



# BOONE COUNTY PLANNING COMMISSION

GIS Services Division

## Boone County GIS History: 1986 to present

Updated: 01/12/17

The following list is compiled by the GIS Services Division, Boone County Planning Commission:

### 1986

City of Florence (Boone County's largest city) begins acquiring digital base mapping from GRW Aerial Survey, Inc.

### 1990

Recognizing the need for GIS, the Boone County Planning Commission approaches Judge/Executive Bruce Ferguson about GIS and its applicability to Boone County as a planning tool.

### 1991

The Boone County Fiscal Court purchases the existing mapping from the Sanitation District #1.

### 1992

The Boone County GIS Consortium is formed by the Planning Commission. The consortium consists of the following entities:

*Boone County Fiscal Court  
Boone County Water District  
U.S. Soil Conservation Service*

*Boone County Planning Commission  
City of Florence*

*Boone County PVA  
Florence Water & Sewer Comm.*

### 1993

The Boone County Planning Commission hires GRW Aerial Survey, Inc. to develop the Boone County GIS Implementation Plan.

### 1994

A presentation of the Boone County GIS Implementation Plan is held for the consortium. Three recommendations are given:

*Continue the Base Mapping Program*

*Conduct a GIS Demonstration Project*

*Expand on a County-wide Basis*

The Boone County Base Mapping program is expanded by the Planning Commission to include 3 phases:

*Phase I (111 Sheets – 1"=200')*

*Phase II (40 Sheets – 1"=200')*

*Phase III (24 Sheets – 1"=400')*

The planning commission forms an "Expanded Partnership" for the Base Mapping Program that includes the following:

*Boone County Public Works  
Sanitation District #1*

*Boone County Water District*

*Cincinnati / NKY Int'l Airport*

The Boone County GIS Advisory Board is created by the Planning Commission to oversee the Florence GIS Demonstration Project.

### 1995

Phase I and Phase II of the Base Mapping program are completed.

Phase III of the Base Mapping program begins.



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The Boone County Planning Commission hires their first GIS Specialist and purchases their first GIS hardware and software.

The Florence GIS Demonstration Project begins.

### 1996

Phase III of the Base Mapping Program is completed.

The Florence GIS Demonstration Project is completed and a presentation is given to the partners.

A county-wide GIS proposal is developed and implementation begins.

Boone County GIS expands to three staff members.

The cities of Walton and Union join the Partnership. The new partnership now consists of the following entities:

*Boone County Fiscal Court  
City of Union*

*Boone County Planning Commission  
City of Walton*

*City of Florence*

An annual GIS Work Program is developed and work activities begin.

### 1997

New aerial photography of Boone County is obtained.

An update of the following layers commences:

*Addresses  
Voting Precincts*

*Building Footprints*

*Streets*

The following agencies join the consortium:

*Boone County PVA  
Florence Fire/EMS*

*Boone County School District  
Walton-Verona School District*

*Boone County Water District*

Compilation of the Parcel layer begins.

A Slope Analysis Model is completed for western Boone County.

### 1998

A Digital Submission policy is developed and implemented.

A comprehensive update of the following layers commences:

*Fire Districts  
Zoning Boundaries*

*Utility Data (Water & Sewer)*

*Voter Registration*

Standard GIS products are sold to the general public for the first time.

The GIS staff is expanded from three to four people.

An official GIS Data Dictionary is produced with over forty-six (46) layers.



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Boone County GIS is featured at the National APA & the ESRI conferences.

The first edition of the Points of Interest & Street Map is professionally printed.

### **1999**

GIS is used to help Boone County Schools redistrict students.

The first annual User Group meeting is held.

The data library is expanded to cover sixty data layers.

Boone County GIS receives ESRI's Special Merit Achievement Award.

A new "leaf-off" aerial photography project for Boone County begins, which includes updating the following layers:

*Aerial Photography*

*Planimetrics (streets, buildings, etc.)*

*Topography*

GIS is used to produce the 1999 Existing Land Use and 2025 Future Land Use maps.

