Plano Focal Point Plan

CCPC
City-County Planning Commission
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BG & WC
Metropolitan Planning Organization

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Developed by the City-County Planning Commission of Warren County in conjunction with the Bowling Green-Warren County Metropolitan Planning Organization, for local public agencies of Warren County, Kentucky and the people of Plano.

Approved by the Planning Commission on October 18, 2018.

1 | Introduction

Plano developed as a small crossroads community in the late nineteenth century in the southeastern portion of Warren County. Located about 10 miles southeast of the City of Bowling Green, the rural community had several stores, a church, a cemetery, and a school. Dwellings and farm buildings were scattered along the roads surrounding the community. The area covered by this study is represented in ***Exhibit 1*** below.

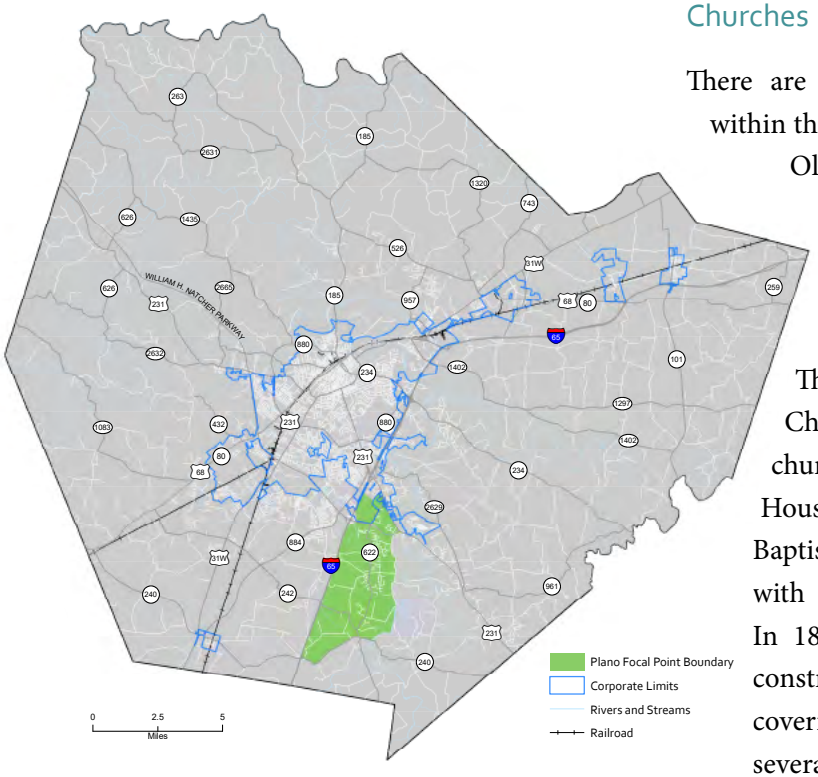


Exhibit 1 | Study Area Context

History

Schools

In the early twentieth century, there were many one- and two-room frame schools throughout Warren County that were within walking or riding distance from surrounding farms. In Plano, a simple one-room wood school was built circa 1908-1919, and a two-room school, with Craftsman detailing, was built in 1925. Neither of these buildings remain today.

Churches

There are two historically significant churches within the Plano Focal Point Plan boundary: the Old Union Missionary Baptist Church at 714 Old Union Church Road and the Plano Baptist Church and Cemetery located at 600 Plano-Richpond Road.

The Old Union Missionary Baptist Church, formed in 1795, was the first church in Warren County. A log Meeting House was built by the Union Missionary Baptist Church in 1836, which was shared with several other protestant churches. In 1866, the current church building was constructed. Major modifications, including covering the exterior frame with brick, and several building additions, were made in the 1960s.

Exhibit 2 | Plano Corridor Owners, 1877

In 1897, a reorganization of the church resulted in some of the members leaving the Old Union Missionary Baptist Church to form a new church in the community of Plano known as the Plano Baptist Church. A simple wood church was built, featuring a gable roof and gothic arched windows. An educational facility was added in 1948, and in the 1980s and 1990s, a pavilion and a fellowship hall were built behind the church.

Massey's Mill – Skaggs Homestead

Skaggs Mill and Dam, later known as Massey's Mill, was located on the west fork of Drake's Creek, just south of the Plano Focal Point boundary, on the southeast corner of Plano Road and Woodburn-Allen Springs Road. The mill was owned by James Skaggs Sr., who built a log cabin on the property between 1850 and 1875 which has evolved over the years to the two-story house that exists today. Exhibit 2 displays property owners within the Plano community from 1877.

Today, Plano remains a largely residential community, but the growth demand in Warren County coupled with the desire to live in a more rural setting, has spurred rapid growth of the Plano community over the last ten years. Population growth within portions of the Plano Focal Point boundary between 2000 and 2010 was between 0% and 32%. However, portions of Section 1 as identified in the Scope of Study, grew as much as 273% over the ten-year period. The county's growth rate of nearly 36% from the 2000 Census to 2016 Estimates, has not only facilitated the influx of development within the Plano community, but has prompted the need to establish plans and policies specific to the area.

Background

The Planning Commission identified the Plano Road Focal Point Plan boundary as an area of high priority, recognizing the vast increase of development and its geographical position for future growth. The 2011 completion of the Natcher Parkway included a new interchange onto Plano Road, therefore increasing the development demands on and around Plano Road. Since the opening of the Natcher Parkway interchange in November of 2011, the Planning Commission, through the rezoning process and subdivision applications, has approved 1,324 new residences in the Plano community. Because of these growth and development patterns, the Bowling Green-Warren County Metropolitan Planning Organization (MPO) initiated a transportation study along Plano Road from Scottsville Road to Richpond Road.

Top: Plano School, built 1925
Middle: Barn at Skaggs Homestead
Bottom: Skaggs Homestead, ca. 1850-1875

The Plano Road Corridor Study & Policy Development study commenced in the spring of 2017, with a public meeting held shortly thereafter, revealing the desire of the community to be heard and the local government agencies to take action. Together, the Planning Commission and MPO gathered appropriate data and information to conduct a land use analysis, which delineates past zoning patterns and current and future land use trends in the area. Staff also collected historical data and information related to physical resources and community facilities. To augment the land use recommendations throughout this plan, consulting firm Neel-Schaffer, Inc., proposed specific transportation recommendations, as identified in ***Appendix A - Plano Road Study Executive Summary***.

Purpose

The development of the Plano focal point plan was driven by the public's response through the public participation process. The proposed transportation recommendations were formulated with this plan in mind, seeking to create a document to preserve the rural Plano community while accommodating future growth patterns and development trends. The following document integrates the results of the above mentioned research and provides recommendations for future development throughout the focal point plan area. This plan outlines existing conditions of the Plano community and establishes land use recommendations and priorities to help shape future development and accommodate to future growth. The plan has been developed in communication and collaboration with the Kentucky Transportation Cabinet (KYTC) and seeks to provide a framework for future land use and transportation planning efforts.

Scope of the Study

For the purpose of this plan, four sections have been identified within the boundary of the focal point plan extending from the intersection with Scottsville Road to the intersection of Woodburn-Allen Springs Road (KY 240), and encompassing all properties west to I-65 and east to Dye Ford Road. ***Exhibit 3*** displays the four section boundaries within the study.

Section 1 | Interchange to Scottsville Road Area begins at the intersection of Plano Road (KY 622) with Scottsville Road (US 231) and continues to Red Rock Road, just south of the Natcher Parkway. Section 1 extends, approximately, from I-65 east to Scottsville Road (US 231).

Section 2 | S-Curve/Collett Road Area begins at the intersection of Plano Road (KY 622) with Red Rock Road and extends south to Carter-Sims Road. Section 2 stretches, from I-65 east to Dye Ford Road.

Section 3 | Plano Town Center begins at the intersection of Plano Road (KY 622) with Carter-Sims Road and continues south to a boundary roughly lining up East Henry Goad Road and Deaton Road. This section encompasses an area running from I-65 east to Dye Ford Road.

Section 4 | South Plano begins at the boundary that spans from I-65 to Dye Ford Road, approximately lining up with East Henry Goad Road to Deaton Road. The section continues south and terminates at Woodburn Allen Springs Road (KY 240).

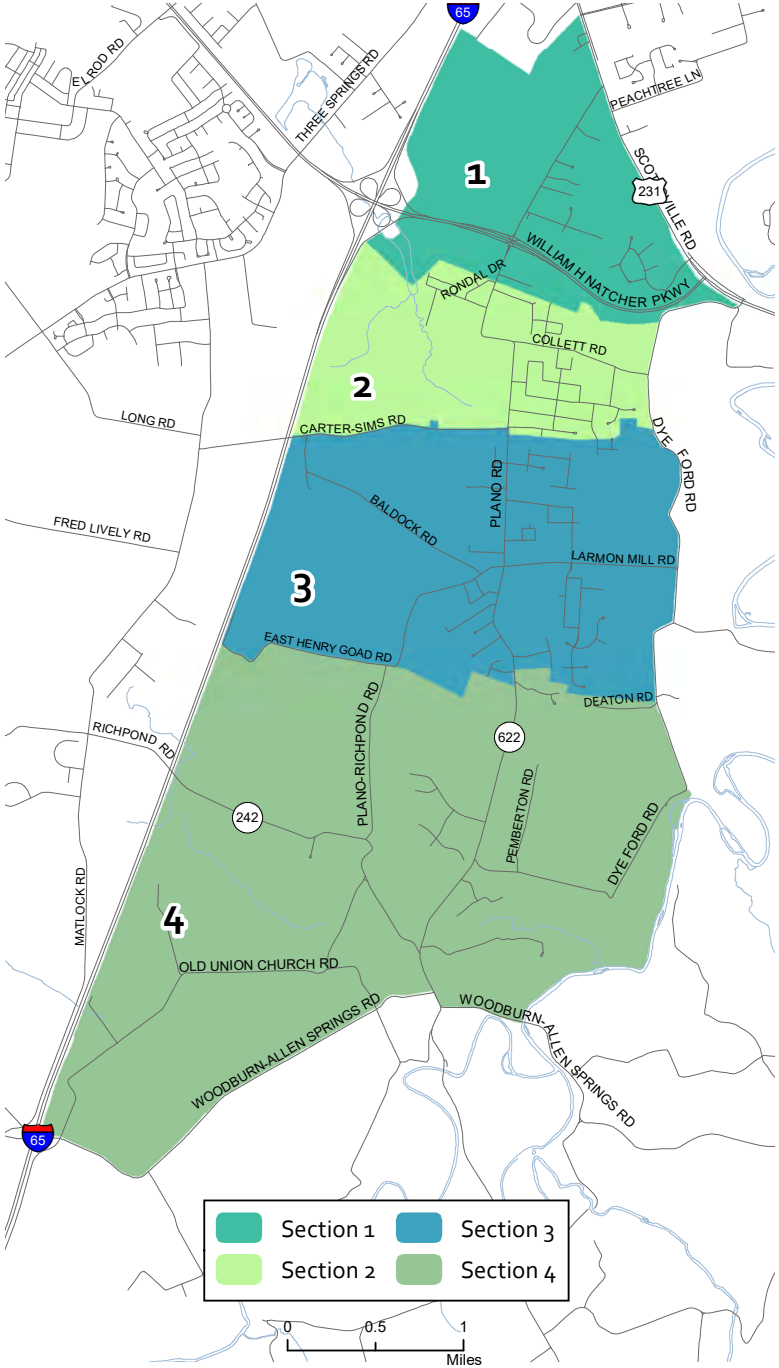


Exhibit 3 | Plano Focal Point Plan Boundary

Public Engagement

The MPO hosted several public meetings to gather public input for the transportation study conducted by Neel-Schaffer. The first public meeting for the Plano Road transportation study revealed the need for both the public and participating government agencies to actively listen and learn from one another. This first meeting, held on May 9, 2017, had nearly 200 participants and numerous representatives from local government agencies in attendance. While this first public meeting was intended to inform the public on the commencement of the Plano Road transportation study and offered a platform to review various transportation data and analysis, many of the concerns voiced by the public referenced the influx of mixed-use developments, higher traffic volumes, and their overall perception of the change of character throughout the corridor. The final public meeting in developing the Plano Road transportation study was held on September 26, 2017 and sought to inform the public on the findings from the initial public meeting. Neel-Schaffer representatives presented a summary of public comments and reviewed preliminary roadway recommendations. They provided an opportunity for participants to vote, by means of a sticker dot exercise, on their most preferred roadway improvement scenarios. Handouts, maps, and other public meeting documentation are provided in the full document on the MPO website at: *www.bgareampo.org/mpo/resources*.

The first public meeting held for the Plano Road Study on May 9, 2017 filled the gymnasium at Plano Elementary School with nearly 200 participants.

Because of the numerous comments regarding land use changes and overall growth of the area, the CCPC initiated efforts to communicate land use and zoning practices and procedures through two additional public meetings with the goal of establishing recommendations for the development of this focal point plan. The first of these was held on August 2, 2017 as a community-wide forum about the development process; whereas the second, held on August 22, 2017 explored land use characteristics specific to the Plano community. Both of these participation efforts allowed the CCPC staff opportunities to communicate to the public the basic procedures involved in land use planning, zone change regulations, and the challenges of accommodating a growing community. While CCPC staff educated the public, the public participants also had opportunities to ask questions, voice opinions, and provide input on future changes to the Future Land Use Map (FLUM) specific to the Plano community. Maps were displayed identifying the individual sections of the focal point plan boundary, with the established FLUM designations represented for each section. Participants were given a designated number of FLUM color-coordinated sticker dots to identify on the displayed maps which types of land use they prefer in each of the sections. Participants were encouraged to use each of their provided dots to ensure input on all types of land use designations applicable to the area. The overall response was to limit the southern portion of the focal point plan boundary area to agricultural and rural density residential development; whereas most participants provided that if multi-family units or commercial development occurs, they prefer it in the northern portion of the boundary area.

2 | Physical Resources

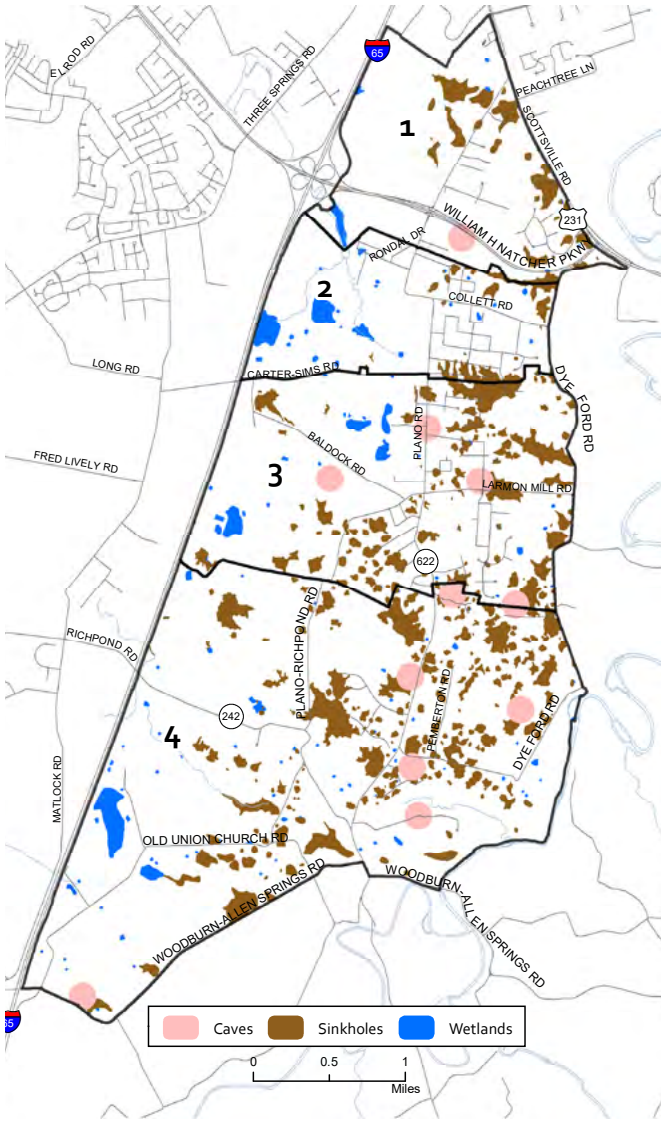


Exhibit 4 | Location of Caves, Sinkholes and Wetlands

Subsurface Hydrology

Scattered across the Earth is a unique type of landscape known as "karst." Karst areas are frequently comprised of crater-like areas of sinkholes, limestone masts, sharp hillsides, underground streams, and caves[1]. ***Exhibit 3*** depicts the cave and sinkhole locations within the focal point plan boundary.

Almost all karst regions are formed on carbonate rock such as limestone or dolomite. Limestone karst is the most widely established type of karst, covers the broadest area, and has the most intricate and comprehensive of underground drainage and cavern structures. Residing in a karst area, the focal point plan boundary sits atop mainly rocks of carbonate form.

The most distinguishing characteristic of karst landscapes is the concentration of water flow in underground channels. Karst aquifers are open in nature and lack thick soil covers. For this reason, such aquifers are highly vulnerable to contamination. Additionally, considerable amounts of water that enter karst aquifers come from storm water runoff that flows straight into the system at sinking streams and sinkholes. Therefore, pollutants associated with agricultural and urban land use are washed directly into the karst aquifer. These include things like animal waste, pesticides, fertilizers, grease, metals, gasoline, and other contaminants. Unfortunately, many karst areas must and will be used for agricultural and urban land uses.

Because of this, improved methods must be employed to protect karst areas from groundwater contamination[2] . One such method includes the DRASTIC Index, which classifies groundwater vulnerability using seven hydrologic factors. These factors consider the rate at which water from the surface travels through the aquifer and how successful the physical characteristics of the area can filter out pollutants[3].

According to the DRASTIC Index, much of the areas located within the study area are extremely vulnerable to groundwater contamination, as they have a DRASTIC index greater than 200. ***Table 1*** on the following page shows the DRASTIC Indices for the boundary area of this plan and their respective composition percentages.

