking the necessary steps to make the transition towards a more sustainable, regional economy of the future. It is recommended that a detailed study or analysis of Boone County's economy be performed to provide a more accurate and detailed profile of Boone County businesses and labor force, employment trends, workforce readiness, etc. Such a study would also evaluate the strengths and weaknesses of current industry types and their potential for expansion. It could also be used to recruit target industries suitable to Boone County and its local workforce. City/County officials will then be able to use this information to promote job growth within their jurisdiction and provide direction on incentive programs to expand existing businesses or recruit new ones and at the same time, set Boone County up with a more sustainable and diversified economy that is ready for whatever the future trends may be, including dealing with the impact of the logistics industry (i.e. Amazon) on big box retail and what becomes of any empty retail centers and their parking lots in the event that they close. Boone County should examine creative mixed-use methods of incorporating high density residential with brick and mortar retail opportunities as a way to promote a local and sustained economy.

In addition, there are many local agencies that provide services to the existing and prospective business community in not just Boone County, but for all of Northern Kentucky. Some of them are focused more towards

attracting new economic engines or components to the area, while others are here to provide assistance to the smaller or struggling industries that already exist in Boone County. The Northern Kentucky Tri-County Economic Development Corporation (Tri-ED) is charged with recruiting companies into the Northern Kentucky region. In recent years, Tri-ED has also placed an emphasis on retaining existing businesses. The Northern Kentucky Chamber of Commerce helps to promote and support the development of businesses in the Northern Kentucky region through leadership and advocacy programs, events, initiatives, marketing opportunities, and publications. Another invaluable resource includes the Northern Kentucky Area Development District NKADD which educates and empowers communities by implementing services through specific areas of expertise in aging, community development, human services, and workforce development. They also act as a forum, clearinghouses, technical center, and can provide continuity to projects during the transition of local elected officials. Lastly, the Center for Economic Analysis and Development at Northern Kentucky University (NKU) provides economic analysis and business research and conducts research on issues related to the current and future economic well-being of businesses and communities. It is important to know who these agencies are and to encourage those who need assistance or information to contact them and take advantage of the valuable services they provide in order to achieve these goals.



## PUBLIC FACILITIES

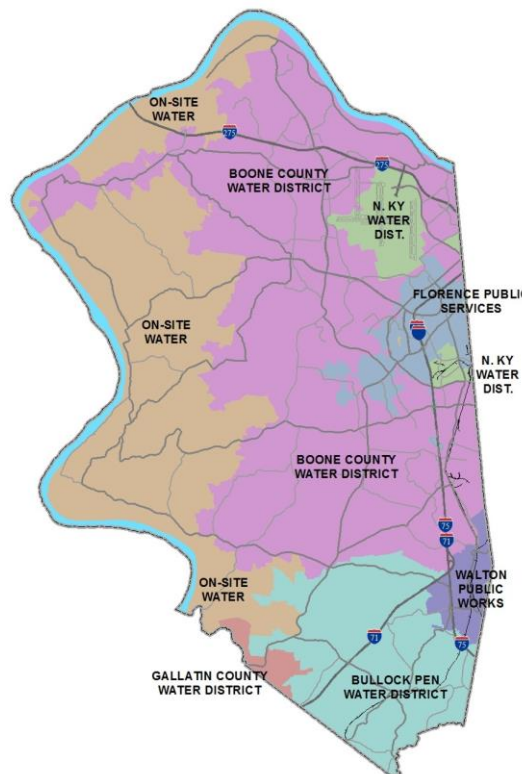
### INTRODUCTION

*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 cost 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.

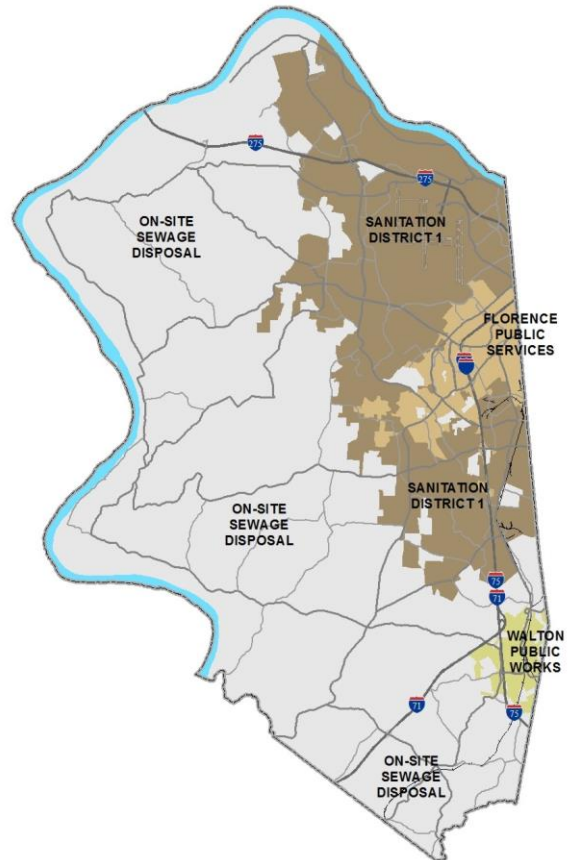
## City of Walton

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

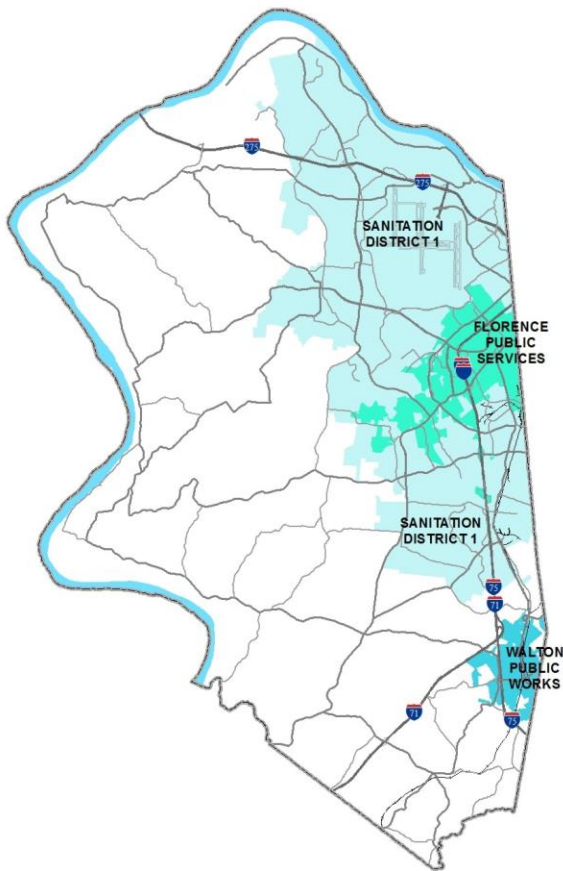


Burlington, Hebron, and Union areas contain many such systems, they should experience little additional septic tank construction in the future with the expansion of sewer service in the area and the limited capability of some of the soils to accept septic tank discharge. Septic tanks will likely remain 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 (NKSWMA) 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.

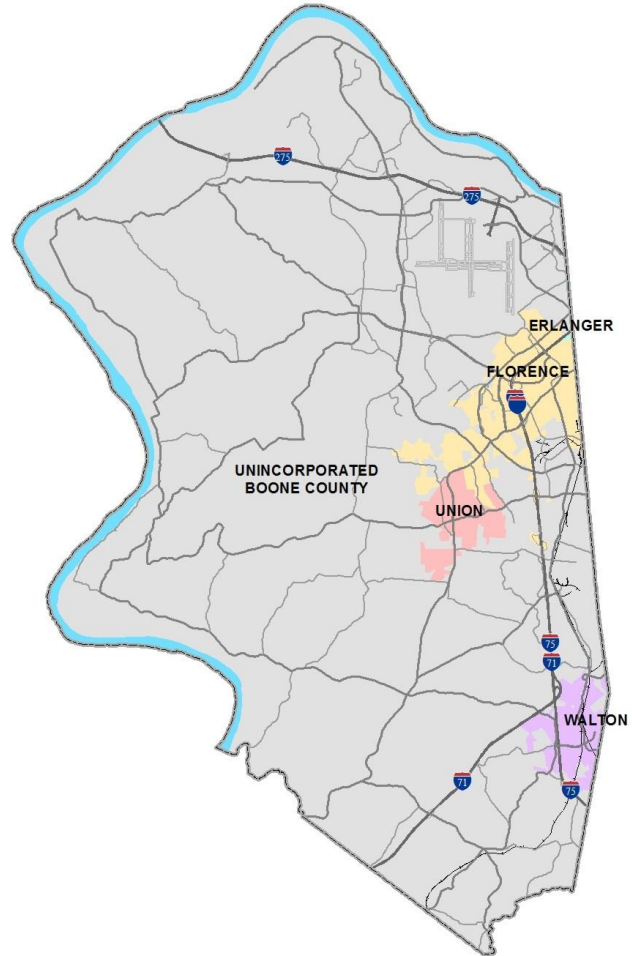
Electric (and gas) lines generally follow development instead of preceding it. Electric lines are versatile and can be extended to accommodate new development. For these reasons, these services do not have a great impact on directing residential development to specific areas. The fact that some industrial 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.

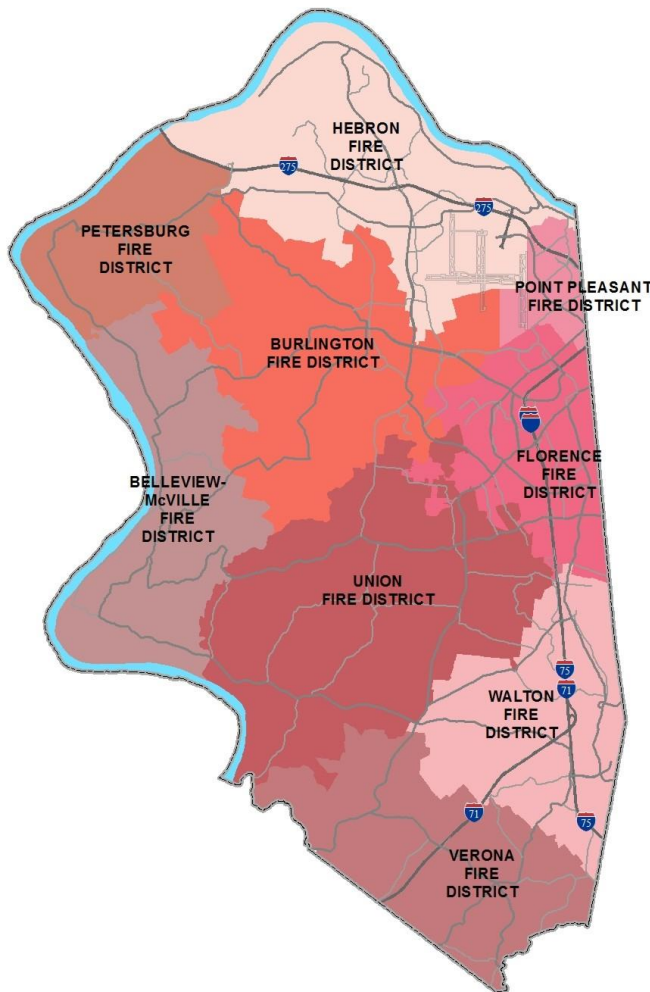


The Boone County Planning Commission is an important agency that is a vital tool for the community in dealing with rapid growth. Boone County is in a beneficial situation in that the Commission is a joint planning commission and is responsible for directing land use and development for all of Boone County, 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.

<b>BOONE COUNTY SCHOOL DISTRICT</b>			
<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
<b>Elementary sub-total</b>	<b>9,374</b>	<b>9,133</b>	<b>10,985</b>
<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
<b>Middle sub-total</b>	<b>4,456</b>	<b>4,700</b>	<b>4,195</b>
<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
<b>High sub-total</b>	<b>5,155</b>	<b>5,930</b>	<b>5,405</b>
<b>TOTAL</b>	<b>18,985</b>	<b>19,763</b>	<b>20,585</b>

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
<b>TOTAL</b>	<b>1,663</b>	<b>1,971</b>

**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 21<sup>st</sup> 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.

# TRANSPORTATION

## INTRODUCTION

The Transportation System in Boone County is important because it allows for the movement of people and goods. This Element consists of the Boone County Transportation Plan, the CVG Airport Master Plan, Railroad and River Transport activities, and information about the Land Use/Transportation connection.

## BOONE COUNTY TRANSPORTATION PLAN

The Boone County Transportation Plan was first adopted in 1996 and later updated in 2006. The most recent update of the Transportation Plan occurred in 2017. This Plan views Boone County as an integral part of the eight county Cincinnati region, while also recognizing it as a dynamic community in its own right. Boone County is well positioned in Northern Kentucky and in the Cincinnati region with three interstates and the Cincinnati/Northern Kentucky International Airport (CVG), two rail lines, and 42 miles of the Ohio River frontage. Boone County is well connected to Midwest, national, and international markets. The Transportation Plan is not an amendment to the Comprehensive Plan. Rather, it is intended to be one of many planning tools utilized during the review of applications submitted for development in the County. The Transportation Plan informs residents, business owners, employees, etc. of the anticipated road, transit, bike, and pedestrian improvements that will be necessary to accommodate the growth expected by the year 2040. The Boone County Transportation Plan includes an existing and future conditions report (crash, signal and traffic count data), an environmental constraints report, a series of maps showing current transportation conditions, a public outreach report, a final set of recommendations, and an executive summary. The overall mission statement of the 2017 Transportation Plan is to deliver a modern, reliable, and sustainable multi-modal, surface transportation system that uses advanced technology and innovative design solutions to improve the mobility of people and goods through the development of a publicly supported plan. The 2017 Boone County Transportation Plan has eight goals.

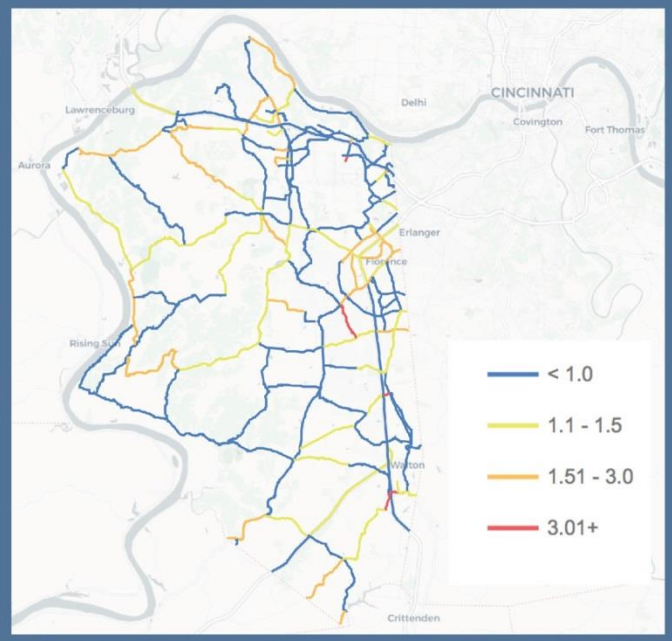
**Goal #1:** Improve safety and security for all travelers. This can be accomplished by achieving the following objectives:

- Work to eliminate fatalities and injuries on public roads.
- Reduce the total number of crashes for all modes of transportation, including walking and bicycling.
- Protect critical transportation infrastructure from natural and human disasters.

**Goal #2:** Enrich our community quality of life. This can be accomplished by achieving the following objectives:

- Incorporate community design when developing transportation improvements.
- Improve community health by encouraging walking and bicycling.
- Provide mobility options for all populations to accommodate social, physical, and economic needs.

Critical Rate Factors (CRFs) identify roadways with a higher frequency of crashes. CRF > 1 indicates an elevated crash frequency.

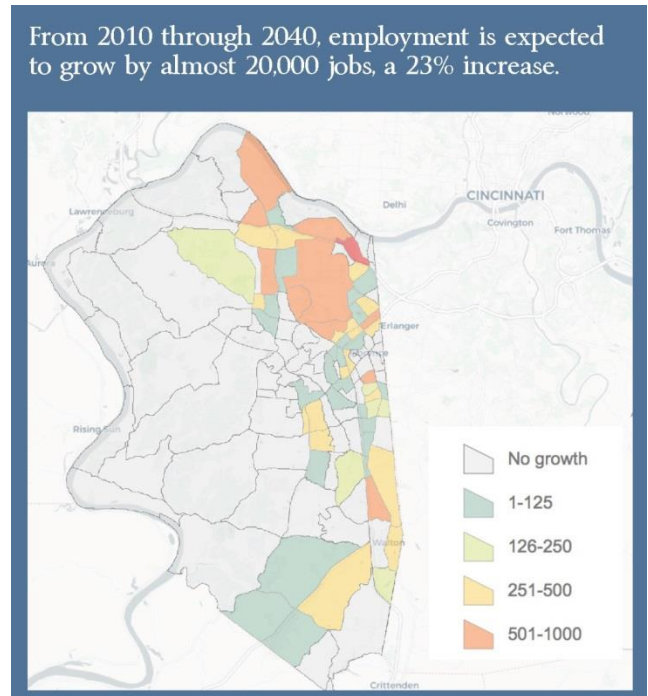
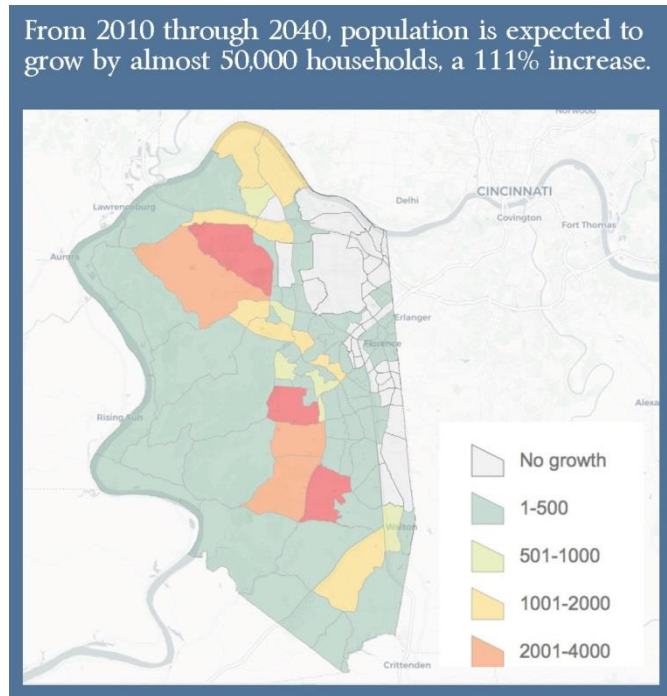




These objectives can be achieved providing safe bicycle and pedestrian facilities throughout the County and efficient TANK bus service options.

**Goal #3:** Provide sufficient future capacity and mobility. This can be accomplished by achieving the following objectives:

- Address existing and projected capacity needs based on anticipated volumes through 2040.
- Improve travel time reliability.
- Provide a Minimum Level of Service (LOS) “C” on public roads.
- Employ the use of transit, sidewalks/multi-use paths, and bike lanes as capacity solution options.
- Utilize advanced technologies to maximize the performance of the future road network.



**Goal #4:** Preserve and optimize the existing infrastructure. This can be accomplished by achieving the following objectives:

- Maintain the existing transportation system in good repair.
- Utilize operating improvements to manage traffic effectively and improve the reliability of the transportation system within the existing right-of-way.
- Expand the performance of the existing network by supporting reliable transit service.
- Provide pedestrian and bicycle facilities to optimize the transportation network and ensure connectivity between activity modes.
- Maximize the use of the existing right and facilities to manage traffic effectively through innovative design solutions and advanced technologies to manage traffic effectively.

**Goal #5:** Facilitate freight logistics. This can be accomplished by achieving the following objectives:

- Accommodate the growing volume of truck traffic to ensure safe and efficient goods movement.
- Enhance multi-modal accessibility to freight-related jobs and mobility of employees especially transit dependent populations.
- Address truck parking issues.
- Improve interconnectivity and accessibility to local, regional, and global freight modes.
- Utilize advanced technologies to address freight demands.

- Goal #6:** Support economic vitality. This can be accomplished by achieving the following objectives:
- Enhance multi-modal accessibility, connectivity and mobility between centers of employment, consumer activity and residential development.
  - Demonstrate compatibility with the Boone County Comprehensive Plan linking the transportation system with existing zoning and future land uses.
  - Retain, expand, and attract private investment in Boone County by implementing advanced technology for transportation.
- Goal #7:** Maintain Environmental Sustainability. This can be accomplished by achieving the following objectives:
- Preserve the natural and historic context of Boone County.
  - Minimize impacts to air quality.
  - Ensure compatibility with other Boone County plans.
- Goal #8:** Utilize advance technologies and innovative designs. This can be accomplished by achieving the following objectives:
- Consider innovative design solutions to address transportation issues.
  - Take a proactive planning approach in order to take full advantage of technological opportunities.
  - Develop public policies and practices that facilitate the implementation of new technologies.

The 2017 Boone County Transportation Plan included a recommendation of 84 projects. This included 57 road projects, 4 bridge projects, 10 bike/pedestrian projects, 4 transit projects, and 9 future studies for miscellaneous projects. Below is a list of the projects. For further information about these individual projects and the 2017 Boone County Transportation Plan, visit [www.booneky.oki.org](http://www.booneky.oki.org).

**Road Projects (57):**

- |   |   |
|---|---|
| 1. Bullittsville Road, Phase 1                  | 30. KY 3060 (Frogtown Rd)                     |
| 2. Bullittsville Road, Phase 2                  | 31. KY 3076 (Mineola Pike), Phase 1           |
| 3. Bullittsville Road, Phase 3                  | 32. KY 3076 (Mineola Pike), Phase 2           |
| 4. Camp Ernst Road, Phase 1                     | 33. KY 3076 (Mineola Pike), I-275 Interchange |
| 5. Camp Ernst Road, Phase 2                     | 34. KY 3076 (Mineola Pike)                    |
| 6. Central Parkway Scoping Study                | 35. KY 338/I-75 Interchange                   |
| 7. Coral Drive Extension                        | 36. KY 338 Widening                           |
| 8. I-275/Graves Road Interchange                | 37. KY 3608 (Idlewild Bypass) Interchange     |
| 9. Hicks Pike, Phase 1                          | 38. KY 536 Interchange                        |
| 10. Hicks Pike, Phase 2                         | 39. KY 536 (Rabbit Hash Rd) Safety Imp.       |
| 11. Holbrook Lane                               | 40. KY 842 (Richardson Rd)                    |
| 12. I-71/75 Auxiliary Lanes                     | 41. Litton Lane Extension                     |
| 13. I-71/75 Turfway Road Interchange from I-275 | 42. Litton Lane/KY 237 Intersection           |
| 14. KY 14/I-75 Interchange, Phase 1             | 43. Longbranch Road Widening                  |
| 15. KY 14/I-75 Interchange, Phase 2             | 44. Mall Road Connector, Phase 1              |
| 16. KY 14/Verona Mudlick Road                   | 45. Mall Road Connector, Phase 2              |
| 17. KY 18/I-75 Interchange                      | 46. Rice Pike                                 |
| 18. KY 18/West of Jefferson Street              | 47. Rogers Lane                               |
| 19. KY 18/Aero Parkway                          | 48. Toebben Drive Extension                   |
| 20. KY 20 (Petersburg Rd Curve)                 | 49. Toebben Drive/KY 536 Intersection         |
| 21. KY 20 (Conner Rd to KY 237)                 | 50. U.S. 25 Widening, Phase 1                 |
| 22. KY 20/I-275 (Petersburg)                    | 51. U.S. 25 Widening, Phase 2                 |
| 23. KY 20/I-275 (Graves Rd to KY 237)           | 52. U.S. 25/KY 536 Intersection               |
| 24. KY 20/Aviation Boulevard                    | 53. U.S. 25/Empire Drive Intersection         |
| 25. KY 212/I-275 Interchange                    | 54. U.S. 42 Widening                          |
| 26. KY 236 Widening (Donaldson Rd)              | 55. U.S. 42/I-75 Interchange                  |
| 27. KY 237 (Gunpowder Rd)                       | 56. U.S. 42 Curve Reconstruction              |
| 28. KY 237 (North Bend Rd)                      | 57. Youell Road Connector                     |
| 29. KY 237 (Conrad Ln)                          |   |

**Bridge Projects (4):**

- 1. Bender Road
- 2. Beaver Road

- 3. KY 842 (Richardson Road)
- 4. Longbranch Road

**Bike/Pedestrian Projects (10):**

- 1. Bike Sharing Program
- 2. Bike Safety Program
- 3. Connor Road, Multi-Use Path
- 4. CVG Loop Trail
- 5. Kentaboo Sidewalk

- 6. KY 3503 (Empire Drive Sidewalk)
- 7. Old Union Road Sidewalk, Phase 1
- 8. Old Union Road Sidewalk, Phase 2
- 9. Pedestrian Facility Program
- 10. New Buffington Multi-Use Path

**Transit Projects (4):**

- 1. Dixie Highway Enhancement Transit Corridor
- 2. TANK CVG Transit Station

- 3. TANK Pilot Service
- 4. Two System Transfer Policy Program

**Future Studies (9):**

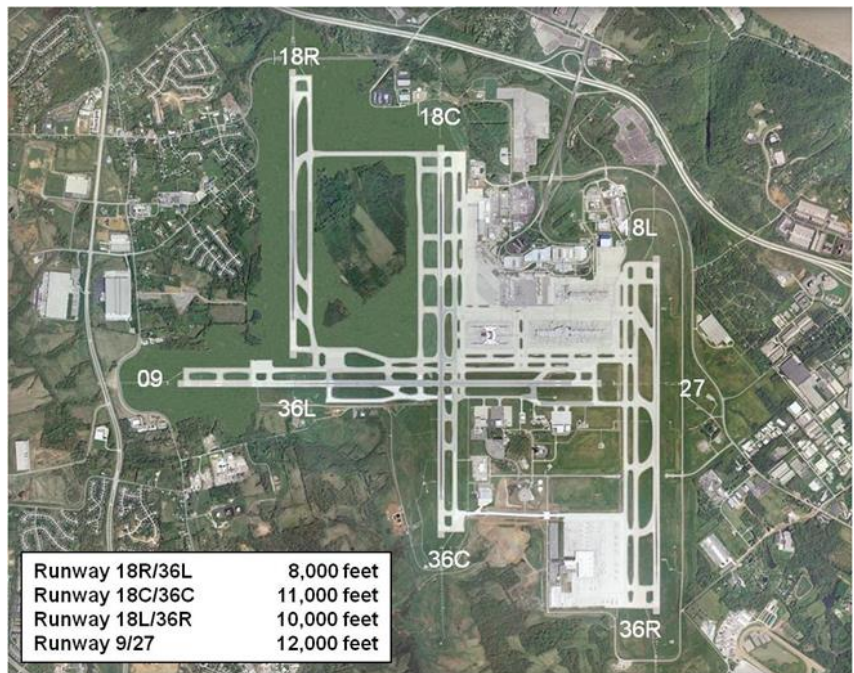
- 1. Roadway Network Connectivity
- 2. Freight Truck Parking
- 3. Traffic Control Center & Corridor Project
- 4. Street Lighting Policy
- 5. Truck Parking Policy

- 6. First/Last Mile Innovative Tech. Pilot Project
- 7. I-71/75 Truck Parking
- 8. I-71/75 Active Traffic Demand/Management Study
- 9. U.S. 42 Adaptive Signal Control

The end result is the creation of 84 recommendations divided into Tier 1 (highest priority), Tier 2 (medium priority), and unscheduled needs (low priority) categories. The above recommended projects will be considered for inclusion in the fiscally constrained Ohio-Kentucky-Indiana (OKI) Regional Transportation Plan. Recently, it was announced that Kentucky was awarded an Infrastructure for Rebuilding America (INFRA) Grant in the amount of \$67,445,000 to expedite the reconstruction to the I-75/I-71 Mt. Zion Road and the I-75/I-71 Richwood Interchanges.

**CINCINNATI/NORTHERN KENTUCKY INTERNATIONAL AIRPORT (CVG)**

The Cincinnati/Northern Kentucky International Airport (CVG) is located in Boone County but is managed by the Kenton County Airport Board. Its history is documented in earlier versions of the Boone County Comprehensive Plan. Since 1956, CVG has completed seven [master plan updates](#) and three FAA Part 150 Noise Studies. Previous master plans and noise studies have resulted in runway expansions, land acquisition programs for noise migration purposes, residential and public facility soundproofing programs, and terminal area development. Previous master plans have also addressed flight approaches and take-off procedures to minimize overnight noise relating to (primarily) cargo flights. A preferential corridor to the west has been developed for night-time aviation traffic.



The CVG Airport owns or controls 7,210 acres of land. It is the largest landowner in Boone County. Currently, the Airport has three north-south runways and one east-west runway. Over the years, the CVG's Airport Layout

Plan (ALP) has changed to reflect current and forecasted aviation traffic levels for passenger and cargo flights. CVG has transitioned from a hub and spoke airport with one dominant air passenger carrier to multiple passenger air carriers and cargo carriers. CVG Airport had 32% originating passengers in 2006. In 2017, this percentage increased to 93%. Since 2013, CVG had a total of 1,480,900 passengers originating from Cincinnati.

In terms of cargo trends, there has been an annual average growth of 14% of cargo activity since 2010. In 2017 alone, over 1,000,000 tons of cargo was brought to CVG. In 2018, CVG had 63 non-stop passenger destinations. In 2017, there were 150,463 total aircraft operations versus 328,056 in 2007. Today, the aircraft fleet holds more passengers and the regional aircraft activity has been reduced at CVG. The future of passenger air traffic is based upon legacy network carriers, low-cost carriers, ultra-low-cost carriers, and international carriers. Currently, there are approximately four million enplaned passengers. By the year 2050, CVG Airport projects this figure to be 9.6 million enplaned passengers. The forecast for cargo activity is significant. In 2017, there were about 1.1 million tons of cargo activity at CVG Airport. By the year 2050, this figure is expected to increase to 6.7 million tons largely due to the presence of DHL and Amazon. Finally, total cargo and passenger aircraft operations at CVG were 150,463 in 2017. By the year 2050, this figure is expected to increase to 446,220 annually.

## **RAILROADS**

Rail service in Boone County is provided by two rail lines, the Norfolk and Southern Railroad and the CSX Railroad. Thirty-two Norfolk Southern Railroad trains pass through Boone County each day. In addition, twenty-three CSX trains pass through Boone County each day. Only the eastern portion of the county, specifically the area east of I-75/71, has rail service. The tracks located in the county do provide service to all points in the United States. In addition to individual companies, freight rail service is provided to three industrial parks in Boone County: Northern Kentucky, Richwood, and Walton. The railroad companies can provide design services to individual users needing rail service.