The second edition of the Points of Interest & Street Map is professionally printed.

### **2000**

A separate Street Map is printed for the City of Florence and the City of Walton.

The third edition of the Points of Interest & Street Map is professionally printed.

### **2001**

The current Parcel layer is completed with approximately 35,000 parcels.

The Kenton County Airport Board joins the consortium.

Public Safety Communications Center (PSCC) joins the consortium and provides GIS to 160 police MDTs and 40 Fire/EMS MDTs.

Development of a custom desktop application begins. This will be Boone County's new flagship GIS application and it will be known as BooneMap.

### **2002**

New "leaf-off" aerial photography of Boone County is obtained.

The GIS staff is expanded from four to five people.

Boone County GIS begins the implementation of an Internet Map Server (ArcIMS 4.0), also known as Interactive Mapping.

GIS production data is migrated from ESRI Coverage format to SDE Geodatabase format.

The Northern Kentucky Health District and the Burlington Fire District join the consortium.

The fourth edition of the Points of Interest & Street Map is professionally printed.

GIS is used to publish the City of Florence POI & Street Map.



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### 2003

The Boone County Public Library joins the consortium.

A data subscription service is created for private entities that want to purchase GIS data county-wide.

Full deployment of the ArcIMS 4.0 map services begins with a total of ten (10) services available to the public:

*Boone County Base Mapping  
City of Walton Base Mapping  
Points of Interest  
Zoning Boundaries*

*City of Florence Base Mapping  
Cincinnati / NKY International Airport  
Topography*

*City of Union Base Mapping  
Historic Structures  
Voting Precincts*

The Boone County Base Mapping Service is published on the Kentucky Geography Network website.

GIS is used to map preschool students in Boone County for the "Success by Six" program.

GIS is used to publish the first edition of the Heritage Tourism map.

The fifth edition of the Points of Interest & Street Map is professionally printed.

### 2004

New "leaf-off" aerial photography of Boone County is obtained.

ESRI's ArcSDE geodatabase storage model is implemented.

The 2004 Existing Land Use and 2030 Future Land Use maps are updated using GIS.

An update of the digital flood insurance rate maps (DFIRM) commences.

Boone County Water District utilizes a custom GIS application for hand-held GPS devices to assist with asset inventory.

An ArcIMS 4.0 map service for Control Points is added bringing the total to eleven (11).

GIS is used to redistrict students for the new Camp Ernst Middle School.

GIS is used to publish the second edition of the Heritage Tourism map.

The sixth edition of the Points of Interest & Street Map is professionally printed.

GIS is used to publish the second edition of the City of Florence POI & Street Map.

### 2005

A comprehensive re-design of all Boone County GIS layers in ArcSDE is completed.

Database normalization principles, domain tables, and topology rules are employed to ensure data integrity. An update of the following layers commences:

*Address Points*

*Arrests & Criminal Offenses*

*Voting Precincts*



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The following ArcIMS 4.0.1 map services are added, bringing the total to sixteen (16):

*Boone County Arboretum  
Sex Offenders*

*Future Land Use  
Snow Removal*

*Parks & Recreation*

GIS is used to redistrict students for the new Shirley Mann Elementary School.

Boone County Arboretum @ Central Park utilizes GPS technology to locate all trees and plant beds in Central Park.

The first and second editions of BooneMap LT (3.2 & 3.5) are compiled. This release marks a significant change to the underlying technology that BooneMap LT is built on.

Standard map templates are created for ArcGIS Desktop 9.1.

GIS is used to publish a Boone County Cemetery map.

The seventh edition of the Points of Interest & Street Map is professionally printed.

### **2006**

An update of the fee schedule and associated forms is completed.

GIS is used to publish the Boone County Arboretum @ Central Park Map. This map went on to win “Best Overall Map” in the Map Poster Contest at the 2006 KY GIS Conference in Fort Mitchell, KY.