1 Crawford, Nicholas, "Karst Landscape Analysis," Warren County Comprehensive Plan, 1989
2 Final Report for the Proposed Kentucky Trimodal Transpark - Center for Cave and Karst Studies, WKU, February 2003
3 Focus 2030 Comprehensive Plan

Table 1 | DRASTIC Indices

DRASTIC Index	Section 1		Section 2		Section 3		Section 4		Total	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Less Vulnerable (<160)	675.09	56.10%	628.44	63.15%	130.54	6.28%	1397.38	34.02%	2,831.45	33.77%
Moderately Vulnerable (161-180)	0	0%	0	0%	0	0%	0	0%	0	0
Highly Vulnerable (181-200)	0	0%	0	0%	67.66	3.26%	13.73	0.33%	81.39	0.97%
Extremely Vulnerable (>200)	528.22	43.90%	366.73	36.85%	1879.90	90.46%	2696.38	65.65%	5,471.23	65.26%

Soils

The soil that prevails in the Plano area is the CrB (Crider silt loam, 2% to 6% slopes), making up just over 35% of the soils, or about 2,733 acres of the focal point plan area's approximately 8,386 acres. This soil is generally located on undulating ridges, is well drained, and has moderate permeability. The soil is well suited for cropland and pasture and hay.

The second most prevalent soil found within the Plano area is the BaC (Baxter gravelly silt loam, 6% to 12% slopes), which encompasses just under 18% of the focal point plan area. This soil can be found on rolling ridgetops and side slopes of depressions, is well drained, and has moderately slow permeability. The soil is suited for cropland, dwellings, and septic tank absorption fields. The soil is well suited for pasture and hay and woodland.

The third most common soil type found in the Plano area is the PbA (Pembroke silt loam, 0% to 2% slopes), comprising approximately 15% of the land contained within the area of the focal point plan. The PbA soil type is typically found on nearly level ridges, is well drained, and has moderate or moderately slow permeability. The soil is well suited for cropland, pasture and hay, woodland, dwellings, and septic tank absorption fields.

The remainder of the area is comprised of a variety of soil types. These soil types, along with the abovementioned soil types and their respective composition percentages are shown in ***Table 2*** on the following page. Additionally, ***Exhibit 5*** shows the soil types located within the focal point plan boundary.

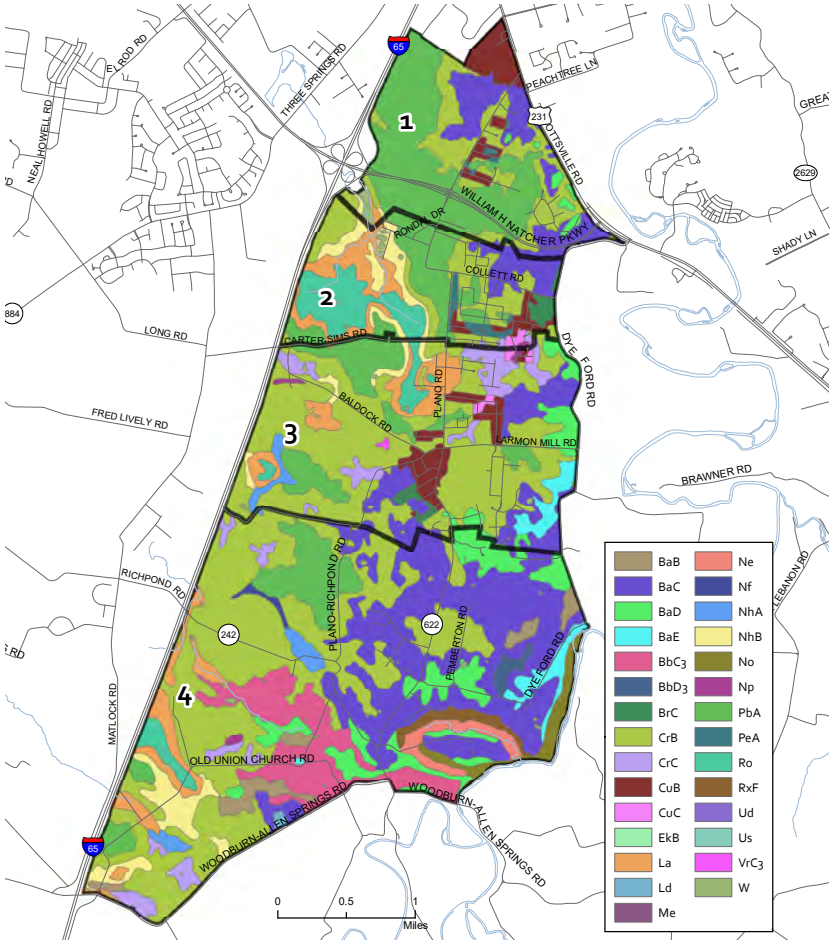


Exhibit 5 | Plano Focal Point Area Soil Types

Table 2 | Soil Types[4]

Soil Type	Section 1	Section 2	Section 3	Section 4	Total
BaB	0%	0%	0%	2.52%	1.25%
BaC	17.41%	9.56%	10.67%	23.35%	17.80%
BaD	1.91%	0.10%	4.64%	7.56%	5.20%
BaE	0%	0%	2.67%	1.47%	1.40%
BbC3	0%	0%	0%	8.82%	4.37%
BbD3	0%	0%	0%	0.59%	0.29%
BrC	0.06%	2.98%	0.87%	0%	0.55%
CrB	23.54%	11.05%	46.96%	33.57%	33.03%
CrC	0%	0.91%	5.76%	2.20%	2.63%
CuB	8.76%	4.03%	5.31%	0%	3.04%
CuC	0%	0.97%	0.67%	0%	0.27%
La	0.50%	13.00%	6.08%	3.56%	4.76%
Ld	0%	0%	0%	0.16%	0.08%
Me	0.03%	0%	0%	0%	0.00%
Ne	0%	0%	0%	1.67%	0.83%
Nf	0%	0%	0%	0.33%	0.16%
NhA	0%	0%	1.23%	1.13%	0.87%
NhB	0.68%	10.34%	1.64%	2.91%	3.06%
No	0%	0%	0%	2.16%	1.07%
Np	0%	0.26%	0.36%	0.14%	0.19%
PbA	45.53%	24.61%	10.65%	5.66%	14.73%
PeA	0.48%	2.91%	0%	0%	0.38%
Ro	0%	18.50%	1.94%	1.05%	2.99%
RxF	0%	0%	0%	1.12%	0.56%
Ud	0.02%	0%	0%	0%	0.00%
Us	0.21%	0.04%	0.02%	0.03%	0.05%
VrC3	0%	0%	0.15%	0%	0.04%
W	0.87%	0.74%	0.38%	0.24%	0.42%

4 *Source: National Resources Conservation Service – Soil Survey of Warren County, Kentucky*

Soil present on a construction site in the Plano community.

Another notable characteristic of certain soil types located within the boundary of the focal point plan is the presence of a fragipan. According to the Soil Survey of Warren County, Kentucky, the fragipan is, "a loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. Fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly." The fragipan is a restrictive layer that, "has one or more physical or chemical properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment." Just under 12 percent of the soil types located within the focal point plan area contain a soil horizon comprised of the fragipan. The depth of the fragipan varies between 18 and 32 inches, depending on the specific soil type. These soil types experience slow to very slow permeability due to the dense, cemented characteristics of the fragipan. Development where a fragipan exists should give special engineering consideration with regards to stormwater and drainage in these areas.

3 | Community Facilities

Community facilities of an area are essential necessities for both residents and businesses in deciding where to locate. Essential community facilities are available within the boundary of the focal point plan, but with varying service levels within each section.

Water

The Plano focal point area has potable water available throughout the corridor, and is supplied by the Warren County Water District (WCWD). WCWD acquires the majority of its water from Bowling Green Municipal Utilities (BGMU), which utilizes water from the Barren River. Additionally, BGMU treats all of the potable water in Warren County. Although the two agencies operate independently, they work in close partnership to serve an estimated 195,000 commercial and residential customers throughout Warren County. Only one water tower currently exists within the Plano study area, located in Section 2, in the Pleasant Place Subdivision.

In 1986, the Warren County Fiscal Court adopted a fire protection ordinance establishing minimum standards for fire protection in the county. Since 1986, regulations have also been adopted in the Zoning Ordinance requiring that all agricultural, rural residential and residential estate development be served by at least 250 gallons per minute (GPM) with 20 pounds of residual pressure (PSI), with all other zoning districts to be served by at least 600 GPM with 20 PSI. Additionally, regardless of the zoning district, new development located within the Bowling Green/Warren County urbanized area must be served by at least 600 GPM with 20 PSI. Approximately 29% of the Plano study area is located within the Bowling Green/Warren County urbanized area.

The majority of the Plano area is provided with water less than sufficient to meet the requirements of the Warren County Fire Protection Ordinance. ***Exhibit 6*** depicts water availability in the Plano area. ***Table 3*** on the following

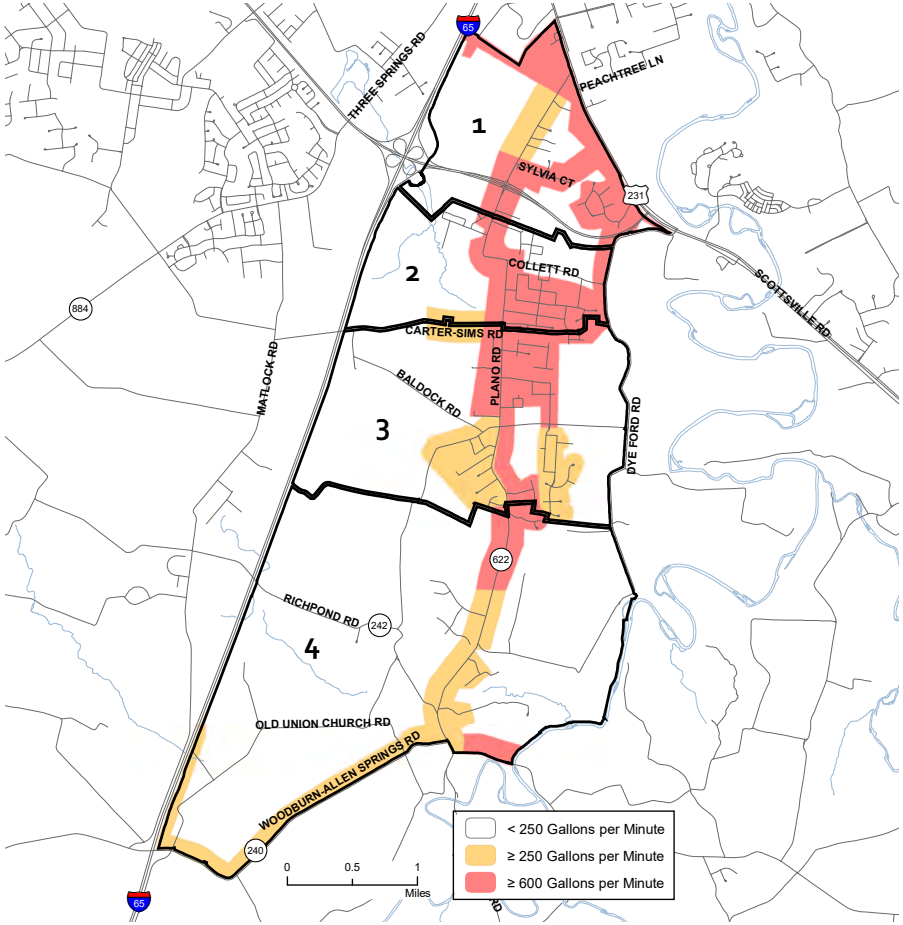


Exhibit 6 | Plano Focal Point Area Water Availability

page includes water availability for the Plano area as a whole, as well as each of the different sections within the study area. Section 1 is the best served section of the study area, with just under 40% of the land served by at least 600 GPM. Section 4 is the most underserved of the sections with approximately 85% of the land served by less than 250 GPM.

In addition to water supply, there are also requirements for fire hydrant installation. There are approximately 117 fire hydrants located within the Plano study area. As new development occurs, additional fire hydrants must be installed no greater than 500 feet apart.

Table 3 | Water Availability in Plano

Water Availability	Section 1		Section 2		Section 3		Section 4		Total	
< 250 GPM	647.89	53.85%	637.01	64.01%	1,362.06	65.49%	3,493.60	85.05%	6,140.56	73.22%
≥ 250 GPM	92.56	7.69%	28.78	2.89%	345.22	16.60%	451.85	11.00%	918.41	10.95%
≥ 600 GPM	462.67	38.46%	329.44	33.10%	372.59	17.91%	162.37	3.95%	1,327.07	15.82%
Total Area (Acres)	1,203.12	100.00%	995.23	100.00%	2,079.87	100.00%	4,107.82	100.00%	8,386.04	100.00%

Regardless of whether or not there is sufficient water availability to meet the minimum fire protection requirements, capacity of existing lines to serve area residents and businesses in terms of general use must also be considered. The capacity of the existing lines is starting to become stretched thin in portions of the area due to recent growth. The Warren County Water District is currently working through off-site upgrades that will be required to serve near-future development within the area. Additional upgrades may also be needed if current growth trends continue in the Plano Community.

Wastewater

In addition to providing potable water, the WCWD provides wastewater treatment for a portion of the area within the boundary of this plan. The WCWD currently maintains just over 8 miles of sanitary sewer lines in the Plano area. Wastewater treatment services are also provided by BGMU for a very small portion of Section 1. Currently, public sanitary sewer is present in a portion of the Plano focal point plan area, beginning at the northernmost point of the study area, running along Plano Road to a point terminating in the Pebble Ridge Subdivision, just south of Plano Elementary School. Sewer was expanded to Plano Elementary in July of 2007. Additionally, several of the properties in the south central portion of this plan's boundary are located within 2,000 feet of the public sanitary sewer line located along Plano Road. All new development (excluding single family residential development on lots of record which received at least preliminary subdivision approval prior to September 1, 2012) located within 2,000 feet of a public sanitary sewer, measured by way of public rights-of-way or public utility easements, is required to connect to public sanitary sewer. ***Exhibit 7*** depicts sewer availability in the Plano area. New development in the area to be served by on-site septic waste disposal systems must be approved by the Barren River District Health Department prior to obtaining a building permit.

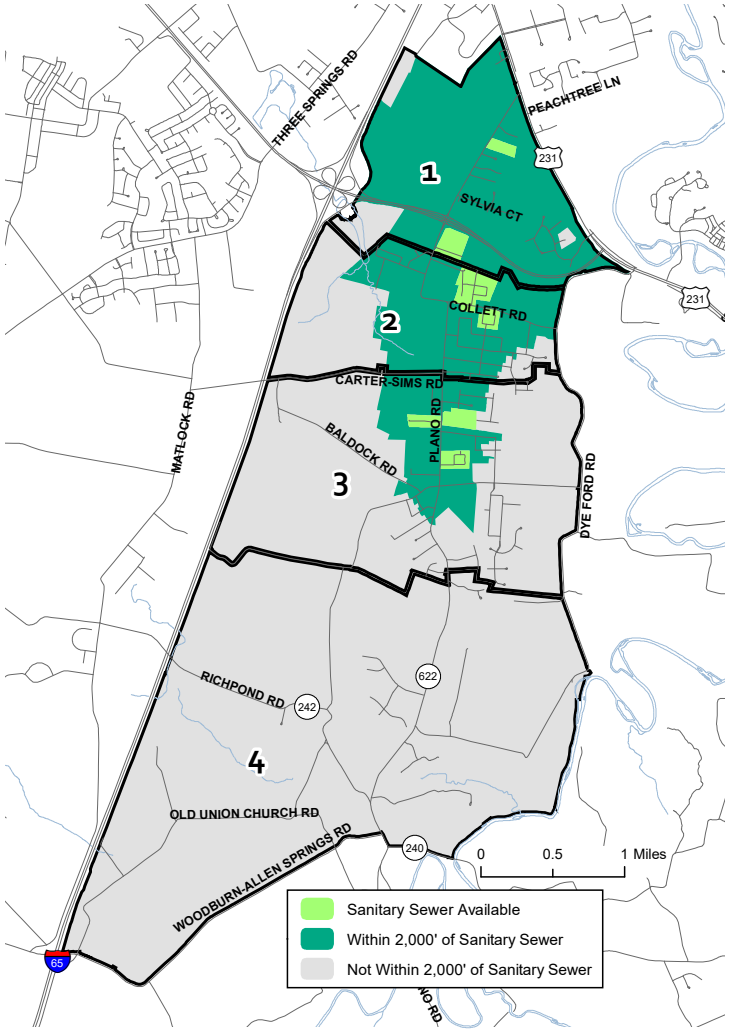


Exhibit 7 | Plano Focal Point Area Sewer Availability

Electricity

Warren Rural Electric Cooperative Corporation (WRECC) provides electricity to properties within the boundary of the Plano focal point plan. WRECC maintains 2,478 miles of electrical lines in Warren County, both underground and on poles aboveground.

Natural Gas

Atmos Energy provides piped natural gas to a portion of the properties within the boundary of the this plan. Presently, they serve all of Plano Road, Red Rock Road and north of the Natcher Parkway in Section 1. Their services continue through Plano Estates, north of Collett Road and terminate at The Vinings, south of Collett Road in Section 2. As new developments occur, the possibility for expansion of the natural gas system exists.

Cable and Internet

Spectrum is the sole cable provider within the Plano area and Warren County; however, they do not offer services within the entire area of the focal point plan. There are several satellite television companies that offer services throughout the area. High speed internet is also available for properties within the boundary of this plan. Spectrum provides high speed internet in the areas where cable television is offered. NCTC offers high speed internet along Plano Road for the entirety of Section 1, in addition to Red Rock Road, extending toward Dye Ford Road. NCTC also provides service west of Plano Road, across from Laurel Ridge Apartments and Evergreen Court and Boddeker Way, as well as the far southeastern portion of Section 1 near Cambridge Grove Circle. Various carriers offer wireless cellular data in limited coverage areas throughout the corridor.