At present, the railroads do not expect to expand the railroad network to other parts of Boone County. The topography and expense involved make such an undertaking very unlikely. However, it is expected that new users will be adequately served by the existing tracks. The presence of three interstate highways and two rail lines in the same corridor create a unique and favorable situation for future industrial areas along the eastern edge of Boone County.

## **RIVER TRANSPORT**

The Ohio River comprises approximately one half of Boone County's border. As one of the major rivers in the United States, the Ohio River is part of a vast river transportation network. The 42 mile river shoreline of Boone County has historically been underutilized by river traffic for barge docking or storage. In May 2018, 329 tug boats with 3,023 barges and 1,648,000 tons of freight passed through Boone County. This activity is expected to increase based upon the completion of the Panama Canal expansion project. The third set of locks project is expected to double the capacity of the Panama Canal by allowing more large ships carrying cargo to pass through. At one time there were three ferry crossings in Boone County. The Anderson Ferry in the Constance area and the Rabbit Hash Ferry north of Rabbit Hash are the only vehicular ferries operating in the county.

The Boone County river shoreline presently lacks the appropriate infrastructure of roadways and rail service needed to accommodate a large river port facility. However, Boone County's Ohio River shoreline is viewed as an undeveloped resource for the county. Therefore, a future land use study of this shoreline is needed to ascertain its potential for various land uses such as business, residential, recreational, resort, and port operations, and to determine the needed surface transportation connections to such uses.

## **TRANSIT AUTHORITY OF NORTHERN KENTUCKY (TANK)**

In 2013, TANK developed a [Transit Network Study](#). The objective of the Study was to evaluate the existing transit network and identify service improvements based on existing and future travel patterns, population density, and employment center locations. Recommendations included an hourly cross-county service from NKU to the



Florence Mall/Hub, increase bus service in the Hebron employment center area, enhanced service along the Dixie Highway bus corridor, bus shoulder pilot program, and new park and rides. Currently, TANK operates two local routes and nine express routes. Boone County and TANK are constantly evaluating bus routes to support service demands based on population and employment growth. Routes are currently funded by the Boone County Fiscal Court and other private companies to support public transport to employment centers.

## **KENTUCKY TRANSPORTATION CABINET SIX-YEAR HIGHWAY PLAN (2018-2024)**

The Six-Year Kentucky Transportation Cabinet Highway Plan is a bill enacted by the Kentucky Legislature to program funding for specific roadway improvements throughout the State. The Plan schedules design, right-of-way acquisition, and construction funding in phases for each roadway project. It is updated and readopted every six years by the Kentucky Transportation Cabinet. It was last updated in 2018. The Plan is dependent upon the financial condition of the State of Kentucky and priorities throughout the State. The most current [Six-Year Plan](#) is available by visiting the Kentucky Transportation Cabinet's website. A two year Biennial Budget has been approved by the Kentucky Legislature. It includes road construction, studies, and sidewalk projects. The 2018-2020 Budget recommends \$300 million worth of transportation projects in Northern Kentucky, of which Boone County will receive \$150 million over the next two years.

## **TRAFFIC SAFETY COMMITTEE**

This Committee meets regularly in order to share information between agencies about traffic safety problems, primarily on county roads. It is chaired by the County Engineer and also includes representatives from the Boone County Sheriff Department's Traffic Division, the Boone County Planning Commission, and the Public Works' Engineering and Sign Divisions. The majority of the Committee's work involves identifying and responding to localized issues including speeding, signage and signalization, parking, sight distances, crosswalks, and maintenance issues. Solutions range from conducting speed studies, increasing enforcement, or adjusting speed limits to adding signage/signals, installing speed humps or turn lanes. Cases involving roads outside county jurisdiction are forwarded to the proper governing authority with the committee's recommendation.

## **STREET CONNECTIONS**

The [Boone County Subdivision Regulations](#) contain specific criteria for evaluating potential street connections between developments and adjoining property. The Boone County Planning Commission maintains conceptual maps and a GIS layer of possible future street connections for public review as well as to assist the Planning Commission in the development plan review process. These are working maps that change as communities develop.

In addition to already planned improvements, certain geographic areas must develop both an interconnected collector and local street system as well as improved routes or connections to the interstate system. Some of these connections will be developer-built. The recommended connections listed in the [Boone County Transportation Plan](#) are in addition to the existing GIS street connection layer information being used on a daily basis. Individual building lot access to these connector routes should not occur and the connectors should be designed to serve side streets. Existing examples include Oakbrook Drive, Wetherington Boulevard, Fox Run Drive, Triple Crown Boulevard, Hanover Boulevard, Thornwilde Drive, and Grand National Boulevard. Some connections may need to be three lanes in order to adequately serve turning movements. These planned connections are based on future land use planning and are important for the 2040 Future Land Use Plan to develop property. Details regarding the recommended connections can be found in the 2017 [Boone County Transportation Plan](#).

## **PEDESTRIAN/BIKE PATH PLANS**

The [2002 Florence Pedestrian and Bike Plan](#) concentrates mainly on the City of Florence, but it also addressed some extensions of the network into the County in the West Florence area. It was conducted under the guidance of a joint City/County committee. The Plan recommended that the sidewalk system in the City of Florence be



completed where voids exist, that a network of designated bike lanes and routes be established in the City, and that several bike paths and lanes extend into the county. The [2002 Florence Pedestrian and Bike Plan](#) is planned to be updated in 2018. The [2019 Florence Bike/Ped Plan Update](#) analyzed current facilities to identify gaps in the system. The plan primarily recommends that the City (1) focus on connecting existing multi-use paths to build a regional network running from Kenton County through Florence to Union, Burlington, and Hebron and (2) continue building sidewalks with the goal maximizing connectivity by tying into the path system. The 2017 [Boone County Transportation Plan](#) recommends a series of bike/pedestrian projects. As each project is completed, there will be a need to update the list of projects for the Boone County Fiscal Court and the Cities of Florence, Union and Walton. Some of the legislative units have allocated funds each year to improve pedestrian/bike access along existing roads.

## FREIGHT

According to the [OKI Regional Freight Plan](#) (2011), over 323 million tons of freight flow through the region annually. Approximately one-third of this total is inbound to major businesses such as General Electric and AK Steel. More than 80% of the region's freight moves by truck and I-75 is one of the country's heaviest truck corridors. Global carriers FedEx and DHL located in Boone County are the key players in freight at CVG, which itself is a significant factor in the movement of freight in the County and across the region. Freight also moves through the region via rail and the Ohio River. Improvements in rail capacity by CSX and Norfolk Southern and the 2014 Panama Canal expansion contributed to an increase of freight movement in the region to 487 tons/year by 2040. The region (as well as Boone County) is well served by having four available transportation modes for freight travel: road, rail, river, and air. However, OKI suggests that challenges relating especially to rail congestion and highway freight capacity should be addressed in order for the region to fully realize its potential in coming years.

In order for Boone County to capitalize on the forecasted increase in regional freight, the [OKI Regional Freight Plan](#) recommended a number of improvements. Chief among these is the CVG Air Cargo Park (est. \$50 million), which is identified as an immediate need. Regarding road improvements, the Plan recommended improving the I-75 interchanges at Richwood Road and Mt. Zion Road as well as modifications of the I-75/I-275 interchange, the I-275/Mineola Pike interchange, and construction of the new I-275/Graves Road interchange.

## FUNDING TRANSPORTATION IMPROVEMENTS IN BOONE COUNTY

Public transportation projects in Boone County are primarily paid for through Federal, State, and/or Local funding sources. Federal funding amounts are based on estimates of the region's share of funds from programs authorized and appropriated by Congress. The current Fixing America's Surface Transportation Act (Fast Act) programs provide funding for the region's transportation system as noted below:

- Interstate Maintenance (IM)
- National Highway System (NH)
- Federal Safety Funds (SAF)
- Federal Emergency Relief Fund

There are Federal funds used for transportation improvements that are appropriated to both the State of Kentucky and OKI. These programs consist of the following:

- Surface Transportation Block Program (STBG)
- Transportation Alternatives Program (TA)
- Congestion Mitigation Air Quality (CMAQ)
- Federal Transit Administration Funding (FTA)

In addition, there are competitive federally funding opportunities to local, regional and State sponsors. These include the following programs:

- Nationally, Significant Freight and Highway Projects (NSFHP)
  - Infrastructure for Rebuilding America (INFRA) Grants
  - Better Utilizing Investments to Leverage Development (BUILD)
- Advanced Transportation and Congestion Management Technologies Deployment Initiative

### Kentucky State and Local Funding Services

The Kentucky Road Fund is primarily derived from vehicle fuel tax and registration fees. These funds can be used as sole source of transportation project funding or as matching funds for federal programs. Typically, these funds are used for projects on the state-maintained roadway system which includes roadways with a Kentucky (KY) or Interstate (I) designation and all bridges on public roadways. Roadway projects on county or local roadways are typically funded with local funds or other innovative finance measures.

### State Funds Available For Transportation Projects

- Kentucky Road Fund (SPP)
- State Bond Projects (SPB, SB2)
- Volkswagen Settlement Fund
- Surface Transportation Program for NKY (SNK)

### Local Funding

In addition to State and Federal funding, Boone County has contributed local money to transportation projects. Local transportation funds can be a match to a federal program, a sole funding source, or a contribution to an important local project to expedite the implementation timeframe. For example, Boone County recognized the importance of alleviating congestion in Hebron and contributed approximately \$375,000 to the 2017 Graves Road/I-275 Interchange Justification Study, which amounted to approximately half of the total cost of the Study. By contributing County funds, fewer state funds were needed and the timeline to initiate and implement the study was significantly streamlined.

### Innovative Financing Tools

Innovative finance refers to a series of administrative and legislative initiatives undertaken in recent years which have removed barriers and added flexibility to federal participation in transportation finance. Policy makers recognized they could accelerate surface transportation project development and expand the base of available resources by removing barriers to private investment. Innovative finance is broadly defined as a combination of special funding initiatives. In the transportation industry, the term innovative finance has become synonymous with techniques that are specifically designed to supplement the traditional methods used to finance highways. The United States Department of Transportation's (USDOT) innovative finance initiatives are intended to augment rather than replace traditional financing techniques. Available Innovative Finance Tools are listed below:

- Credit Assistance
  - Transportation Infrastructure and Finance Innovation Act (TIFIA)
  - State Infrastructure Banks
- Tax Increment Financing
- Debt Financing and Cash Flow Management Tools
  - Garvee Bonds
  - Advance Construction
- Public Private Partnerships
  - Availability Payment
  - Private Activity Bonds

### Local Funding Options

Often, local agencies such as Boone County receive funding for projects that are not implemented through the Kentucky Transportation Cabinet. These projects are known as Local Public Agency (LPA) projects and often include sidewalks and projects on local roadways. These programs are administered by KYTC's Office of Local Programs with the oversight of the local District Office. However, these two entities are not within the same department. The Office of Local Programs is within the Department of Rural and Municipal Aid, while the District Office is within the Department of Highways.

Other options include funding transportation improvements by creating a Tax Increment Financing (TIF) District and to possible change the State law that would allow the formation of a Transportation Improvement District (TID). A TID is defined as a body both corporate and political that can finance, construct, maintain and repair transportation projects.

## CONCLUSIONS AND RECOMMENDATIONS

One of the goals of the Transportation Element is to demonstrate the interdependence between transportation systems and land use patterns in order to assure that future development and redevelopment is planned with multi-modal transportation facilities. The future Transportation System in Boone County will significantly be improved if the recommendations of the Boone County Transportation Plan are implemented to address existing problems and allow for opportunities for new development. An updated and improved transportation system will accommodate new growth with mixed land uses and densities. It will encourage a more efficient land use pattern.

A different type of planned development, one that will facilitate the evolution to a more “transportation-sensitive” land-use development pattern, is advocated in this Transportation Element. Unlike the usual form of suburban development of the last 50 years that adhered to the separation of uses, this type of planned development would incorporate a mixture of uses including residential, retail, office, light-industrial, public parks, and other public uses in a tastefully-designed, compact development. The City of Florence is pursuing this style of development for the Mall Road area with the goal of restoring that area as the most vibrant commercial district in Northern Kentucky. The other defining element of this new type of planned development is that it will be served by an interconnected, multi-modal transportation system.

This system would include appropriately located transit stations or transit stops within walking distance (a quarter mile) of all residential areas. There would be well-designed pedestrian and bicycle facilities that would connect to the transit stations or stops. The bicycle facilities could include bike lanes or routes on roadways and bike lockers at the transit stations. Pedestrian facilities should be built along streets where possible and should provide an attractive, safe, and direct route to the transit stops. As the Union Town Center develops as a center of relatively dense development, transit service may need to be expanded based on demand.

Boone County has outgrown the current road system due to population and business growth and because of the lack of timely funding over the past two decades. Transportation improvements are finally beginning to catch up with development with the infusion of Federal, State, and Local funding sources. The next five years will be critical as the major transportation improvements will be needed to accommodate existing and future logistic traffic in and around Florence and the Airport areas. Strategic improvements can achieve significant increases in level of service if designed correctly. The Kentucky Transportation Cabinet is often intent on building major roads or reconstructing existing roads into major multi-lane facilities to answer the community’s needs. The planning horizon for such improvements is the year 2040 for current design efforts. This correlates with the planning horizon for the Boone County Comprehensive Plan and reflects the close relationship that is needed between land use and transportation planning.



## LAND USE

### INTRODUCTION

*There are many land uses in Boone County that have made it the attractive place to live, work, do business, and recreate. Proximity to the City of Cincinnati has made Boone County and its rural amenities a long desired suburb. Transportation has played a key role in this. Multiple modes of transportation, including the Ohio River, an international airport, rail lines, and the highway system has aided in the rapid business and population growth that has occurred in Boone County. In addition, as a result of the Cincinnati-Northern Kentucky International Airport (CVG) being located within Boone County, many jobs have naturally migrated to the area as well as including the rapidly emerging logistics industry. Also, Boone County has been experiencing steady commercial success over the past several decades with major retail centers along the interstate corridors. In addition, the incredible beauty of the western half of Boone County has long been a valuable resource not only to those who live there, but also for people wanting to experience a more rural and historic setting. Rabbit Hash and other river towns along with the Big Bone Lick State Historic Site are just a few of the natural attractions that exist in Boone County. These land uses have developed over long periods of time and will continue to do so. The key to this and any long range land use plan is how to balance these uses so that they do not negatively impact each other to the point of eliminating natural resources or economic opportunities.*

*This Comprehensive Plan is intended to be a tool for the management of growth and development in Boone County. The growth of the county can have positive benefits for the present and future population if it takes place within the context of a comprehensive plan which recognizes and integrates the various elements that comprise Boone County. This growth management is directed by the Goals and Objectives of this plan which recommend the efficient use of land resources, physical improvements, public facilities, and protection and enhancement of the natural and social environment. Goals and Objectives require that growth and development be coordinated and well-planned.*

*The Land Use Element of this plan recognizes that growth will occur in portions of Boone County. This plan utilizes a 20 to 25-year planning horizon for future land use recommendations, and further, the document is mandated to be reviewed and/or updated every five years. This element contains future land use development guidelines, land use classifications for the existing and future land uses, text regarding the future land use for the entire county as divided into 24 land use characteristic areas, a map identifying 2017 existing land uses, and a map depicting year 2040 specific future land use patterns throughout Boone County. This plan is a tool designed to enable officials in Boone County and the Planning Commission to manage the location and timing of the various types of development, to assure adequate and fiscally responsible provision of infrastructure and public services in order to assure that adjoining land uses are compatible, and to assure that negative impacts to the environment are minimized. The various types of development will demand different levels of infrastructure as a major component of the Land Use Element. The OKI Land Use Commission has identified many of the regional impacts and cost issues associated with suburban development. The Commission's 2010 report presents regional issues, trends, conditions, goals, objectives, and policies for Transportation, Public Facilities and Services, Natural Systems, Housing, Economic Development, and Land Use sectors. The report contains a policy plan that encourages local governments and planning agencies to pursue more concentrated land use patterns, more efficient transportation decisions, prompt and coordinated public services provisions, mixed-use development design, diverse housing choices, environmental protection, fiscally responsible decisions, and cooperation with other jurisdictions.*

*Urban service areas are those parts of the county where public services, infrastructure, and community facilities are available or planned to support an urban development pattern. This is not to say that all of the land within the urban service areas should be developed; there remains a need to protect or maintain some land as open space within these higher density areas. Urban service areas should contain water supply systems, sewage treatment, utilities, police and fire protection, schools, recreation facilities, and easy access to major transportation routes. Future urban service areas, or the expansion of existing urban service areas, should develop where land resources are available and demand is sufficient to assure efficient utilization of proposed public services and*

infrastructure. Development of future urban service areas should be permitted when adequate services are provided as part of the development or when full public services are made available. Until such services are provided, future urban service areas should only contain low density development, which is compatible with the ultimate planned land uses, but not dependent on full urban services. Areas not anticipated to experience substantial urban growth are planned for less intense, rural development which will create little or no demand for urban services. Any extension of services to these areas could commit them to development and should be undertaken carefully.

The Land Use Element is intended to provide general guidelines for all future development and to permit the management of growth in Boone County. This plan anticipates that growth management will be achieved by specific land use regulation tools, including zoning and subdivision regulations, specific land use studies (corridor studies, area studies), public land ownership and land-banking, restrictive covenants, easements, environmental regulations, recognition of the benefits of vibrant business activity and the housing industry, cooperative agreements with public and private organizations, etc. This should be coordinated with the construction of public infrastructure and the provision of public services. All sites should be designated for the appropriate land use and density of development to assure efficient use of infrastructure and services. Where existing infrastructure and services are not available, the developer of a site must demonstrate that adequate services will be provided, assuming that the development is appropriate through the evaluation of other land use considerations.

The development of this Land Use Element incorporates the existing and projected noise contour information related to the operation of the Cincinnati/Northern Kentucky International Airport (CVG) described in the Transportation Element. The projected noise contours may vary over time, thus impacting the type and location of appropriate land uses around the airport. The contours are currently being updated through the airport's master plan update and associated noise studies. The official updated noise contours will be reflected in the 2040 Future Land Use map. The Airport Master Plan, currently being updated, includes detailed recommendations for land use on airport property. In addition, Boone County needs to prepare for the impact of expansion at CVG as well as new development on and around the airport property occurring and planned since the last update. The profound and important relationship between the operation of the Cincinnati/Northern Kentucky International Airport and Boone County necessitates a careful, cooperative effort between the two entities to assure that aircraft flight routes are coordinated to avoid noise impacts on existing and future residential areas and public land uses. Sufficient public processes are needed to keep citizens and businesses advised of airport development and activity. Future land acquisition plans should be made known to property owners as soon as possible to enable them to anticipate and adjust their plans for their property. Residential development, in particular, should not occur in noise impacted areas, unless it meets federal guidelines for construction practices.

This Land Use Element is the culmination of the preceding six elements of the Boone County Comprehensive Plan. The Land Use Element is based upon the previously approved Goals and Objectives of the Comprehensive Plan and upon the following elements: Demographics, Environment, Economy, Natural and Cultural Resources, Public Facilities, and Transportation. For these reasons, the Goals and Objectives for the preceding six elements of the comprehensive plan also constitute the Goals and Objectives of the Land Use Element. The Land Use Element recommendations are based upon the specific data and recommendations of the other elements of this comprehensive plan. Compliance with the other elements of this plan will result in the development of Boone County as specified in the Land Use Element.

## **FUTURE LAND USE DEVELOPMENT GUIDELINES**

A number of general development guidelines are applicable to all future growth in Boone County regardless of type or scale. These guidelines are intended to mitigate the effects of development on the existing land uses, adjoining properties, public infrastructure, and the quality of life and safety in Boone County while at the same time promoting responsible growth, including appropriate infill redevelopment in established residential, commercial, and industrial areas. The guidelines detailed below represent items that the Planning Commission includes in the review of all projects proposed in Boone County.



### **Utilization of Existing Vegetation and Topography**

Developments in Boone County should begin with an assessment of existing site features to determine positive and useful attributes, as well as features that should or can be preserved. Development design should incorporate the use of these attributes for the benefit of the development and the County as a whole. Development plans should identify such areas, and delineate disturb limits to protect those areas that have been defined. Open Space and Cluster subdivision designs should be considered to blend new subdivisions in with areas that have a rural character.

### **Development Layout, Lot Sizes, and Setbacks**

Different residential development densities can occur in Boone County as long as the development is designed in a proper manner and the infrastructure exists (or is planned) to support the development. Fluctuations in the economy and housing market should be considered when evaluating uses and design of developments.

Business, commercial, or industrial parks should be designed and developed to allow compatible uses on adjoining tracts to access through them. Such a roadway should be suitable for mixed use development and provide side streets for businesses rather than just serving each individual business directly.

In Boone County, sanitary sewer issues impact where development occurs more than other types of infrastructure. The presence of sanitary sewer directly affects lot sizes of residential development in particular. Most residential developments in outlying areas without access to sewer service typically develop on lots larger than an acre. In fact, septic system permits almost always require residential lots of greater than one acre to accommodate leach areas. On the other hand, the presence of public sanitary sewer facilities have normally resulted in an increased demand for more dense single-family residential developments in the range of three dwelling units per acre which typifies single family projects in Boone County. There is little development occurring in Boone County between these two general density levels. This phenomenon often results in different housing and lot characteristics adjacent to each other. Proposed residential developments that have smaller lot sizes than surrounding land uses are recommended to utilize the following design mechanisms to address the impacts on existing development:

- The proposed development should consider in its design a band of larger lots and setbacks along the affected perimeter of the site adjacent to existing development to provide an adequate transition;
- The proposed development should consider a band of development along the existing main roadway in which the houses face the main road appear rural, and where the lots in this band are larger than those in the balance of the proposed development. Building setbacks should imitate existing setbacks along the road;
- Highly visible portions of the proposed development site should consider green space. The style of green space, including tree types, fencing or other similar features should imitate the existing road corridor views. Informal, pastoral designs in lieu of elaborate subdivision entryways may be appropriate depending on existing conditions in the corridor;
- These recommendations are site specific and should be evaluated on a case-by-case basis. There may be other design mechanisms not identified here that may work in some instances.

### **Buffering**

Developments in Boone County must recognize the potential impacts upon adjoining land uses and incorporate a transition of land uses, building setbacks, and/or landscaping to minimize these impacts. Potential impacts include visual, noise or vibrations, odors, dust, smoke, and light. Buffering to mitigate these impacts should be an integral part of the design of proposed projects; where appropriate, existing site features should be used in meeting this guideline. Developments should provide buffering along public roadways, to soften the visual impact. Appropriate wooded areas and stream valleys should remain as open space within developments and between developments. Developments proposed adjacent to planned or established open spaces should provide pedestrian access where appropriate. Natural green space benefits the community as well as encourages developers to create innovative development designs through clustering of buildings and impermeable area. Typically, buffering is required and provided between both like and unlike land uses. However, as the development of Boone County fills in previously rural areas, different lot sizes and designs of residential development sometimes impact each other. Where an appropriate gradation of lot size and setbacks cannot be designed into a proposed residential subdivision development of a significantly higher density than existing

adjacent residential uses, deliberate vegetation buffering may need to be incorporated into the design to help protect low density residential areas. Buffer areas should use and supplement existing site features where possible.

### **Landscaping**

Developments in Boone County must include landscaping to accompany the proposed project. Retention of existing healthy vegetation is considered a component of landscaping and is encouraged. This landscaping should be designed to improve the public view of a development, and should be incorporated into parking lots and other vehicle circulation areas, as well as within open spaces and around structures. Landscaping is intended to soften the visual impacts of the development from adjoining properties and roadways. The amount of heat absorbed by impervious cover from sun radiation is decreased by landscaping, which reduces energy costs. Landscaping helps purify the air of harmful pollutants, thus reducing health impacts. It also helps reduce the quantity and improve the quality of storm water runoff, including temperature. The use of bioretention islands (water filtering basins) and grass swales should be used where possible in place of raised islands as described in Northern Kentucky's [Storm Water Best Management Practices Manual](#) (2012). Native species are often heartier than nursery stock and should be used wherever possible to minimize pesticides and other high impact forms of maintenance. Developments along major roadways in Boone County must include landscaping between the development and the right-of-way in order to promote the aesthetic appearance from the roads and to facilitate the compatibility of differing land uses.

### **Stormwater Management and Erosion Control**

Developments in Boone County must recognize the potential impacts of stormwater runoff. Developments must design and incorporate adequate provisions for the channelization and control of the rate of stormwater flow on and from the site. One goal is to construct and maintain stormwater facilities to slow the rate of flow using new and effective methods to control runoff. Another goal of local storm water programs should be to minimize the amount of storm water runoff generated by decreasing the amount of pavement, increasing on-site infiltration, and encouraging green rooftops.

Control and mitigation practices for erosion associated with developments must be provided. At a minimum, developments must reestablish ground cover on all graded areas and provide siltation controls. Stormwater management and erosion control measures must be concurrent with site work in order to be effective. Stormwater management officials must also consider the cumulative effects of increased development runoff in watersheds. Developments must obtain all required stormwater permits and comply with the permit requirements. Again, Northern Kentucky's [Storm Water Best Management Practices Manual](#) should also be utilized.

### **Access Management**

Developments in Boone County must recognize the potential impacts of associated traffic on adjoining properties and transportation systems. The need exists to protect the capacity of the existing roadway network and to plan improvements to accommodate new development and travel patterns. Access management provisions include the coordination of curb cuts, adequate corner clearance and sight distance for access points, adequate spacing between access points, shared access points and parking facilities, provisions for access connections to adjoining properties, and dedication of public right-of-way. In subdividing property, arterial or collector streets should not be used for direct access to lots, rather a system of local streets should feed into the collector and arterial street system. Connections between and within commercial and industrial developments allow for more efficient provision of transit service. In addition, the amount of travel time saved for services relying on routing (such as school buses, waste collection, mail, and other delivery services) is invaluable, not to mention the importance of simply connecting neighborhoods and people to each other. More importantly, the connectivity between developments promotes safety as emergency response vehicles have multiple ways of gaining access to a property during an emergency.

### **Transportation and Pedestrian Network**

Developments in Boone County must be designed, where appropriate, to improve the County's transportation network system of roadways and functional classifications must be used in the planning for and designing of new developments. Collector roadways should be extended and developed to provide for the safe movement of traffic

through and between subdivisions. Development along existing arterials and collector roadways should not have direct driveway access, but be served by a local street. Appropriate road connections should be constructed to provide alternate routes for traffic to and through specific projects and to enhance the capacity of existing streets. The traditional grid system can provide an alternative to typical suburban design. Parallel and frontage roads should be used to minimize impacts of individual sites on collector and arterial roadways. The issue of semi-tractor trailer on-street parking and queuing must also be considered when examining the impacts of existing and proposed industrial developments on the functionality of all affected roadways. Industrial logistic developments should be designed to accommodate significant truck traffic, staging, and parking on-site. The idea of developing regional staging areas should be encouraged in order to provide a safe place for trucks waiting for delivery times. Appropriate pedestrian networks should be incorporated into the design of developments which will generate or experience significant pedestrian use. These networks should not only provide internal paths, but also connections to adjoining uses where appropriate so commuters will not be forced to rely on just a few main roads to reach their destination, but rather have multiple options; thus reducing traffic congestion. In addition, public open space and recreation sites should be connected to each other by bicycle and pedestrian paths where appropriate.

### **Design, Signs, and Cultural Resource Preservation**

Developments in Boone County should give consideration to the overall design of the area. Site, landscape, and building design should be a primary concern at the early stages of the development, with an emphasis on the aesthetic impact of the proposed use. The minimal use of signs is encouraged; signage should be adequate to identify a specific development, but should not be used as a means to compete for motorist attention. The objective is to avoid the confusion and/or distraction of motorists, and to avoid the potential negative impacts of signs on the visual appearance of a development or corridor. Utility lines should be placed underground wherever possible, and junction boxes screened from public view.

This Comprehensive Plan encourages the restoration, renovation and/or adaptive re-use of historically significant structures in Boone County. Neo-traditional residential and commercial development should be encouraged to provide quality development that blends with the natural or historic character of parts of Boone County as well as the "local identity" of the area. As discussed earlier in this document, certain natural and cultural resources in Boone County have implications for land use, including historic structures and districts, archaeological sites, significant geological sites and viewsheds, and cemeteries. The management of some of these resources is regulated at the local, state and/or Federal level and, as such, their potential land use implications should be carefully considered prior to development. Of particular concern are ridges and hilltops overlooking the Ohio River as well as major stream valleys within Boone County such as those found along Big Bone Creek, Gunpowder Creek, Mudlick Creek, and Garrison Creek due to potential for Native American burial sites.

## **EXISTING AND FUTURE LAND USE CLASSIFICATIONS**

The existing and future land uses in Boone County have been identified in this element with basic classifications. These classifications, based upon the type and density of use, are described below. For the purpose of these land use classifications, density is defined as: gross density - the average number of units per acre for the entire acreage of a development. Except where noted, the classifications pertain to both the existing and future Land Use Maps.

**Agriculture (A)** (Existing Land Use Map only) - Agricultural activity and abandoned, overgrown fields that have not yet reverted to woodland, and vacant or future development areas within the urbanized portion of the county.

**Woodlands (W)** (Existing Land Use Map only) - Mature wooded areas of greater than one acre. In some cases it is pre-empted by established recreation uses on the map.

**Rural Lands (RL)** (Future Land Use Map only) - Wooded, agricultural, recreational, or low density residential uses of up to one dwelling unit per two acres. Residential construction in Rural Lands does not occur in a formal subdivision.

**Hydrology (H)** - Water, lakes, river.

**Developmentally Sensitive (DS)** (Future Land Use Map only) - Areas that have an existing slope of twenty percent or greater for a height of 20 meters (67.6 feet), or have unique soil or flooding characteristics which limit the ability of an area to support urban development, or contain significant wooded areas, creeks, wildlife habitat, or other natural features that are important to a site's stability and visual character. In addition, developmentally sensitive areas may, in the future, be defined and protected due to historical or visual importance. Any development on land identified as Developmentally Sensitive must be carefully assessed by the developer and the Planning Commission to determine the ability of the land to support the proposed project. The land use priority for areas designated Developmentally Sensitive is preservation of the existing environment, as opposed to development of the land. This shall act as a guideline for any project proposed in Developmentally Sensitive areas; specific sites designated as Developmentally Sensitive require more detailed inventories of soil, slope, wildlife habitat, vegetation, and other possible physical constraints as part of the development plans. These inventories shall be used, along with engineering studies, to determine whether an area designated Developmentally Sensitive can be developed in a fashion which is sensitive to the existing site characteristics. The Developmentally Sensitive areas of Boone County have been identified by utilizing United States Department of Agriculture Natural Resources Conservation Service (formerly Soil Conservation Service) data and mapping, through the Boone County Geographic Information System (GIS). The degree of accuracy of these areas is intended to locate general areas of concern. Actual site assessments will determine the exact boundaries of Developmentally Sensitive areas in Boone County at the time of development.