The following ArcIMS 9.1 map services are added, bringing the total to nineteen (19):

*Elementary School Districts*

*High School Districts*

*Middle School Districts*

New “leaf-on” aerial photography of Boone County is obtained by the United States Department of Agriculture (USDA) Farm Service Agency (FSA) through the National Agriculture Imagery Program (NAIP).

The Boone County Conservation District joins the consortium.

### **2007**

New “leaf-off” aerial photography of Boone County is obtained. Digital photography (Not Film) is captured for the first time.

The third edition of BooneMap LT (4.0) is compiled and deployed to the GIS Consortium.

The eighth edition of the Points of Interest & Street Map is professionally printed.

A new internet mapping technology is introduced in Boone County when the following six (6) ArcGIS Server 9.2 map services are published:

*Boone County Base Mapping  
City of Walton Base Mapping*

*City of Florence Base Mapping  
Parks & Recreation Mapping*

*City of Union Base Mapping  
Sex Offenders Mapping*

The following ArcIMS 9.2 map services are added, bringing the total to twenty-one (21):

*Boone County PVA Mapping*

*2007 Floodplain Mapping*

Boone County School District used GIS to redistrict students for the new Cooper High School.



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GIS is used to publish the second edition of the Boone County Arboretum @ Central Park Map.

GIS is used to publish the third edition of the City of Florence POI & Street Map.

The Walton Fire District joins the consortium.

### **2008**

A document hyperlinking solution for BooneMap LT is implemented using the following documents:

*Building PrePlans*  
*Facility Liaison Presentations*  
*Sara Title III Plans*

*Control Points*  
*Material Safety Data Sheets (MSDS)*  
*School Crisis Plans*

*Emergency Contact Sheets*  
*Recorded Plats*  
*Tactical Worksheets*

Four (4) GIS staff members become certificated GIS Professionals (GISP) from the GIS Certification Institute (GISCI).

The fourth and fifth editions of BooneMap LT (2008 & 2009) are compiled and deployed to the GIS Consortium.

An ArcGIS Server 9.2 map service for 2008 Voting Precincts is published bringing the total to seven (7).

In preparation for the 2010 Census, a Local Update of Census Addresses (LUCA) is performed for Boone County.

The final version of the Boone County GIS Strategic Plan is released. This is the first business plan since the implementation plan was created in 1994.

The Diocese of Covington joins the consortium to focus on parishioner boundaries in Boone County.

GIS is used to produce maps for the final versions of the 2006 – 2008 Zoning Update and the Central Florence Strategic Plan.

### **2009**

The sixth edition of BooneMap LT (2010) is compiled and deployed to the GIS Consortium.

GIS is used to redistrict students for the new Longbranch Elementary School.

The document hyperlinking solution is fully deployed to field users for both emergency and non-emergency agencies in the GIS Consortium.

An update of the fee schedule and associated forms is completed.

The first edition of the Tourism & Points of Interest Map is printed using a grant from the Northern Kentucky Convention & Visitors Bureau. This map went on to win “Best Overall Map” in the Map Poster Contest at the 2009 KY Geospatial Summit in Frankfort, KY.

New “leaf-on” aerial photography of Boone County is obtained by the United States Geological Survey (USGS).

The document hyperlinking solution is featured in the case study guide: *Geospatial Systems That Support Emergency and Disaster Operations*, published by the Public Technology Institute & the Geospatial Information & Technology Association.

### **2010**

The seventh edition of BooneMap LT (2011) is compiled and deployment to the GIS Consortium commences.

All thirteen (13) existing ArcGIS Server 9.3.1 map services are upgraded to 10.0.



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The ninth edition of the Points of Interest & Street Map is professionally printed using a grant from the Northern Kentucky Convention & Visitors Bureau.

New “leaf-on” aerial photography of Boone County is obtained by the United States Department of Agriculture (USDA) Farm Service Agency (FSA) through the National Agriculture Imagery Program (NAIP).

GIS is used to publish the third edition of the Boone County Arboretum @ Central Park Map. This map went on to win “Best Overall Map” in the Map Poster Contest at the 2010 KY GIS Conference in Frankfort, KY.