Top Left: Plano Volunteer Fire Department | Top Right: G.H. Freeman Park walking path | Above: Warren County Water District water tower, serving the Plano community

Police and Fire Protection

The Warren County Sheriff's Office is responsible for responding to emergency calls within the area of the this plan. The Warren County Sheriff's Office is also assisted by the Kentucky State Police Post #3, which is located on Nashville Road in Bowling Green.

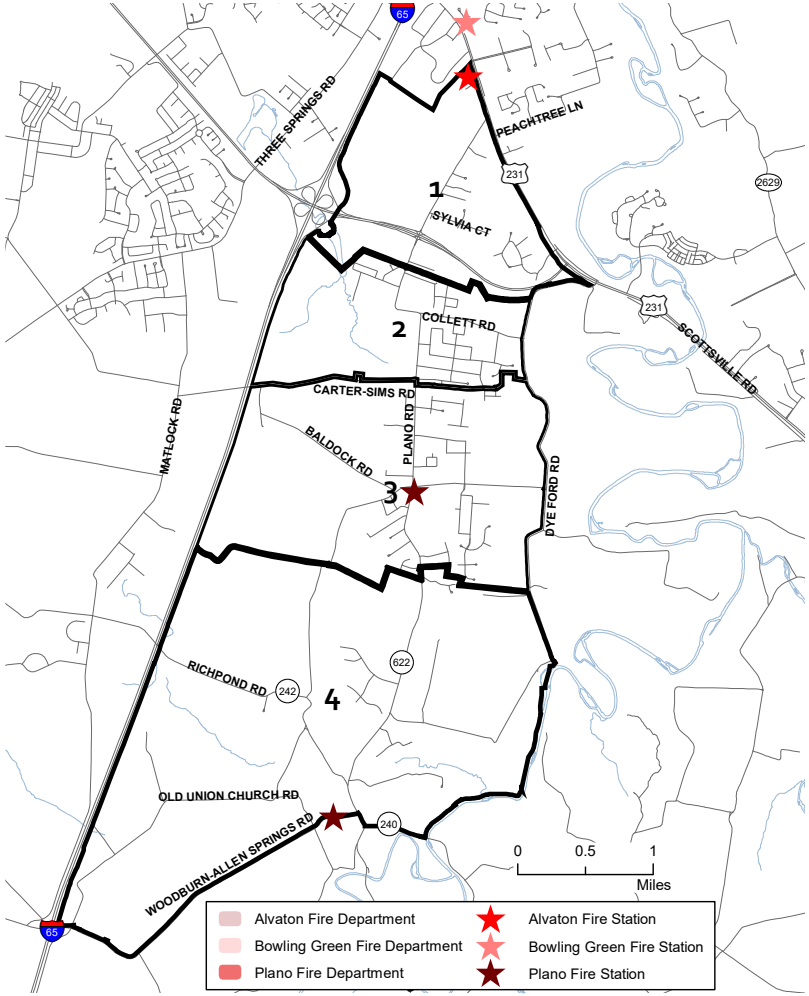


Exhibit 8 | Fire Boundaries

Properties within the boundary of the Plano focal point plan are served by the Plano Volunteer Fire Department, the Alvaton Volunteer Fire Department and the Bowling Green Fire Department. The Plano Volunteer Fire Department has two fire stations within the area of the Focal Point Plan. Plano Station #1, located on Woodburn-Allen Springs Road, and Plano Station #2, located on Plano Road at the intersection of Larmon Mill Road and Plano-Richpond Road. The Alvaton Volunteer Fire Department has one fire station within the area of the this plan, located on JFS Circle near South Central Bank and the Jr. Food Store on Scottsville Road. Bowling Green's nearest fire station is located about three tenths of a mile north of the study area on Cherry Farm Lane. ***Exhibit 8*** displays the boundaries served by each of the fire departments and their associated stations.

Solid Waste Management

All residents, businesses and industries in Warren County must use the services of a solid waste management company. The City of Bowling Green is served by Scott Waste Services. Outside the City, Warren County Fiscal Court approves several franchised collection companies including Scott Waste Management, Republic Services and Taylor Sanitation. Southern Recycling provides curb-side recycling services for all of sections 1 and 2, and parts of section 3. While recycling services in the more rural areas of Warren County are currently limited, over the next five years, Southern Recycling plans to expand their services. Southern Recycling has a two year facility relocation and expansion currently underway, enabling them to expand their services. Their new facility is slated to open in 2019.

Recreational Facilities

G.H. Freeman Park is located on Plano-Richpond Road. G.H. Freeman Park is comprised of approximately 7 acres and offers amenities including three picnic shelters, one playground, two horseshoe pits, a volleyball court, a half-mile walking track and restroom facilities.

Education

Plano Road Elementary School is located in Section 3 of the Focal Point Plan. Plano Elementary School opened in August, 2007 as the thirteenth elementary school in the Warren County Public School System with an enrollment of approximately 350 students. The current school district boundary for Plano Elementary School experienced a 25% change in population between 2000 and 2010, and enrollment has grown to 564 students, according to data for the 2016-2017 school year. These students are also served by South Warren Middle and High Schools, located outside of the focal point plan boundary.

4 | Land Use Analysis

Land Use Survey

The Planning Commission staff currently maintains a database of land uses throughout Warren County and periodically updates the information from building permits that have been issued. Using this data, along with information obtained through a visual survey conducted by Planning Commission staff, a map was created that depicts the current land use of the Plano focal point plan area (see ***Exhibit 9***).

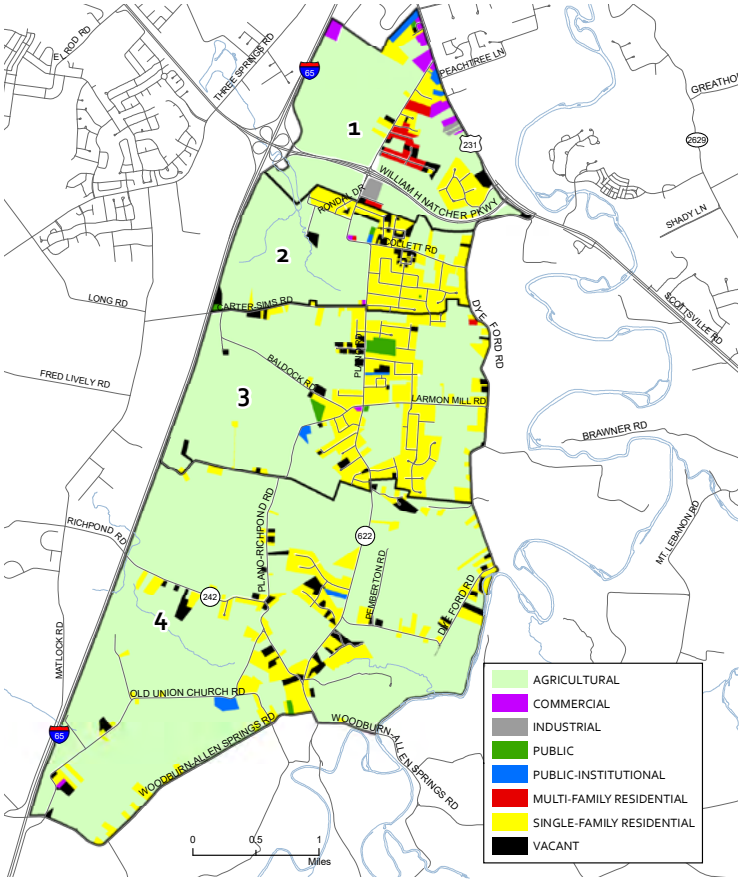


Exhibit 9 | Current Land Use

The housing characteristic in Plano is comprised primarily of single-family dwelling units, with varying price points throughout the corridor. Fairview Farms subdivision is shown above.

Land Use Classification

The Planning Commission staff classifies land use according to the following eight land use categories:

Agricultural: This category refers to land over 5 acres being used for agricultural purposes, even if it is not currently in farm production, as well as wooded and natural areas. There may also be a residence on the property.

Commercial: This land use category includes retail/wholesale businesses of various sizes, including but not limited to strip centers, "big box" stores, hotels, restaurants, banks and pharmacies.

Industrial: Industrial land uses include factories and warehouses, but also include businesses that store things outside like contractor related services, auto repair shops and trucking companies. The more intensive industrial businesses may emit vibrations, noises, smoke or fumes.

Multi-Family Residential: The multi-family residential land use category represents parcels with structures containing more than one unit, such as duplexes and apartment complexes. It also includes residential structures where more than two unrelated people reside, like a boarding house.

Residential: This category depicts parcels under 5 acres, with a single family residence. This category also represents mobile home parks, since each mobile home is on its own lot within the park.

Public: Public land uses include public parks, public schools and government buildings.

Public-Institutional: This land use designation is used for religious institutions, private schools and civic organizations like Veterans of Foreign Wars (VFW) posts, masonic lodges and Rotary clubs.

Vacant: The vacant category encompasses lots with no development less than five acres in size.

Land Use Analysis

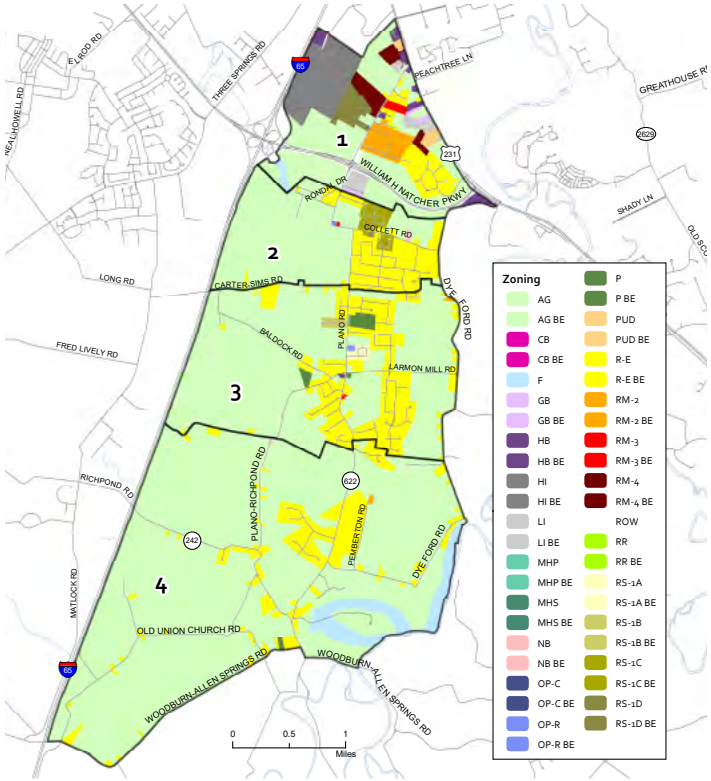
As noted in ***Table 4***, the dominant land use category within the Plano area is the agricultural category, which makes up 79.34% of the corridor. The single family residential land use category is the second highest land use, comprising 15.87% of the area. The least prevalent land uses in the area are industrial and public uses, comprising only 0.23% and 0.43%, respectively. ***Table 4*** breaks down land use for the study area by section. It is worth noting, that the only instance of industrial land use exists in Section 1. There are no multi-family residential uses in Section 4. As can be seen in ***Exhibit 9,*** the majority of the multi-family residential land uses are concentrated in Section 1, surrounded by mainly agricultural and, single family residential land uses. There is a mixture of commercial, public-institutional and industrial uses located along Scottsville Road. The most prevalent land uses in Section 2 are agricultural and single family residential, with the least prominent land use being multi-family residential, at only 0.07% of the area. Similar to Section 2, agricultural uses make up a majority of Sections 3 and 4, at 72.02% and 86.92%, respectively. Single family residential uses follow at 23.87% for Section 3 and 10.08% for Section 4.

Land use types represented in each section, top left (Section 1), top right (Section 2), bottom left (Section 3), and bottom right (Section 4).

The agricultural land use category has the largest parcel size at 184 acres. The agricultural land use category also has the largest average lot size at 23 acres. The smallest average lot size in the focal point plan area is represented by the multi-family residential land use category at 0.6 acres. Also worth noting is that many properties in the Plano area have access to public sanitary sewer. New residential development in certain portions of the focal point plan area could utilize lot sizes as small as 5,000 square feet, meaning average lot sizes in the Single Family Residential land use category are likely to decrease in the future.

Table 4 | Existing Land Use

	Section 1		Section 2		Section 3		Section 4		Study Area Total	
Land Use	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Agricultural	842.47	75.19%	637.36	67.46%	1,435.99	72.02%	3,488.48	86.92%	6,404.30	79.34%
Industrial	18.35	1.64%	0.00	0.00%	0.00	0.00%	0.00	0.00%	18.35	0.23%
Single Family Residential	133.91	11.95%	266.31	28.19%	475.96	23.87%	404.70	10.08%	1,280.89	15.87%
Public	1.03	0.09%	4.09	0.43%	26.57	1.33%	3.09	0.08%	34.78	0.43%
Vacant	24.58	2.19%	32.96	3.49%	44.28	2.22%	99.39	2.48%	201.21	2.49%
Commercial	40.16	3.58%	1.84	0.20%	1.21	0.06%	1.71	0.04%	44.93	0.56%
Public-Institutional	16.45	1.47%	1.56	0.16%	7.83	0.39%	16.02	0.40%	41.85	0.52%
Multi-Family Residential	43.47	3.88%	0.65	0.07%	2.01	0.10%	0.00	0.00%	46.14	0.57%
Total	**1,120.42**	**100.00%**	**944.78**	**100.00%**	**1,993.84**	**100.00%**	**4,013.40**	**100.00%**	**8,072.45**	**100.00%**



Left: Exhibit 10 | Zoning Districts

As seen in the exhibit to the left, the majority of land throughout Plano is designated agriculture - many of which are still farmed, as shown in the image above.

Current Zoning

The focal point plan area is currently comprised of a variety of different zoning districts. ***Exhibit 10 on the previous page,*** shows each of the zoning districts contained within the boundary of the focal point plan. Below, ***Table 5*** depicts the specific zoning districts found within the focal point plan area, by section, and their respective acreages:

Table 5 | Current Zoning

	Section 1		Section 2		Section 3		Section 4		Study Area Total	
Zoning	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
AG	557.10	48.20%	673.16	70.79%	1,515.03	75.99%	3,484.86	86.83%	6,230.14	76.78%
R-E	103.20	8.93%	228.66	24.05%	423.90	21.26%	345.18	8.60%	1,100.95	13.57%
RS-1A	-	0.00%	-	0.00%	11.46	0.57%	-	0.00%	11.46	0.14%
RS-1B	-	0.00%	-	0.00%	10.94	0.55%	-	0.00%	10.94	0.13%
RS-1C	0.00	0.00%	44.65	4.70%	-	0.00%	-	0.00%	44.66	0.55%
RS-1D	49.43	4.28%	-	0.00%	-	0.00%	-	0.00%	49.43	0.61%
RM-2	61.64	5.33%	-	0.00%	1.92	0.10%	1.83	0.05%	65.39	0.81%
RM-3	9.74	0.84%	0.65	0.07%	0.87	0.04%	-	0.00%	11.26	0.14%
RM-4	55.21	4.78%	-	0.00%	-	0.00%	-	0.00%	55.21	0.68%
P	1.03	0.09%	-	0.00%	26.57	1.33%	3.09	0.08%	30.68	0.38%
OP-R	-	0.00%	0.97	0.10%	1.93	0.10%	-	0.00%	2.89	0.04%
NB	-	0.00%	2.31	0.24%	-	0.00%	0.51	0.01%	2.82	0.03%
GB	8.79	0.76%	-	0.00%	-	0.00%	-	0.00%	8.79	0.11%
HB	38.14	3.30%	-	0.00%	1.21	0.06%	-	0.00%	39.35	0.48%
LI	41.41	3.58%	-	0.00%	-	0.00%	-	0.00%	41.41	0.51%
HI	202.77	17.54%	-	0.00%	-	0.00%	-	0.00%	202.77	2.50%
PUD BE	15.98	1.38%	-	0.00%	-	0.00%	-	0.00%	15.98	0.20%
F	11.44	0.99%	0.51	0.05%	-	0.00%	178.15	4.44%	190.10	2.34%
Total	**1,155.87**	**100.00%**	**950.92**	**100.00%**	**1,993.82**	**100.00%**	**4,013.63**	**100.00%**	**8,114.24**	**100.00%**

As noted in ***Table 4***, just under 77% of the land within the boundary of the focal point plan is zoned AG (Agriculture), with R-E (Residential Estate) being the next most prominent zoning district at 13.57%. Section 1 has the least amount of agriculturally zoned property, at 48%, with section 4 having the most at just under 87%.

Additionally, 12.13% of the properties within the boundary of the focal point plan contain Development Plan Conditions. These are summarized by section in ***Table 6*** below.

Table 6 | Properties with Development Plan Conditions

	Section 1		Section 2		Section 3		Section 4		Study Area Total	
Zoning	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
R-E BE	87.36	7.56%	148.46	15.61%	256.47	12.86%	235.95	5.88%	728.24	8.97%
RS-1A BE	-	0.00%	-	0.00%	11.46	0.57%	-	0.00%	11.46	0.14%
RS-1B BE	-	0.00%	-	0.00%	10.94	0.55%	-	0.00%	10.94	0.13%
RS-1C BE	0.00	0.00%	44.65	4.70%	-	0.00%	-	0.00%	44.66	0.55%
RS-1D BE	49.43	4.28%		0.00%		0.00%		0.00%	49.43	0.61%
RM-2 BE	2.38	0.21%	-	0.00%	-	0.00%	-	0.00%	2.38	0.03%
RM-3 BE	9.74	0.84%	-	0.00%	-	0.00%	-	0.00%	9.74	0.12%
RM-4 BE	22.40	1.94%	-	0.00%	-	0.00%	-	0.00%	22.40	0.28%
P BE	-	0.00%	-	0.00%	18.35	0.92%	-	0.00%	18.35	0.23%
OP-R BE	-	0.00%	0.97	0.10%	1.93	0.10%	-	0.00%	2.89	0.04%
GB BE	8.79	0.76%	-	0.00%	-	0.00%	-	0.00%	8.79	0.11%
HB BE	27.18	2.35%	-	0.00%	1.21	0.06%	-	0.00%	28.40	0.35%
LI BE	30.45	2.63%	-	0.00%	-	0.00%	-	0.00%	30.45	0.38%
PUD BE	15.98	1.38%	-	0.00%	-	0.00%	-	0.00%	15.98	0.20%
Total	**253.71**	**21.95%**	**194.09**	**20.41%**	**300.35**	**15.06%**	**235.95**	**5.88%**	**984.10**	**12.13%**

Zoning History

Since 2008, 32 zone changes, comprised of approximately 382.87 acres have been approved by the Planning Commission within the boundary of the focal point plan. These are outlined by section, and in total for the study area, in ***Table 7*** below.