**Rural Density Residential (RD)** - Low density residential uses of up to one dwelling unit per acre.

**Suburban Density Residential (SD)** - Single family housing of up to four units per acre.

**High Suburban Density Residential (HSD)** - Single-family and/or attached housing of up to 8 dwelling units per acre. This classification is typified by townhouse, condominium, and zero-lot line development, and also pertains to existing mobile home parks.

**Urban Density Residential (UD)** - Attached housing, generally condominiums or apartments, of over 8 dwelling units per acre.

**Public/Institutional (P)** - Government offices, schools, libraries, churches, cemeteries, fairgrounds, maintenance areas, etc.

**Transportation (T)** - Airports, major four lane roads, interstates, interchanges, ferries, and rest areas.

**Recreation (R)** - Public and commercial outdoor recreation including golf courses, parks, race tracks, private reserves, wooded areas that serve an established recreation use, etc.

**Commercial (C)** - Retail, corporate and professional office, interchange commercial, indoor commercial recreation, restaurants, services, etc.

**Industrial (I)** - Manufacturing, wholesale, warehousing, distribution, assembly, mining, and terminal uses.

**Business Park (BP)** - A mix of office warehouse, research, office, and light industrial uses in a park-like, office campus setting with large building setbacks, low floor area ratio, integrated pedestrian and recreation facilities, consistent architectural and signage theme, extensive landscaped areas, and attractive entrance treatment. This land use is recommended for high visibility areas and transition areas between industrial and residential land uses.

## DESCRIPTION AND PURPOSE OF LAND USE MAPS

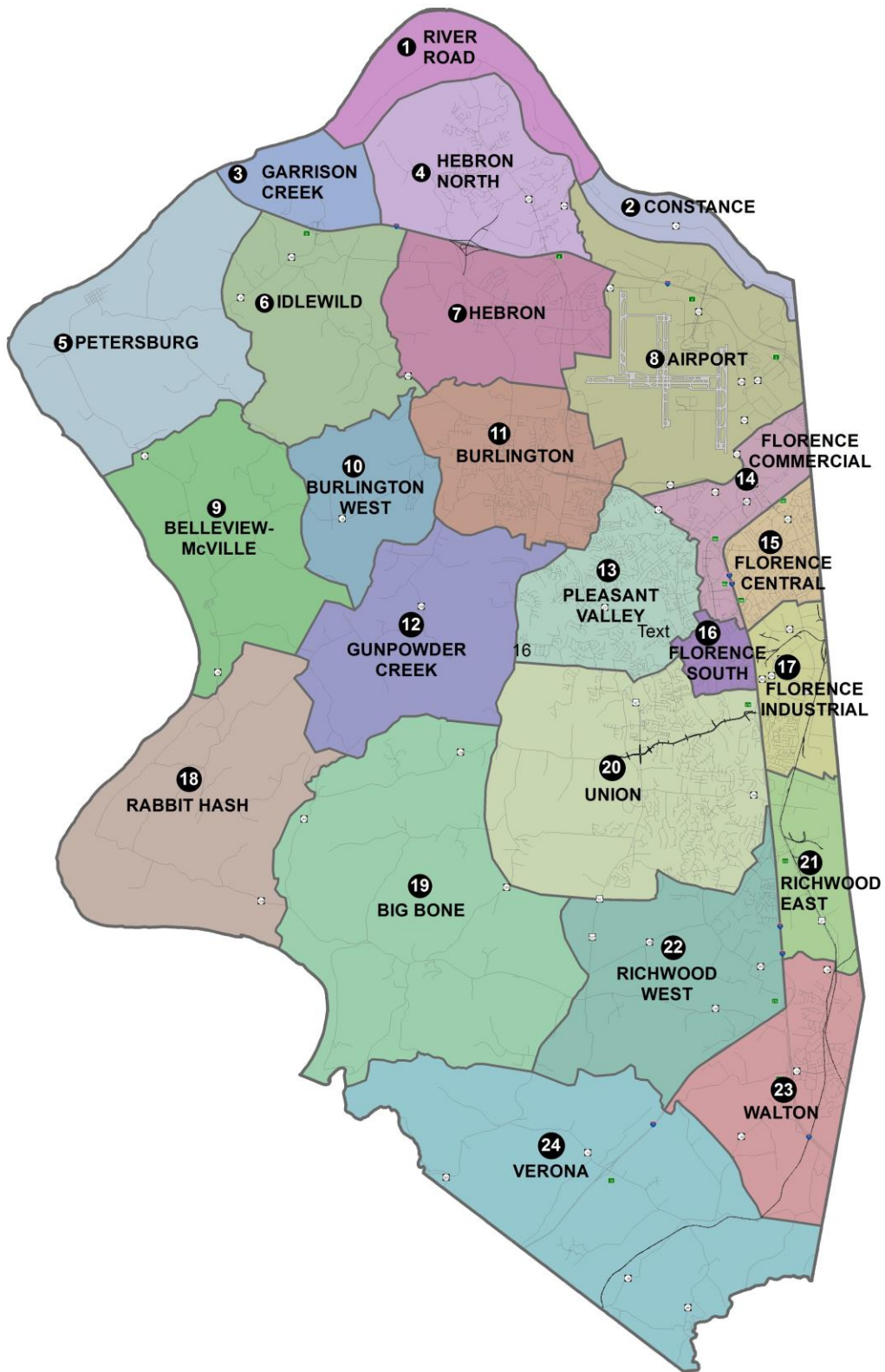
This Comprehensive Plan provides a 20-25 year outlook for land use, while zoning is typically treated as a five-year tool. The zoning map represents what immediate uses can occur on property based on infrastructure and other considerations. The Future Land Use Map should not be used as a zoning map. In addition, unlike the zoning map, it does not portray land use regulations parcel by parcel. The Future Land Use Map is one tool used to guide the formation of zoning regulations.

A Future Land Use Map, projected to the year 2040, and an Existing Land Use Map, accurate through 2017, have been produced with the Boone County Geographic Information System (GIS) and are intended to be used in tandem with the accompanying text in this chapter per the respective geographic areas descriptions included on the following pages. In addition, the recommendations contained in the following geographic area descriptions are the result of the culmination, review, and analysis of information contained in the previous chapters of this document. The individual elements/chapters of the plan are pulled together and considered when composing the conclusions and recommendations for each individual area, Boone County as a whole, and the Northern Kentucky and Greater Cincinnati region.

The area breakdowns are provided to allow for ease of use in finding text for specific areas of the county. The Future Land Use boundaries are intended to be approximate and subject to refinement and interpretation by the Planning Commission and county legislative bodies. It is important to consult the Land Use Element text to learn of timing or phasing issues that may be present in a particular area. The Future Land Use Map may indicate future land uses for a particular area, however, the area may not be ready for development until certain infrastructure is in place or another area develops first. It is critical to note that the Future Land Use Map is a projection to the year 2040, and is not necessarily intended to commit areas to development immediately. In some areas, phasing may be used to make sure development is supported by infrastructure, and in others, development may be delayed until planned infrastructure is provided.

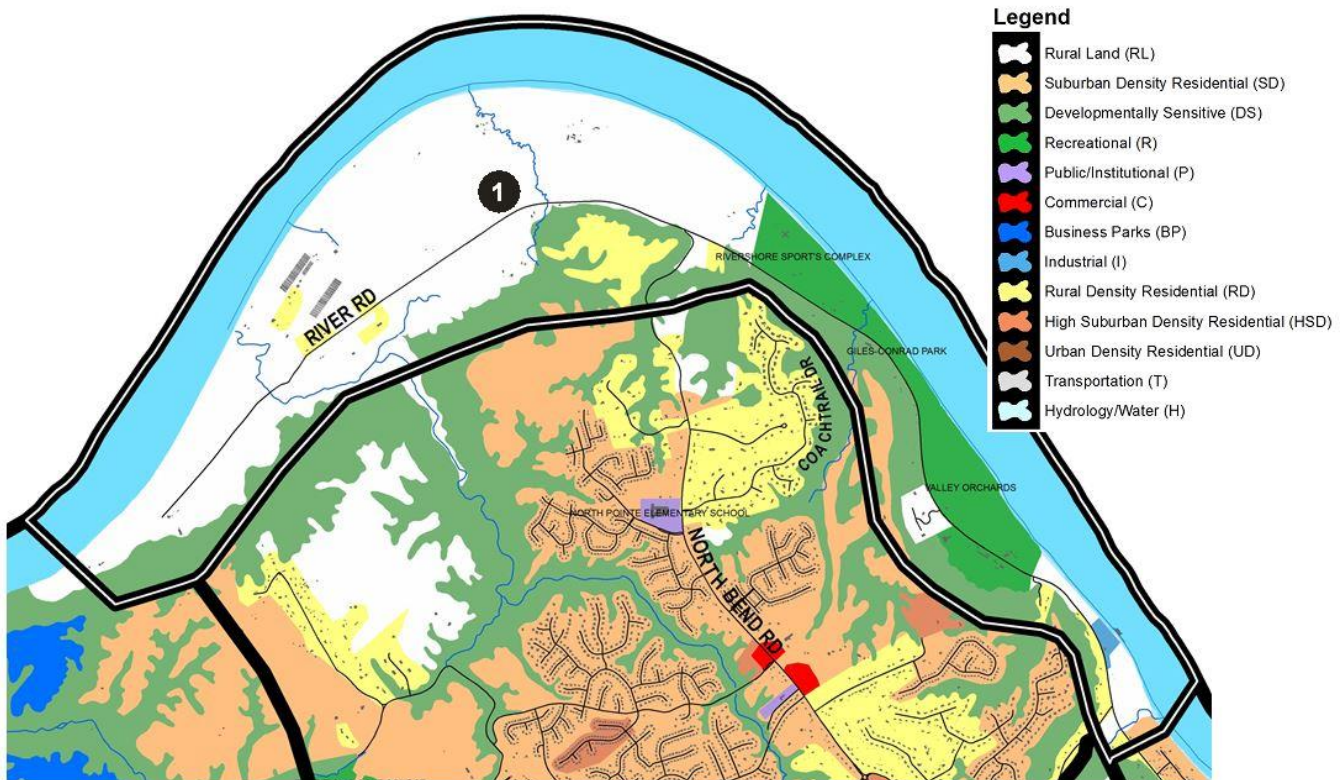
This Comprehensive Plan recognizes that there is much coordination that occurs between the Planning Commission, state and local governments, utility commissions, school districts, the development community, emergency services, public works, recreation departments, transportation agencies, and numerous other public services whenever a land use or infrastructure decision is reached. Primarily, this existing process involves direct contact with affected groups during zoning map amendment reviews. This process is beneficial to correlating land use and infrastructure provisions and should be reinforced. Groups providing these services should consult the Future Land Use map on a periodic basis and whenever they plan for future infrastructure needs and improvements. Since the Planning Commission administers land use regulations, but does not control infrastructure improvements, it is critical that groups that do provide public facilities and services participate in the public review processes such as zoning map amendment reviews. If this becomes difficult, then a revised system may be needed in the future.

# Future Land Use Geographic Areas





## CONCLUSIONS AND RECOMMENDATIONS

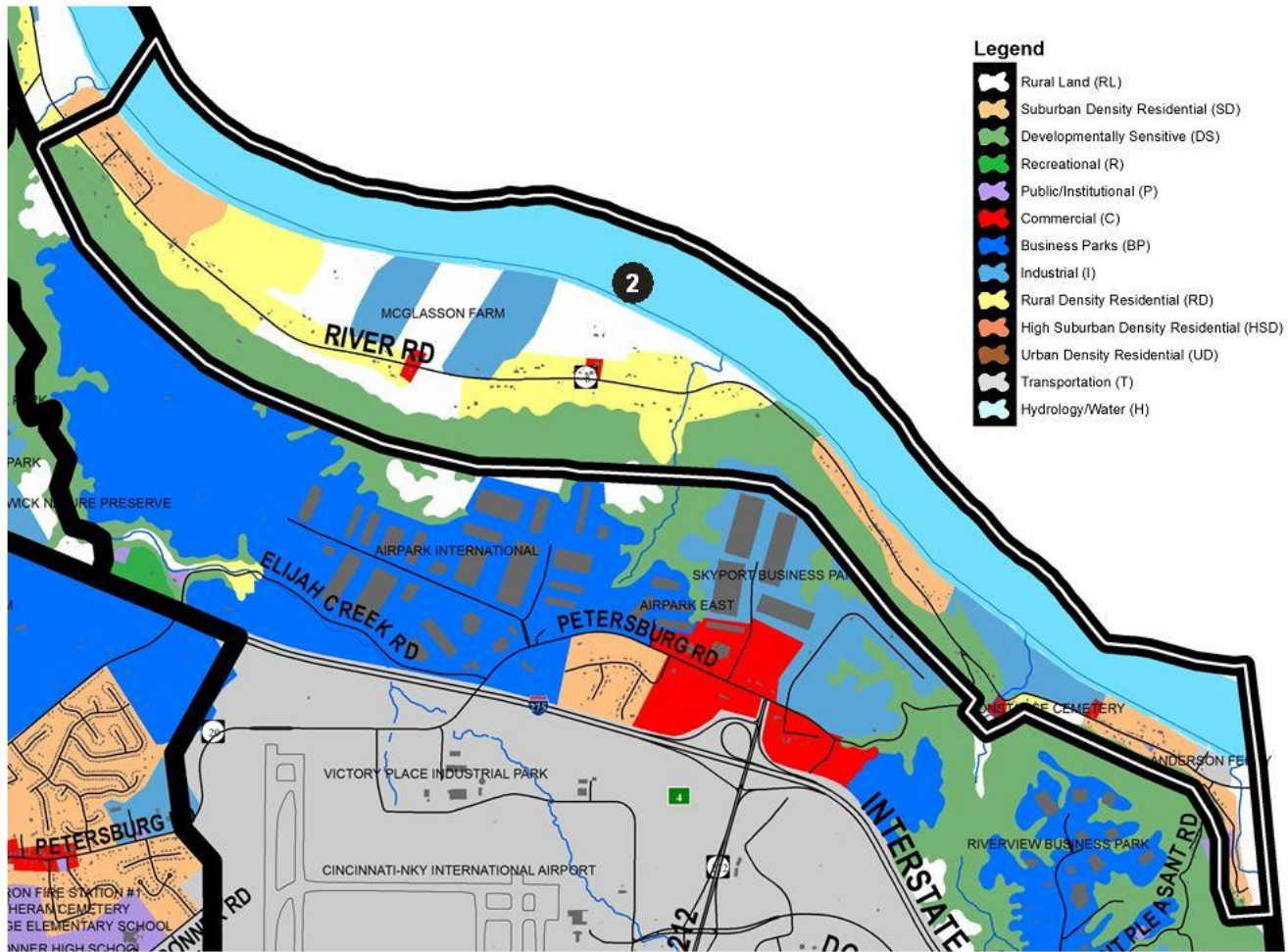


### 1) RIVER ROAD

This section of Boone County is bound to the north by the Ohio River and includes much of KY Route 8 (River Road) from near Elijah's Creek westward to just beyond the end of the road and is bound to the south by the hillsides that lead up to the Hebron area. Along with significant Ohio River frontage, this area is characterized by rolling topography and Developmentally Sensitive hillsides.

Because of the sensitive nature of these hillsides, they should remain wooded. The Ohio River bottoms contain agricultural land and should remain in that capacity. Since the area is scenic and its roadways do not readily serve large amounts of development, very limited Rural Density Residential growth should occur along KY 8. Some specialized agricultural uses should continue in the Ohio River floodplain. The Natural and Cultural Resources Element of this plan indicates this section is suitable for recreation uses; new recreational uses are important because of the residential growth throughout Boone County. The current use of KY 8 by cyclists will likely continue and increase, and provisions for this recreational use should be considered as part of any future developments in this section of the County. Any connection of KY 8 to the I-275/Petersburg Road interchange could adversely affect this recreational use. Pedestrian and bicycle access to this area from Hebron should be explored. Overall, this section should experience limited development because of the many Developmentally Sensitive areas and poor access.

This section of Boone County has considerable Ohio River frontage, as well as an important residential development area along North Bend Road. Between Rivershore Farms and Taylorsport is a large river plain suitable for athletic fields and similar recreation uses, exemplified by Conrad Park as well as the Valley Orchards property which is a future active recreation park slated to include over a dozen soccer fields. Approximately 1,100 acres at the northern end of this River Road area are protected by private conservation easements held by the Hillside Trust and other organizations.



## 2) CONSTANCE

This area is bound to the north by the Ohio River from Taylorsport eastward to the Kenton County boundary. It is bound to the south by the Developmentally Sensitive hillsides that lead up to the airport area.

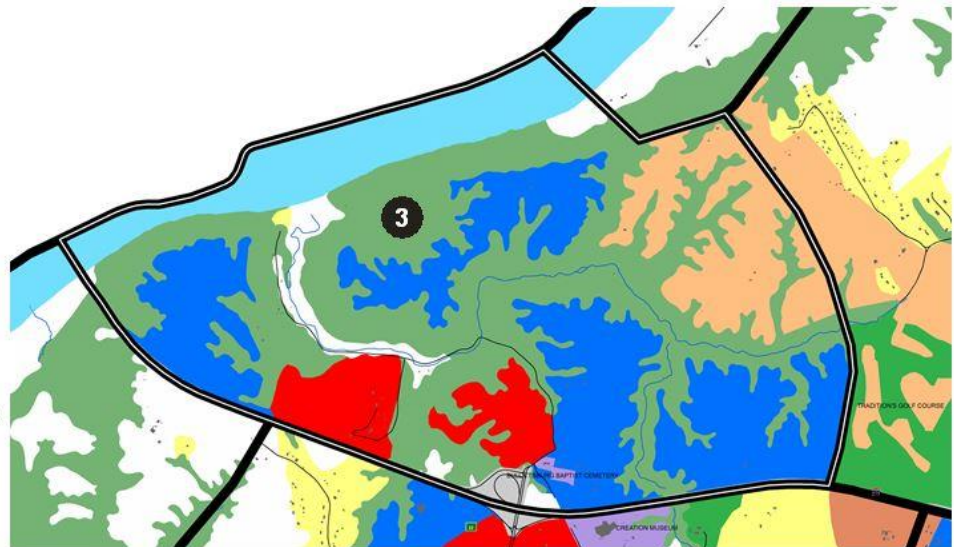
Below the hillsides, land uses in the Ohio River floodplain should remain agricultural, Rural Density Residential, or river related recreational. The western portion of this section of Boone County lies in the flight path of the 18-L north-south airport runway, with associated noise discouraging residential growth.

The river bottoms in the Constance area would make excellent recreation areas over the planning horizon as they have very limited development potential and should remain largely residential and agricultural in character, with occasional local commercial development. Although this area includes excellent industrial potential along the river, access is poor. Future industrial development may become appropriate should the access issue be addressed. The Anderson Ferry service should continue as a service to automobile, bicycle, and pedestrian traffic, and represents an historic resource for Boone County.



## Legend

	Rural Land (RL)
	Suburban Density Residential (SD)
	Developmentally Sensitive (DS)
	Recreational (R)
	Public/Institutional (P)
	Commercial (C)
	Business Parks (BP)
	Industrial (I)
	Rural Density Residential (RD)
	High Suburban Density Residential (HSD)
	Urban Density Residential (UD)
	Transportation (T)
	Hydrology/Water (H)



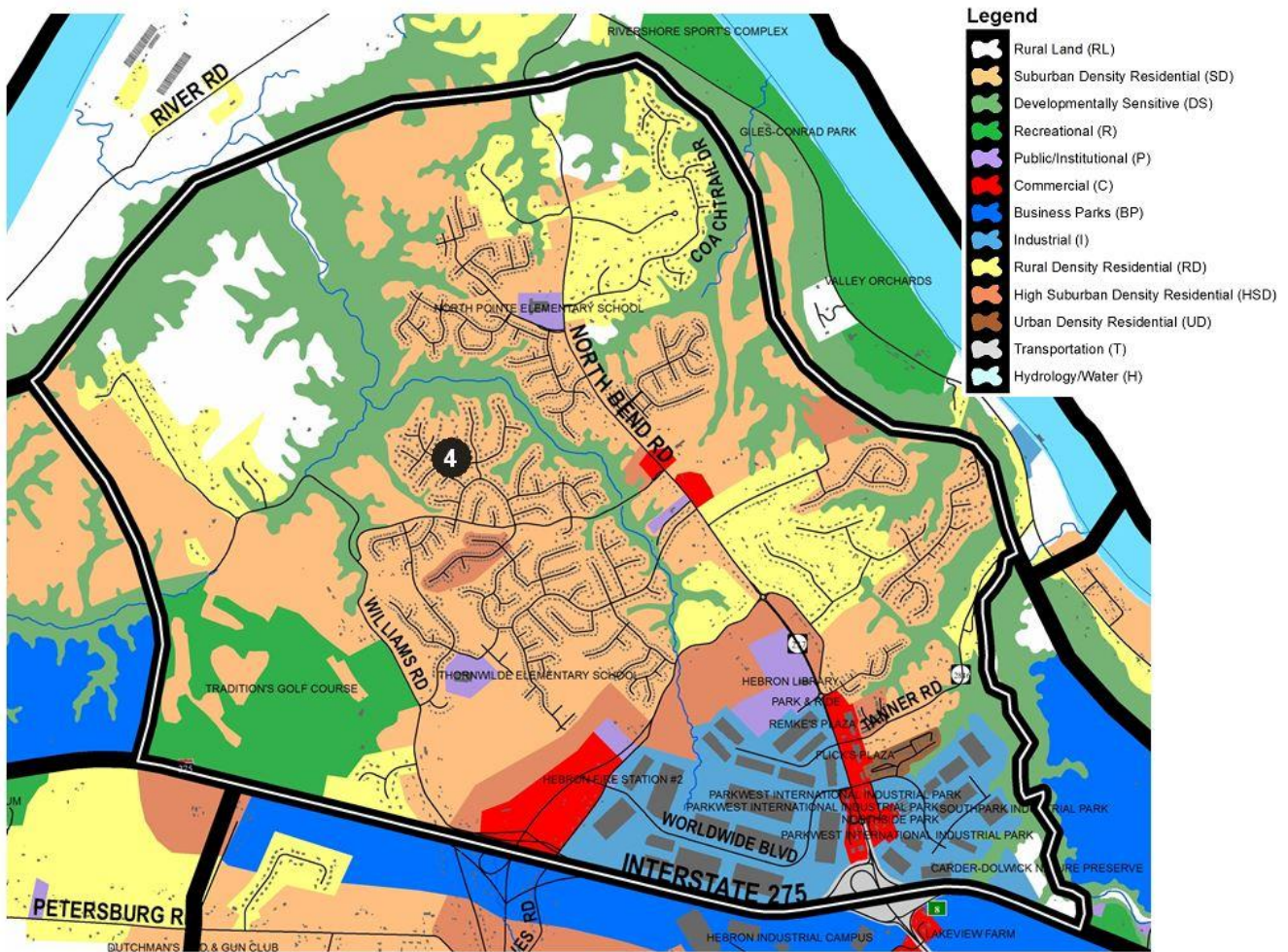
### 3) GARRISON CREEK

This area is bound to the north and west primarily by the Ohio River. The eastern limits are just west of Merrell Road to I-275 just west of Traditions Golf Course. I-275 forms the area's southern boundary.

The Garrison Creek area has both development and preservation opportunities in the future. This area is unique with its rugged topography, numerous streams, interstate access, Ohio River frontage, and spectacular views. The area is currently limited due to topography, lack of adequate infrastructure (sanitary sewer and water), as well as inferior roads. Parts of the Garrison Creek area should remain intact as open space due to its steep topography which could help buffer development. Much of the land in this area is Developmentally Sensitive (DS) and/or rolling hillsides. There are several overhead utility lines traversing the area and an electric power plant located on the other side of the Ohio River in Indiana. In addition, the I-275/Petersburg Road interchange is located in this section and serves as the first and last interchange in Kentucky and thus, development in this area should strive to be unique in site layout and building design in order to take advantage of as well as preserve the scenic viewsheds from both the top of the ridgetops looking into the Ohio River valley as well as from the Ohio River and I-275 looking into the area.

As evidence by a Duke Site Readiness Study, this area could develop with adequate infrastructure planned and in place. Future office, retail, recreation, or business park uses may be appropriate. Business Park uses with heavy truck traffic are not appropriate in the area due to the limited design of the interchange and mixture of planned uses and traffic utilizing the interchange. The Commercial and Business Park areas must be accessed exclusively from roadways originating from the interchange. Great care needs to be given to ensure proper buffering and screening of the Business Park uses from the residential component of Traditions Golf Course. The extreme northeast portion of the area could also see Suburban Density Residential with a possible tie-in to the end of Merrell Road if upgraded to handle additional traffic. The river bottoms have development potential for recreation, agriculture, and water related commerce including river transfer docking facilities. Access might need to be by river transport due to limited land base access. The hillsides along the Ohio River should remain intact as a natural open space buffer adjacent to other land uses. The Bullittsburg Baptist Church is on the National Register of Historic Places and every effort should be made to keep it listed in the future as development occurs. Garrison Creek Road is narrow and has many grade changes and parts of it are located next to Garrison Creek and in a floodplain. Development could occur in targeted areas as long as there are planned utility and road improvements. Areas to the west of the interchange will likely have to rely on a new roadway parallel to I-275 unless major improvements occur to Garrison Creek Road.

In conclusion, all necessary infrastructure (roads and utilities) should be planned and be in the process of being constructed for development to take place in this area. This can occur through cooperative and innovative public and private partnerships.



#### 4) HEBRON NORTH

This area is defined to the north by Developmentally Sensitive hillsides that lead down to the Ohio River bottoms along River Road. The area is bound to the east by Elijah’s Creek and to the west by just beyond Traditions Golf Course/Subdivision and just west of Merrell Road. The south border is defined by I-275.

Commercial development in this area should be designed to serve the northern part of Hebron and coordinate with the existing and proposed industrial and residential developments, especially in terms of access. Any additional Business Park development adjacent to the SouthPark project and I-275, with access provided by the extension of SouthPark Boulevard, must be carefully planned to avoid negative impacts to Developmentally Sensitive hillsides along Elijah Creek. The Carder-Dolwick Nature Preserve is an indication of the importance of this valley as a natural area. The SouthPark project should represent the northern-most limit of industrial uses on North Bend Road.

Land to the west of North Bend Road and along the south side of Graves Road is suitable for High Suburban Density Residential development, which will provide a transition to the Suburban Residential densities to the north and west of Graves Road and to the Industrial uses proposed to the south. This High Suburban Density Residential development must be clustered to make the most effective use of the land and preserve important natural features. In addition, because of the area’s topography, the retention of existing wooded areas near Sand Run Creek provides the only appropriate transition area between Park West and the planned residential development. The Graves Road Interchange area should see an expansion westward of the existing Industrial uses from Park West International Industrial Park to the proposed new Graves Road alignment. The area on the west side of the new Graves Road alignment should develop as Commercial to the interchange itself.

The new Hebron Library along KY 237 will open in 2019. The land adjacent to the north should be explored as a possible new school site and the site as a whole could serve as a local public campus for outdoor recreational and entertainment events and gatherings.

Acreage next to the interstate, at Graves Road, is appropriate for high-profile office uses in order to take advantage of the planned Graves Road interchange and to provide a transitional use between the business park development to the east and residential uses to the west. A road and sanitary sewer connection between the I-275/Petersburg Road interchange and Graves Road interchange warrants a land use/zoning study to determine feasibility and potential impacts. Limited Rural Density residential growth should occur along other roads in this section as further Suburban Residential development cannot be adequately supported by the existing road system without significant improvements to Williams Road.

Suburban Residential development should occur along the southern portion of Williams Road as a result of infrastructure improvements. With public sanitary sewer improvements in the Sand Run Creek and Elijah Creek watersheds, there will continue to be considerable growth pressures. Development should be clustered on the ridge top areas because of the limited capacity of the existing roadway network, the Developmentally Sensitive areas, and the importance of the stream valleys as greenbelts. Lower density development, such as Rural Density Residential, should provide a transition into the Developmentally Sensitive areas.

With the provision of adequate infrastructure, some Suburban Density Residential development and small amounts of attached housing may extend onto the ridge top areas. Development would need to retain the bluff line vegetation in order to minimize the visual and environmental impacts of residential development. Planned Development or clustered housing should be used to insure proper development of this area, due to environmental and site characteristics. Much of the remaining land in this section contains Developmentally Sensitive and scenic hillsides, and should stay wooded in order to create open space between future developments. The Sand Run Creek and Elijah Creek valleys should constitute such open space.

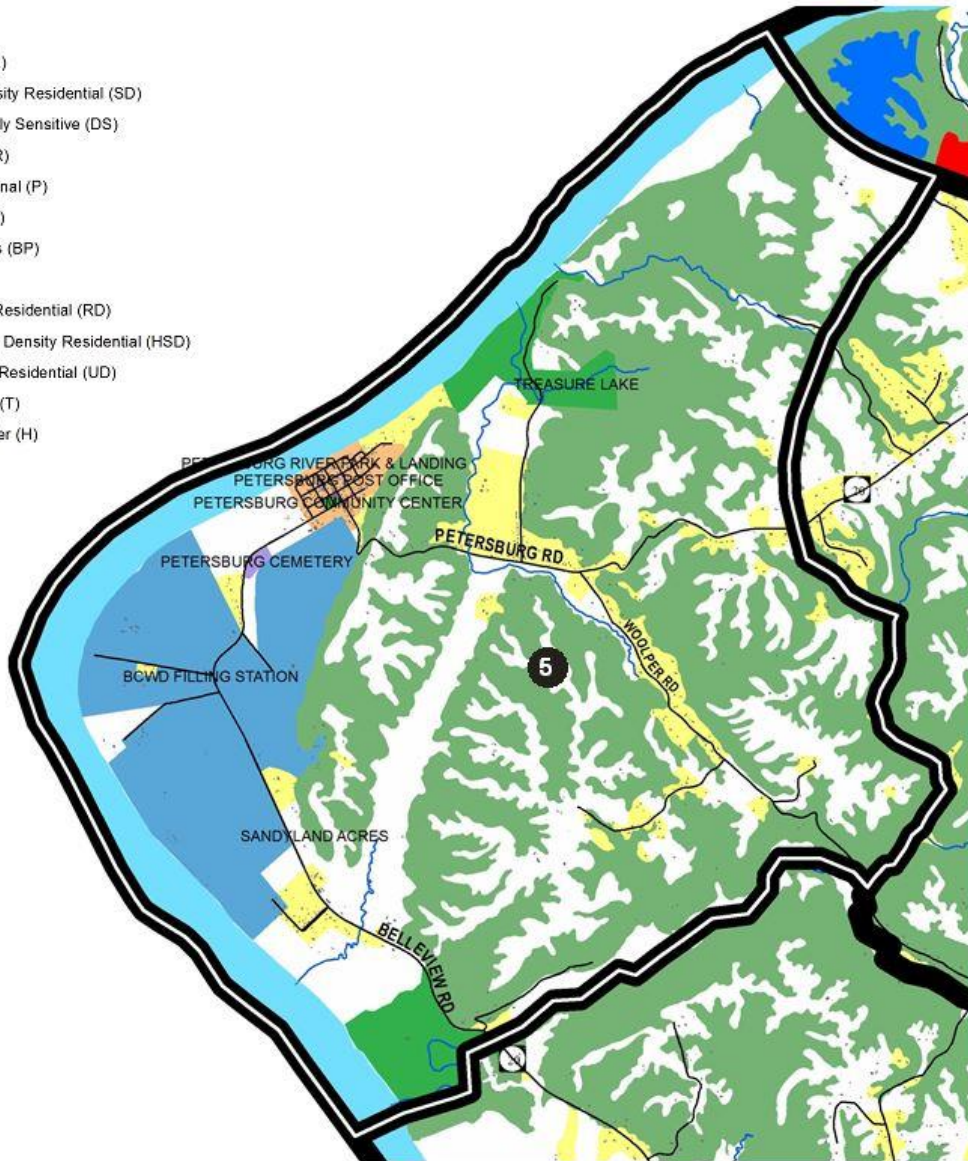
The area west of Traditions Golf Course should develop residentially, once adequate road access and utilities are available. This Residential development in and adjacent to Traditions Golf Course on Williams Road should not encroach on the developmentally sensitive areas.