The following ArcGIS Server 9.3.1 map services are published bringing the total to thirteen (13):

*Boone County Schools Mapping*  
*Points of Interest Mapping*

*Cincinnati / NKY Int’l Airport Mapping*  
*Snow Removal Mapping*

*NKY Control Points Mapping*  
*Walton-Verona Schools Mapping*

GIS is used to publish the fourth edition of the City of Florence POI & Street Map.

An update of the fee schedule and associated forms is performed to include PVA-Enhanced Parcel Data.

Florence Global Positioning System (GPS) activities have captured over 9,000 individual devices for Water, Storm Water, and Sanitary Sewer asset inventories.

Migration to ESRI’s ArcGIS 10.0 commences. This includes ArcGIS Desktop, ArcGIS Server, ArcIMS, and ArcSDE.

The document hyperlinking solution for BooneMap LT is expanded to include: Tactical Worksheets and Area of Vulnerability (AOV) Sheets for Railroad Crossings.

GIS is used to produce maps for the draft version of the Mall Road District Study.

### **2011**

Another release of BooneMap LT (2011) is compiled and deployed to accommodate 64-bit Operating Systems.

Migration to ESRI’s ArcGIS 10.0 concludes with all facets of the software being upgraded. This includes a full migration from ArcIMS to ArcGIS Server.

GIS and the 2010 Census Data are used to redraw Commissioner Districts and School Board Divisions as part of the statewide reapportionment project.

GIS is used to redistrict students for the new Thornwilde Elementary School.

Four (4) new ArcGIS Server 10.0 map services are published bringing the total to seventeen (17):

*Boone County Arboretum Mapping*  
*Boone County PVA Search*

*Boone County Arboretum Search*

*Boone County PVA Mapping*

GIS is used to digitize over 2,200 easements (right-of-way, sanitary, storm, water, etc.) in the City of Florence.

### **2012**

GIS is used to produce maps for the final version of the Mall Road District Study.

Two (2) new ArcGIS Server 10.0 map services are published bringing the total to nineteen (19):

*2010 Comprehensive Plan*

*Union Town Center*



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Migration to ESRI's ArcGIS 10.1 commences. This includes ArcGIS for Desktop, ArcGIS for Server, and ArcSDE.

The eighth version of BooneMap LT (2013) is compiled and deployment to the GIS Consortium commences.

GIS is used to publish the 2009 Existing Land Use and the 2035 Future Land Use maps for the 2010 Comprehensive Plan. These maps went on to win "Best Overall Map" in the Map Poster Contest at the 2012 KY GIS Conference in Louisville, KY.

Boone County GIS revamps the "look and feel" of its website design, which had been in place since January 2005.

GIS is used to digitize over 62,000 pathways (Crosswalks, Non-Residential, Residential, etc.) in Boone County.

GIS is used for the Gunpowder Creek Watershed Initiative to provide a quantitative analysis to the Boone County Conservation District. GIS provided analysis for 35 different metrics designed to describe the geospatial, geologic, hydrologic, and human impact characteristics of the watershed.

New "leaf-off" aerial photography and digital elevation data (using Light Detection and Ranging (LiDAR)) of Boone County is obtained by the Division of Geographic Information (DGI) using the newly created Aerial & Elevation acquisition contract.

GIS is used to publish the first edition of the City of Florence Trail System Map.

### **2013**

New "leaf-off" aerial photography of the Florence area is obtained by the Division of Geographic Information (DGI) using the Aerial & Elevation acquisition contract.

Boone County GIS makes the switch from the .NET Web ADF to the much improved Flex API web mapping technology. The nineteen (19) existing web mapping sites are replaced with thirteen (13) new and improved Flex API web mapping sites:

*Boone County, Kentucky  
City of Walton, Kentucky  
Boone County Parks & Recreation  
Cincinnati / NKY International Airport  
Walton-Verona School District*

*City of Florence, Kentucky  
Boone County Arboretum  
Boone County Properties  
Registered Sex Offenders*

*City of Union, Kentucky  
Boone County School District  
Boone County Voting Precincts  
Union Town Center Development*

Testing begins on an Internet-based BooneMap for GIS member agencies called *BooneMap Online Beta* bringing the total Flex API web mapping sites to fourteen (14).