Development plan conditions applicable to properties in the study area address various topics of concern. More than 78% of the 32 zone changes referenced above address building materials for future development. 75% outline access to future development from public roadways. Additionally, over 50% of the development plan conditions address underground utilities and lighting. Furthermore, over 25% of the properties referenced in the table above address signage, use limitations, minimum square footages for residential development and maximum building height for non-single family residential development in the development plan conditions. Other issues covered by the development plan conditions applicable to the study area include connection to open space, hours of operation, site evaluation requirements for on-site septic systems, prohibition and/or screening of outdoor storage areas when located within a certain proximity to a main roadway, prohibition of mobile and manufactured homes, paved driveway requirements, building orientation, screening of roof-level HVAC and mechanical equipment, maximum building square footage for non-residential uses, screening of propane tanks and parking located to the rear of the development.

Table 7 | Zone Changes since 2008

	Section 1		Section 2		Section 3		Section 4		Study Area Total	
Zoning District	# of Zone Changes	Acreage	# of Zone Changes	Acreage	# of Zone Changes	Acreage	# of Zone Changes	Acreage	# of Zone Changes	Acreage
R-E	-	-	1	2.05	1	1.56	6	103.40	8	107.01
RS-1B	-	-	-	-	1	12.47	-	-	1	12.47
RS-1C	1	37.08	3	50.3733	-	-	-	-	4	87.45
RS-1D	1	62.72	1	1.15	-	-	-	-	2	63.87
RM-3	2	9.73	-	-	-	-	-	-	2	9.73
RM-4	3	41.71	-	-	-	-	-	-	3	41.71
OP-R	-	-	1	0.97	-	-	-	-	1	0.97
GB	2	8.04	-	-	-	-	-	-	2	8.04
HB	4	17.84	-	-	-	-	-	-	4	17.84
LI	4	22.02	-	-	-	-	-	-	4	22.02
PUD BE	1	11.76	-	-	-	-	-	-	1	11.76
Total	**18**	**210.89**	**6**	**54.5433**	**2**	**14.03**	**6**	**103.40**	**32**	**382.87**

Future Land Use

Exhibit 11 depicts the existing Future Land Use Map (FLUM) for the Plano Focal Point plan area. There are nine (9) different future land use designations located within the focal point plan area. These future land use categories are explained below, as well as their respective acreages, which are listed in ***Table 8***. Proposed modifications to the FLUM are outlined later in the plan, in the "future considerations" section.

Future Land Use Categories

- Agricultural - This land use designation applies to those rural areas relatively remote from the expanding rural-suburban fringe, where agricultural uses are predominant with small and large-scale farm operations. This classification can also include undeveloped areas used for open space and large tract single family residential property.

  While the presence of R-E-zoned land is acknowledged, and in some small areas, this zoning may even be prevalent, a new "conservation development alternative" to development under conventional AG or R-E zoning, will become available to landowners. Conservation development is an approach to the design of residential subdivisions, which is highly suited to rural areas where the retention of open space, farmland; or uninterrupted vistas of the scenic, rural landscape is desired. Higher densities may be possible with a Conservation style development as permitted by the Zoning Ordinance.

- Low Density Residential - This land use designation comprises areas designated for single-family detached development and attached single family development including twin homes and town homes where each unit is platted on its own individual lot, with gross densities ranging from zero dwelling units per acre to 4.5 dwelling units per acre. Higher densities may be possible with a Conservation style development as permitted by the Zoning Ordinance.

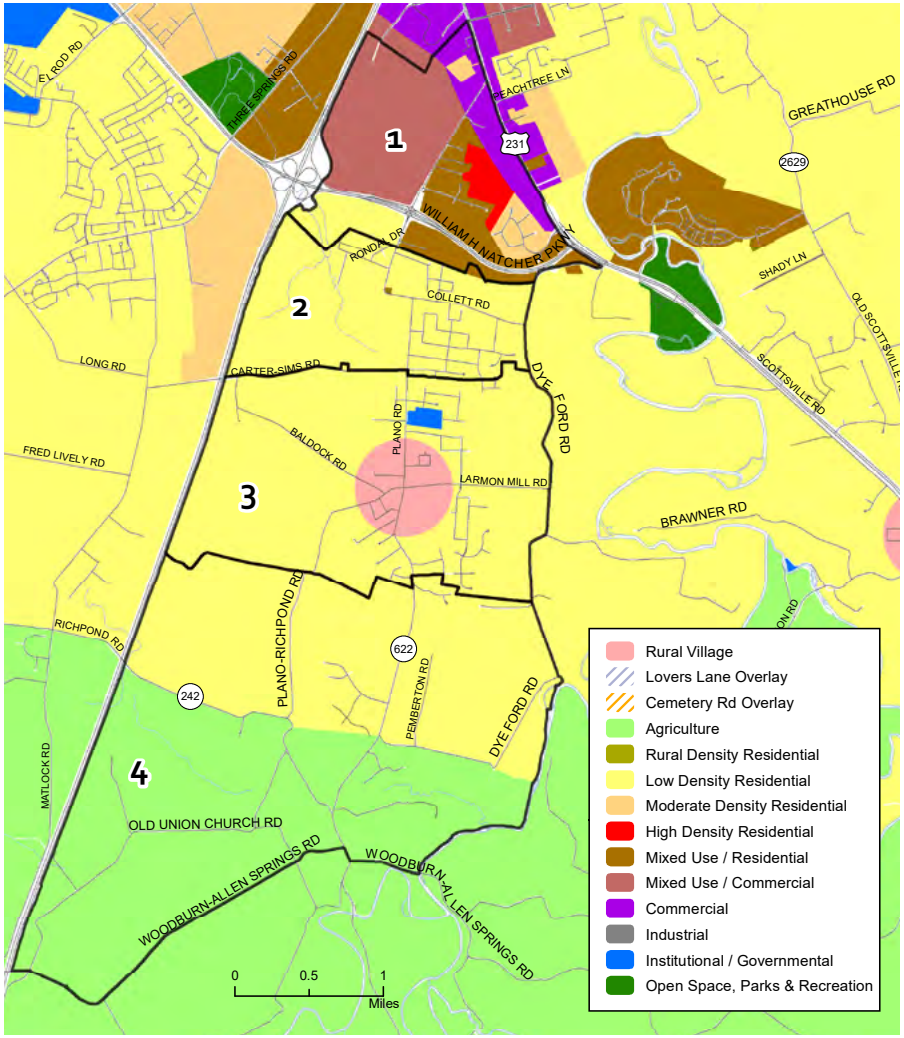


Exhibit 11 | Existing Future Land Use

Moderate Density Residential - This land use designation encourages areas developed for higher density single family detached (RS-1C & RS-1D), as well as semi-detached multifamily development such as duplexes and townhouses, apartment buildings, condominiums and mobile home parks. Densities in this land use should range between three and a half (3.5) and thirteen (13) dwelling units per acre.

Plano Country Store, once a staple of the Plano community, sits at the crossroads of the existing rural village FLUM designation.

- High Density Residential - This land use designation consists of areas occupied by multifamily housing, including higher density duplexes, townhomes, apartment buildings and condominiums. Densities exceeding eight (8) dwelling units per acre are encouraged in this Future Land Use category. Higher density single family may also be acceptable at five and a half (5.5) dwelling units per acre or greater.

- Mixed-Use / Residential - This category applies to mixed-use areas where, taken as a whole, the primary land use is residential in a variety of housing types and densities, balanced by complementary retail, office, institutional and civic uses. The distribution of land among these various activities shall be implemented through specific zoning, with standards addressing the form and character of development to ensure compatibility.

  This designation applies to the historic core of downtown Bowling Green or urbanized areas being redeveloped where the primary use is residential where complementary commercial and services are provided in a contiguous area. Here, development standards should be tailored to emphasize an urban character and a mix and intensity of development appropriate to this unique center of activity. When proposed as part of a mixed-use development, commercial uses should comprise only twenty-five percent (25%) of such development. Standalone commercial developments should not exceed ten percent (10%) of any contiguous area designated Mixed-Use/Residential. No commercial footprint should exceed ten thousand (10,000) square feet. Compatibility will be assessed by applying policies in LU-1.1.3 of the FOCUS 2030 Comprehensive Plan, in conjunction with a general development plan.

- Mixed-Use / Commercial - This category applies to strategic areas, mostly undeveloped today, that are located near designated industrial parks and accessible from major transportation corridors. These areas are envisioned as predominantly large-scale employment and business centers, albeit supplemented by compatible light industrial, retail, services, hotels and, where appropriate, higher density residential development (stand-alone or in mixed-use developments). The distribution of land among these various activities shall be addressed through specific zoning. However, primary activities in these areas may include low- and medium-rise office complexes, as well environmentally friendly manufacturing and business centers.

  On large tracts, these uses should be encouraged to develop in a campus-like setting, with quality architecture and generous, connected open space to maximize value, promote visual quality, and encourage pedestrian activity between employment areas and areas of supporting uses such as retail, restaurants, and residential. The primary focus of this category is commercial mixed uses with complementary residential comprising up to fifty percent (50%) of the contiguous area. Compatibility will be assessed by applying policies the FOCUS 2030 Comprehensive Plan, in conjunction with a general development plan.

- Commercial - This land use designation consists of a broad array of commercial development, including individual commercial (retail, service, hotel or office) businesses that may exist along a highway corridor or a business district, as well as larger planned shopping centers

and office parks. Limited high density multi-family uses are allowed to be mixed into commercial areas. These uses should be limited to upper stories or blended in or scattered among commercial uses. No more than twenty-five percent (25%) of any contiguous area designed Commercial should contain a multi-family use. Compatibility will be assessed by applying policies in LU-1.1.3 of the FOCUS 2030 Comprehensive Plan, in conjunction with a general development plan.

- Institutional / Governmental - This land use designation consists of major public institutions, including the WKU campus and public schools, and governmental functions and operations such as the airport, government offices, and police and fire stations.
- Rural Village - This land use designation is intended to provide for the continued vitality of the existing commercial and residential mixed-use areas found in the smaller rural agricultural centers throughout Warren County. The rural village brings a sense of community and identification to the surrounding rural areas with an emphasis on providing essential goods and services to rural residents, but is not intended as an employment destination for urban residents.

Neighborhood scale commercial uses are encouraged as pockets of mixed use developments. Commercial uses should be limited in size and scale (less than 10,000 square feet) and only allow uses permitted in the zones outlined in the table below. When proposed as part of a mixed use development, commercial components should comprise no more than ten percent (10%) of such development. Stand-alone commercial development should not exceed no more than twenty-five (25%) of any contiguous area designated Rural Village. Limited moderate density multi-family uses may be appropriate in some areas if limited in size and scale. Multi-family should not consist of more than twenty-five percent (25%) of any rural village. Compatibility will be assessed by applying policies in the FOCUS 2030 Comprehensive Plan, in conjunction with a general development plan, and by applying specific policies found in Focal Point Plans, area plans, corridor studies or any other plan created and approved by the Planning Commission.

Table 8 | Future Land Use

	Section 1		Section 2		Section 3		Section 4		Study Area Total	
FLUM	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Agriculture	-	0.00%	-	0.00%	-	0.00%	2,230.20	55.48%	2,230.20	26.87%
Low Density Residential	110.28	9.88%	1,096.79	95.03%	1,771.78	88.10%	1,789.47	44.52%	4,768.32	57.45%
Moderate Density Residential	74.72	6.70%	-	0.00%	-	0.00%	-	0.00%	74.72	0.90%
High Density Residential	62.31	5.58%	-	0.00%	-	0.00%	-	0.00%	62.31	0.75%
Mixed-Use/Residential	251.33	22.53%	57.34	4.97%	-	0.00%	-	0.00%	308.67	3.72%
Mixed-Use/Commercial	465.62	41.73%	-	0.00%	-	0.00%	-	0.00%	465.62	5.61%
Commercial	151.51	13.58%	-	0.00%	-	0.00%	-	0.00%	151.51	1.83%
Institutional/Governmental	-	0.00%	-	0.00%	18.3	0.91%	-	0.00%	18.3	0.22%
Rural Village	-	0.00%	-	0.00%	220.92	10.99%	-	0.00%	220.92	2.66%
Total	1,115.77	100.00%	1,154.13	100.00%	2,011.00	100.00%	4,019.67	100.00%	8,300.57	100.00%

A property in section 4, representing an example of rural density residential.

As can be seen from ***Table 8***, the majority of the study area is consumed by the low density residential future land use category at around 57%. The second most prevalent future land use category represented in the study area is the agricultural designation at just under 27%. The remaining approximate 16% of the study area is comprised of the moderate density residential, high density residential, mixed-use/residential, mixed-use/commercial, commercial, institutional/governmental and rural village future land use categories.

A substantial amount of change was anticipated by the FOCUS 2030 Comprehensive Plan. The existing land use analysis in ***Table 4*** indicates that approximately 79% of the land identified in the focal point plan boundary is agriculture or natural areas. This is in contrast to the future land use analysis, in ***Table 8***, showing only 27% being agriculture or natural areas. This predicted change is attributed largely to single-family growth with 16% of land currently single family, verses a future land use designation of 57% of the land designated to single family.

Additional Future Development Considerations

In addition to the future land use categories listed above, an analysis was also performed on existing zoning versus land potentially available for development within the study area. ***Table 9*** outlines the land potentially available for development within each section, and the study area as a whole. Approximately 8.37% of the property within the study area is of vacant or agricultural land use and already zoned for single-family residential, multi-family residential, commercial or industrial purposes. Section 1 contains the most amount of land potentially available for development.

Table 9 | Land Potentially Available for Development

	Section 1		Section 2		Section 3		Section 4		Study Area Total	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Single Family Residential (R-E, RS-1A, RS-1B, RS-1C, RS-1D)	72.78	6.30%	40.53	4.26%	56.61	2.84%	146.10	3.64%	316.02	3.89%
Multi-Family Residential (RM-2 and RM-4)	107.95	9.34%	-	-	-	-	1.83	0.05%	109.78	1.35%
Commercial (NB, GB, HB and PUD)	25.08	2.17%	-	-	-	-	0.51	0.01%	25.59	0.32%
Industrial (LI and HI)	227.49	19.68%	-	-	-	-	-	-	227.49	2.80%
Total	**433.31**	**37.49%**	**40.53**	**4.26%**	**56.61**	**2.84%**	**148.44**	**4%**	**678.88**	**8.37%**

5 | Existing Transportation

As briefly mentioned in the Introduction of this Plan, the Bowling Green-Warren County MPO commenced a study through Neel-Schaffer, Inc. in March of 2017 conducting a corridor study and policy development along Plano Road (KY 622), from Scottsville Road (US 231) to Richpond Road (KY 242). The study was finalized in May of 2018 and provided an analysis of existing land use and development patterns, future growth assumptions, MPO travel demand model outputs, and policies and regulations currently in place. From this analysis, a recommended plan of necessary improvements and policies were developed to support land use development and highway improvement plans. The purpose of this study was to determine a coordinated plan of transportation improvements, land use policies, and interagency agreements of cooperation to address the impacts of residential and commercial growth in the Plano community upon the safety and mobility of Plano Road (KY 622). While the following text in this section touches on several transportation-related factors along Plano Road and within the study area, the Plano Road Corridor Study & Policy Development Report, by Neel-Schaffer, Inc., should be referenced for a more in-depth analysis and understanding of transportation features, data, and future recommendations.

Functional Classification & Operation

The Plano community is served by KY 622 (Plano Road), a state-maintained roadway under provision of the KYTC. The KYTC State Primary Road System classifies Plano Road as a State Secondary Route, being a regionally significant roadway of shorter distance, yet providing mobility and access to land use activity while serving smaller communities within Warren County. KYTC also classifies Plano Road by its function as a Major Collector. Given that a portion of the corridor is within the urbanized boundary, part of the roadway is classified as an Urban Major Collector and the remaining portion is classified as a Rural Major Collector. The urban portion of the corridor extends south from Scottsville Road to Dude Howard Road. At this junction, Plano Road merges from an urban collector to a rural collector (see *Exhibit 12)*. With its functional classification as a Major Collector (rural and urban), Plano Road collects traffic along lower classified roadways in smaller communities and channels into major/minor arterials in higher density areas.