Conventional layout subdivisions should be discouraged because of their inefficient circulation systems and excessive site grading requirements. The stream valleys and ridge bluff edges in this section should remain in their current state to provide public open space for the residential development on the ridge tops. Overall, this section should experience growth because of its proximity to I-275 and the Burlington-Hebron areas. In general, Suburban Residential development should be concentrated on land nearest to KY 237 and the Graves Road interchange as indicated on the Future Land Use Map.



### Legend

-  Rural Land (RL)
-  Suburban Density Residential (SD)
-  Developmentally Sensitive (DS)
-  Recreational (R)
-  Public/Institutional (P)
-  Commercial (C)
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-  Transportation (T)
-  Hydrology/Water (H)



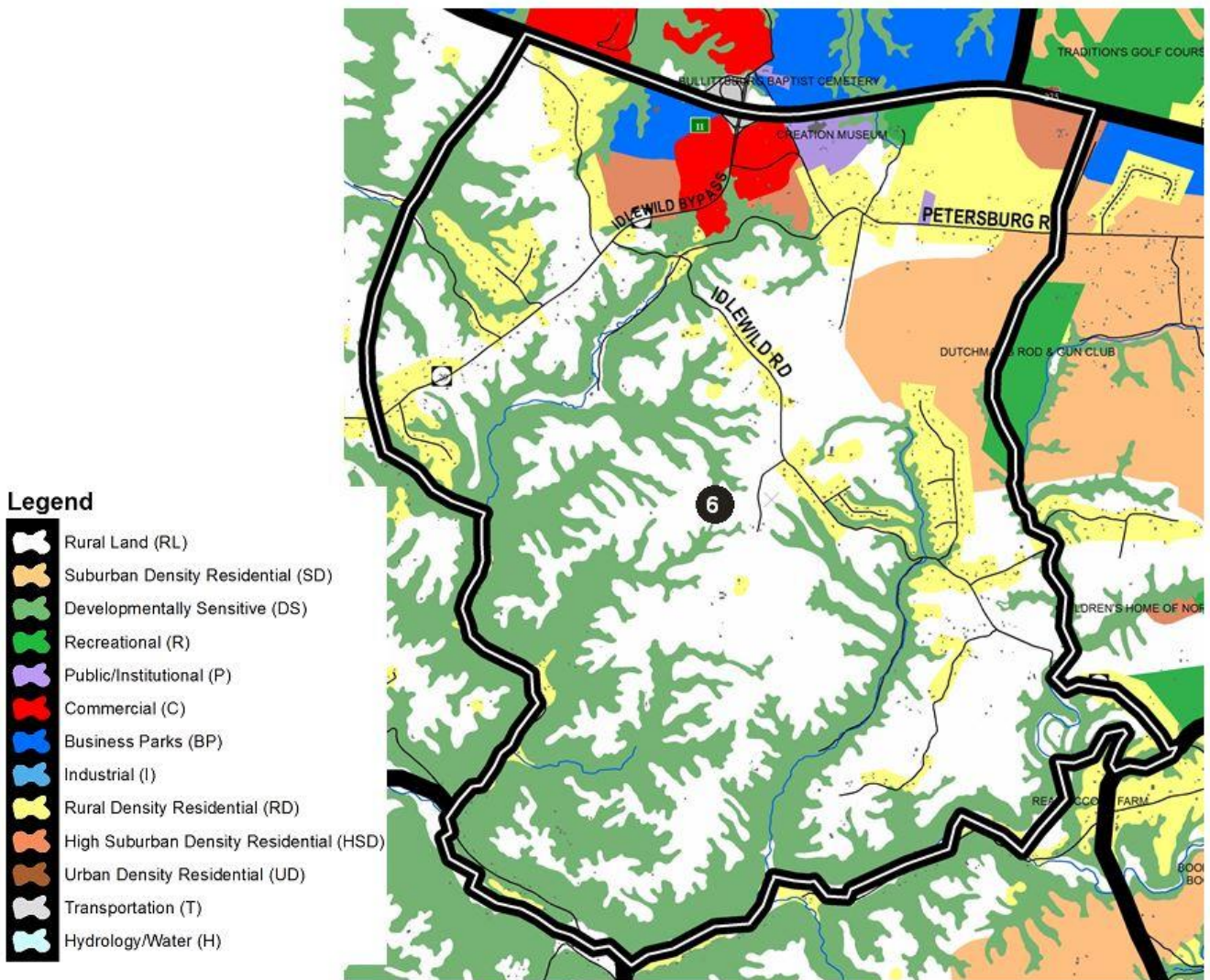
## 5) PETERSBURG

This section of Boone County, bound to the west by the Ohio River, to the north by I-275, to the south by the former Split Rock property, and to the east by the western-most portion of KY 20 and is characterized by the town of Petersburg. Much of the land is Developmentally Sensitive, undeveloped, or in agricultural uses.

Petersburg could potentially be a resource for heritage tourism in the county due to its history and river frontage. The extraction of gravel along the Ohio River in this area should continue at established sites but new locations for extractive operations should be discouraged so as to allow alternative uses, such as recreational and low density residential development. This should lead to an appropriate balance of uses along Boone County's substantial river frontage, including access for recreational uses. Inactive sand and gravel extraction sites along the river should undergo the reclamation process described in the Boone County Zoning Regulations, or be converted into recreation opportunities. The land to the north of Petersburg should be maintained for eventual low density residential, and recreational uses. There are also sites of archaeological significance in this section of the county which should be identified and preserved. In fact, the entire town and river plain area surrounding it, have high potential for burial and village sites to be found by any type of modern construction. Public infrastructure installation and private construction needs to be done carefully and under supervision of

knowledgeable authorities. The existing pay fishing lake area and Taylor Creek should be considered for a future wildlife habitat area. Development in the Petersburg area should protect the scenic characteristics of the hillsides and river plains.

Petersburg must continue to contend with its isolation from the urban service areas of Boone County and poor accessibility during the winter months. Any reconstruction of KY 20 into Petersburg should occur for the purpose of serving residential and school-related traffic, rather than for use by industrial vehicles. The preservation of the historical buildings of this important Kentucky town should be a prime objective, and eventual development of a tourist industry is possible with adequate planning and administration. Small commercial services within the town should be provided and designed to reinforce and retain the small town character of Petersburg, along with the Petersburg Community Center and branch library. The areas in and around this town offer an opportunity for neo-traditional residential and small commercial development. With improvements to KY 20 and the provision of water and sewer service, the town could grow significantly. For this to occur, it must be in the form of formal and well-designed neo-traditional development. Public water lines reached the southeastern edge of town in 2010, but have not yet been extended into the town grid.



## 6) IDLEWILD

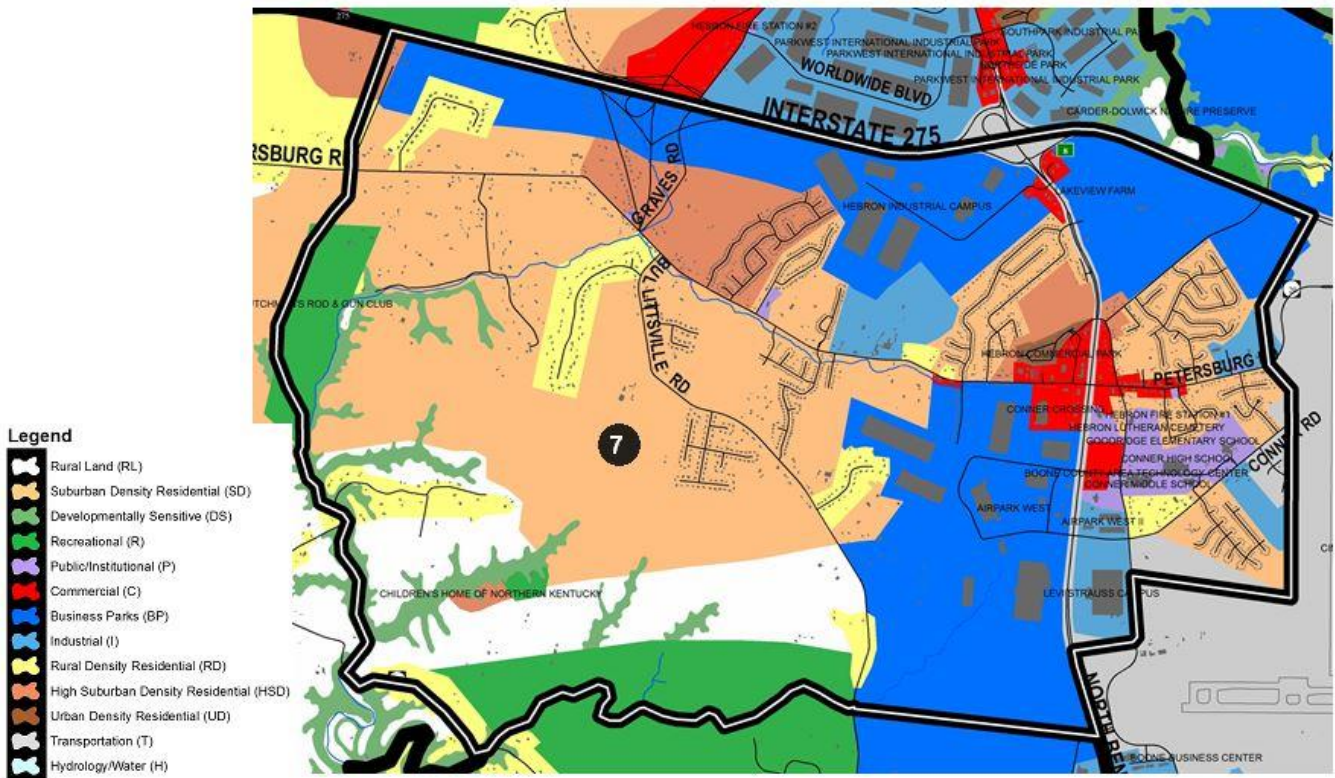
This area is bound to the north by I-275. The east is bound by Sutton Lane and Dutchman's Rod & Gun Club and following Woolper Creek down to Easton Lane which also serves as the southern boundary. The west edge is defined by Ashby Fork Creek and then to the west of Caribou Drive up to Second Creek and north to I-275 at the end of Stevens Road.

This section of Boone County contains the I-275/Petersburg Road interchange, Idlewild Road, and a portion of KY 20. Portions of the area have public water but lack public sanitary sewer, which affects projected land uses and development density in and around the interchange. The south side of the I-275/Petersburg interchange should experience highway related commercial growth as well as services for residents living in the area and tourists visiting the Answers in Genesis Creation Museum. This growth is likely to occur on the southern half of the interchange because of easy access to the interchange and availability of relatively flat land. In addition, a mixture of office, retail, business park and residential uses are recommended on the west side of KY 20 and south of I-275. Access to future Commercial, Business Park and High Suburban Density Residential uses in the southwestern quadrant must align with Bullittsburg Church Road. Bullittsburg Church Road should be improved to support additional traffic from the existing museum and future commercial development. The existing concrete plant site should eventually be redeveloped as office or retail uses. The wooded swale south of the plant site should remain as a buffer to existing and planned residential uses in the area to the south.

Continued and gradual Rural Density and Suburban Density Residential uses should occur along KY 20 between Idlewild Road and Bullittsville. Street connections between KY 20, Idlewild Road, and through interconnecting subdivision developments are to be provided where possible. It is recommended that the Idlewild Road area, in and around the year 2026 65 DNL contour level, continue as Rural Lands. This section could be impacted by the proposed I-275/Graves Road interchange and increased night time air cargo flights from the Cincinnati/Northern Kentucky International Airport.

Overall, any future development in this area should include an attractive and efficient mixed-use development with consideration to impacts, building architecture, site planning and landscaping. Development should also consider and embrace the area's historic and cultural aspects. The High Suburban Density Residential classification shown on the Future Land Use Map along I-275 is dependent on a new interchange in the Graves Road area and must be accessed from the interchange and Industrial/Business Park development described in the Hebron area and use section.





## 7) HEBRON

This section of Boone County is bound to the north by I-275, to the east by the Cincinnati-Northern Kentucky International Airport (CVG), to the west primarily by Woolper Creek and Dutchman's Rod & Gun Club, and to the south mostly by a tributary of Woolper Creek that intersects England-Idlewild Park. This area includes the south sides of the I-275/KY 237 interchange and the proposed I-275/Graves Road interchange. The area also includes the town of Hebron and the Conner High School campus.

Subdivision activity should continue around Bullittsville and along Bullittsville Road, with High Density Suburban Residential on the north side of Petersburg Road near the proposed Graves Road Interchange. Residential development proposed to access the I-275/Graves Road interchange area must be accompanied by improvements to the surrounding road network. As mentioned in the Hebron North section, a land use and zoning study of this interchange area would be wise in determining its future impacts on land uses and the transportation network.

Additional business park development should occur west of Litton Lane and continue beyond the new Graves Road Interchange. A collector roadway should be developed along the south side of I-275 to provide access from the industrial property to the future interchange at Graves Road. Industrial developments should be designed to direct truck traffic to collector roads and away from KY 20. The Industrial/Business Park shown along the south side of I-275 in the Bullittsville area is tied to the completion of the Graves Road interchange. This development must be sensitive to the residential properties located to the south and should be accessed from the interchange and not via KY 20. This development must also be designed to fit into an established residential corridor. Design control will be important in this area. The existing and planned residential areas located on the east and west sides of KY 237, north of KY 20, should remain, with an area of commercial uses around the KY 20 and KY 237 intersection to serve local development.

The southeast quadrant of the KY 237 interchange should develop in a Business Park manner on the acreage fronting on KY 237. The design of this development should include large building setbacks to be visually consistent with existing development on the southwest quadrant. The site is suitable for a Business Park or one large user similar to the existing industrial uses located along Litton Lane. Property to the east of the interchange,



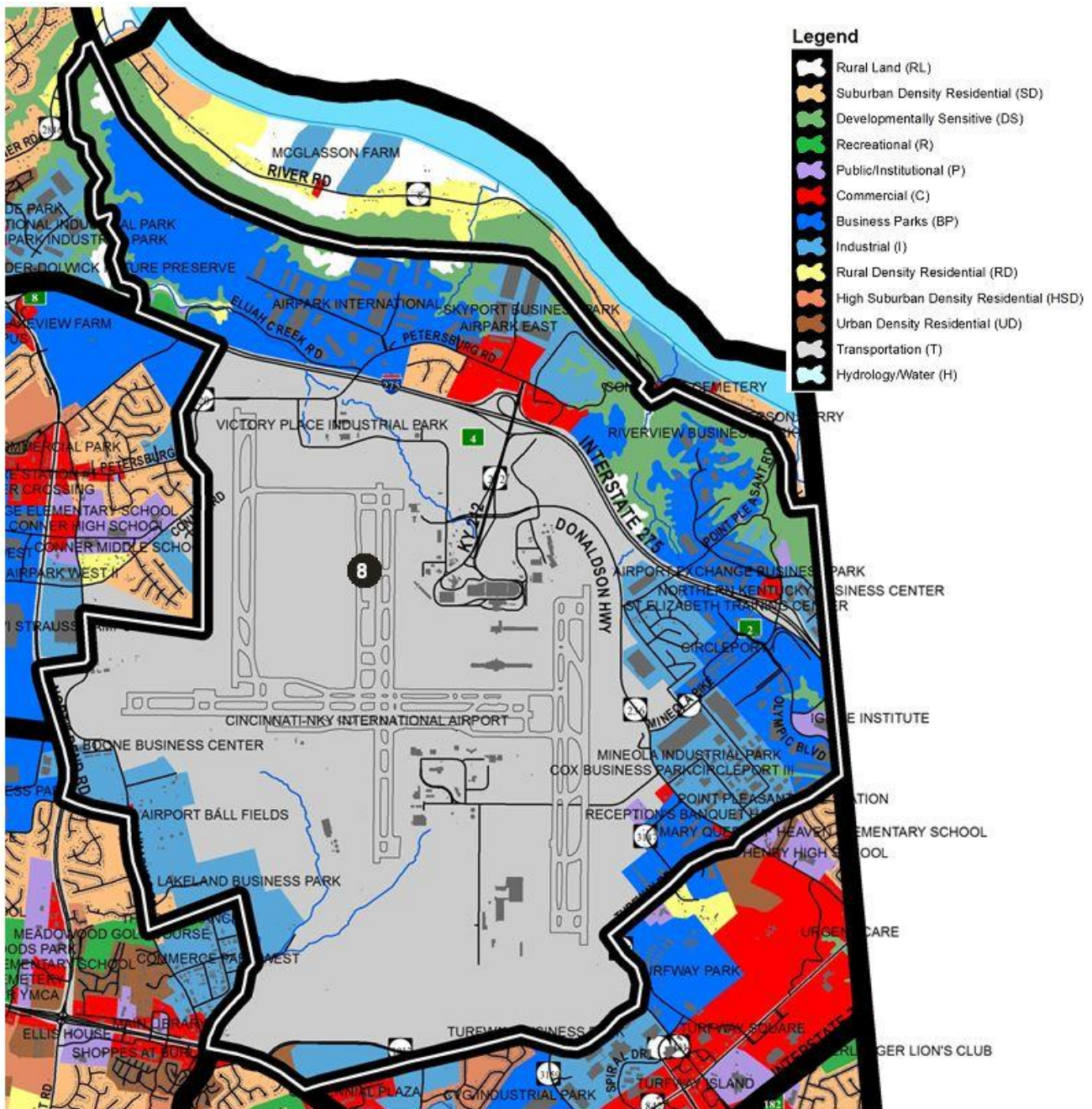
along I-275, possess high visibility and is a suitable location for high-profile Business Park development similar to that occurring at the Mineola interchange. The development of this Business Park area is dependent upon a road connection from KY 237, opposite Litton Drive to Elijahs Creek Road to allow all traffic associated with the development to directly access the KY 237 interchange, and to serve future residential growth. This road should be connected to KY 20, near I-275 and near the runway tunnel, through industrial development. For industrial development to occur east of Elijah's Creek in this area, it must have either the direct KY 20 connection or the KY 237 connection described above. Industrial traffic should not utilize Elijahs Creek Road unless that road is significantly upgraded for its entire length.

High Suburban Density and Urban Density uses in Hebron should remain near the intersection of KY 20 and KY 237. These uses must have adequate water and sanitary sewer service and should be accompanied by increased school capacity. These developments should utilize existing woodland as a buffer to the Suburban Density Residential uses. The small industrial park surrounding the Hebron Post Office should continue to develop to the limits indicated on the Future Land Use Map.

The property adjacent to the former Public Library, on the north side of Cougar Path, should develop as various, clustered public facilities, and/or compatible commercial and office uses, to make use of the easy access to Hebron-Burlington-North Bend Road service areas. The former Lents Branch Library site itself should develop with commercial, office, or retail uses and have its access off Cougar Path.

The KY 20 and KY 237 intersection area should contain a variety of commercial and higher density residential uses to establish the location as a future service center connected to the older town of Hebron. Open space and landscaping should be an integral part of development design at this important Boone County intersection to give the appearance of coordinated development. Further Urban Residential uses planned behind the Hebron Commercial Mart development must utilize a site design that pays attention to building orientation and landscaping in order to enable an adequate visual transition from KY 20 and into older single-family areas to the north. These established residential neighborhoods will eventually be surrounded by commercial, industrial, and higher density residential development, and need some degree of visual protection. The commercial uses at this intersection should be consistent in architectural design and landscaping with adjacent residential uses. The planned Urban Residential uses should not develop until adequate elementary school space is available. Small roads in the area are not suitable for serving subdivision or industrial traffic and must be upgraded or bypassed in such developments.

Due to the impacts of aviation noise, industrial uses are recommended on the east side of Limaburg Road. A substantial land area is located in the east-west flight path, extending west of KY 237 to Bullittsville Road, and is suitable for Business Park development. No industrial access should occur to Bullittsville Road. The north side of Conrad Lane, shown as Industrial, should contain an extensive buffer area to protect the developing residential subdivisions to the south. The recently released [2026 Noise Exposure Contours](#) (65 and 70 DNL) show very little change to the west from what has been anticipated in previous Comprehensive Plan updates and will not affect the Future Land Use patterns in this area.



### 8) AIRPORT

This section is bound to the north by the Developmentally Sensitive hillsides north of I-275 that lead down to the Ohio River bottoms and is bound to the west by Elijah's Creek. South of I-275, the eastern boundary is formed by Airport property to KY 237 at Conrad Lane, then south along Limaburg Road to just north of the Golf Ranch, along the back of Commerce Park West to Gunpowder Creek. The southern border is defined by KY 18/Burlington Pike from Gunpowder Creek to just west of Centennial Drive where it then follows the Aero Parkway corridor to Turfway Road which it follows to the Kenton County line, which forms the eastern edge of this area. The area completely contains the Cincinnati-Northern Kentucky International Airport (CVG) as well as the I-275 interchanges at KY 212 and Mineola Pike. Major developments within this section also include the Airport Exchange Business Park, Circleport I and III, the Mineola Industrial Park, and the proposed Amazon development along Aero Parkway.

This section of the County should experience substantial growth. To the north, the Mineola interchange area should continue to experience Business Park development, although the amount of land yet to develop in this area is running low. On the south side of I-275, Circleport Industrial Park still has some acreage to develop. Residential uses along Mineola Pike and Booneland Trail should eventually be redeveloped in a Business Park manner, similar to the adjoining uses. Rolling Green Acres should likewise eventually redevelop as Industrial uses. Because of increasing development, the road network in this section should be improved, including the widening of Mineola Pike and road connections across airport property to KY 18 and/or Limaburg Road. The Cincinnati/Northern Kentucky International Airport is considering alternative plans to construct a new north south runway in this area to operate as a pair with the existing 18L/36R runway. The new construction would be east of the existing runway, and therefore would require the relocation or displacement of Donaldson Highway, Mineola Pike, O'Hara Road, and Turfway Road, as well as existing industrial developments, a church, some low density residential uses, and a portion of the Turfway Racetrack operation. If this concept becomes a reality, a joint Airport/Boone County/City of Florence land use study needs to be conducted to properly plan this area.

Riverview Estates Subdivision and the residential area on Hunter Drive and Hetzel Drive should eventually redevelop into industrial uses to take advantage of the proximity to the interstate. The existing Bluebird Subdivision should remain residential and not experience piecemeal conversions to business uses. Future business uses may be appropriate if residential to business conversion is proposed on all of the subdivision area. The existing commercial parking lot facilities at KY 20 and KY 212 should eventually redevelop into office, hotel, convention, and travel related commercial uses. Commercial parking uses should be relocated onto airport property, in closer proximity to the airport terminals. Industrial development to the north of KY 20 should not locate on any portion of the Developmentally Sensitive hillsides, and a buffer area for the preservation of those hillsides may be required. Throughout these hillside areas, stands of existing trees should be retained between individual developments.

Along Point Pleasant Road itself and adjacent to I-275, some office development, consistent with the Airport Exchange Business Park, is appropriate. Traffic associated with this development should be directed toward the interstate. All development in this section must be carefully designed to minimize impacts on the Developmentally Sensitive hillsides, which should remain mostly wooded. Since the ridge top areas are also heavily wooded, the design of office and residential development should incorporate existing stands of trees.

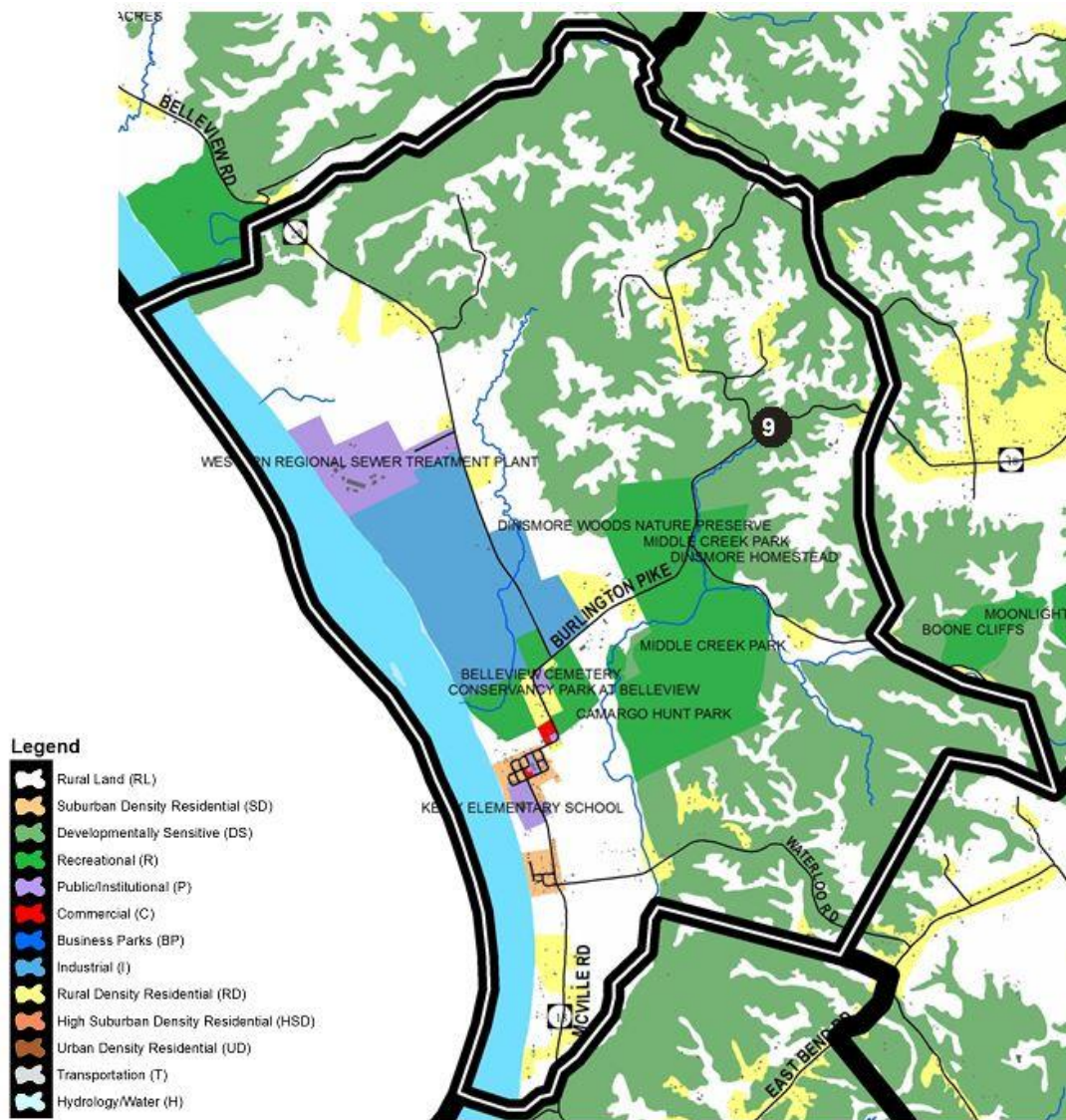
Land to the north of Elijah's Creek Road, including the plateau area known as the Shor Property, should be developed in a Business Park fashion. Access to this area should be by a road connection to KY 20, through Airpark International, and may eventually include a connection to KY 237 at South Park Drive, along the I-275 right-of-way. Access to this area directly from Tanner Road or Route 8 is not desirable due to geologic formations, topography, vegetation, and scenic views. In its current condition, Elijah's Creek Road is not suitable for serving additional traffic. The road should be further improved to allow access to the Shor Property and permit redevelopment of the existing residential uses. Development of this area must be carefully planned, with great care taken in preserving and protecting the surrounding Developmentally Sensitive hillsides and existing vegetation clusters on the site. This will necessitate creative design and construction techniques, sensitive location of buildings, as well as the retention of existing vegetation along the bluff edges.

Planned Business Park development on Conrad Lane east of KY 237 should be accessed through industrial development to the north and not contain access to Conrad Lane, unless Conrad Lane is connected in the future to Aero Parkway to the east. Due to the existing aesthetic qualities of this area, including rolling topography and stands of mature trees, the industrial development of this area should incorporate these features into planned site designs. In particular, existing areas of mature woods should remain intact to retain the character of the KY 237 corridor and provide a transition into adjoining residential areas.

The construction of Aero Parkway opened up over 1,000 acres for potential industrial, office, and commercial development. Amazon will begin constructing its Prime Air hub on the north side of Aero Parkway in 2019 with plans to open in 2021. A coordinated planning approach to developing this corridor will assure quality development, proper expansion of infrastructure, and new employment growth. This includes detailed analysis of the proposed effects on the transportation network in and around the Aero Parkway area as it develops into a heavy logistics corridor.

Planned commercial and industrial development may be supplemented by other land uses along the north side of KY 18. However, all development must be interconnected, and connections must be provided to Aero Parkway as opposed to utilizing Old Limaburg Creek Road for primary access. The plan also recommends a roadway extending west from Aero Parkway to the KY 237/Conrad Lane area. The primary function of both roads should be to move traffic through the area, not to serve as access for adjoining parcels. Limaburg Creek Road is inadequate to carry industrial traffic and intersects KY 18 at a dangerous location. The Future Land Use Map indicates a mixture of land uses along the KY 18 corridor, which will provide a transition into existing and planned public facilities uses near KY 237.