GIS is used for the Woolper Creek Watershed Initiative to provide a quantitative analysis to the Boone County Conservation District. GIS provided analysis for 35 different metrics designed to describe the geospatial, geologic, hydrologic, and human impact characteristics of the watershed.

The ninth version of BooneMap LT (2014) is compiled and deployment to the GIS Consortium commences.

The ninth edition of the Points of Interest & Street Map is professionally printed.

Boone County GIS completes the planimetric update for Unincorporated Boone County and the Cities of Union and Walton using the 2012 "leaf-off" aerial photography.

GIS is used to publish the fourth edition of the Boone County Arboretum @ Central Park Map.

GIS is used to publish the fifth edition of the City of Florence POI & Street Map.

GIS is used to produce maps for the final versions of the 2012 – 2013 Zoning Update and the Houston-Donaldson Study Update.





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All four (4) GIS staff members renew their GIS Professionals (GISP) certification from the GIS Certification Institute (GISCI).

### 2014

GIS is used to recreate the parcels that were purchased by the Kenton County Airport Board to create the main airfield of the Cincinnati / NKY international Airport.

Migration to ESRI's ArcGIS 10.2.2 commences. This includes ArcGIS for Desktop and ArcReader.

Boone County GIS completes their migration from ESRI shapefiles to ESRI File Geodatabases for their published GIS data.

Boone County GIS completes the planimetric update for the City of Florence using the 2013 "leaf-off" aerial photography.

The 10<sup>th</sup> version of BooneMap LT (2015) is compiled and deployment to the GIS Consortium commences.

Boone County GIS creates a Story Map Journal of the 2013 Florence Trails Map using ArcGIS Online.

### 2015

The 10<sup>th</sup> edition of the Points of Interest & Street Map is professionally printed.

Migration to ESRI's ArcGIS 10.3 commences. This includes ArcGIS for Desktop, ArcGIS for Server, and ArcSDE.

The 11<sup>th</sup> version of BooneMap LT (2016) is compiled and deployment to the GIS Consortium commences.

Boone County GIS completes the migration from the Flex API web mapping technology to the highly anticipated JavaScript API web mapping technology. This web mapping technology works across all platforms and on most devices. The fourteen (14) Flex API applications are replaced with twelve (12) JavaScript API applications:

*Boone County, Kentucky  
City of Walton, Kentucky  
Boone County PVA's Office  
BooneMap Online*

*City of Florence, Kentucky  
Boone County Arboretum  
Boone County School District  
Cincinnati / NKY International Airport*

*City of Union, Kentucky  
Boone County Clerk's Office  
Boone County Sheriff's Office  
Walton-Verona School District*

The document hyperlink solution is moved to a secure web server to allow credentialed users to access the documents over the internet. The documents are stored in a central location and only have to be updated in one place.

### 2016

Boone County GIS embraces Portal for ArcGIS for the first time to bring ArcGIS Online on premise on their own web server.

Migration to ESRI's ArcGIS 10.4.1 commences. This includes ArcGIS for Desktop, ArcGIS for Server and Portal for ArcGIS.

New "leaf-off" aerial photography of Boone County is obtained. Oblique imagery is also captured for the first time for the consortium. A county-wide planimetric update commences using the new imagery.

The 12<sup>th</sup> version of BooneMap LT (2017) is compiled and deployment to the GIS Consortium commences.

The Verona Fire Protection District joins the consortium. All nine (9) fire districts are now part of Boone County GIS.

GIS is used to publish the fifth edition of the Boone County Arboretum @ Central Park Map.

The document hyperlinking solution was expanded to include most agriculture, consolidation, conveyance, and final plats.