Plano Road operates with a speed limit of 45 mph and maintains a two-lane, striped highway throughout its course, with the exception of the intersection

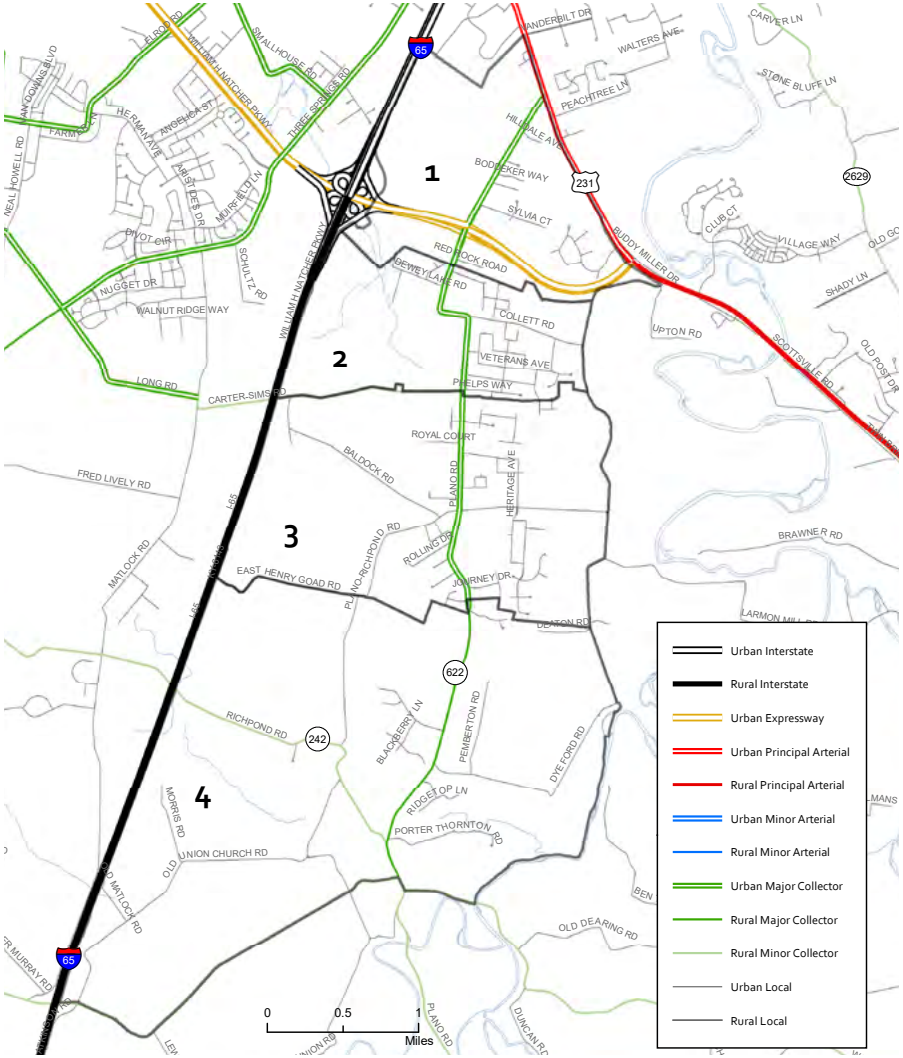


Exhibit 12 | Functional Classification

Above: Plano Road intersection approaching the Natcher Parkway Interchange. Top Right: Looking west onto the Natcher Parkway from Plano Road.

with the Natcher Parkway. Approaching this intersection traveling south, a middle turn lane gives way to a single northbound lane and a single southbound lane, with right and left turn lanes for Natcher Parkway access. Approaching this intersection traveling north is a single southbound lane and a single northbound lane, also providing one right and one left turn lane for access to the Natcher Parkway.

Multimodal Facilities

There are currently few bicycle or pedestrian facilities in the Plano Road study area. ***Exhibit 13*** shows the bicycle and pedestrian facilities that are present in and around the Plano Road study area. There is a sidewalk that runs 0.27 miles from Hayden Heady Circle to Plano Elementary School. The Subdivision Regulations for Warren County require sidewalks in most residential developments that are served by sanitary sewer. The country roads in the Plano Road area, such as Woodburn-Allen Springs Road (KY 240) and Richpond Road (KY 242), are popular, though not officially designated, bicycle routes. GO bg Transit does not extend this far out into the county.

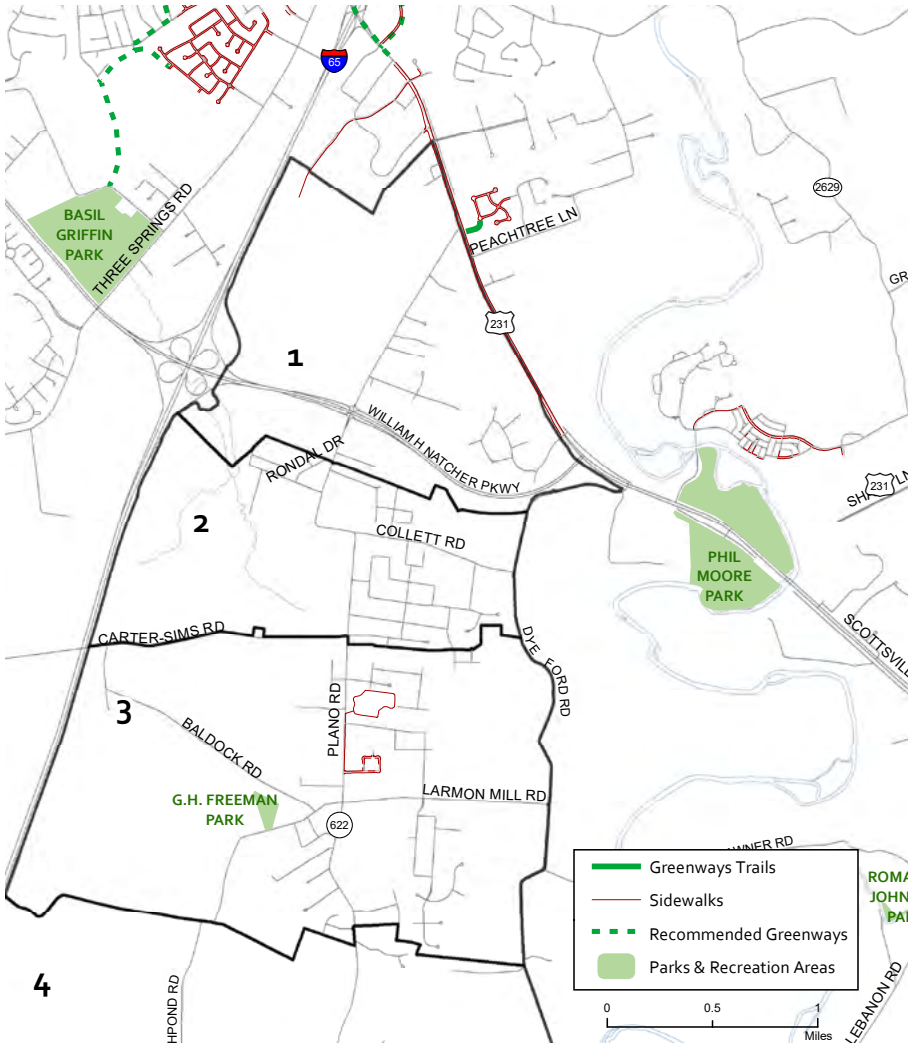


Exhibit 13 | Bicycle, Pedestrian & Recreational Facilities

Traffic Analysis

Traffic Counts

Traffic counts provided by KYTC are shown in ***Table 10*** below and ***Exhibit 14*** located in the Appendix. From KYTC's four count stations located along Plano Road, the data examines count information from 2012 to 2014 data sources – the most recent counts available from the Traffic Count Reporting System. Additional traffic counts for local roads, including future year projections for 2025 and 2040, are provided in the transportation study conducted by Neel-Schaffer (see pages 11 - 14).

Table 10 | Average Daily Traffic for Plano Road Segments

Road Segment	Average Daily Traffic
Scottsville Road to William H. Natcher Parkway	5,340 (2014)
William H. Natcher Parkway to Larmon Mill Road/ Richpond-Plano Road	7,337 (2016)
Larmon Mill Road/Richpond-Plano Road to Woodburn-Allen Springs Road (KY 240)	3,196 (2015)
Woodburn-Allen Springs Road (KY 240) to Simpson County Line	912 (2016)

Major Intersections

Within the Plano Road study area, there are eight major intersections that influence traffic flow and efficiency. Giving attention to these major intersections within the study area is important as traffic volumes may increase or decrease with peak hour traffic, thus putting more stress on the designated roadway and interfering with the flow of traffic. ***Table 11*** at the end of this section compares the traffic counts of intersecting roadways at each major intersection along Plano Road.

Perhaps the greatest of these intersections is the junction with Scottsville Road. Scottsville Road abuts Plano Road at the northernmost end of the corridor with a Crossroads IGA located at one corner and a Sheldon's Pharmacy and shopping center located on the other. Residential properties are located directly across from the intersection. With Scottsville Road being a principal arterial providing regional access, the corridor receives a high number of traffic volumes throughout the day. The portion of Scottsville Road between Cypress Wood Lane and Plano Road had an average daily

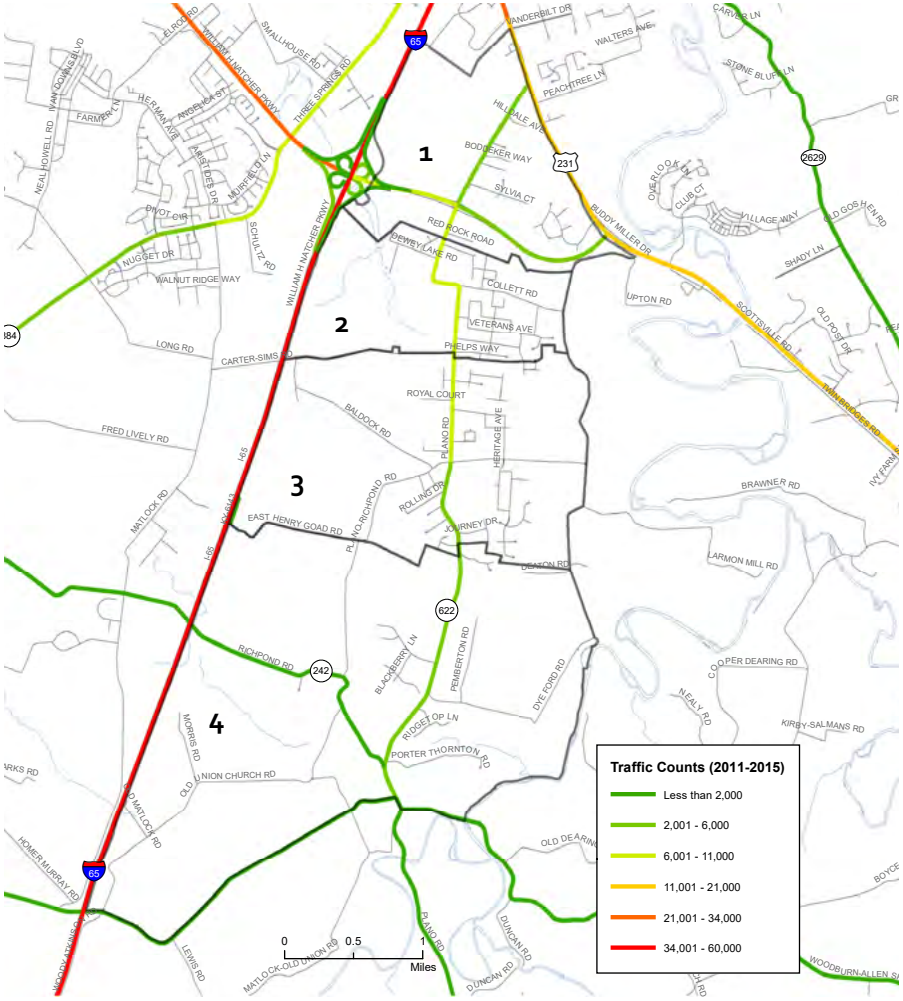


Exhibit 14 | Traffic Counts

The southern portion of Plano Road is narrower and windy, as represented above.

Two pedestrians walk along Plano Road near the intersection with Scottsville Road.

traffic (ADT) of 19,615 vehicles as recorded by 2014 data, with the portion of roadway between Plano Road and the Natcher Parkway having an ADT of 13,149 vehicles in 2015.

The Natcher Parkway travels from Owensboro, to Bowling Green. The Natcher Parkway is often a route of choice for many Warren County residents when seeking the quickest route to travel across the County. It also connects to Interstate-65, the Western Kentucky Parkway in Hartford County, the Audubon Parkway just outside of Owensboro, as well as providing many connections to state and US highways throughout. Less than one mile from the Plano Road – Natcher Parkway intersection is access to I-65 northbound and southbound. The portion of the parkway surrounding Plano Road is the least traveled segment of the entire Natcher Parkway. However, the segment of roadway between Scottsville Road (the conclusion of the parkway) and the Plano Road interchange recorded an ADT of 6,261 vehicles in 2016. The segment of road between the Plano Road interchange and the I-65 overpass had an ADT of 5,877 vehicles in 2016, with 8.39% of that count being truck traffic.

Collett Road is a local road abutting Plano Road approximately 1.8 miles from Scottsville Road, at the second 90-degree turn on Plano Road, known as the "S" curves. While Plano Road curves and continues, Collett Road proceeds west. This intersection of Plano Road with Collett Road is often hazardous due to speeding vehicles and the abrupt 90-degree turn in the alignment of Plano Road; an advisory speed of 15 mph is posted along with chevron delineators. At the brink of this curve is Plano Chapel Holiness Church. Collett Road serves residential areas and is a connection to Dye Ford Road, also a local road meandering throughout the countryside of Warren County.

Carter Sims Road is a local road serving residential properties and providing an I-65 overpass, allowing roadway connections east and west of I-65. Because of this, Carter Sims Road is often a choice route for residents living in the south/southeastern part of Warren County. The most traversed segment of Plano Road, as recorded by KYTC count stations, encompasses the intersection with Carter Sims Road. A significant portion of this count may be attributed to traffic on Carter Sims Road.

Where Plano Road intersects, Plano-Richpond Road turns into Larmon Mill Road. Plano-Richpond Road meanders throughout the south/southeastern part of Warren County, connecting the Richpond and Plano communities, as well as leading to a connection with the Woodburn community. G.H. Freeman Park lies along this road and junctions with Richpond Road giving way to an I-65 overpass and allowing connections east-west of I-65. On the opposite side of Plano Road, Larmon Mill Road offers access to residential areas and neighborhoods and intersects Dye Ford Road. Additionally, the Plano-Richpond Road/Larmon Mill Road intersection is the location of the Plano Store and the Plano Volunteer Fire Department.

While many of the abovementioned roadways intersect Plano Road and run perpendicular to the study area, Dye Ford Road intersects Plano Road and generally runs parallel on the east side of the study area. Dye Ford Road commences at Scottsville Road where it proceeds to travel south, parallel with Plano Road, and serves residents residing in the very rural areas of Warren County. Cason's Cove, a popular outdoor wedding venue, is located approximately eight-tenths of a mile from the Plano Road intersection on Dye Ford Road. Though the venue does not attract visitors year-round or throughout the week, it is important to note that traffic along Dye Ford Road, along with the Plano Road and Dye Ford Road intersection, could become congested in the occasion of an event at the venue.

Richpond Road adjoins Plano Road and travels west of the study area across the southern part of Warren County. Shortly past this intersection, Richpond Road forks into Plano-Richpond Road and thereafter provides an overpass of I-65. Richpond Road continues west across I-65, crosses through the Richpond community, and intersects US 31W (Nashville Road) where Richpond Road then merges into Richpond-Rockfield Road. The portion of roadway between Plano Road and Plano-Richpond Road had an ADT count in 2016 of 243 vehicles. Most of the properties along this roadway are residential.

Woodburn-Allen Springs Road crosses Plano Road and, much like the other intersecting roadways, provides a connection to many smaller communities in the southern part of the County, such as Boyce, to the east of the study area and concludes on the eastern end when it abuts US 231 in Allen County. West of the study area, the portion of Woodburn-Allen Springs Road from Plano Road to Meng Road had an ADT of 759 vehicles according to 2016 data, whereas east of the study area, Woodburn-Allen Springs Road between Plano Road and Mount Lebanon Road had a recorded ADT of 1,101 vehicles in 2015. Boyce General Store, a local country store boasting an increase in locals and visitors, is located on Woodburn-Allen Springs Road, just past Mount Lebanon Road.

Table 11 | Traffic Counts for Intersecting Roadways

Intersection	Road Segments	ADT (year)
Scottsville Road (US 231)	Cypress Wood Lane to Plano Road	19,615 (2014)
William H. Natcher Parkway	Plano Road to William H. Natcher Parkway	13,149 (2015)
	Scottsville Road to Plano Road underpass	6,261 (2016)
	Plano Road underpass to I-65 overpass	5,877 (2016) 8.39% Truck
Richpond Road (KY 242)	Plano Road to Plano-Richpond Road	243 (2016)
Woodburn-Allen Springs Road (KY 240)	Meng Road to Plano Road	759 (2016)
	Plano Road to Mount Lebanon Road	1,101 (2015)

Crash Data

Each year, the Kentucky State Police compile collision analysis data that is available to the public. For the purpose of this study, data was collected over a 10-year range from 2005 to 2014. Reported crashes across the Plano Road corridor study area from 2005 to 2014 are displayed in ***Exhibit 15***. Within the 10-year time-frame, 231 crashes were reported for the entire Plano Road study area. Of these 231 crashes, nearly 86 had reported injuries, and 3 fatalities were recorded. Of the 3 fatalities, one was located at a high crash rate intersection, as identified below in ***Table 12***, while another was located just south of the intersection of Richpond Road, and another located between Dye Ford Road and Ridgetop Lane.

Several of the most dangerous crossroads, as identified by crash reports from 2010-2014 along Plano Road.

Crash counts were collected for the entire study area; however, greater emphasis was placed on intersections with the highest crash counts. These intersections are highlighted in the table below. From this, the data reveals the intersection with the highest number of crashes is the intersection of Plano Road and Plano-Richpond Road/Larmon Mill Road with 24 reported crashes over the 10-year period. Thirteen of these crashes had reported injuries and zero fatalities.