## 9) BELLEVIEW/McVILLE

This section is bound to the west by the Ohio River and to the north by Woolper Creek. The east edge of this area is just west of Woolper Road southward west of Boone Cliffs and includes much of the Middle Creek valley to just south of Waterloo Road where the southern boundary area includes the Ohio River bottoms to the intersection of KY 18 and Lower River Road.

The river bottoms in this section contain prime agricultural land and existing gravel extraction sites. New extraction operations should be confined to sites adjacent to existing operations between KY 20 and the Ohio River. The redevelopment of former gravel extraction sites may be suitable for river related recreational uses accompanied by self-contained clustered residential development. The hillsides should remain largely wooded, while the more level areas can continue to support agriculture. This area includes some of the county's best farmland. The river bottom areas generally have poor road accessibility, although industries involved in processing bulk products could locate there to make use of river barge transportation. Future development or expansion of these industries should occur with sensitivity to the residential, recreational, and agricultural potential of the river bottom area, especially near Woolper Creek. Upon the disuse of existing sand and gravel operations, reclamation should occur.



During the late 1980s a combination recreation and residential development with a marina was started at the mouth of Woolper Creek and, after the project was abandoned, the Corps of Engineers conducted a partial reclamation of the site. The result has been the creation of a significant wildlife habitat that should ultimately become accessible to the public. This site has been shown in past OKI, NKADD, and Boone County recreation studies as suitable for a large county park or similar facility, and constitutes another potential resource within the western Boone County tourism area. Adjacent to the former marina site is the geologically significant formation known as Split Rock. The [Woolper Creek Watershed Initiative](#) was completed in 2016 under the direction of the Boone County Conservation District. The final report includes inventories, analyses, and recommended Best Management Practices for the 33-square mile Woolper Creek Watershed. Additionally, a study should be conducted to consider the Woolper Creek Valley as a recreation/ environment preservation corridor.

Sanitation District No. 1 (SD1) of Northern Kentucky's Western Regional Wastewater Treatment Plant south of Woolper Creek went online in 2012. SD1 intends this plant to serve the developing portions of Boone and Kenton Counties, although some of the Petersburg-Belleview area may be able to access the plant with private infrastructure and necessary approvals. Overall, the plant is not intended to encourage growth and development of this portion of the County. Because of the geological and natural resources present in this area, there should be some public recreation opportunity associated with the plant location and the service lines and easements that lead to the plant.

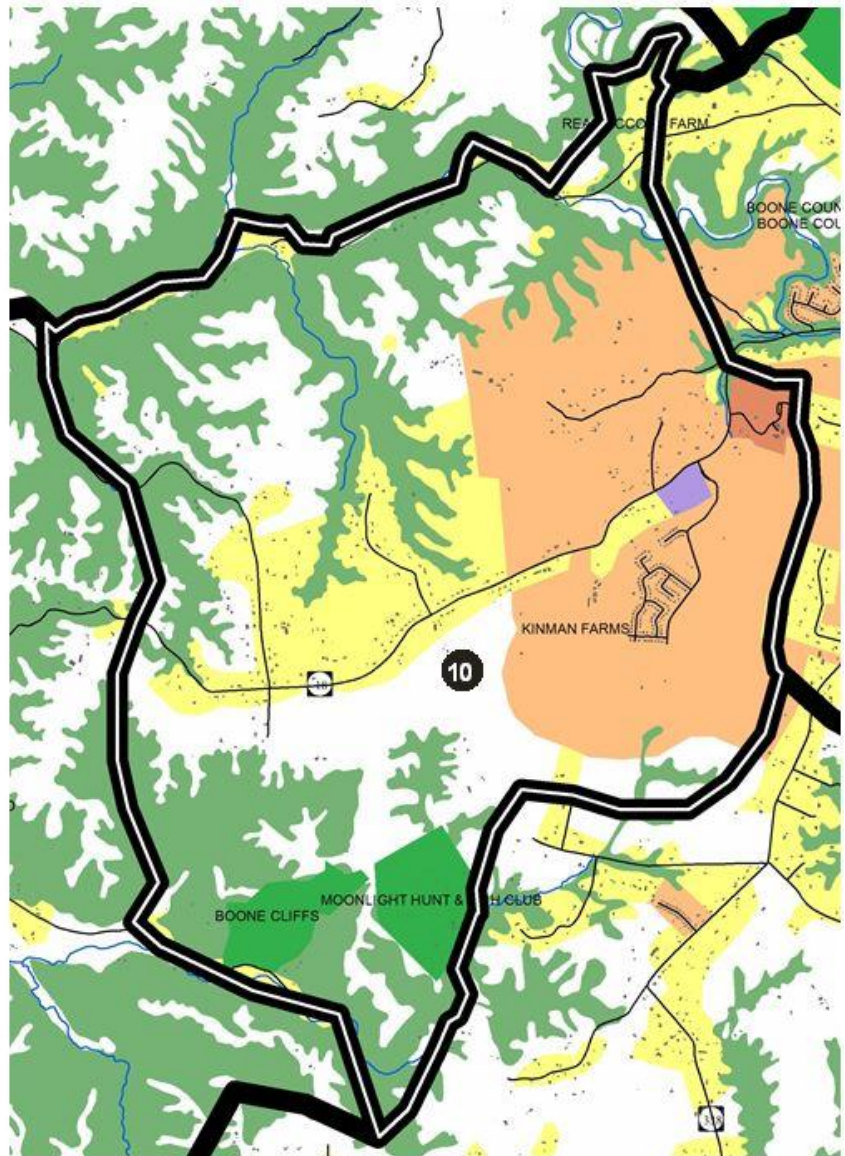
This section of Boone County contains the small communities of Belleview and McVile, and is primarily composed of river bottom area. The gravel extraction operations to the north of Belleview should remain, but should not extend east of KY 20, or adjacent to existing or planned recreation sites. The southern portion of this area, where mineral extraction has been concluded, should be considered for development as a river oriented recreational area, or wildlife habitat as part of the reclamation process.

Belleview and McVile proper should function as neighborhood centers for the surrounding area. The communities in this general area of Boone County have experienced some growth, in the form of the Kelly School in Belleview and the firehouse. Additional new local-scale commercial services may develop; existing buildings should be restored or replaced to meet the towns' residential and commercial needs. The cemeteries on KY 18 will hinder any development in that area, thus any growth should occur south or east of the towns. Overall, this section should experience slow residential growth along the major roads of the area, with neo-traditional residential or continuing agricultural uses on the river bottoms. Any commercial development in this area should occur within the town centers of Belleview and McVile and not along the roadways outside the towns. These two towns present an excellent opportunity for residential to expand in a neo-traditional manner, as described for Petersburg. This development must carefully be carried out so that typical subdivision development does not alter the character of the area. With proper development in this fashion, the towns can become centers of activity for western Boone County.

The Middle Creek Valley comprises a major portion of the land area in this section. Substantial acreage is Developmentally Sensitive. It should remain mostly wooded to protect historic and recreation uses in the area from the visual impacts of nearby residential development. Boone Cliffs is also located in this area and contains important geological formations which should be preserved. Additionally, this section contains the Dinsmore Homestead, Boone Conservancy, and three properties maintained by Boone County Parks, including the 75-acre Boone County Cliffs Nature Preserve, the 105-acre Dinsmore Woods Nature Preserve, and the 230-acre Middle Creek Park. These sites should likewise be preserved as they are valuable assets. The Middle Creek Valley should become a preservation corridor in order to protect and expand the existing nature preserves, passive recreation sites and historic sites. This area should be protected from major utility main construction, such as water and sewer, and from development pressure along KY 18, including extractive mining activity. KY 18 is the major access route to the area and needs moderate improvements to accommodate traffic without jeopardizing the region's rural characteristic. Boone County, private organizations and the citizens of the county should work together to insure that this important area is protected. Outside of the towns, this section should experience isolated growth of a Rural Density Residential character.

### Legend

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	Transportation (T)
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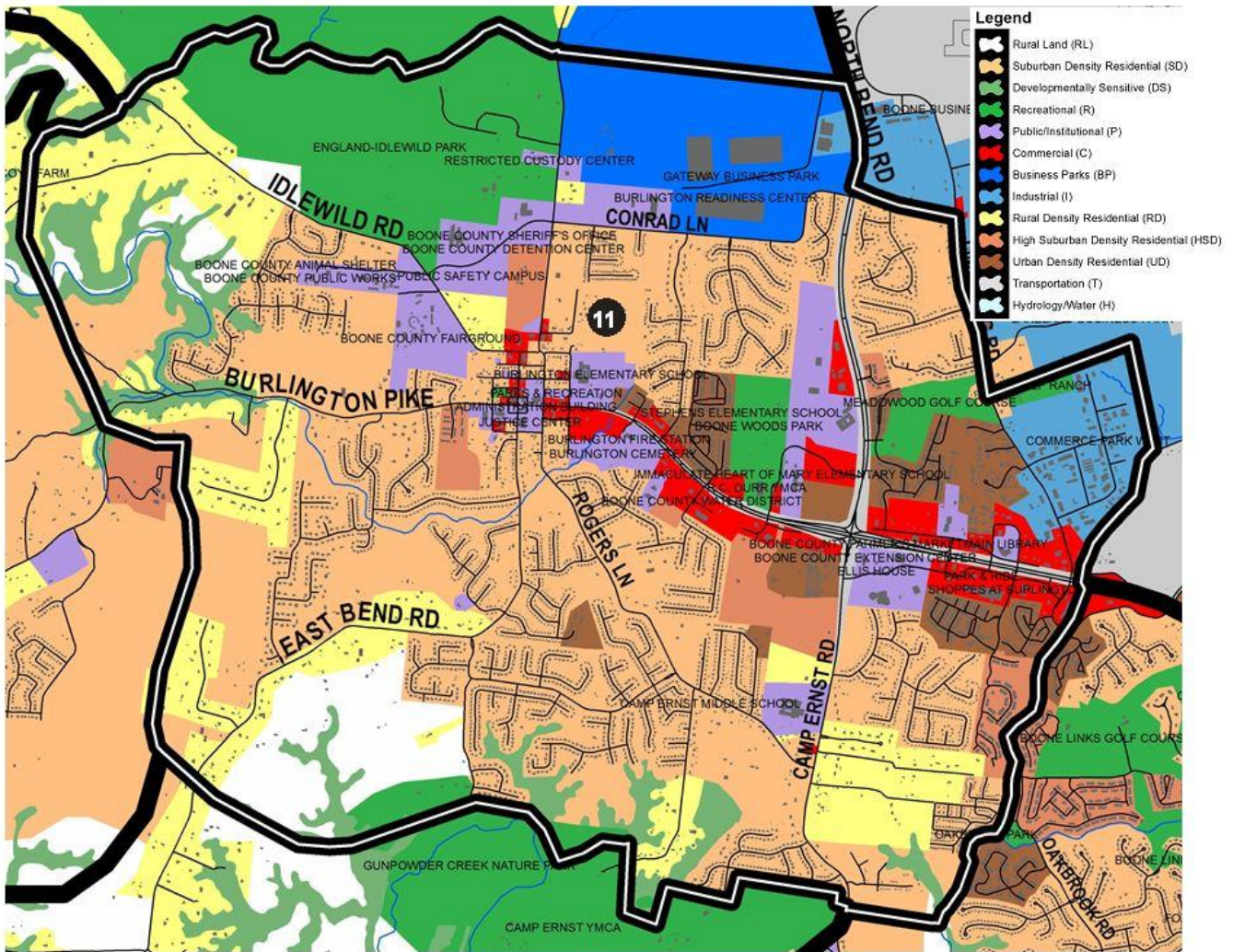
### 10) BURLINGTON WEST

This section is defined to the north by Woolper Creek, to the east just outside of the developing region west of downtown Burlington near Griesser Farm southward including Hunter's Ridge. The southern boundary is defined just north of Possum Path and then southward along the east edge of the Moonlight Hunt & Fish Club to Middle Creek. The west boundary begins just west of Boone Cliffs up to Woolper Creek. This area contains parts of the Woolper Creek valley and the extensive Developmentally Sensitive areas associated with the creek. It is also part of the [Woolper Creek Watershed Initiative](#) area. This area should nevertheless experience some population growth as the Burlington area continues to change from a rural community to a suburban community.

Parts of the Woolper Creek valley should be preserved and included as part of the tourism/recreation potential of the area. To provide an appropriate entrance to the potential large western Boone County tourism area, KY 18 west of Burlington should maintain a rural appearance through unique subdivision design. As this area develops and anticipated school facilities are built, improvements to KY 18 will be needed, such as shoulders, reconstructed curves, improved sight distances, and sufficient intersection improvements in Burlington at KY 18 and KY 338. Suburban Residential Land Uses depicted on the 2040 Future Land Use Map in this area should not be developed until these conditions on KY 18 are improved, and adequate school capacity can be provided in the

area. The balance of land in the western part of this section should remain largely undeveloped or agricultural uses, and suburban development should stay in the immediate watershed of the KY 18 sanitary sewer pump station. New residential subdivision development in the KY 18 corridor west of Burlington and east of Woolper Road should be designed carefully to respect the rural character. As the Future Land Use Map indicates, the planned Suburban Residential land uses west of Burlington change in this corridor to Rural Density, Rural Lands, and Developmentally Sensitive further west. Future Suburban Density Residential development in this area needs to provide sections of lower density residential adjacent to these areas. A true density step-down is needed beyond the frontage and setback transitional recommendations described in the Development Guidelines section of this element. Subdivision entrance areas and frontages along KY 18 should also be sensitively designed to retain the rural character of the area.





## 11) BURLINGTON

This section of Boone County contains Burlington, part of KY 237, and KY 18 from Shady Hollow Lane to Gunpowder Creek near Limaburg Creek Road. The area's western boundary traverses just west of Emerald Drive and Saddle Ridge Drive and northward past Woolper Creek to just north of Easton Lane. The northern boundary is defined by Woolper Creek eastward to KY 237. The east boundary consists of KY 237 southward to Conrad Lane and then east to Limaburg Road south and includes the Golf Ranch and Commerce Park West. The south boundary is defined by the north edge of both Gunpowder Creek Nature Park and the Camp Ernst YMCA.

KY 18 and KY 237 are important roads to all of Boone County. The primary function of these roads is to move traffic through the area, with direct access to specific properties being a secondary function. 2020 will see the completion of the 3rd phase of upgrades to KY 237 from KY 18 to U.S. 42 and will significantly improve traffic flow into and out of the southeastern portion of this area. Intersections along KY 18 should continue the existing pattern of spacing of major access points of at least 600 feet. A parallel roadway network should be developed to provide access to properties fronting on the roadway.

Central Burlington includes a National Register Historic District and will continue to experience growth-related pressures, primarily with infill opportunities at a small scale in and around the town proper. These small infill developments should make every effort to imitate and mirror the design of the buildings immediately around them with an emphasis on accentuating the historic character of the existing Burlington architecture. Historically

important structures should be protected from development pressures or be subject to appropriate adaptive re-use to retain the character of central Burlington. This approach is encouraged in historic Burlington by a limited design review process adopted in the [Boone County Zoning Regulations](#). As Boone County grows, there will be a greater need for public facilities and services. The 2002 [Burlington Town Strategic Plan](#) addressed the unique transportation, parking, public facilities, historic preservation, and residential characteristics of the area. The Boone County Justice Center and the Boone County Public Safety Center Complex have reinforced Burlington as the hub of local government activity. Some private investment, mainly in restaurant and shop uses, as well as the TEA-21 Transportation Enhancement Grants for sidewalks has continued the momentum for investment in the town center. In addition, the Ferguson Community Center at the renovated Historic Boone County Courthouse, which opened in 2017, and an outdoor plaza across from the Administration Building slated to be completed in 2019 offer new opportunities for public gatherings and events in town. Appropriate architecture and placement of new or renovated buildings is critical to respect the established character of the town. The influence of residential subdivisions in the surrounding areas, and the associated traffic, will necessitate improved traffic controls and management, particularly at KY 18 and KY 338.

The developing residential area south of KY 18, west of Oakbrook Drive and east of Camp Ernst Road must include street connections that enable traffic generated by the area to travel in all four directions. This should allow Oakbrook traffic to proceed to KY 237 in the Rogers Lane area, and Shaker Run traffic to access KY 18 without traveling on Camp Ernst Road or Oakbrook Road. Development in the area around Rogers Lane should be carefully planned. The remaining portions of this section of Boone County should develop in a Suburban Residential fashion, with the exception of planned High Suburban Density Residential uses between Hickory Hill Subdivision and KY 18. Subdivision street connections are vital to this area around Burlington to give alternative routes for residents.

The south side of KY 18, between Camp Ernst Road and Burlington, should develop in a mixed residential and commercial fashion compatible with Camp Ernst Middle School. Commercial uses should be of a local service variety and should be evaluated as to traffic generation, visual impact and buffering. Strip commercial development should not occur, rather an innovative mixing of Office, High Suburban Density Residential, Urban Density Residential uses, and some local commercial uses should be provided. Extra care must be taken when commercial property develops along KY 18 to ensure that the impacts on residential behind it are minimal, especially the former nursery and landscape supply property behind O'Reilly's Auto Parts on Kingsgate Drive as the impacts of the prior use were minimal on the homes in Kingsgate Subdivision that adjoin it.

All development along the south side of KY 18 toward Burlington must use Access Management, including parallel roads, shared curb cuts, and adequate turning-lane provisions in order to maintain safety on this high volume route. This area provides another excellent opportunity for Suburban Density Residential and employment uses due to the Single Point Urban Interchange (SPUI) intersection at KY 18 and KY 237 becoming a major crossroads in the county.

The suburban growth around Burlington will be substantial, causing KY 18 and Idlewild Road to serve as higher volume collector roads. New subdivisions should locate in close proximity to Burlington proper. Any new subdivisions should develop internal road networks rather than using the existing roads as primary access; this will avoid congestion and allow adequate space for necessary road improvements. Road connections between KY 18 and Idlewild Road, between KY 18 and East Bend Road, and between Idlewild Road and Bullittsville Road should be made. The area west of Bullittsville Road within the year 2026 65 DNL noise contour level can continue to contain some Low Density Residential as well as Recreation uses. New construction within the 65 DNL noise contour should only occur if the residential structures are adequately sound-proofed. This impact would have to be completely restudied if the airport ever proposes any additional east-west runway configurations.

The possibility of east-west alternative runway construction by the airport would profoundly affect this area, requiring the acquisition of several significant residential neighborhoods. It would also affect three existing schools, several county offices including the new safety complex, and impact a National Register Historic District. The area road system, including KY 237, Limaburg Road, and any connecting routes to the future South Airfield Road would be interrupted.

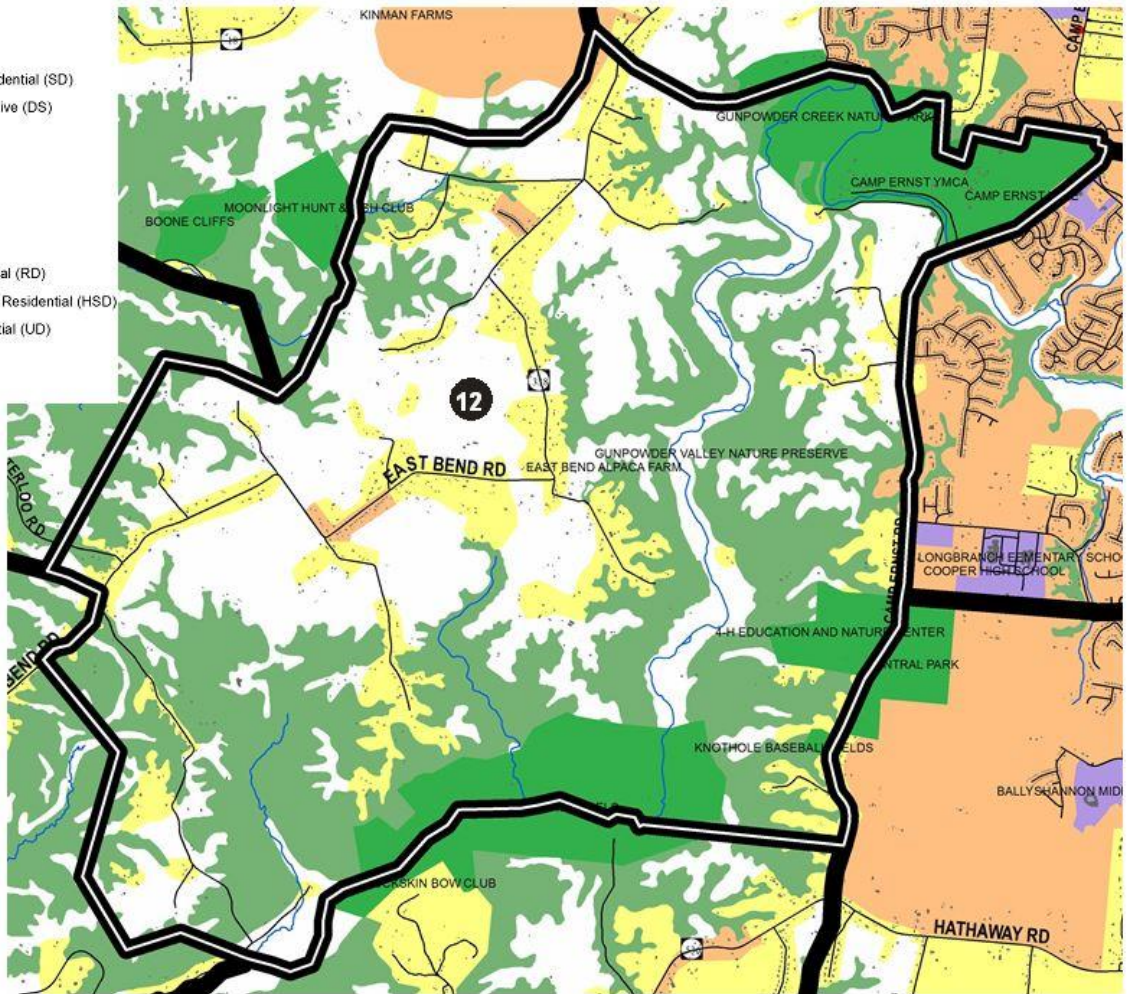


The intersection area of KY 18 and KY 237 is a high visibility area that already has an office orientation. Because of the central location, the importance of the area, and the urban nature of the road system, this area is more suitable for a mix of office and commercial. Proposed development at this high visibility, central location should not be all retail, and should be comprised of mixed-uses including multi-family housing. A developer that proposes this concept on the northwest corner must show that it fits with the school uses near the site and does not create traffic issues in this area.

The area bound by KY 18 to the south, KY 237 to the west, Limaburg Road to the east, and Conrad Lane to the north currently contains a variety of land uses. This area should continue to develop in a residential fashion, providing low to high density housing opportunities. The remaining 9 holes of the Meadowood Golf Course could redevelop someday as a mixed use combination of Recreation and the adjoining Urban Density Residential and provide an east-west traffic and pedestrian connection between Limaburg Road and KY 237. The intersection of KY 18 and KY 237 should predominantly develop as an office-campus and institutional area with supporting commercial uses. Public Facilities uses should continue to develop at the southeast corner of the intersection. Much of this site has been developed as the Boone County Farmers Market and the Boone County Extension Enrichment Center. In the event of any future office or commercial development on the south side of Patrick Drive, the development design should seek to incorporate existing woodland as a transition into existing residential and church uses.

### Legend

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-  Hydrology/Water (H)



## 12) GUNPOWDER CREEK

The northern extent of this area includes Possum Path Road, Gunpowder Creek Nature Park, and the Camp Ernst YMCA property. The east is bound by Camp Ernst Road to its intersection with Hathaway Road. The south extents are defined by Gunpowder Creek as it crosses through Camp Michaels westward past Big Jimmy Hill Road. The west boundary includes land just beyond Beech Grove Road west of East Bend Road to Possum Path Road. This section of Boone County contains a substantial part of the East Bend Road corridor.

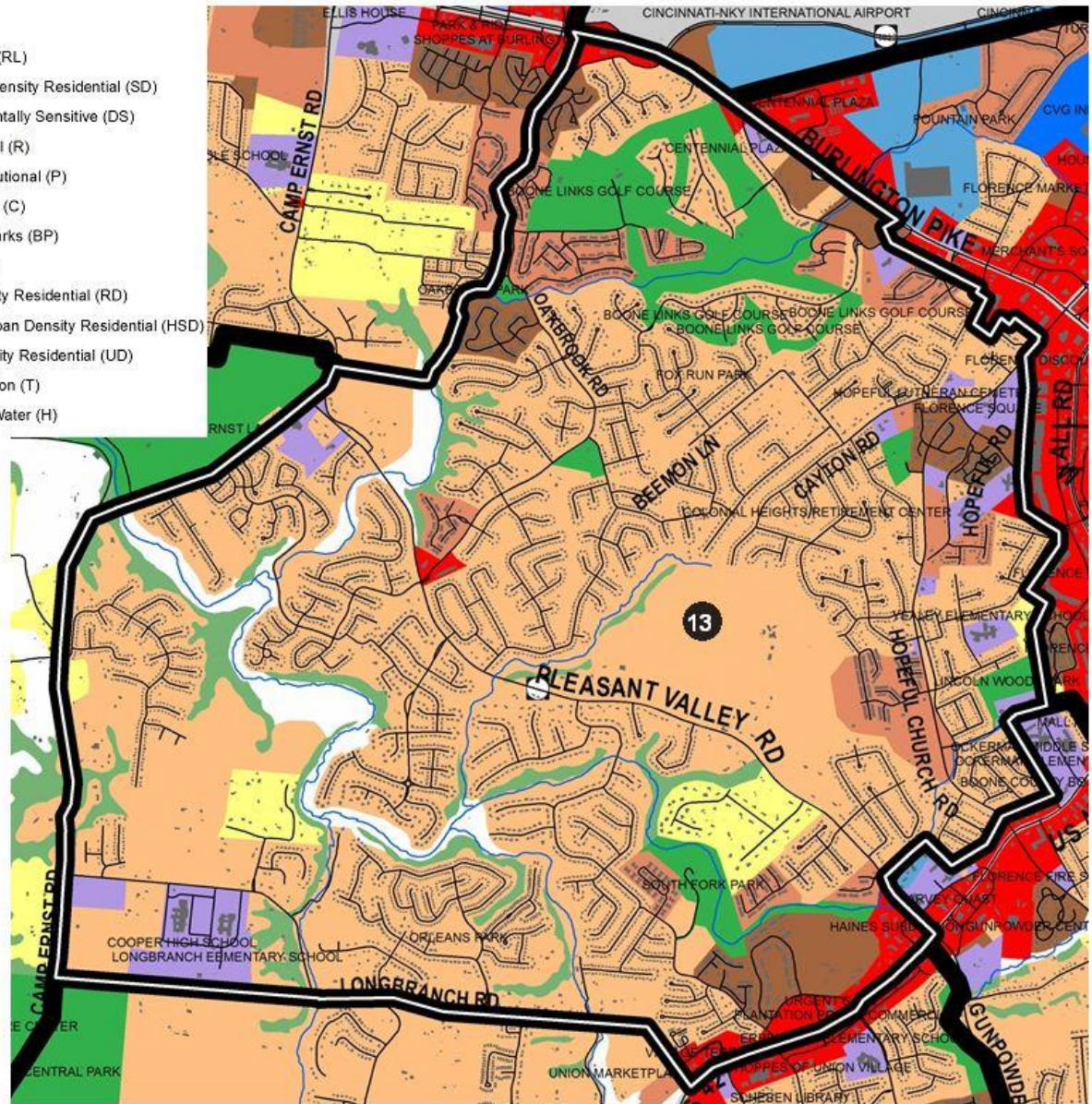
The greatest amount of growth in this section should occur along East Bend Road, mostly in the form of Open Space Design Residential development. The location and number of driveways should be controlled, and where possible, driveways should be shared. This development will require the realignment and improvement of East Bend Road. The small community of Waterloo may receive some limited residential growth as a result of growth in the Bellevue and Burlington areas.

The [Gunpowder Creek Watershed Initiative](#) was completed in 2014 under the direction of the Boone County Conservation District. The study includes inventories, analyses, and recommended Best Management Practices for the 58.2-square mile Gunpowder Creek Watershed. The entire Gunpowder Creek valley should be considered for a future corridor study to preserve this unique and important County feature as a greenbelt and passive recreation corridor. Residential development should remain along the existing roads, consolidating access points where appropriate. An opportunity to reinvest in the Boone County Knothole property on Camp Ernst Road would provide much needed baseball and softball amenities in Boone County and compliment the sports facilities located across the road at Central Park.



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### 13) PLEASANT VALLEY

This area is bound to the north primarily by Burlington Pike (KY 18) eastward almost to the eastern intersection with Boone Aire Road and then behind the properties fronting on KY 18 to Hopeful Church Road. The eastern edge comes to the back of properties fronting on Mall Road and around the Ockerman campus. The limits continue along the back of properties fronting on U.S. 42 down to Pleasant Valley Road and then to U.S. 42 to Longbranch Road which serves as the southern boundary. Camp Ernst Road defines the west boundary from the south up to the YMCA property and then eastward to Gunpowder Creek which it follows north to KY 18. This section of Boone County includes some of the western growth areas of Florence, including Hopeful Church Road and KY 18. It also contains some of the recent residential growth areas from KY 18 south to Union.

Hopeful Church Road should continue to serve as a residential corridor. Some small scale neighborhood commercial services may be appropriate at a strategic location in the corridor. It should be scaled to serve the Hopeful Church Road and Cayton Road areas, designed with a residential-compatible look to the buildings and site, and without freestanding signage. Access management is important to avoid turning movement conflicts on Hopeful Church Road, and some road improvements may be necessary to support this development. Proposed

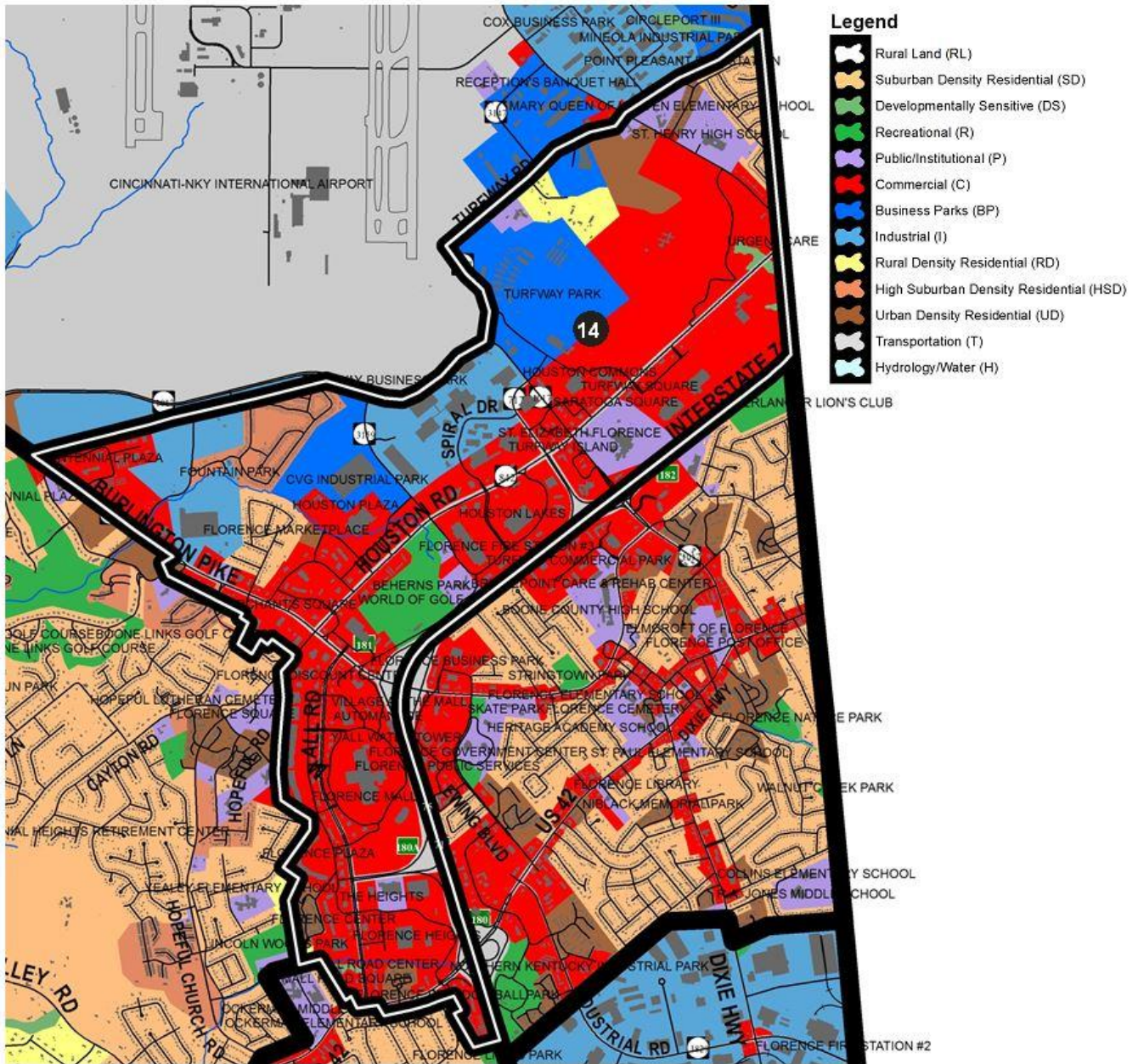
commercial land uses on KY 18 should be planned with careful attention to Access Management, including continuous parallel roadways. Development should create commercial clusters rather than strip centers which parallel KY 18. These commercial uses must also be designed to be compatible with existing and proposed residential developments along KY 18.

The Rehkamp property on Pleasant Valley Road should develop in a Suburban Residential fashion in a Planned Development approach with mixed uses including varying housing types, local retail opportunities, all being served by local access and limited access collector road connections as a high priority. These should include a limited access connection of Pleasant Valley Road and Hopeful Church Road complete with a multi-use pedestrian path. These collector road extensions should not allow parking or driveway access in order to facilitate the movement of traffic through the area, and should include multi-modal elements such as pedestrian paths and bike lanes, and bus stop areas. The Pleasant Valley Road to Hopeful Church Road connector should be located and designed to serve large amounts of traffic.

Mixed-use development, that has commercial uses focused along U.S. 42 and varying types of residential uses, should occur southwest of its intersection with Pleasant Valley Road. The intensities of these commercial uses, in terms of building intensities, the size and style of individual structures, and the range of uses permitted, should begin with a broader range of commercial uses near the intersection and gradually decline to smaller-scaled office and institutional uses in the vicinity of Farmview Subdivision and the Florence/Union corporate boundary. Creative building layout and orientation should be used in lieu of strip-style commercial development, and Planned Development Overlay Districts should be utilized. All development in this area should be viewed as part of an entryway to both the Cities of Florence and Union.

The remaining portions of this section of Boone County should develop in a Suburban Residential manner. Major subdivisions in the area should provide internal connector roads with no driveway access or parking. Improvements to Fowlers Creek Road and bridges over Gunpowder Creek could provide connections from subdivisions along U.S. 42 and Pleasant Valley Road to the Longbranch and Camp Ernst Road area; these connections should be aligned with existing or planned intersections on U.S. 42 and the new Pleasant Valley Road to be constructed in 2019.





**14) FLORENCE COMMERCIAL**

This area is bound to the east by I-75/71 and the Kenton County line. The northern edge is defined by Turfway Road and Aero Parkway to Burlington Pike. The area follows Burlington Pike to include the commercial properties near the east intersection with Boone Aire Road and then south behind the properties fronting on Mall Road to U.S. 42.

A substantial portion of this section is located within the 2013 Houston-Donaldson Study area and has excellent development and/or redevelopment opportunity due to its high visibility from and easy access to I-75. Existing parcels should be developed/redeveloped to be aesthetically harmonious with existing surrounding land uses and cleaned up environmentally as much as is needed for new development. The property along Ted Bushelman Boulevard to Aero Parkway has developed as aviation or logistic industrial and should fill in any remaining properties in the same manner.



For the short term, the existing recreational use at Turfway Park should be maintained and improved. One way involves the expansion of the business into a “racino” if allowed by the State of Kentucky. If the horse racing business vacates the property, this site should be redeveloped in a mixed use format with a combination of Business Park and Commercial uses and connect to the Marydale site to the east. The 20 acre portion of Property located on the southern boundary of Turfway Park along Houston Road could possibly be developed as a commercial and/or entertainment use. Property across Houston Road from the Racetrack, along I-75, should develop in a mixed office and commercial manner compatible with the racetrack and entertainment operations.

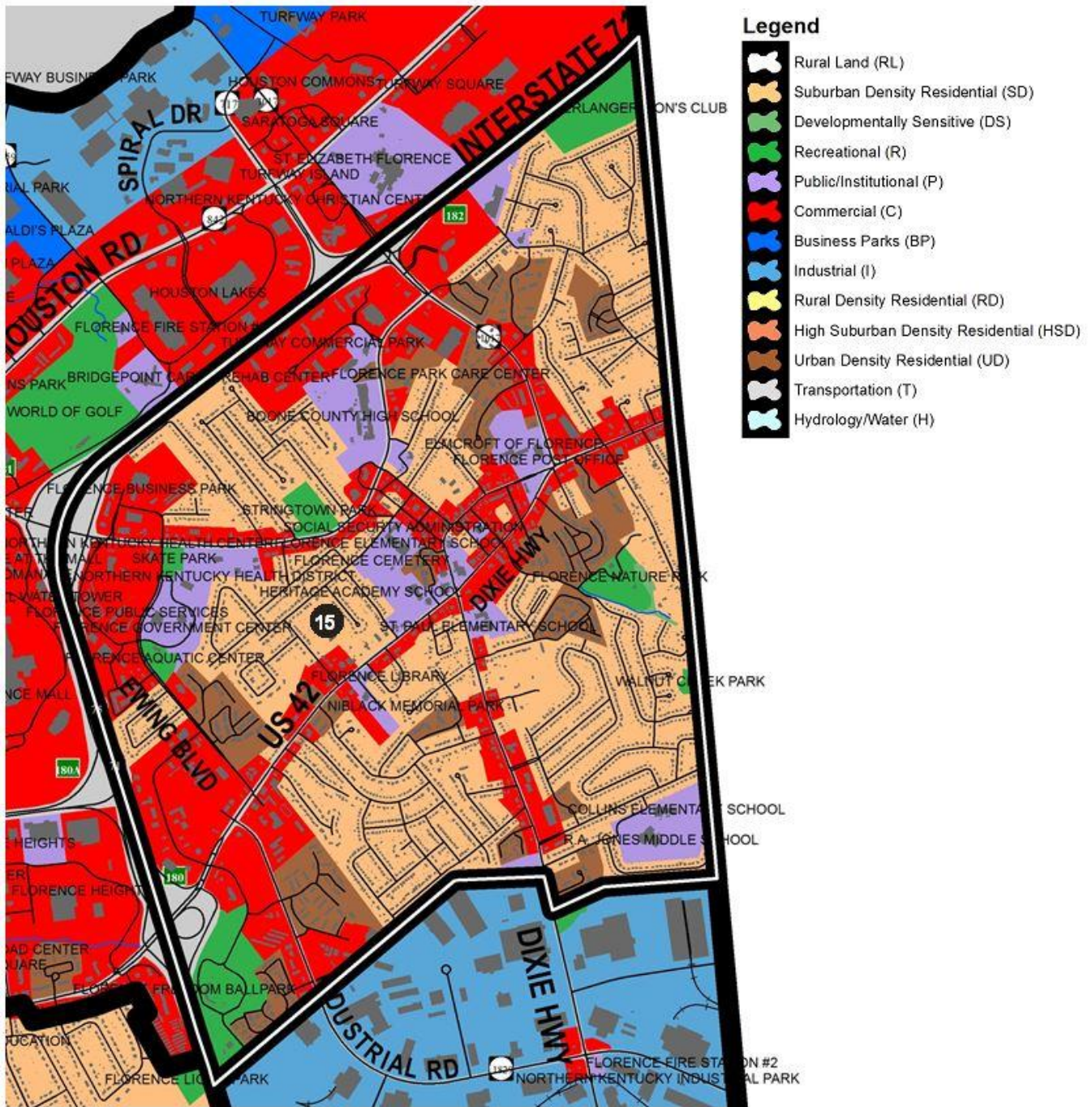
Existing clusters of residential uses between O'Hara Road and the county line and along Donaldson Highway should redevelop in an integrated commercial fashion involving the combination of existing lots consistent with the Study. The central portion of the former Marydale property is recommended to follow the recommendations of the Houston-Donaldson Study, which calls for a campus-like mixed used development. A plan for extensive office development and some support commercial development has been approved for much of the site. Portions of the property near Turfway Road have been planned to develop in a High Density Residential nature.

The Mall Road area was recommended (through the 2002 Mall Road Corridor Study) to become a new urbanism corridor. The current planning effort for the area, the Mall Road District Study, calls for a dense, well designed urban style of development that should occur over time. Residential development may be a part of this urban area, but should be located to minimize noise impacts from the interstate and airport. The entire area of Steinberg Drive, Rosetta Drive, Connector Drive, and the I-75 Mall Road ramps should be planned in detail to provide mixed use development that includes a good road connection and traffic circulation between the Pleasant Valley Road corridor and I-75. Regionally-oriented growth should be confined to Mall Road and Houston Road, and should not expand onto U.S. 42, KY 18 or Hopeful Church Road. However, the highway-scaled, automobile-oriented appearance of this growth should be minimized through the provision of pedestrian improvements, smaller facilities within outlots in conjunction with larger strip-style centers, multiple, scattered parking areas in lieu of large central parking areas, and street trees along Mall Road. This growth should also include multi-modal transportation amenities, an idea which has been furthered by TANK's transit hub on Mall Rd.

Commercial development in this section should remain near the arterial roads or close to the interstate. These consumer service and traffic-oriented developments must be contained to specific areas adjacent to the arterial roads and interstate. The coordination of curb cuts and parking lot connections in the already developed areas must occur in order to maintain a reasonable ease of travel along these roads. Undeveloped tracts of commercial land should connect to and coordinate with any adjoining commercial, office, or industrial development in existence. Where no development has yet occurred, provisions for Access Management must be made for future development. This includes the use of frontage roads as well as parking lot connections and shared curb cuts.

Attention must be given to the changing nature of retail and how it relates to the future of Florence Mall and other retail centers and stores. On-line retail continues to increase and the effect it is having on suburban malls, big box retailers, and other national retail chains cannot be ignored. Consideration must be given to how these stores may be able to reinvent themselves and continue as retail-based destinations that focus on experience-based shopping.

The visual appearance of commercial areas in general and of Mall Road in particular, should be enhanced through the design of buildings, landscaping, signs, and arrangement of buildings. Attention to aesthetic impacts of proposed developments should be part of all phases of the review process. The Mall Road District Study recommends a new direction for Mall Road that included the potential for more entertainment uses, high rise condominium, mixed use, and residential development. This is currently being implemented as part of the Mall Road District Study.



### 15) FLORENCE CENTRAL

This area is bound to the east by the Kenton County line and to the south by the Northern Kentucky Industrial Park. The west edge is defined by I-75/71 north to the county line.

The City of Florence developed from an aggregate of residential subdivisions, and is the main population concentration of Boone County. Florence did not develop in the traditional manner of cities, with established areas of concentrated commercial, industrial, and residential uses. Instead, the uses were intermixed. For instance, the city's central business district is not in a precise location, but rather is a combination of suburban business districts. This factor, above all others, has molded Florence into a suburban city.

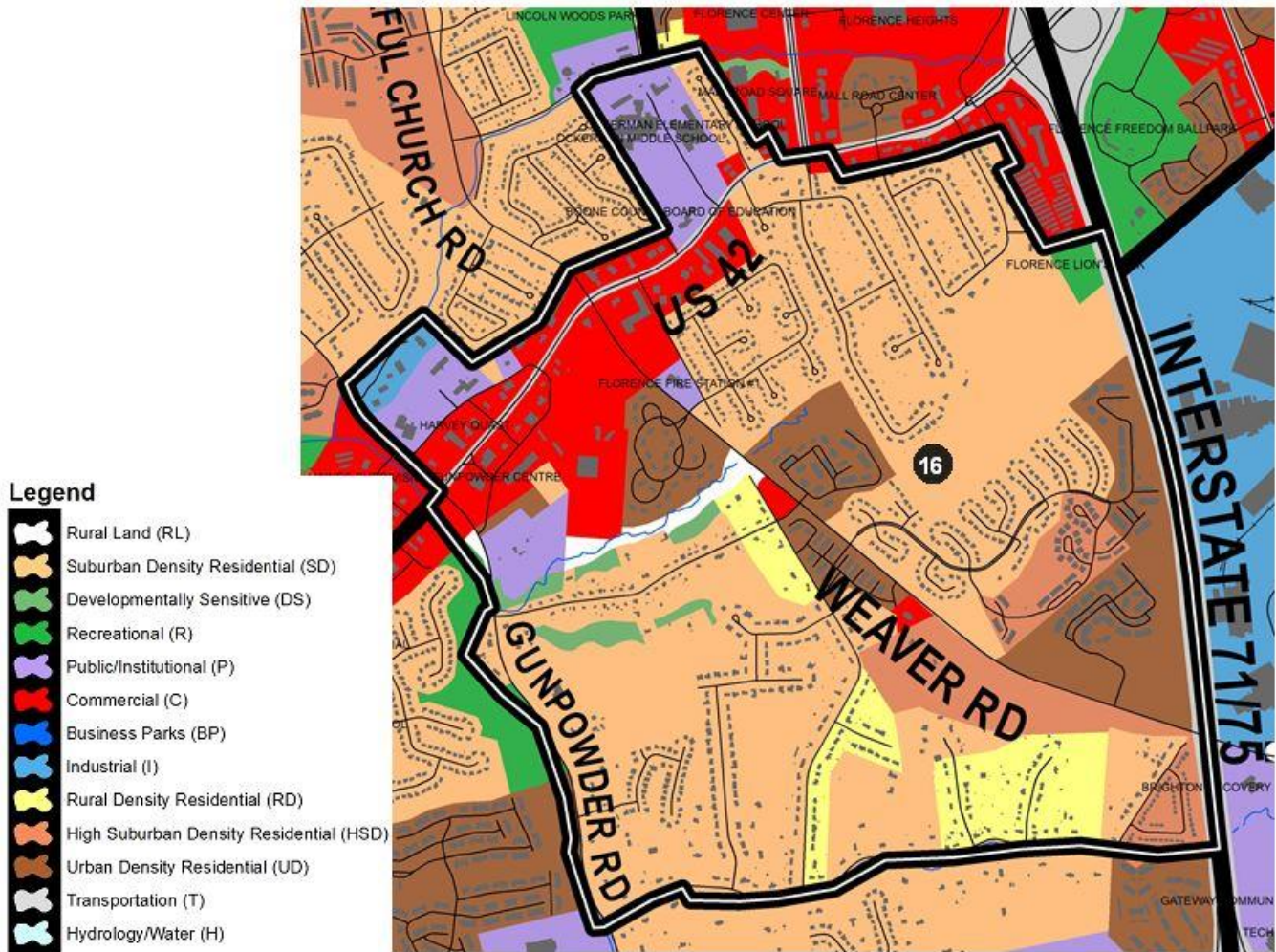
The City of Florence has a valuable asset in its Main Street area. The Florence Main Street Study, adopted in 1994, identified the uniqueness of this area and ways to improve its vitality and visual appearance. The goal was to transform Main Street into a pedestrian-oriented area. This was accomplished by the City's commitment to rebuild Main Street, construct sidewalks, and install lighting. Efforts are currently underway to evaluate the progress being made in order to make the area more economically viable. This may include surveying historical structures, expanding the study area, adding parking, and make road, sidewalk, and lighting improvements. The result would result in a more cultural and historical setting and a mix of uses and businesses including entertainment and public spaces for events and activities. Recommendations will be offered to possibly amend the Florence Main Street zoning district to add more flexibility in the types of uses as well as encouraging good building design to reinforce the area's character and diversity of uses.

The former Florence Nursery site (currently owned by the City of Florence) next to the Florence Senior Center has redevelopment potential as a location for an enlarged Florence Branch Library or some other public use. Development along U.S. 42 from Mall Road to the Ewing Boulevard area should continue to be a mixture of professional and local, traffic-oriented commercial activity. The area east of I-75, north of U.S. 42, and south of KY 18 shall continue to be developed in a cohesive manner to form a city center for Florence. The Parkway Corridor Study, which was originally developed for this area, was updated and replaced by the Central Florence Strategic Plan in 2008. The intent of this plan was to further develop the city's central neighborhoods and to link existing and/or planned business, civic, recreational, entertainment, and residential attributes of the study area together to create a vibrant, inter-related city center.

As described in the Demographics Element, the condition of older housing in Florence should be specifically addressed. Florence should continue to enforce codes affecting the condition of properties in residential areas and in older business districts. Minimum standards are needed for building maintenance and design purposes. Higher density residential development should occur where it can serve as a buffer between industrial or commercial intrusion on single-family residential areas or where it is easily accessible. Overall, a mixing of uses can be accommodated within the City of Florence and the existing residential communities can be protected if proper buffers and design are incorporated into the developments. The redevelopment of property into commercial uses must be carefully designed in order to minimize impact of adjacent residential property. Any airport runway expansion in the future may have impacts on the existing residential areas of Florence.

In summary, growth in this section of Boone County must be balanced among three major land uses, commercial, industrial, and residential development. Growth in one land use must consider the location of existing and planned developments of the other two.





**16) FLORENCE SOUTH**

This area is bound by development along U.S. 42 to the north from its intersection with Mall Road south to the Old Toll Road area and then southeast along Gunpowder Road to Sunnybrook Drive and then bound to the east by I-75/I-71.

Vacant parcels and existing residences along the south side of U.S. 42 near Dilcrest Drive and Bentley Court may be appropriate for Urban Density Residential if the developer(s) can demonstrate that proper access management, architecture, and buffering can be provided. An extremely well-designed, low-impact professional office use may be considered for this area. However, the potential developer must submit detailed buffering and building design plans, and demonstrate that the project would establish a positive focal point for the U.S. 42 corridor in addition to minimizing visual, traffic, and stormwater impacts on adjacent residential uses. All developments must provide for connecting parking lots or a frontage road. In addition, right-turn lanes may be required for each development. Due to the high visibility of the lots and the need to minimize traffic distractions, minimal signage is recommended.

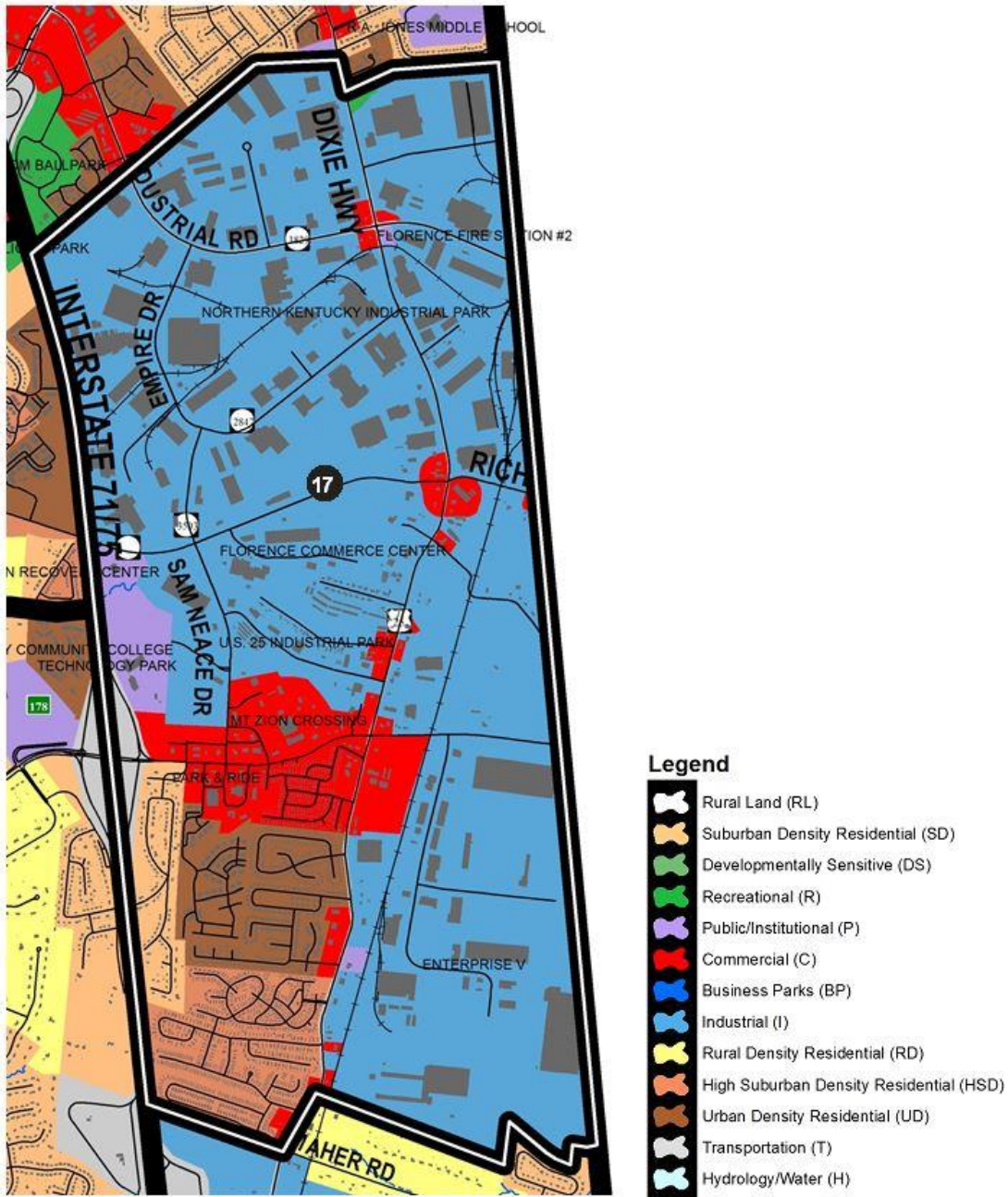
The area south of the Saddlebrook Farms Subdivision, along Weaver Road, has developed in an Urban Density Residential manner consistent with this subdivision, with adequate buffering for adjacent to single-family residential uses. The expansion of sanitary sewer lines on Evergreen Road will serve infill sites as well as those who are not currently on public sewer. Commercial uses should not expand along the west side of the interstate beyond the self-storage facility. The Lion's Park site should remain as a recreation area unless it redevelops as part of the 60-acre McEvoy property adjacent to it which is recommended for Suburban Density Residential. However, a combination of Suburban Density Residential and High Suburban Density Residential, such as senior

housing, could occur if a traffic impact study is conducted to determine if the existing road network is adequate and if not, what roadway improvements would be necessary to handle any potential increase in anticipated traffic volume.

Vehicle stacking problems during rush hours and conflicting left turn movements have become significant problems along the U.S. 42 corridor between the Weaver Road/Hopeful Church and Pleasant Valley Road intersections. The new “jug-handle” intersection design for Weaver Road and U.S. 42 will hopefully address some of these issues. Frontage road and interconnecting parking lots are necessary here to allow vehicles to access existing and future traffic signals. Access to Weaver Road should be implemented through redevelopment of the former Boone Kenton Warehouse site and adjacent parcels as well as well-planned access to U.S. 42. If improvements are made to Gunpowder Road from U.S. 42 to Mt. Zion Road, more intense land uses could be examined for the property behind Wentz Drive as well as the possibility of having access to Gunpowder Road. If commercial development occurs in this area, it should primarily be accessed from U.S. 42. In addition, improvements to pedestrian access along Weaver Road should be a top priority of the State when making improvements to the road network.

The vacant parcel on Weaver Road between the Grammas strip center and the Weaver Road fire station should develop as a low traffic professional office use. This part of Weaver Road is not suitable for commercial driveway access. In addition, a connector road should be completed from Mt. Zion Road to Weaver Road along the west side of I-75. South of this area should remain Suburban Density Residential in nature. Existing tree stands should be preserved to establish the contrast of this area from the Northern Kentucky Industrial Park, and to decrease noise impacts of I-75 and the airport.





### 17) FLORENCE INDUSTRIAL

This area is bound to the west by I-75/71, to the east by the Kenton County line, to the north by the northern extent of the Northern Kentucky Industrial Park, and to the south by Deer Trace Mobile Home Park and Enterprise V Industrial Park. This section contains the Northern Kentucky Industrial Park, which is the largest park in the metropolitan region. Expansion and continued development and redevelopment of this employment center is expected to continue over the study period of this plan. Industrial development should remain solely on the east side of the interstate and should retain the existing tree line to buffer the uses from residential development on the west side of the interstate and to hide the outside storage and parking areas from public view from the interstate. Industries should continue to locate and expand along Industrial Road into Kenton County, and along the length of Empire Drive. The industrial park should be encouraged to expand to the south along the Empire Road Connector and Weaver Road to Sam Neace Boulevard. In addition, development should continue along U.S. 25 and Weaver Road, and near the railways. Tracts of developable land exist in the area and development depends

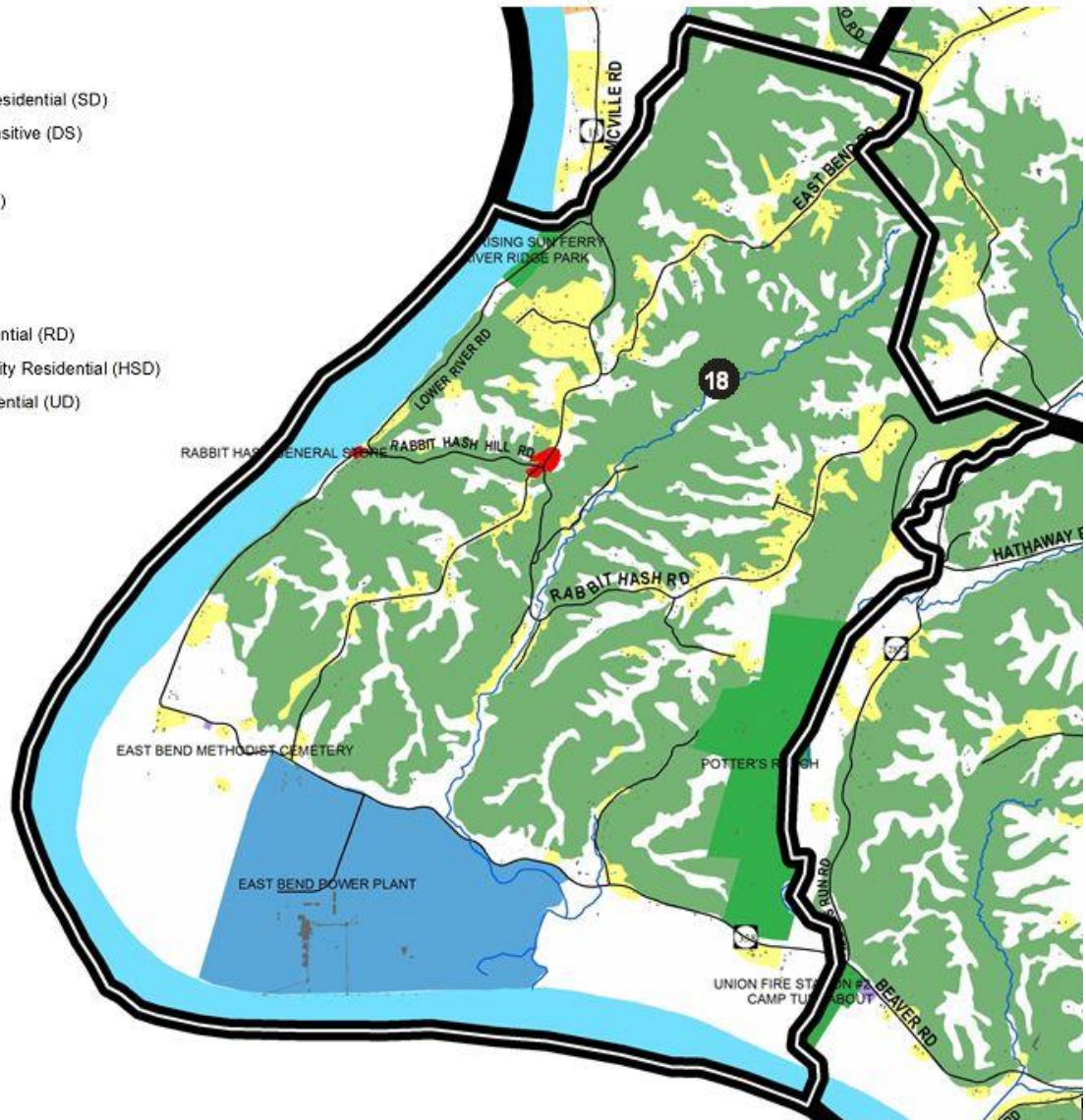
only upon public utility expansion and an improved road network, including upgraded railroad crossings. The Park is experiencing some building vacancies and signs of being dated and would benefit from upgrades in roads, sidewalks, lighting, and new transit stops.