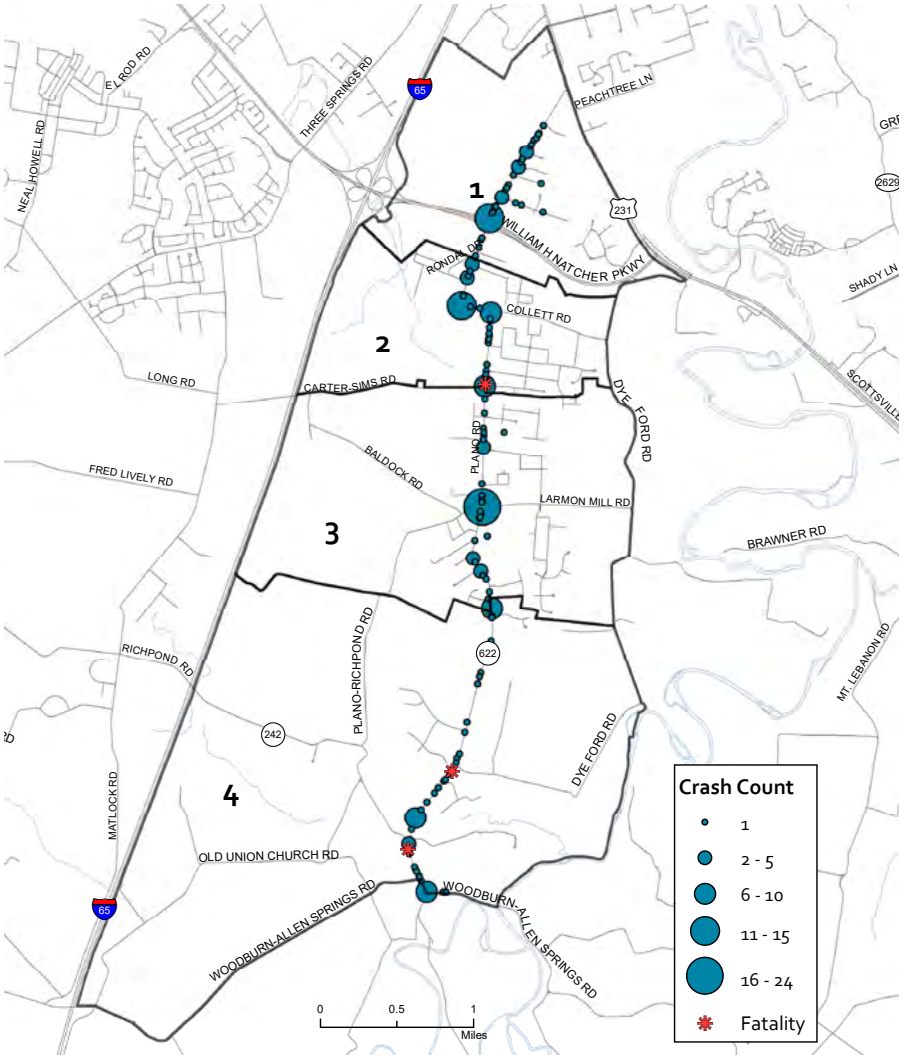


Exhibit 15 | Crashes on Plano Road from 2005 - 2014

Table 12 | Crash Data for Intersections with Plano Road (2005-2014)

Intersection	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total Crashes	Total Injuries	Total Fatalities
Atlantis Way	0	0	0	0	1	0	0	0	2	2	5	1	0
Birdland Drive	0	0	0	0	1	0	0	1	1	1	4	1	0
Boddeker Way	1	1	0	0	0	0	1	0	1	0	4	1	0
Carter Sims Road / Phelps Way	0	1	1	3	0	2	0	0	0	1	8	8	0
Collett Road	0	0	1	0	1	0	1	1	3	2	9	0	0
Curve between Dewey Lake Road and Collett Road	0	1	3	1	0	2	2	1	4	1	15	3	0
Curve Between Ridgetop Lane and Porter Thorton Road	0	0	0	1	0	2	1	0	1	1	6	7	0
Dewey Lake Road	1	0	0	2	0	0	0	2	0	0	5	4	0
Dude Howard Road	0	1	1	2	1	0	1	0	0	0	6	5	0
Evergreen Court	1	1	0	0	0	1	0	0	2	0	5	0	0
Huckleberry Way	1	0	2	0	0	0	0	0	0	0	3	0	0
Plano-Richpond Road / Larmon Mill Road	1	1	3	6	2	2	0	3	2	4	24	13	0
Richpond Road	2	0	0	1	0	0	1	1	0	0	5	2	1
Skyview Drive	2	0	0	1	1	0	0	1	0	0	5	2	0
Sylvia Way	0	0	1	2	1	0	0	0	0	0	4	2	0
William H. Natcher Parkway	0	0	0	3	0	1	1	3	3	3	14	4	0
Woodburn-Allen Springs Road	1	0	1	3	3	0	0	1	0	0	9	4	0
TOTAL	**10**	**6**	**13**	**25**	**11**	**10**	**8**	**14**	**19**	**15**	**131**	**57**	**1**

Level of Service at Intersections

Level of Service (LOS) rating systems are used to evaluate the quality and function of transportation modes through intersections. By measuring a roadway's ratio of peak-period traffic volume to its capacity, LOS ratings reveal how an intersection is functioning by a given letter rating, typically A (best) to F (worst). LOS D is typically considered as the minimum acceptable LOS for an intersection in an urbanized area.

These ratings are often used in transportation planning to evaluate problems and potential solutions. These ratings are useful, but cannot be used alone to judge the quality and efficiency of a roadway. When analyzing these ratings, other factors, such as Average Daily Traffic (ADT), crash data, land use accessibility, connectivity and changing travel demands must also be considered. Neel-Schaffer, Inc. completed LOS ratings for 13 roadway sections. The table below shows the LOS for each section in the AM and PM peaks respectively, for which traffic counts were obtained.

Table 13 | Lever of Service (LOS) for Intersections through 2040 (Neel-Schaffer, Inc. - Plano Road Study)

Roadway Section	KY 240 to KY 242	KY 242 to Dye Ford Rd	Dye Ford Rd to Dude Howard Rd	Dude Howard Rd to Birdland Dr	Birdland Dr to Meadow Hill Dr	Meadow Hill Dr to Wyndham Way	Wyndham Way to Windland Way/ Plainfield Way	Plainfield Way/ Windland Way Michael Way	Michael Way to Dewey Lake Rd	Dewey Lake Rd to Red Rock Road	Red Rock Road to Sylvia Way	Sylvia Way to Hilldale Avenue	Hilldale Avenue to US 231 Intersection
Begin MP	2.604	2.886	3.518	4.566	4.844	5.103	5.339	5.849	6.316	6.888	7.090	7.482	8.043
End MP	2.886	3.518	4.566	4.844	5.103	5.339	5.849	6.316	6.888	7.090	7.482	8.043	8.332
2015 ADT	2177	1873	1820	2472	2472	4020	4667	5136	6862	6569	7544	3643	3013
2015 LOS	C	C	C	C	C	C	D	D	D	D	D	C	C
2025 ADT	2419	2086	2036	3818	3818	5568	6867	7902	10229	12846	12950	6404	5341
2025 LOS	C	C	C	D	D	C	D	D	E	E	E	D	D
2040 ADT	2763	2390	2333	5761	5761	5761	10067	12035	15117	20562	20562	8784	8784
2040 LOS	C	C	C	D	D	C	E	E	E	F	E	D	D
2015-2040 Growth	26.9%	27.6%	28.2%	133.1%	133.1%	43.3%	115.7%	134.3%	120.3%	213.0%	172.6%	141.1%	191.5%

Future Transportation Projects

Every four to five years, the MPO develops a long-range plan, the Metropolitan Transportation Plan (MTP). In 2015, an update 2040 MTP was completed, documenting transportation improvement projects listed on an Unscheduled Needs List (UNL) that the MPO committees ranked in order of importance. The list is essentially a "wish list" of projects that planners and engineers hope will happen over a 25-year forecast. From the UNL, a listing of financially constrained projects is established with a breakdown of five-year periods through the year 2040. There are four projects relating to or influencing the Plano Road study area. ***Table 14*** below lists these projects based on the projected constraint period, as provided in the MTP.

In addition to the long-range projects listed in ***Table 13***, the Plano Road Focal Point Plan & Policy Development study conducted by Neel-Schaffer throughout the 2017 calendar year outlines a series of short-term and long-term priorities for roadway improvement projects along the Plano Road corridor. These recommended roadway improvements can be explored in the final study document, located on the MPO website at www.bgareampo.org, and are also summarized in the Future Considerations Section of this plan.

Along with the Plano Road Study recommendations, a Memorandum of Understanding (MOU) was established to represent a balanced effort to accommodate the increase in residential and commercial development, and to protect the effectiveness of future transportation improvements. The application of "access management" along the Plano Road Corridor, in conjunction with the recommended transportation improvements and land use development was the foundation of the MOU effort.

The MOU was entered into by and between the KYTC, Warren County (County), the City of Bowling Green (City), and the Bowling Green-Warren County Metropolitan Planning Organization (MPO). In addition, the City-County Planning Commission was recognized as an accessory party to the MOU in acknowledgement of the role of that agency in carrying out the responsibilities outlined within the document. The MOU is included in ***Appendix B***.

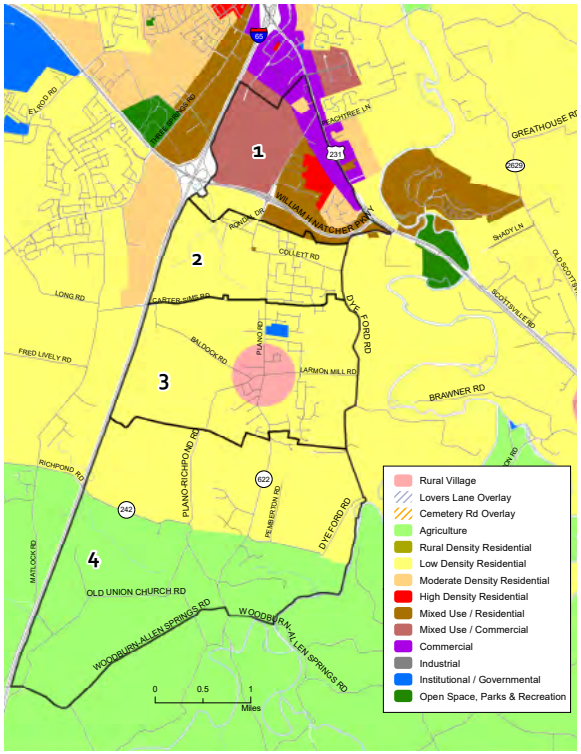
Table 14 | MPO Financially Constrained, Ranked Projects for Plano Road Area

Project Description	Project Length (Mi)	Cost Estimate for Constraint Period	Projected Constraint Period
Improve access and mobility along US 231 (Scottsville Road) from Campbell Lane to Plano Road including capacity and modification of frontage.	2.570	$59,151,133	2021-2025
Improve the safety and reduce travel time on KY 622 (Plano Road) from 0.1 mile south of Collett Road to Dewey Lake Road.	0.441	$3,202,064	2026-2030
Improve the safety of the intersection at KY 622 (Plano Road) and KY 242 (Richpond Road).	0.22	$376,243	2026-2030
Reconstruct and widen KY 622 (Plano Road) from Plano-Richpond Road to US 231 (Scottsville Road).	3.070	$50,242,278	2036-2040

6 | Policies & Recommendations for the Plano Community

Future Land Use Map

Based on feedback provided through a series of public meetings with members of the Plano community, adjustments are proposed to the Future Land Use Map (FLUM) for the Plano area. It is recommended that the Planning Commission adopt the proposed FLUM changes along with the adoption of this focal point plan and its policies. A comparison of the original and proposed FLUM is displayed below. The proposed FLUM identifies areas within the Plano community that are appropriate for particular types of development. Section 1 incorporates mixed-use/residential and mixed-use/commercial development, along with areas of moderate density residential and commercial uses. Section 2 is mostly comprised of low density residential uses, with a few opportunities for mixed-use residential development. Section 3 includes both rural density and low density residential uses, while recognizing existing public and institutional/ governmental uses.



Existing Future Land Use

Provisions have also been made for the continued vitality of the intersection of Plano Road and Plano-Richpond Road/Larmon Mill Road that has historically functioned as a crossroads for the Plano community. This area is designated as rural village on the FLUM. Section 4 encompasses mainly agricultural uses, with some opportunities for rural density residential development along Plano Road, east of Plano-Richpond Road and west of Dye Ford Road. The Plano Road future land use categories and respective acreages are listed on the following page in ***Table 15***.

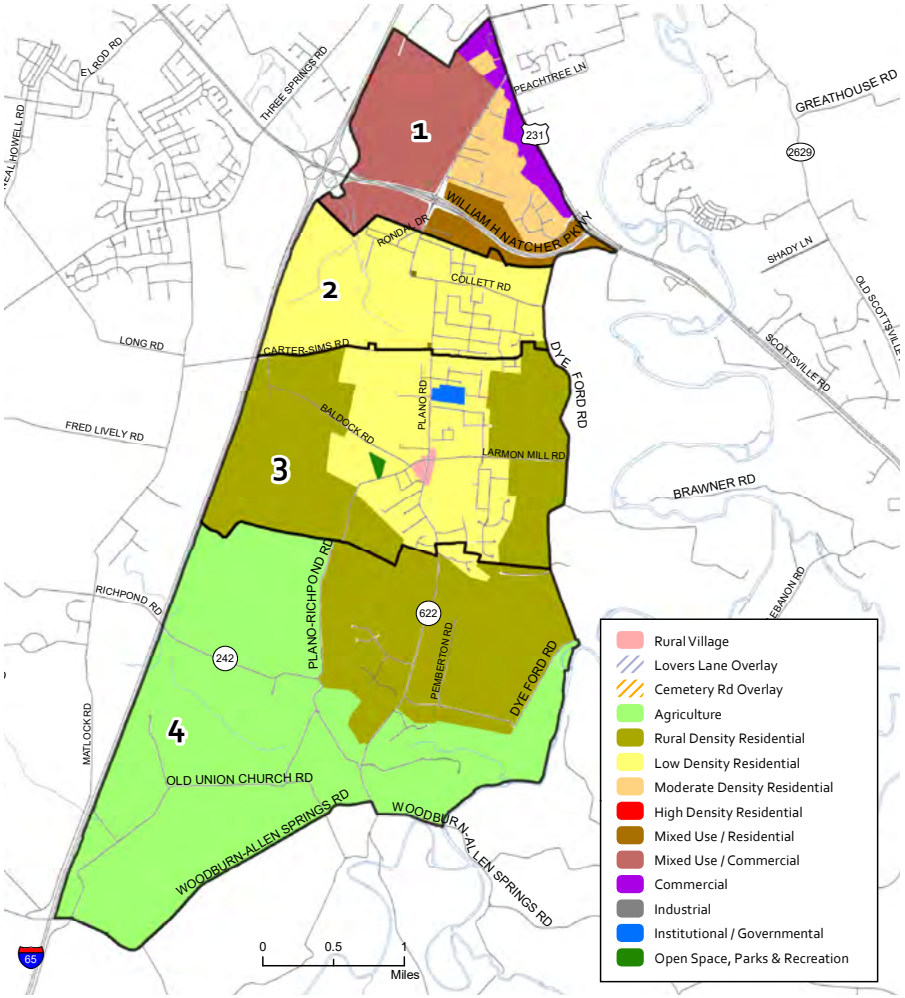


Exhibit 16 | Proposed Future Land Use

Table 15 | Analysis of Plano Road Future Land Use Map Categories

	Section 1		Section 2		Section 3		Section 4		Plano Area Total	
FLUM Categories	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Agriculture	-	0.00%	-	0.00%	-	0.00%	2,822.12	70.26%	2,822.12	34.93%
Rural Density Residential	-	0.00%	3.04	0.32%	1,126.09	56.44%	1,165.90	29.03%	2,295.03	28.41%
Low Density Residential	-	0.00%	941.92	99.04%	830.15	41.61%	28.42	0.71%	1,800.49	22.29%
Moderate Density Residential	230.93	20.70%	-	0.00%	-	0.00%	-	0.00%	230.93	2.86%
High Density Residential	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Mixed-Use/Residential	175.30	15.71%	6.10	0.64%	-	0.00%	-	0.00%	181.40	2.25%
Mixed-Use/Commercial	588.16	52.72%	-	0.00%	-	0.00%	-	0.00%	588.16	7.28%
Commercial	121.17	10.86%	-	0.00%	-	0.00%	-	0.00%	121.17	1.50%
Industrial	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Institutional/Governmental	-	0.00%	-	0.00%	18.30	0.92%	-	0.00%	18.30	0.23%
Open Space, Parks and Recreation	-	0.00%	-	0.00%	7.15	0.36%	-	0.00%	7.15	0.09%
Rural Village	-	0.00%	-	0.00%	13.53	0.68%	-	0.00%	13.53	0.17%
Total	1,115.56	100.00%	951.06	100.00%	1,995.22	100.00%	4,016.44	100.00%	8,078.28	100.00%

The differences between the current FLUM and proposed Plano FLUM are outlined in ***Table 16*** on the following page. The amount of land designated as rural density residential increases the most by 2,295 acres, while the amount of land designated as low density residential decreases the most by 2,816 acres. A substantial 594.82 acres of land is also designated for future use of agriculture. The FLUM designations within Section 2 changed the least, with only 3.92 acres of land reclassified. The FLUM designations in Section 4 changes the most, with 1,760.72 acres of land reclassified.

Ruben's Garage, located at the intersection of Plano Road and Carter Sims Road, is a long-standing feature of the Plano community. This commercial property is a non-conforming use (grandfathered-in) that pre-dates county-wide zoning that was enacted in 1972.

Table 16 | Adjustments between Current FLUM and Proposed Plano FLUM

Difference in Acreage					
FLUM Categories	Section 1	Section 2	Section 3	Section 4	Plano Area Total
Agriculture	-	-	-	+ 594.82	+ 594.82
Rural Density Residential	-	+ 3.04	+ 1,126.09	+ 1,165.9	+ 2,295.03
Low Density Residential	- 110.07	- 3.92	- 941.52	- 1,760.72	- 2,816.23
Moderate Density Residential	+ 156.21	-	-	-	+ 156.21
High Density Residential	- 62.31	-	-	-	- 62.31
Mixed-Use/Residential	- 76.03	+ 0.88	-	-	- 75.15
Mixed-Use/Commercial	+ 122.54	-	-	-	+ 122.54
Commercial	- 30.34	-	-	-	- 30.34
Industrial	-	-	-	-	-
Institutional/Governmental	-	-	-	-	-
Open Space, Parks and Recreation	-	-	+ 7.15	-	+ 7.15
Rural Village	-	-	- 191.72	-	- 191.72

Plano Focal Point Plan Policies

In order to ensure appropriate development in the Plano community in the future, the following policies are also hereby incorporated as a part of this plan. These polices were developed using a combination of public input, current development plan conditions applicable to properties within the region and existing patterns of development in the focal point area. All new development proposals should address these policies through voluntary development plan conditions. The Planning Commission should consider applicable policies for all future development requests within the Plano community.