The presence and proposed expansion of Gateway Community and Technical College will encourage development of this area including other public and institutional uses around the campus. Street and parking lot connections are critical in this area. To the east of U.S. 25 manufacturing and distribution uses should occur. Southward expansion of industry should be tempered by important locational factors, such as appropriate access to the interchange and connections to existing or planned industrial parks. Industrial development to the east of U.S. 25 and the railroad must be accompanied by improvements to important access roads, such as East Mt. Zion Road and East Frogtown Road. Development at the Mt. Zion interchange should be planned in such a way as to not greatly impact the existing and planned Suburban Density Residential uses in the area. KY 536 (Mt. Zion Rd.) is planned for major widening, which will make this corridor a major arterial route from Boone County, through Kenton County, to Campbell County. Reconstruction of the Mt. Zion/I-75 interchange is expected to begin in 2019 and the reconstruction of Mt. Zion Road from I-75 to Old Union Road is underway and should be completed by 2020. Commercial activity associated with the interchange should be concentrated on the east side of the interstate. Access for these commercial uses should be coordinated so that all development can easily access traffic signals. All commercial development should be planned with attention to possible traffic impacts, because this interchange will serve an increasing volume of residential, commercial, and industrial traffic. The type of commercial activity northeast of the interchange should serve the residential areas on Mt. Zion Road and along Dixie Highway, Gateway Technical College, and the Northern Kentucky Industrial Park. Street and parking lot connections are critical in this area to help traffic flow on Mt. Zion Road.

South of the interchange, between the interstate and U.S. 25, should develop in a variety of residential and commercial mixed uses. In time, the Greenlawn Estates Mobile Home Park should redevelop as Commercial due to its high visibility and access along Mt. Zion Road. Mobile home development should not extend south of Maher Road. Reconstruction and widening of U.S. 25 creates the potential for redevelopment in much of this corridor. Mixed use development with prevalent interconnections is recommended.

**Legend**

-  Rural Land (RL)
-  Suburban Density Residential (SD)
-  Developmentally Sensitive (DS)
-  Recreational (R)
-  Public/Institutional (P)
-  Commercial (C)
-  Business Parks (BP)
-  Industrial (I)
-  Rural Density Residential (RD)
-  High Suburban Density Residential (HSD)
-  Urban Density Residential (UD)
-  Transportation (T)
-  Hydrology/Water (H)



**18) RABBIT HASH**

This section of Boone County contains Rabbit Hash, the intersection of KY 338/KY 536/KY 18, and considerable Ohio River frontage. It is bound to the west and south by the Ohio River. The northern boundary is defined by Middle Creek to just south of Waterloo Road, while its eastern boundary is up to Gunpowder Creek.

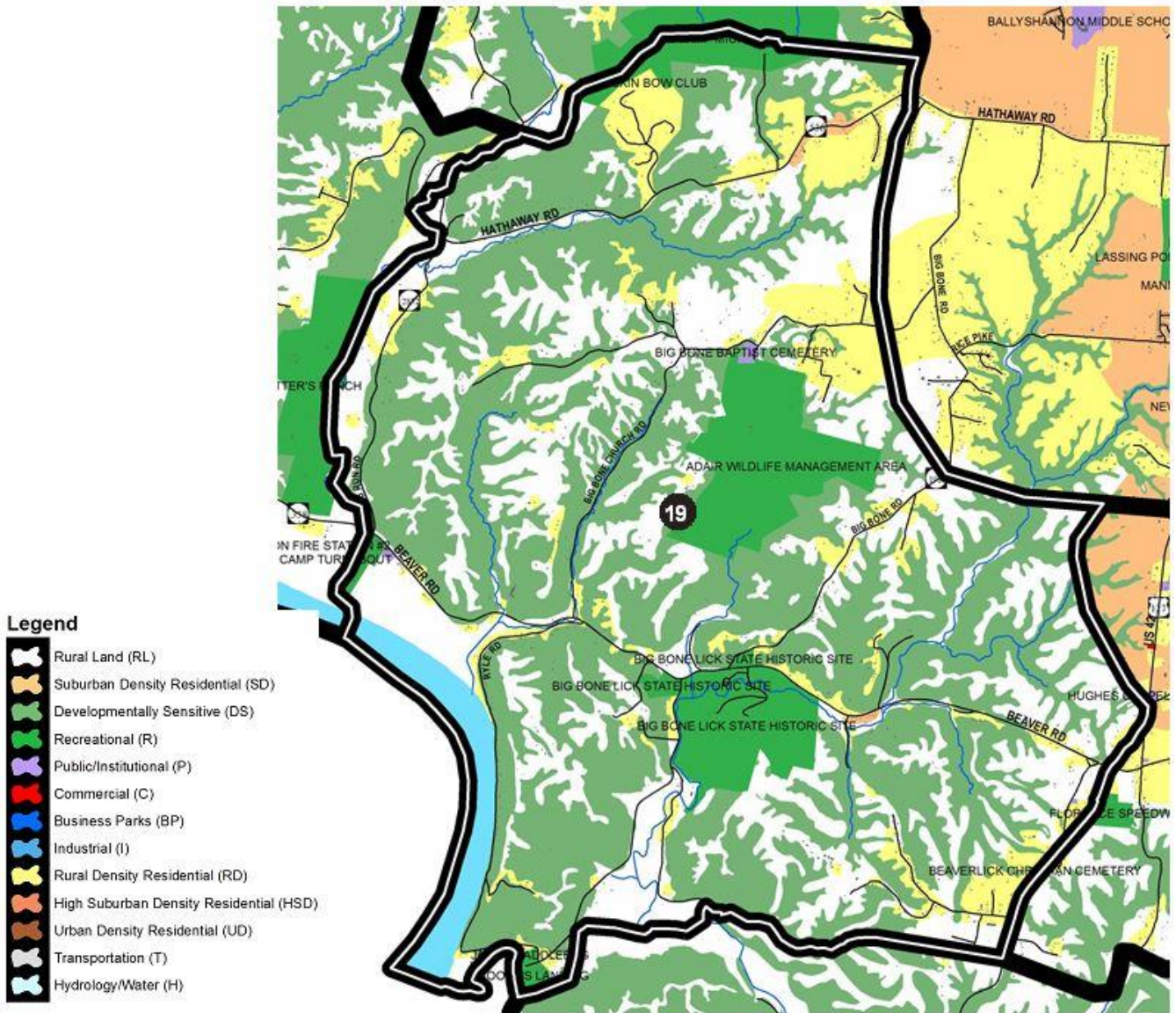
The Rabbit Hash area, including the Rabbit Hash General Store (which was reconstructed in 2016 following a catastrophic fire), has become a significant tourist attraction and should continue as such without compromising its rustic and small town nature. Limited residential growth should occur along the major roads leading to this area. Formal subdivision developments are not recommended, in keeping with the existing character and lack of urban services. The junction of the state routes should provide local service needs that would be inappropriate within the established town of Rabbit Hash. Any commercial uses that may develop at this intersection should have a theme consistent with that of rustic Rabbit Hash. The land along KY 18, which is in crop production, should continue in that capacity. Furthermore, the Developmentally Sensitive hillsides in this region should be protected. In general, growth in this area should be limited. Every attempt should be made to preserve the character of Rabbit Hash in light of its growing popularity and the gaming development across the river. The roads are currently not adequate to handle an increase in traffic to Rabbit Hash or to river access. Overcrowded tourist conditions include such impacts as noise, lack of parking, blockage of the street, trash, etc. should be

addressed through strategic improvements defined by the 2004 Rabbit Hash Historical Society Task Force report. In 2018, the “Ms. Lucky Lady” ferry began operating between Rising Sun and a landing at the north end of Lower River Road adjacent to River Ridge Park.

This section of Boone County also contains the East Bend Power Plant and a substantial area of river bottom. The power plant encompasses a large area and much of the developable land. Two large areas to the east and west of the plant are in agricultural use and should remain. The rough terrain to the north of KY 338 is divided by three small creeks. Development of any kind in this area should be limited. Industrial development is inappropriate because of poor access. The backwater area of Lick Creek, east of the power plant, should be examined as a potential wetland wildlife management area. Significant growth is not anticipated for this area because of its remoteness. The potential for tourism exists in this region due to its rich archaeological heritage and historic buildings.

Future growth around Rabbit Hash should be predominantly single-family but should respect the historic character of the area. Typical suburban subdivision development that is occurring in the Florence and Union areas is not possible for this part of the county due to lack of sanitary sewers. Open Space Subdivision Design is one way to accomplish these objectives. The Ohio River views, significant hillsides, and the rustic character of the area should be retained.





### 19) BIG BONE

This area is defined to the west by the Ohio River as well as Gunpowder Creek northward through Camp Michaels then eastward to Camp Ernst Road just north of Hathaway Road. The eastern edge is defined by the area just west of Big Bone Road southward just past Teutonia Estates and then to the east just past Big Bone Creek and then southeast towards the intersection of U.S. 42 and Richwood Road. The boundary then heads south along U.S. 42 to just beyond Cleek Lane where it follows Buzzard Branch Creek west to Big Bone Creek and eventually to Big South Fork Creek which defines its southern boundary.

This section of Boone County is characterized by several rural roadways, including KY 338 (Beaver Road), Riddles Run Road, and Big Bone Church Road, as well as a substantial portion of U.S. 42. Even with the rural water line program, residential development will be slow and of a large-lot nature. Large lot subdivisions should provide for connections where appropriate to stream valleys and the future public recreation potential that they provide. It also contains the mouth of Gunpowder Creek. Due to the major creeks and tributaries, much of the land in western portions of this section is Developmentally Sensitive, and should be protected from development. Most of the growth in this area should be of a Rural Density residential nature, located predominately along Beaver Road. Some recreational uses may develop based on the amenities of Gunpowder Creek.

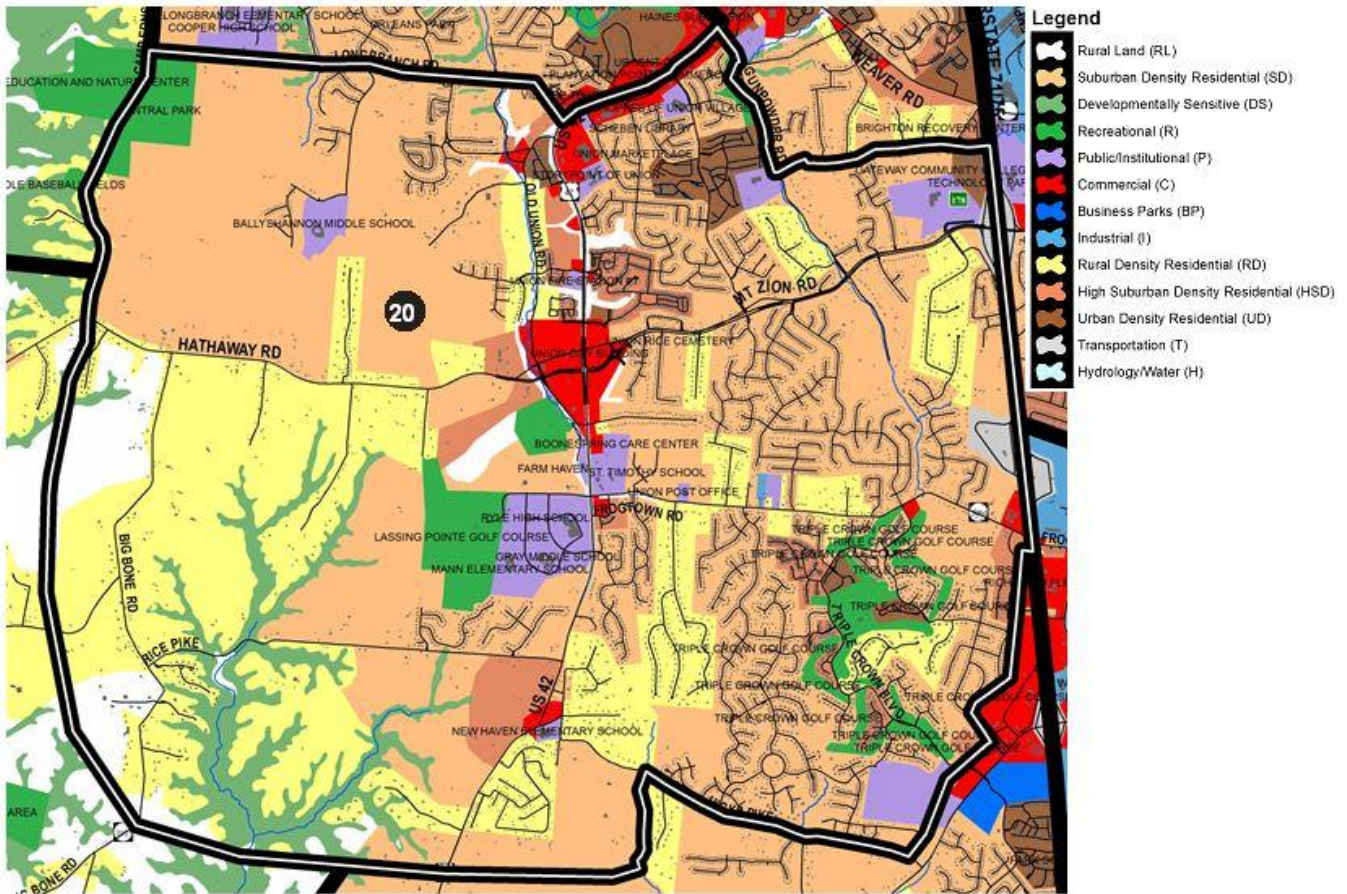


The western half of this section should remain undeveloped or in agricultural uses. Development along Hathaway Road, west of Camp Ernst Road, should be limited. Due to its scenic value, land along the creek and south of Hathaway Road may be suitable for passive recreational uses, as well as promoting tourism in the area. The Boy Scout campground should be protected as recreation land and any adjoining land uses should be designed to be compatible with this facility. Residential development should remain along the existing roads, consolidating access points where appropriate.

The area of KY 338, from Riddles Run Road to Big Bone Church Road, may see the development of some seasonal homes as well as seasonal camping at Big Bone Lick Historic Site and Boone's Landing. Land between Ryle Road and Boat Dock Road should not be developed due to steep slopes and poor soil conditions. Big Bone Historic Site should continue to expand in size and quality. The property adjacent to Boone's Landing (known as Jane's Saddlebag) was rezoned to Recreation for recreation and tourism uses. KY 338, from U.S. 42 to Boat Dock Road, could develop some limited commercial uses, consistent with recreation uses in the area. This possible development is not shown on the Future Land Use Map. Any requests for such uses should be examined carefully in order to ensure that they fit in with the rural and recreational character of the area as well as maintaining safety along KY 338.

This section of Boone County is dominated by several creeks, including Big Bone Creek, Mud Lick Creek, and the Big South Fork Creek along the Boone County/Gallatin County border. Most of the acreage in this section is Developmentally Sensitive, and should remain wooded. Residential development in this area is concentrated on Ryle Road, along the Ohio River. Ryle Road is subject to frequent slippage along the steep river banks. The resulting poor condition of the road limits future residential growth. The existing residential uses along Ryle Road limit potential public access to the river in this area. An effort should be made to connect Big Bone Historic Site with Big Bone Boat Dock. A possible future bridge to Gallatin County would provide an incentive for additional river-related recreation facilities. It could also increase usage of Big Bone Historic Site, making expansion of the park and connection to the riverfront area feasible. Overall, this section should experience very limited residential growth and be oriented towards river access and river recreation activities.

Suburban Residential Development of this section of the county is dependent upon the provision of water and sanitary sewers, and should not negatively impact the Big Bone Creek and Mud Lick Creek watersheds. The water and sanitary sewer services should not commit these two watersheds to extensive development. Even with the rural water line program, residential development will be slow and of a large-lot nature. It is important that residential subdivisions construct internal roadway systems rather than using the existing roads for primary access; these existing roads should serve as corridors to move traffic through the area. Substantial residential growth will compound crowded conditions at the New Haven Elementary School and will require expansion of school facilities.



**20) UNION**

This area is bound to the north by the northern edge of Central Park eastward to Longbranch Road and then north along U.S. 42 to Gunpowder Road where it then heads south to Sunnybrook Drive over to I-75/72 which serves as its eastern boundary south to Heritage Trails and the west edge of commercially zoned property along Frogtown Connector Road and behind the properties that front on Richwood Road. The south boundary is defined by Hicks Pike to Mud Lick Creek where it heads south of Twin Lakes Subdivision and generally westward just beyond Big Bone Road where it heads north forming the west boundary west of Big Bone Road.

This section of Boone County contains the City of Union and a substantial portion of Hathaway Road and U.S. 42. In general, this section should experience considerable residential growth due to Union's current residential nature, growth associated with the City of Florence, and improvements to U.S. 42. For these reasons, the 2000 Union Town Plan was prepared by the Boone County Planning Commission, City of Union, and Boone County Fiscal Court. The plan's recommendations are shown on the 2040 Future Land Use Map and also affect the Boone County Zoning Regulations.

The U.S. 42 corridor should experience commercial growth on a smaller scale to mitigate any adverse impacts and to be compatible with surrounding land uses and densities. As defined by the 2000 Union Town Plan, commercial development should occur in neighborhood business district form in specified locations instead of strip style commercial.

Areas west and south of the Union Town Plan area, along U.S. 42, Hathaway Road, and Longbranch Road, contain an existing agricultural, horse farm, and estate residential character. The connections shown in the Union Town Plan need to be continued outside the study area to the next logical properties and arterial roadways. The Frogtown Road corridor has experienced significant residential construction with very little improvement to the existing roadways. Triple Crown sets a good example with its central, limited access boulevard that connects two

state-maintained roadways (Frogtown Road and Richwood Road). Significant improvements to roadways will be needed to support extensive growth. Future development in this area should be sensitively designed to minimize impact on existing low density residential land uses, and connecting routes that take traffic off existing roadways should be encouraged.

St. Elizabeth Hospital owns property (93 acres) near the Richwood Road entrance to Triple Crown subdivision that could develop as a health center and should also be sensitive in design to the surrounding residential land uses. In addition, consideration must be given to whether or not Richwood Road can adequately handle the traffic impact of such a use. Improvements to Richwood Road must be completed prior to this property developing into such a use.

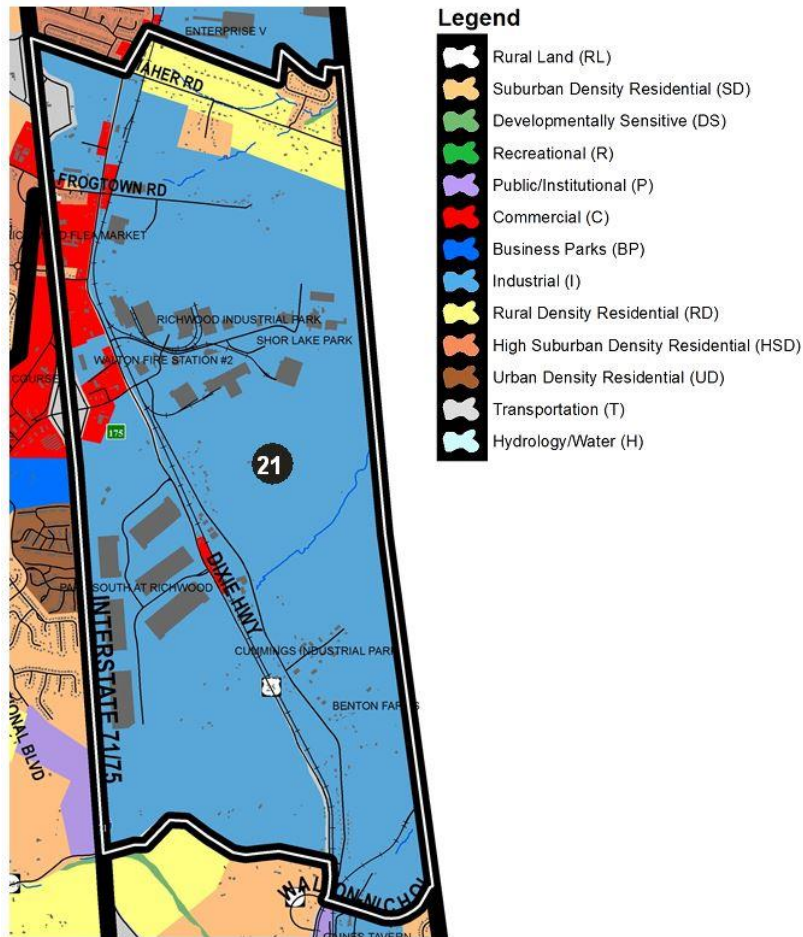
New subdivisions should be developed with connecting roads providing alternative routes for residential traffic and decreasing the impact on major roadways. Road connections should include multi-modal elements such as paths, bike lanes, and bus stops to help make Union more pedestrian-oriented. Wetherington Boulevard is an example. Further road connections that prohibit driveway access and street parking should occur between U.S. 42, Camp Ernst Road, Longbranch Road, and Hathaway Road. Hathaway Road needs special attention to protect this important east-west route. Water and sanitary sewer infrastructure should accompany such road connections and extensions as to prevent premature, estate-style residential development, and to prevent frontage subdivisions that result in poor access management. Development proposals shall be carefully evaluated relative to the area-wide road network and any necessary contributions to the network.

Triple Crown Subdivision provides an important road connection between Richwood Road and Frogtown Road. Other connections between Richwood Road and Frogtown Road need to occur. The southwest quadrant of I-75 and Frogtown Road, adjacent to the Frogtown-Richwood Connector Road (KY 3203), should develop as High Suburban Density residential to provide a logical transition of density and a buffer between the major roadways and single family development to the west. However, this area should not include a continuation of the existing mobile home park. Any attached housing in this area must be designed to complement adjacent single-family residential.

Improvements to Mt. Zion Road, between the Union city center and the interchange, should be accompanied by water and sewer improvements to accommodate the anticipated residential growth. The school campus should continue to develop as a community amenity and activity node. Continued residential development in and around Ballyshannon Subdivision should increase the need for expansion of the newly opened Ballyshannon Middle School as well as a possible new elementary school at the site. In addition, connections from the residential developments in the Ballyshannon area to the east are imperative in reducing the reliance upon Longbranch Road and Hathaway Road as the only means of travel towards the Union Town Center proper.

All major residential developments should provide recreational facilities, or other public facilities, through cooperative efforts between developers, legislative bodies, and other agencies/organizations. These facilities should be designed not only to serve the residents of the specific subdivision but, where appropriate, to serve surrounding populations in order to mitigate the impacts upon existing facilities. This section of Boone County should develop as a major population area, and sites for recreation and other public facilities should be planned and obtained before prime sites are no longer available or become too costly for acquisition. The potential to renovate and expand the Union Park property should be considered as a way to accommodate the increasing need for such facilities in the area. The 2006 Parks and Recreation Master Plan called for the property to develop as a family outdoor aquatic center with a multi-purpose building and playground.

The northwest quadrant of the Mt. Zion interchange is the ideal location for urban and higher density residential development. The church use provides a more appropriate transition between the urban density residential and the planned suburban density residential to the west. This would be compatible with the residential character of the area, and should provide housing opportunities for employees of the Florence urbanized area, as well as providing a limit to over-expansion of commercial activity towards Union. The Mt. Zion Road to Weaver Road connector road is needed to provide a parallel route to I-75 as well as enable this growing residential area to access Florence without impacting U.S. 42. It should be located and designed to carry significant traffic volume.



## 21) RICHWOOD EAST

This area is bound to the west by I-75/71 and to the north by Deer Trace Mobile Home Park east to Dixie Highway and includes the residential properties that front on Maher Road to the Kenton County line which serves as the eastern border. The southern edge is defined by Walton-Nicholson Road and Chambers Road.

There are several major influences behind the anticipated growth in this area, including the Northern Kentucky Industrial Park to the north, the new Mt. Zion interchange, Weaver Road, development pressures along U.S. 25, the extension of public sanitary sewer service, and the Norfolk & Southern Railroad Line. Because of the development pressure, all necessary types of infrastructure should increase in scale. This area is bisected by U.S. 25, a major corridor for growth, extending from urbanized Florence to Walton. The fact that it runs parallel to I-75, and is located between the interstate and the railway, makes it an ideal transportation connector. Because of the various existing and future land uses along U.S. 25, it will carry a high volume of mixed traffic types. For this reason, any traffic-intensive or truck-oriented uses shall locate near connections to the interstate, and access management shall be an important consideration on all development along U.S. 25.

Boone County has established two Tax Increment Financing (TIF) districts in the Richwood Area. Revenues from wage assessments in one district have generated \$250,000 to extend water to the site. As additional revenues are collected, the county expects to evaluate other projects, including contributions to the reconstruction of the I-75/Richwood Road Interchange. Great care and consideration must be given to the impacts of increased truck traffic in the area as a result of the development of logistic/warehouse businesses along the U.S. 25 corridor.

Due to its design and its dangerous intersection with U.S. 25, Maher Road should remain an enclave of residential uses, and no industrial access should be provided along this road. Industrial uses abutting this



residential area must be planned with adequate buffering for the existing and future residential development. The industrial area to the south of Maher Road should be accessed via Frogtown Road, and the possibility of extending East Frogtown Road to connect with Maher Road should be explored because of the better visibility at the railroad crossing and intersection with U.S. 25. The frontage along U.S. 25 is suitable for a mixture of commercial and light industrial activity with proper access management provisions.

Industrial growth can occur around the northbound I-75 rest stop, but should provide a buffer to hide outside storage and pavement areas from the rest stop and interstate. The U.S. 25 and Frogtown Road intersection should support locally-oriented commercial uses. However, special attention should be given to controlling and coordinating access points with this area. Multiple street connections are critical in the area south of the Mt. Zion interchange and west of I-75 to avoid burdening specific connections with too much traffic.

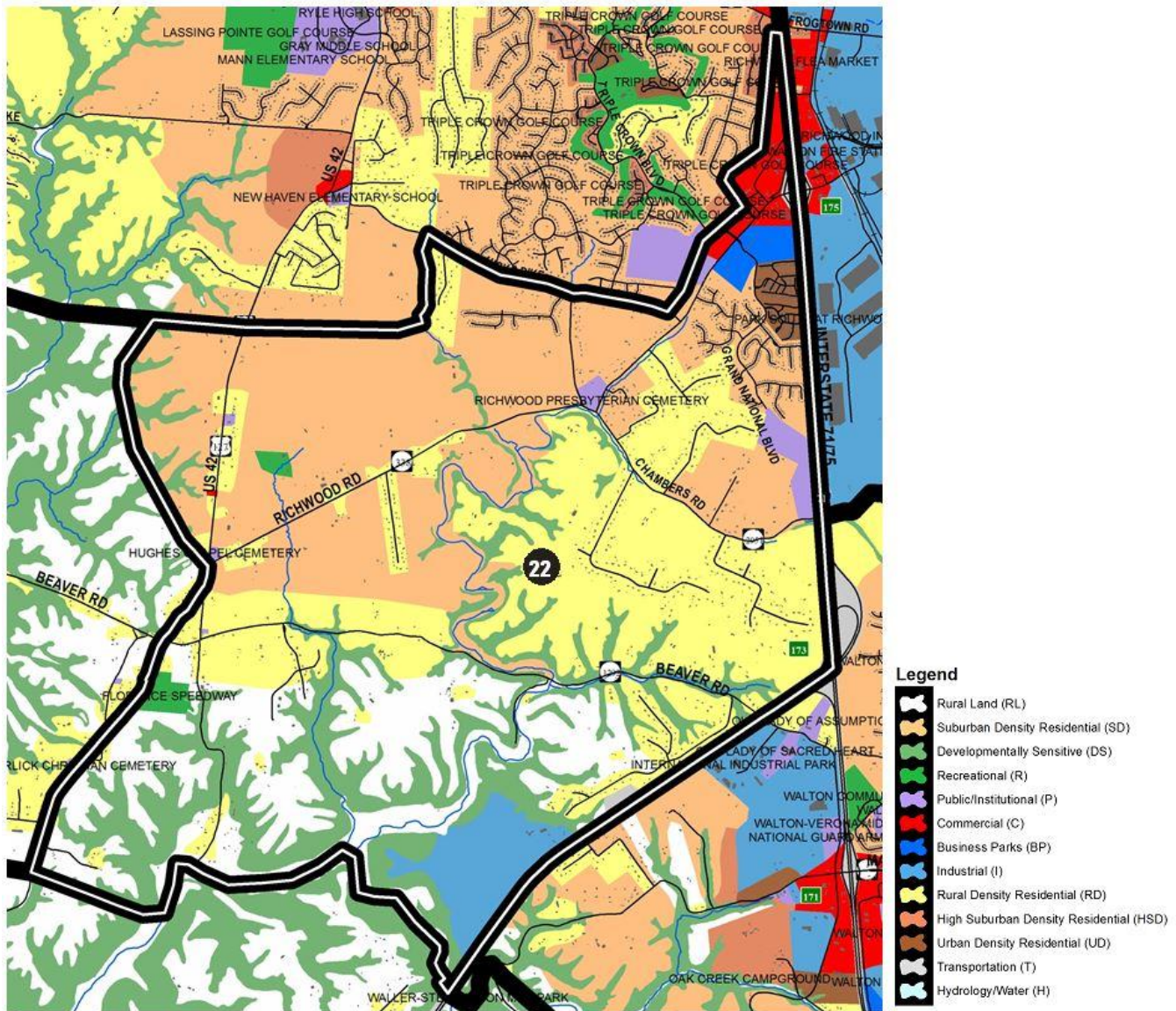
The Infrastructure For Rebuilding America (INFRA) Grant reconstruction of the Richwood interchange in 2019 and associated improvements to Richwood Road will substantially increase capacity. Commercial development around the interchange area is expected to remain and expand to serve local residents in addition to highway-related services. Intrusive highway related services should not impact the low density residential uses on the west, and be limited to the east side of I-75. The industrial development should primarily occur on the east side of U.S. 25, and south of the existing commercial area, as well as along Old Lexington Pike. Any intensive industrial uses proposed for Boone County should be directed to this area because of the distance from residential uses and the proximity to rail services. As a result of the reconstruction of the interchange area, rail spur expansion could lead to better access to rail services in the area. Old Lexington Pike should be upgraded as needed to serve as an access road for these industrial uses. In summary, the planned improvements to the Richwood interchange and the construction of a Single Point Urban Interchange (SPUI) with an underpass of the existing Norfolk & Southern rail line at the U.S. 25 and KY 338 intersection are imperative to development of over 1,000 acres in Boone and Kenton counties south and east of U.S. 25 and Richwood Road and east of Old Lexington Pike. Industrial uses fronting on U.S. 25 should be developed with attention given to adequate aesthetic design and landscaping to minimize visual impacts to the residential uses across I-75. Highway commercial growth should not occur to the point of blocking industrial traffic from future planned industrial development along U.S. Highway 25. Commercial development in this area should be designed to serve nearby residential growth occurring southwest of the interchange along Richwood Road.

The area between U.S. 25 and the Boone/Kenton County line contains industrial potential due to interstate and rail access. Development of this area should utilize Old Lexington Pike as a frontage road to limit the number of access points onto Dixie Highway. Business development to the east of Walton should be facilitated by major roadway improvements extending east from Mary Grubbs Highway and ultimately connecting with major thoroughfares in Kenton County - including KY 16 and KY 17.

Commercial uses should develop in the northeast quadrant of the Richwood interchange, but further truck-oriented commercial uses in this area should be discouraged because of the existing traffic congestion and topographical constraints of the interchange. The commercial areas need to be adequately buffered from the existing residential areas, and should not include uses which require outside display of products. The area to the north of the interstate commercial area and south of the existing mobile home park should develop as commercial uses that are consistent in design and serve the single family residential developments in this area. Care must be taken to mitigate any of the adverse impacts of commercial development, due to the proximity of the interstate and residential uses.

The area east of I-75 and west of U.S. 25, from Richwood Road to Chambers Road, should develop as a Business Park. A buffer should be provided along Chambers Road to residential uses to the south, and no business park access should occur on Chambers Road. New industrial or business park developments south of the improvements being made to U.S. 25/Dixie Highway as part of the I-75/Richwood Road Interchange rebuild requiring new access to Dixie Highway must be accompanied by a Traffic Impact Study to determine if the existing conditions of the road are able to support additional truck traffic. If new improvements are warranted, a combined effort of State, County, and private funds shall be explored to share in the cost of the improvements. All developments should be interconnected by roadways to provide a parallel system to U.S. 25.





**22) RICHWOOD WEST**

This area is bound to the east by I-75/71 and then I-71 south to McCoy's Fork Creek just south of the Bavarian landfill. The south boundary is set by McCoy's Fork Creek and Mud Lick Creek to U.S. 42 just south of Moore Road and then the west boundary is defined by U.S. 42 up to its intersection with Richwood Road where it then moves west behind properties fronting on U.S. 42 until just south of Twin Lakes Subdivision where it then heads east to a branch of the Mud Lick Creek before heading north to Hicks Pike and then northeast behind properties fronting on Richwood Road.

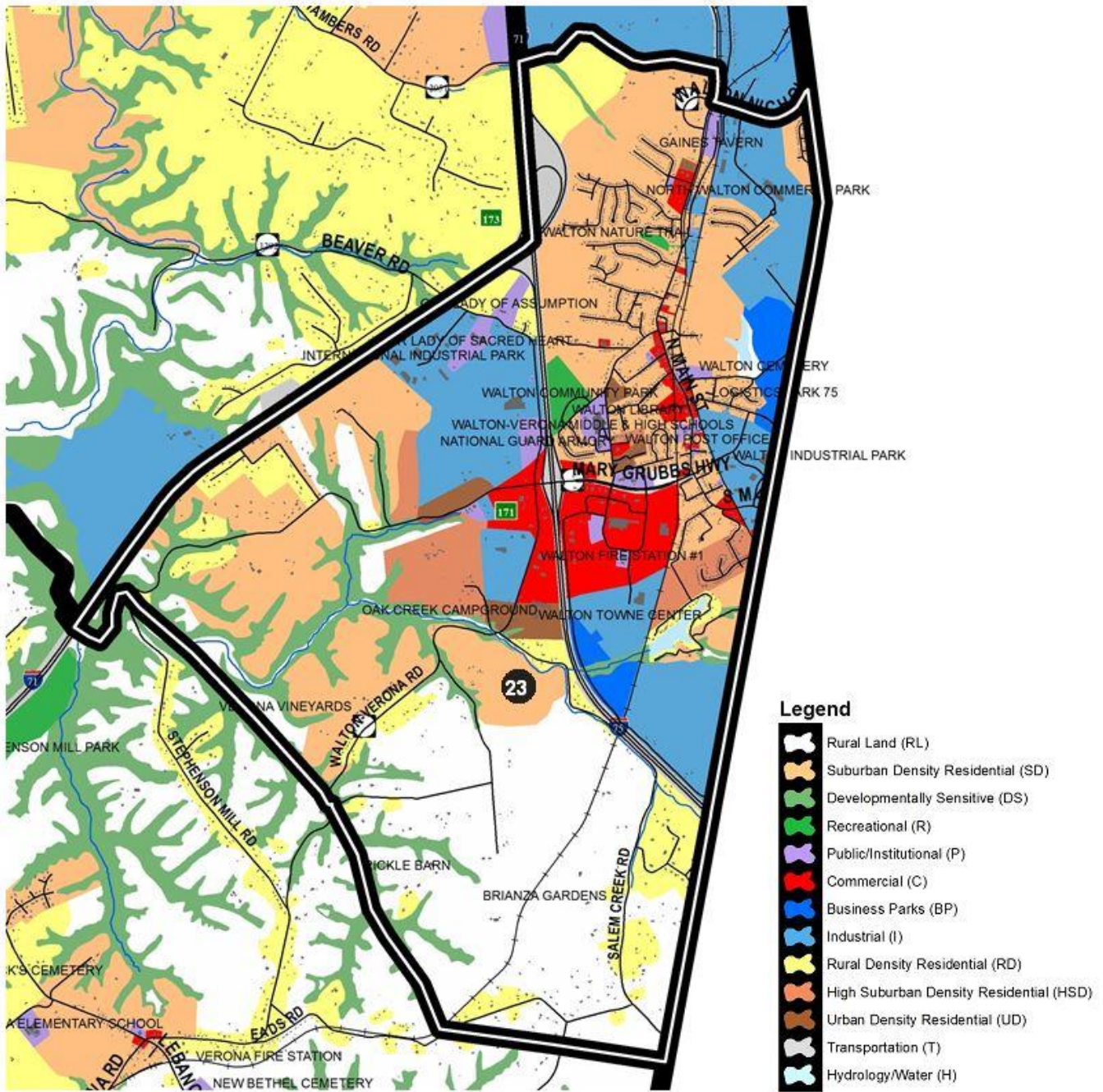
Development to the southwest of the Richwood interchange must continue the Grand National Boulevard connection to Chambers Road. The remaining portion of the Grand National Boulevard to Chambers connection should be completed when the new elementary school is developed if warranted. The reconstruction of the I-75/Richwood Road interchange is expected to occur in 2019 which may lead to the need for additional retail and office uses. The remaining undeveloped land on the southwest quadrant of I-75 and Richwood Road is recommended for Business Park and Urban Residential. The Business Park area along Richwood Road should develop as an attractive office campus project that provides an appropriate entrance to the residential corridor between Steeplechase and Chambers Road. Any business development along Grand National Boulevard must

include proper ingress and egress, and provide for needed modifications to the roadway and/or its intersection with KY 338. Highway related commercial growth on the west side of the interchange should be adequately buffered from existing and planned residential uses. As the residential area of Richwood grows, especially with the development of the Triple Crown community, neighborhood and convenience commercial uses should develop. These new uses should be oriented toward the residents rather than the highway traveler. Commercial development along Richwood Road should be screened from the roadway, and serve the developing residential uses in the Richwood - Union area. Curb cuts should be limited and consolidated wherever possible. Beaverlick should remain as a small community with little growth. Any commercial development in this area should locate at the intersection of U.S. 42 and Beaver Road in Beaverlick.

Improvements to roadways in this area will be needed to support extensive growth. Future development in this area should be sensitively designed to minimize impact on existing low density residential land uses. Connecting routes that take traffic off existing roadways should be encouraged. Significant cultural resources are also located in this area, including Richwood Presbyterian Church, a National Register listed prehistoric village site (protected by conservation easement) and hundreds of acres of the historic Gaines Farm, known for its association with [Margaret Garner](#), who escaped captivity there with her husband and children in 1856.

This section also contains the Bavarian landfill site. The landfill should not expand to the south because of the McCoys Fork Creek and should not expand to the north in order to avoid additional impacts on existing residential uses. The operation and area of the landfill should be evaluated by the Boone County Planning Commission and other appropriate agencies in order to determine environmental and land use impacts associated with this use. Future land uses on the surface of the landfill area may include some forms of recreation activity. However, the development should not include industrial activity since the access to the area is through a residential corridor.





**23) WALTON**

This area is bound to the east by the Kenton County line. The south boundary is just south of Eads Road where it then follows Little Salem Creek valley northwest to I-71 and northward to I-75/71 to the northern boundary set by Chambers Road and Walton-Nicholson Road.

The Walton area should continue to experience gradual commercial, residential, and industrial growth. This growth should result primarily from the Walton interchange and its location near the intersection of I-71 and I-75. Walton lies along this regional interstate corridor, between Cincinnati to the north and Louisville, Lexington, and Frankfort to the south that is generally experiencing demand for industrial development. The City of Walton is being surrounded by industrial development and zoning to the north, south, and west of the City. The extension

of Mary Grubbs Highway has contributed to the growth of Walton not only in Boone County, but also into Kenton County to the east as it serves the large industrial properties just across the county line. Regarding the Walton Towne Center, the potential for a mix of uses including high density residential, commercial, office, institutional, and recreational should occur. Light industrial is most appropriate in the south portion of the property and along the CSX rail line.

The 2018 Boone County Transportation Plan calls for an Interchange Justification Study to identify long-term safety and congestion improvements at the I-75/Mary Grubbs Highway interchange as well as another study to identify short-term safety and congestion improvements for the southbound exit ramp and intersection with KY 14.

The east side of the I-75 interchange at Walton is capable of additional commercial growth as appropriate levels of infrastructure become available. The area should contain commercial services that serve traffic and customers that are already on Mary Grubbs Highway, and that include interconnected driveway systems, extensive landscaping, and provide a suitable “front door” to the growing City of Walton. This especially affects the southeast quadrant of the interchange in the Service Road area. The additional commercial development should address the coordination and limitation of access points to insure safe access at the interchange and along Mary Grubbs Highway, Stephenson Mill Road, and Walton-Verona Road. Good development design and landscaping will be important at this high visibility location. The Walton Towne Center should continue to grow, serving both local residents and interstate travelers.

In the area of the former Walton Reservoir, between the county line and the railroad tracks, mixed use development with office campus and residential neighborhoods should complement a future road network. This road network is necessary for proper development of the area and should include a future major route toward KY 17 in Kenton County and a route to KY 16 in Boone County near the county line. Existing industrial developments in this area should continue to develop. However, some residential development is appropriate in the area if it has adequate access that is not industrial in character. Residential access through industrial areas should be accompanied by significant streetscape improvements. Residential developments need to be connected and be served by several ways in and out of this area. This would allow the central portion of Walton to experience residential growth in response to the employment growth and utility expansion in the area.

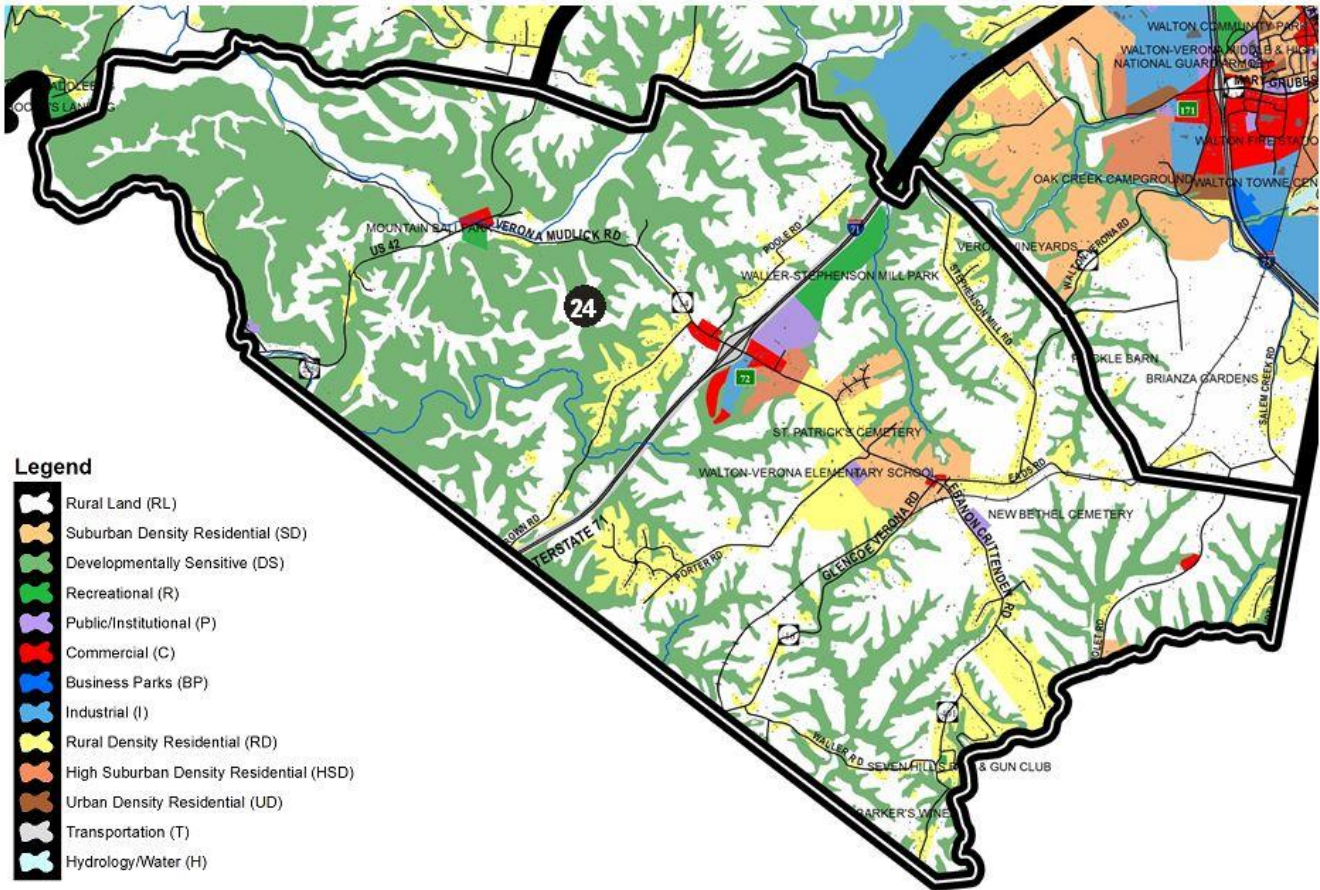
Suburban Residential development is occurring south of Chambers Road, between I-75 and U.S. 25. The rougher terrain, immediately adjacent to Chambers Road should include lower density residential development that minimizes traffic on this roadway, and fits into the landscape along this highly visible portion of the interstate corridor. The suitability of this area for residential use is enhanced by proximity to developing recreation areas, commercial services, and the Walton-Verona schools. Commercial development along U.S. 25 should also experience infilling, and should remain local in nature. The Walton Main Street Strategic Plan was conducted in 2015 to assess and protect its historic resources and small town character. Walton’s Main Street is the most functional business district with a small town character in the county. The Gaines Tavern, listed on the National Register, is north of town and South Main Street from south of the post office to the end of Old South Main Street is a National Register Historic District. The recommendations in the Strategic Plan should be considered and followed in order to preserve the historic character of Walton’s downtown in light of new development occurring in the Walton Towne Center. In addition to historic resources, the Walton and Verona areas are home to heritage tourism resources including four vineyards (Verona Vineyards, Brianza Gardens & Winery, Schoolyard Winery, Barker’s Blackberry Hill Winery) and the rustic Prickel Barn event center.

Mary Grubbs Highway and U.S. 25 to the Boone County line is a critical development area because of the recently completed extension of Mary Grubbs Highway to the east. The traffic and operational capacity of both Mary Grubbs Highway and U.S. 25 should be evaluated for possible improvements in the future as the Town Center project is built out and potential industrial development is created to the north and south of this area. Both of these roads are critical to the economic viability of the City of Walton. Some commercial uses may be appropriate at the front of this area if designed to serve growing residential uses in the area. Most development at this future high visibility location should be of a Business Park nature. Commercial development should also occur at the southeast quadrant of the interchange, and be designed carefully to provide a front door to the City of Walton. Business Park development should occur behind the commercial uses. Development at this location should not be oriented to truck-traffic. Attention should be given to the appearance of industrial uses from the

interstate in this area, because it represents the southern entrance into Boone County. Residential uses to the south of the city and east of the interstate should not exceed the Rural Density classification unless adequate sanitary sewer and water services are extended. Intensive industrial development in the south Walton area should occur south of Boone Lake and west of U.S. 25 towards I-75.

The area south of I-71 and west of I-75 to Stephenson Mill Road is suitable for light industrial development. Access to this industrial area should connect to Beaver Road and Stephenson Mill Road. Urban Density Residential is appropriate to act as a transition between the Suburban Residential and Industrial uses along Stephenson Mill Road. However, before these areas develop, improvements to Stephenson Mill Road and Beaver Road will be necessary. In addition, improvements to the intersection of these two roads and the interstate will be necessary. Suburban Residential will be appropriate to the west along Stephenson Mill Road if utilities are extended into this area. Commercial development of the northwest quadrant of the Mary Grubbs interchange should be of a type to serve the adjoining industrial area, while the southwest quadrant of the interchange will continue to be dominated by the Flying J development. However, traffic circulation improvements are needed at this specific location. There should be no further development of commercial uses oriented to truck traffic. The remaining area in this section should be Rural Density Residential or agricultural in nature.





**24) VERONA**

This section is bound to the east by the Kenton County line and the south by the Grant County and Gallatin County lines. The west edge is set by Big Bone Creek and then heads inland to form the north boundary as it follows Mud Lick Creek and then Buzzard Branch before heading east to Mud Lick Creek and then McCoy's Fork Creek. Once across I-71, the northern boundary follows the Little Salem Creek southeast to Eads Road where it then heads due east to the Kenton County line.

This area is characterized by the town of Verona, the I-71/KY 14 interchange, and the Boone County portion of Bullock Pen. The Walton-Verona School District has athletic fields in the front section of Waller-Stephenson Park on the south side of the I-75/KY 14 interchange. Future plans call for construction of a high school on the site. Local and interstate-related commercial development is appropriate around this interchange. This commercial district should primarily serve the Verona area. Adjacent to this development, south of the interchange, High Suburban Density Residential development can occur, although the area lacks public sanitary sewer. This would provide a higher density residential opportunity in this non-urbanized portion of the county. Access to this residential development should be by a road connection to KY 14 at an adequate distance from the interchange to avoid future traffic congestion. Additional residential development in this section of the county should be Rural Density in nature and should occur along the established roadways. Development along KY 14 should reinforce the rural estate character of Verona Commons Subdivision.

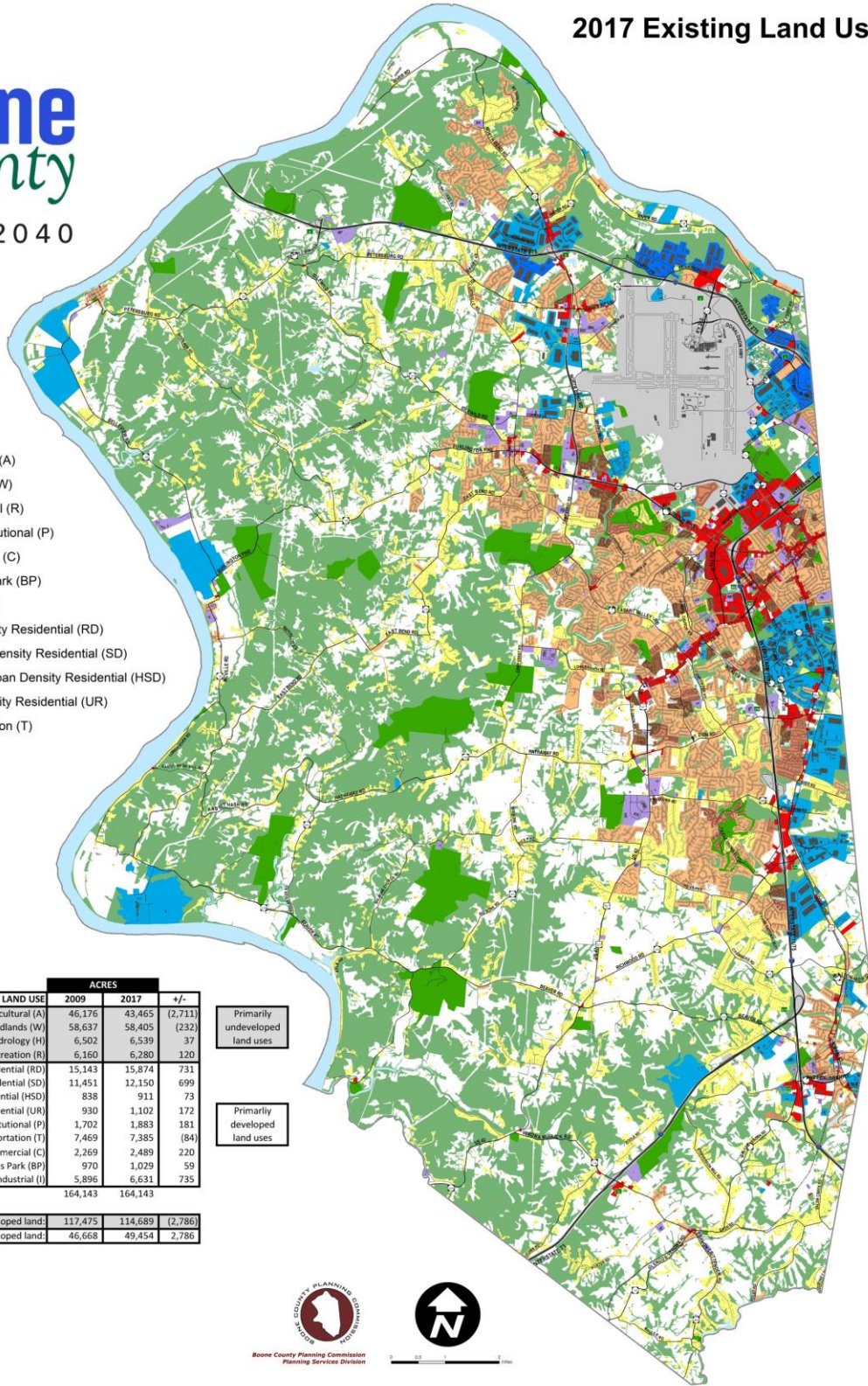
Residential development in the Verona area is encouraged by the availability of public water. The town of Verona should experience limited residential and commercial growth. Neo-traditional and Suburban Density development should be encouraged immediately surrounding the town. Commercial development between downtown Verona and the interchange should be discouraged in order to preserve the small community nature of the town. A detailed study is needed for this area, particularly near the interchange, in order to coordinate the residential and commercial development as well as the infrastructure. At the same time, this study could examine the idea of

utilizing performance standards as a means of achieving quality development design. Currently, the zoning in this area does not correspond with the Future Land Use Map. This should be evaluated during the county-wide zoning update or through a special study.

Any further residential development in the vicinity of Bullock Pen Lake should be of a Rural Density nature and should occur along existing roads. In general, little growth should occur in this part of the Verona section. The growth of this part of the county is tied to Verona and Walton and any development should be related to these towns. Further residential development around the lake should be discouraged, due to the lack of infrastructure and the importance of preserving Bullock Pen Lake as a water and recreation resource. Generally, this area should remain in Rural Density Residential and focus on agricultural uses. In the South Fork area, growth should be minimal along U.S. 42 near the border with Gallatin County in the form of Rural Density residential uses.



- Agricultural (A)
- Woodland (W)
- Recreational (R)
- Public/Institutional (P)
- Commercial (C)
- Business Park (BP)
- Industrial (I)
- Rural Density Residential (RD)
- Suburban Density Residential (SD)
- High Suburban Density Residential (HSD)
- Urban Density Residential (UR)
- Transportation (T)
- Water (H)



EXISTING LAND USE	ACRES		
	2009	2017	+/-
Agricultural (A)	46,176	43,465	(2,711)
Woodlands (W)	58,637	58,405	(232)
Hydrology (H)	6,502	6,539	37
Recreation (R)	6,160	6,280	120
Rural Density Residential (RD)	15,143	15,874	731
Suburban Density Residential (SD)	11,451	12,150	699
High Suburban Density Residential (HSD)	838	911	73
Urban Density Residential (UR)	930	1,102	172
Public/Institutional (P)	1,702	1,883	181
Transportation (T)	7,469	7,385	(84)
Commercial (C)	2,269	2,489	220
Business Park (BP)	970	1,029	59
Industrial (I)	5,896	6,631	735
	164,143	164,143	
Primarily undeveloped land:	117,475	114,689	(2,786)
Primarily developed land:	46,668	49,454	2,786

Primarily undeveloped land uses

Primarily developed land uses
















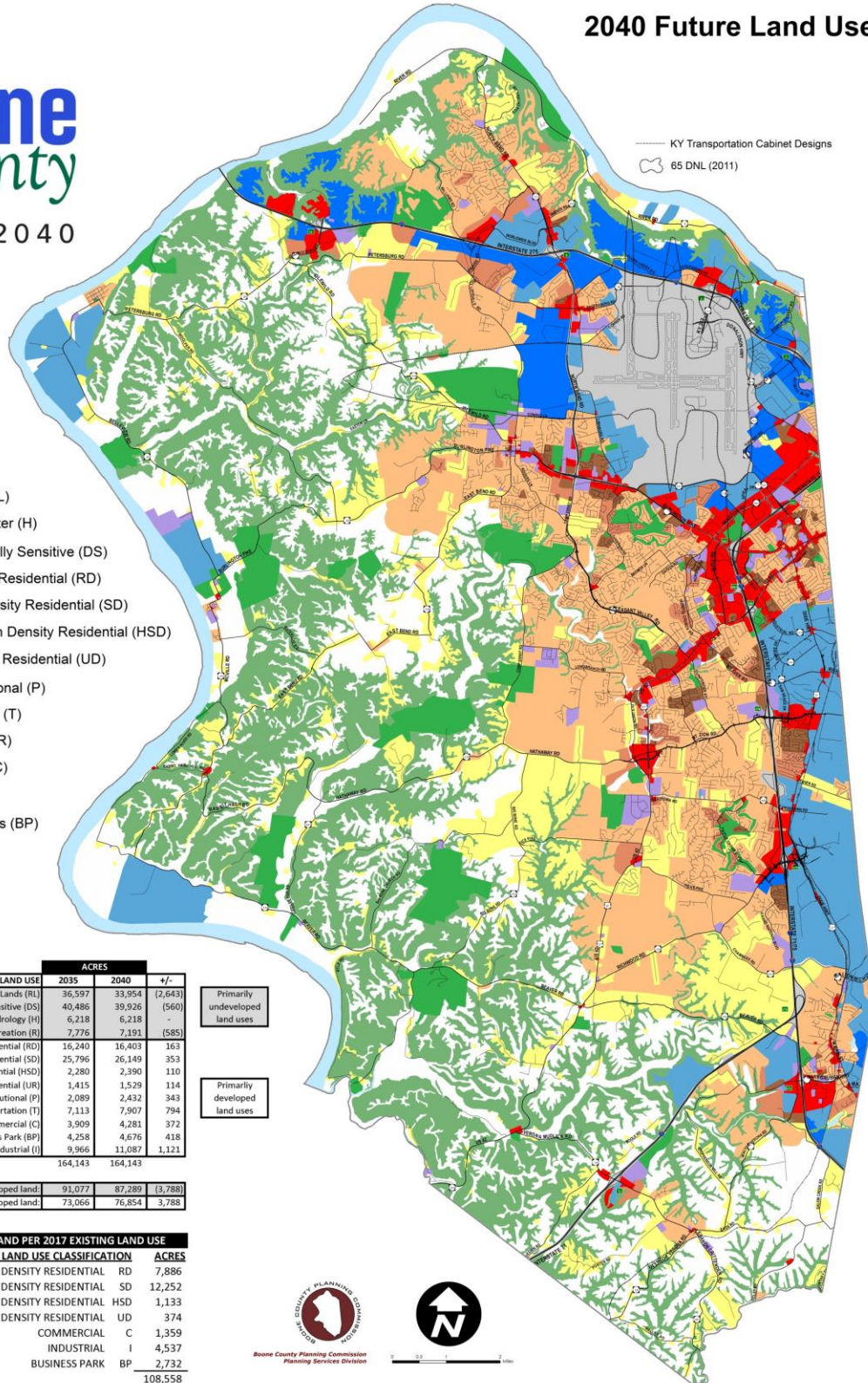


# Our Boone County

PLAN 2040

## 2040 Future Land Use

-  Rural Land (RL)
-  Hydrology/Water (H)
-  Developmentally Sensitive (DS)
-  Rural Density Residential (RD)
-  Suburban Density Residential (SD)
-  High Suburban Density Residential (HSD)
-  Urban Density Residential (UD)
-  Public/Institutional (P)
-  Transportation (T)
-  Recreational (R)
-  Commercial (C)
-  Industrial (I)
-  Business Parks (BP)



— KY Transportation Cabinet Designs  
 65 DNL (2011)

FUTURE LAND USE	ACRES		
	2035	2040	+/-
Rural Lands (RL)	36,597	33,954	(2,643)
Developmentally Sensitive (DS)	40,486	39,926	(560)
Hydrology (H)	6,218	6,218	-
Recreation (R)	7,776	7,191	(585)
Rural Density Residential (RD)	16,240	16,403	163
Suburban Density Residential (SD)	25,796	26,149	353
High Suburban Density Residential (HSD)	2,280	2,390	110
Urban Density Residential (UR)	1,415	1,529	114
Public/Institutional (P)	2,089	2,432	343
Transportation (T)	7,113	7,907	794
Commercial (C)	3,909	4,281	372
Business Park (BP)	4,258	4,676	418
Industrial (I)	9,966	11,087	1,121
	164,143	164,143	

Primarily undeveloped land uses

Primarily developed land uses

Primarily undeveloped land:	91,077	87,289	(3,788)
Primarily developed land:	73,066	76,854	3,788

**UNDEVELOPED LAND PER 2017 EXISTING LAND USE**

2040 FUTURE LAND USE CLASSIFICATION	ACRES
RURAL DENSITY RESIDENTIAL RD	7,886
SUBURBAN DENSITY RESIDENTIAL SD	12,252
HIGH SUBURBAN DENSITY RESIDENTIAL HSD	1,133
URBAN DENSITY RESIDENTIAL UD	374
COMMERCIAL C	1,359
INDUSTRIAL I	4,537
BUSINESS PARK BP	2,732
	108,558



Boone County Planning Commission  
 Planning Services Division