General Policies

PL-1 - To ensure suitable development of vacant tracts and infill sites within the Plano community, the Future Land Use Map should guide all zoning and development decisions.

PL-2 - The following uses should be prohibited: bingo; pawn shop; tattoo parlor; adult entertainment (including the sale, rental or display of pornography or adult books); sale of alcoholic beverages by the drink except in conjunction with a restaurant; commercial parking; billboards; self-service storage (Sections 2, 3 and 4 only); manufactured and mobile home sales.

Design Elements

Future development within the Plano community should incorporate design elements that are sensitive to the existing patterns of development within the community and give careful consideration to the character of the surrounding

area. The following policies address design features for future development and should be evaluated with each zoning map amendment application:

PL-3 - Future development should be sensitive to the existing pattern of development in the area, including building orientation and setbacks.

PL-4 - All non-residential development fronting Plano Road should be designed in such a way to appear to face Plano Road, regardless of the location of the driveway, access and parking. If unable to be designed in this manner, some type of screening/landscaping requirement should be incorporated into the proposed development.

PL-5 - Residential development fronting Plano Road should not incorporate rear facades oriented toward Plano Road. If unable to be designed in this manner, some type of screening/landscaping requirement should be incorporated into the proposed development.

PL-6 - Consideration should be given to the existing pattern of development in the surrounding area, including building setbacks along existing roadways.

PL-7 - All non-residential development and residential development served by internal streets should have underground utilities (including infrastructure within the right-of-way).

PL-8 - Future development should incorporate high-quality design materials. Plain-faced block should be prohibited for all facades and split-faced block should be permitted only for building foundations for single family residential uses.

PL-9 - Vinyl may be permitted on a limited basis. No more than 30% of homes within subdivisions encompassing 10 lots or more should have a front facade constructed of 100% vinyl. Facade variation among homes in the same block is also encouraged.

Signage

There is a limited amount of signage currently present in the Plano community. Most signage is limited to Plano Road. The following policies should be evaluated with future development proposals to ensure compatibility of future signage in the area, and to encourage signage that will complement the existing character of the area:

PL-10 - Freestanding signage in Section 1 should be monument-style, limited to a maximum of 8 feet in height, with a maximum sign face area of 75 square feet.

PL-11 - Freestanding signage in Sections 2, 3 and 4 should be monument-style, limited to a maximum of 8 feet in height, with a maximum sign face area of 32 square feet. Such signage should be externally illuminated only, with the exception of signage for time, temperature or fuel prices.

PL-12 - Billboards should be prohibited.

Transportation Considerations

Few parking lots presently exist along Plano Road. To address compatibility of future parking areas along Plano Road, the following policies should be considered:

PL-13 - Parking areas for non-residential and multi-family residential development should not be located within the building setback along Plano Road and should be located to the side and rear of the building(s) when possible.

PL-14 - Fully consider the MOU between the KYTC, County, City, and Planning Commission to achieve within a collaborative effort the following:

(a) New access points along the Plano Road (KY 622) corridor shall be governed by the following guidance that reduce the number of access points and/or establish minimum spacing between access points.

1) New access points should not be situated within the functional area of a signalized intersection including the limits of any auxiliary lanes being utilized. For a 45-mph roadway such as Plano Road (KY 622), the KYTC recommends 500 feet minimum spacing, measured from stop bar to end of access radius.

2) Spacing for unsignalized access should also be restricted to no less than the minimum stopping sight distance for a 45-mph roadway;

the KYTC recommends 360 feet minimum spacing.

3) If the posted speed limit along the affected section of Plano Road (KY 622) is reduced in the future, or if future roadway expansion includes other access management techniques, like raised medians, adjustments to the minimum spacing may be appropriate.

4) If frontage roads are proposed within a development, all signatory parties require 150 feet minimum spacing on the cross road between the frontage road and Plano Road.

(b) Limit the number of new signalized intersections along the entire corridor, but specifically within the section of Plano Road (KY 622) between the Natcher Parkway interchange signal and the signalized intersection with US 231 (Scottsville Road). Traffic signals may be proposed, when warranted, at no more than two intersections within this segment of the corridor. These intersections are located at Sylvia Way (mile point 7.482), which is approximately 930 feet from the existing signal at the Natcher Parkway Interchange, and at Hilldale Ave. (mile point 8.043), which is approximately 1,430 feet from the existing signal at Scottsville Road.

Conclusion

In summary, the Plano focal point plan provides an in-depth analysis of the area through historic documentation and information related to physical resources and community facilities, land use analysis, zoning history and future land use. This study also provides a thorough review of transportation amenities and issues within the corridor. It presents past, present and future development trends and depicts the general character of the region through a visual survey. The findings contained within this document will assist the Planning Commission, Planning Commission staff, and its sister agencies with decision-making regarding development proposals, as well as guide future policy within the area for years to come. It is recommended that all participating government bodies follow the recommendations and policies set forth in this focal point plan in order to help guide growth in the Plano community.

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Appendix A | Exhibits

Exhibit 1 | Study Area Context

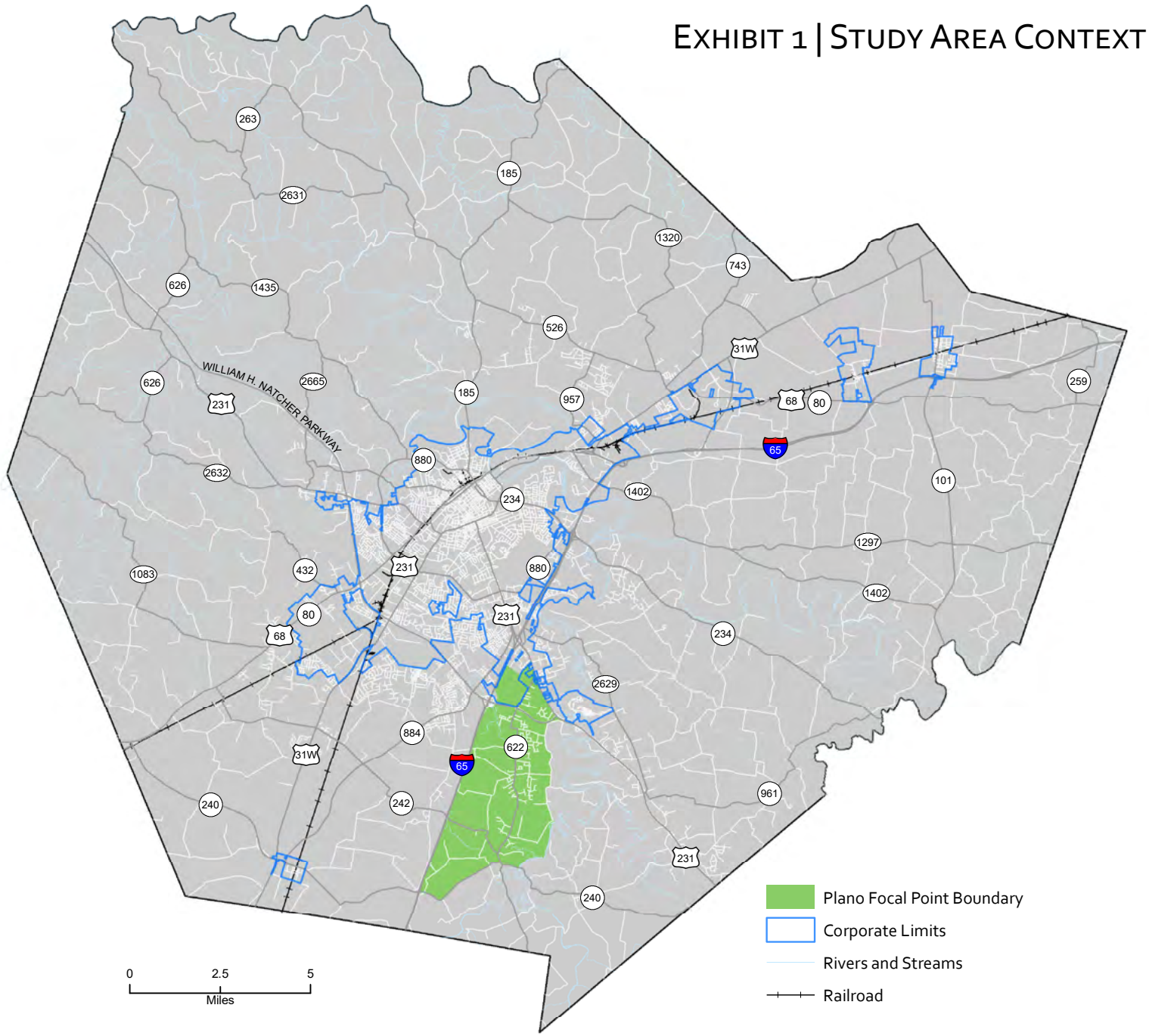


Exhibit 2 | Plano Corridor Owners, 1877

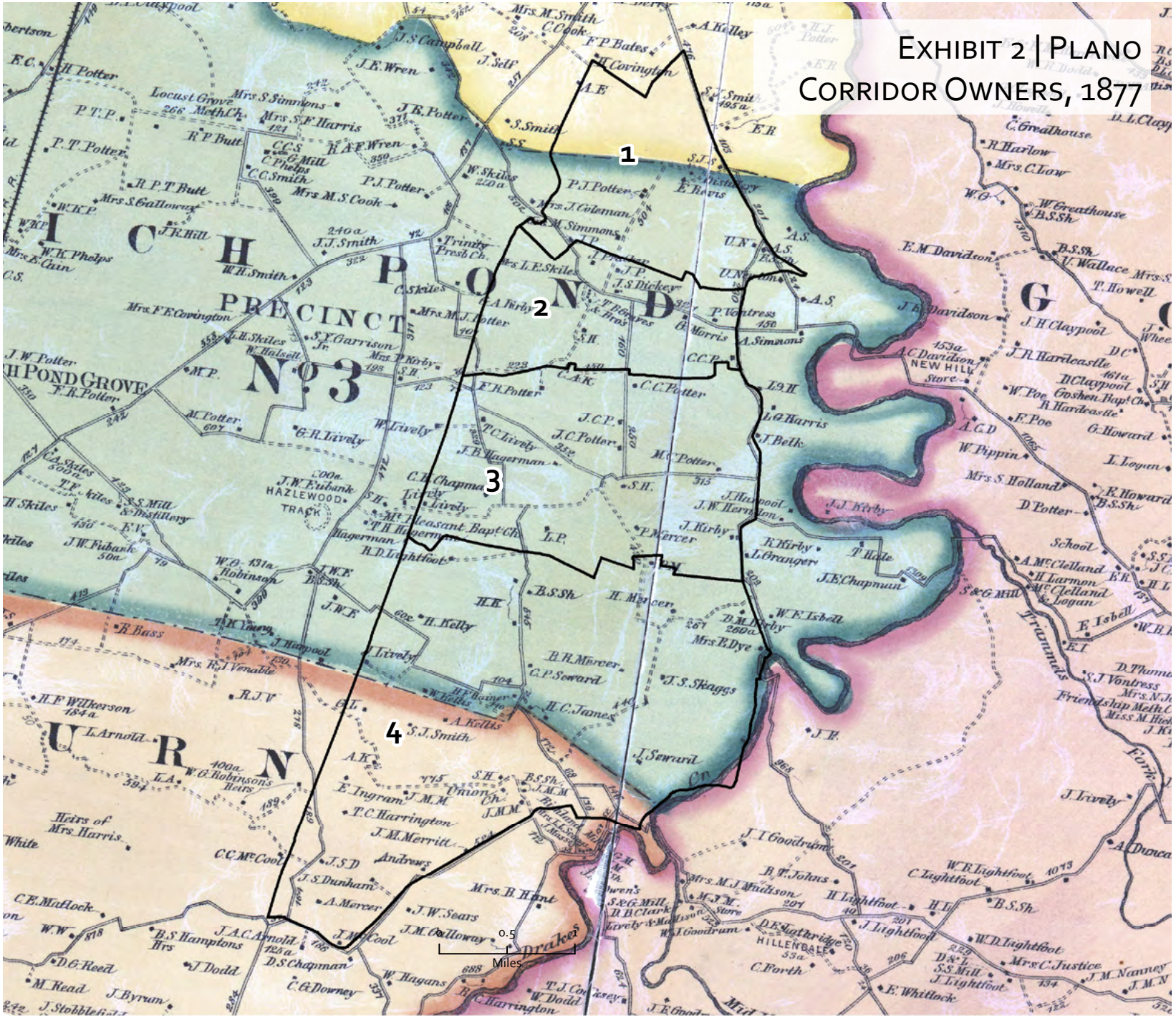


Exhibit 3 | Plano Focal Point Plan Boundary

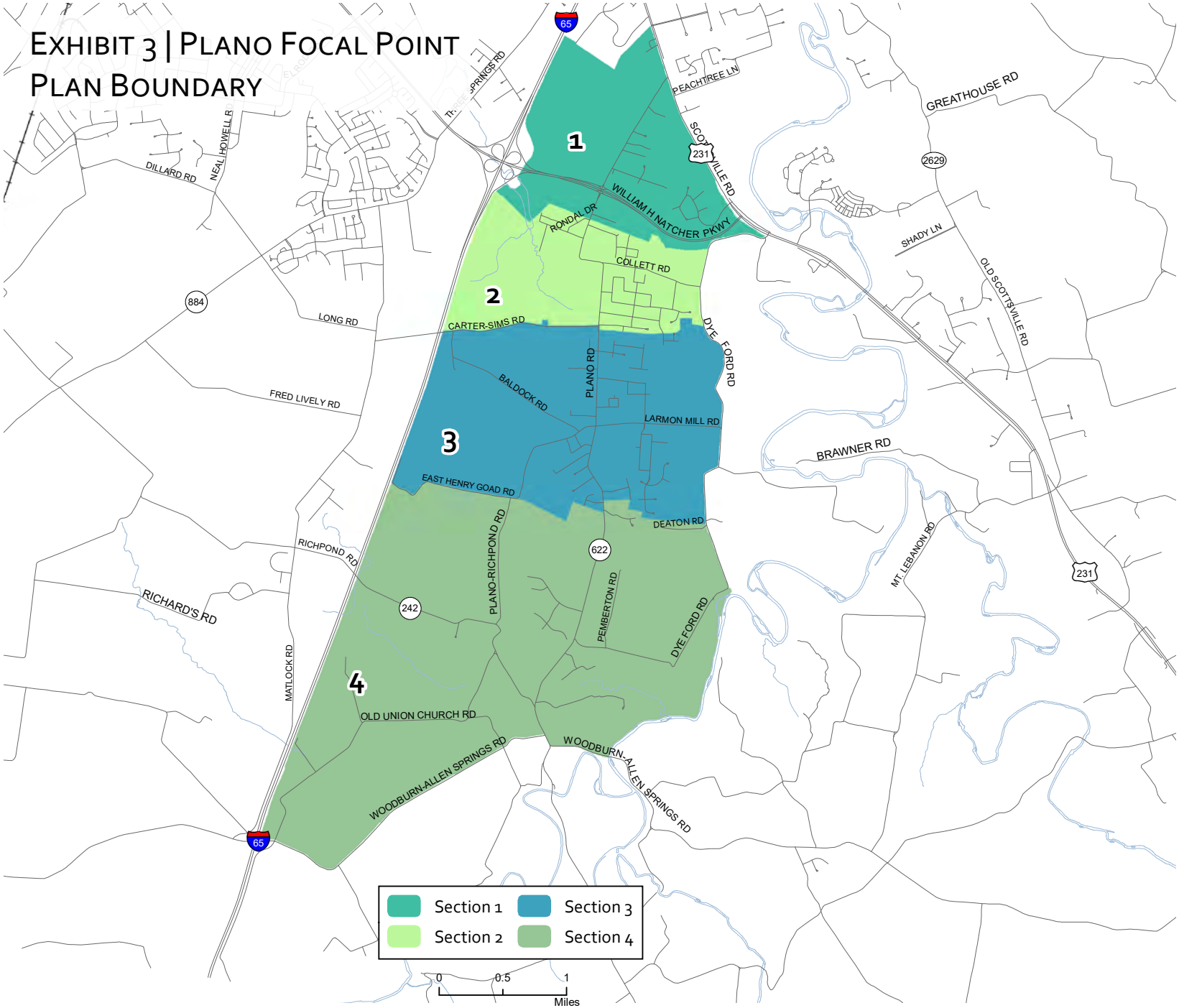


Exhibit 4 | Location of Caves, Sinkholes & Wetlands

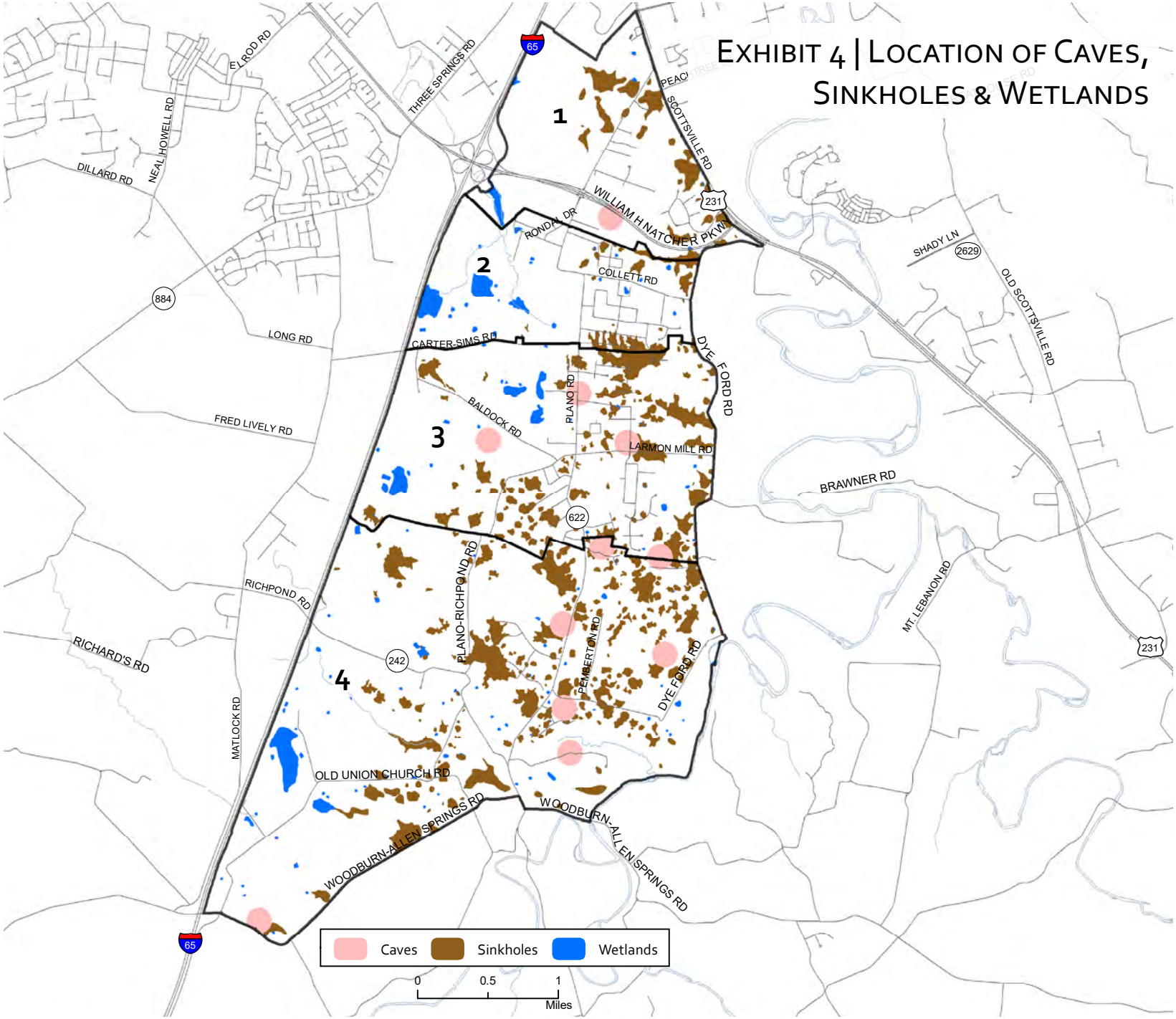


Exhibit 5 | Soil Types

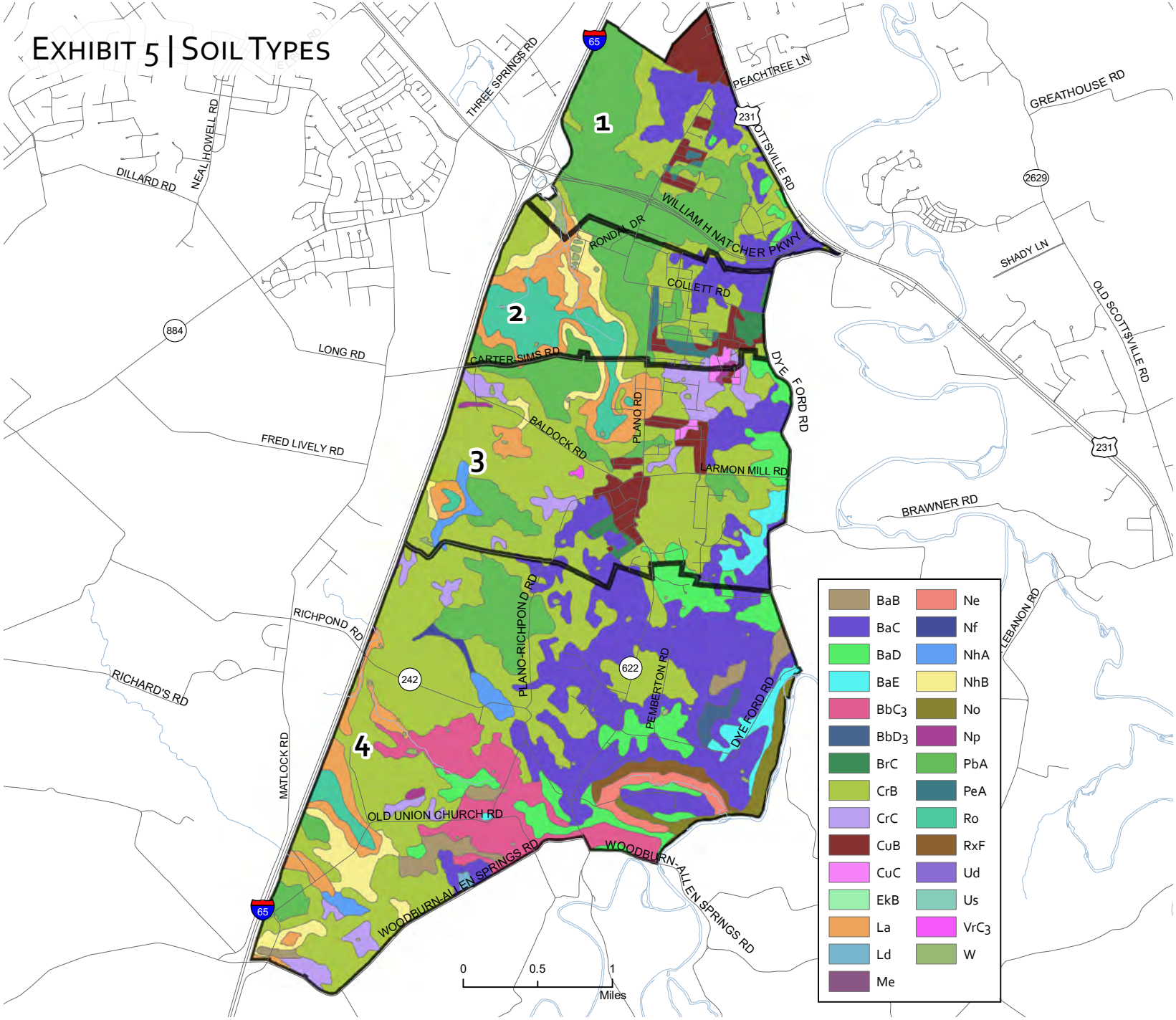


Exhibit 6 | Water Availability

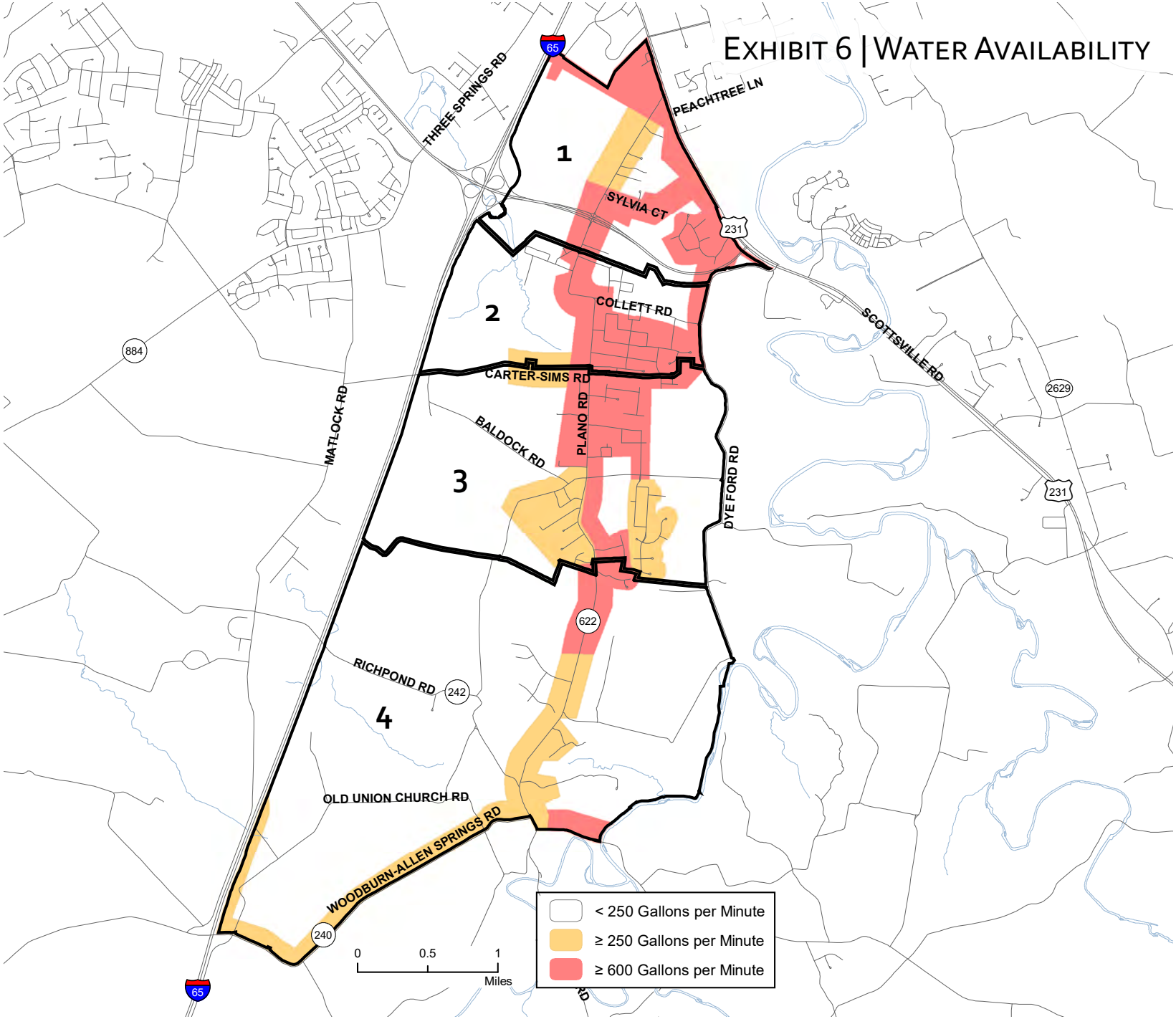


Exhibit 7 | Sewer Availability

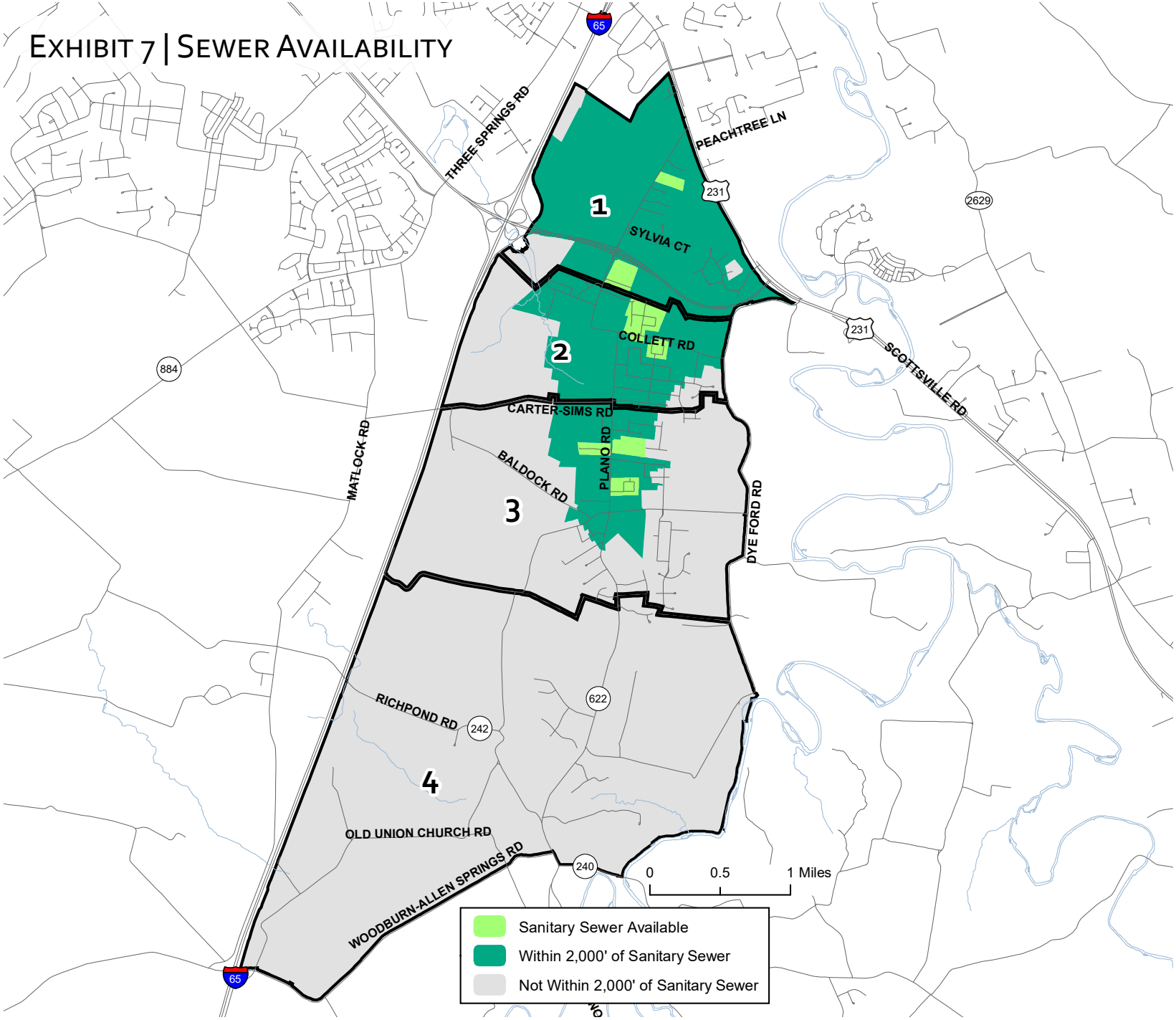


Exhibit 8 | Fire District Boundaries & Stations

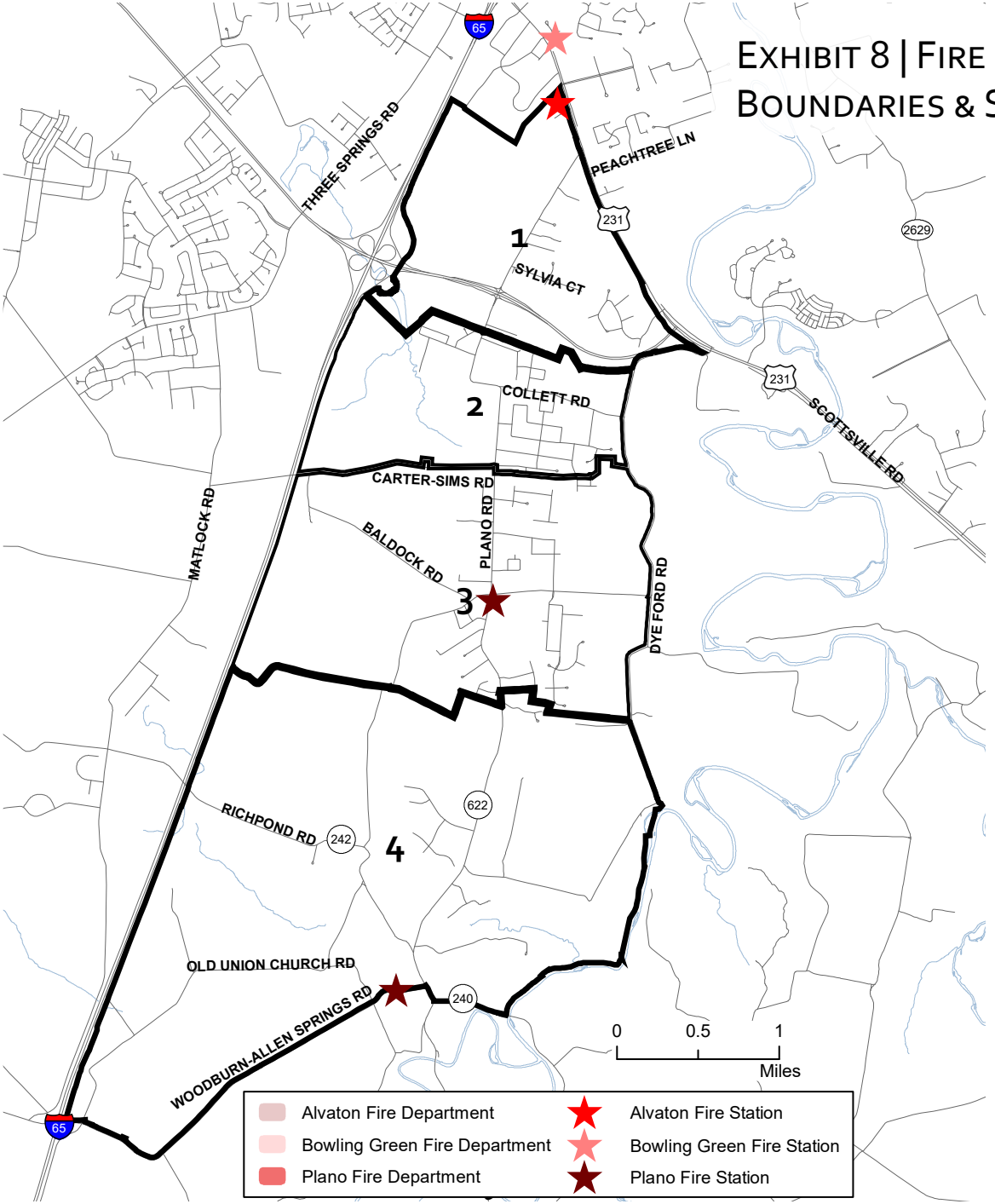


Exhibit 9 | Current Land Use

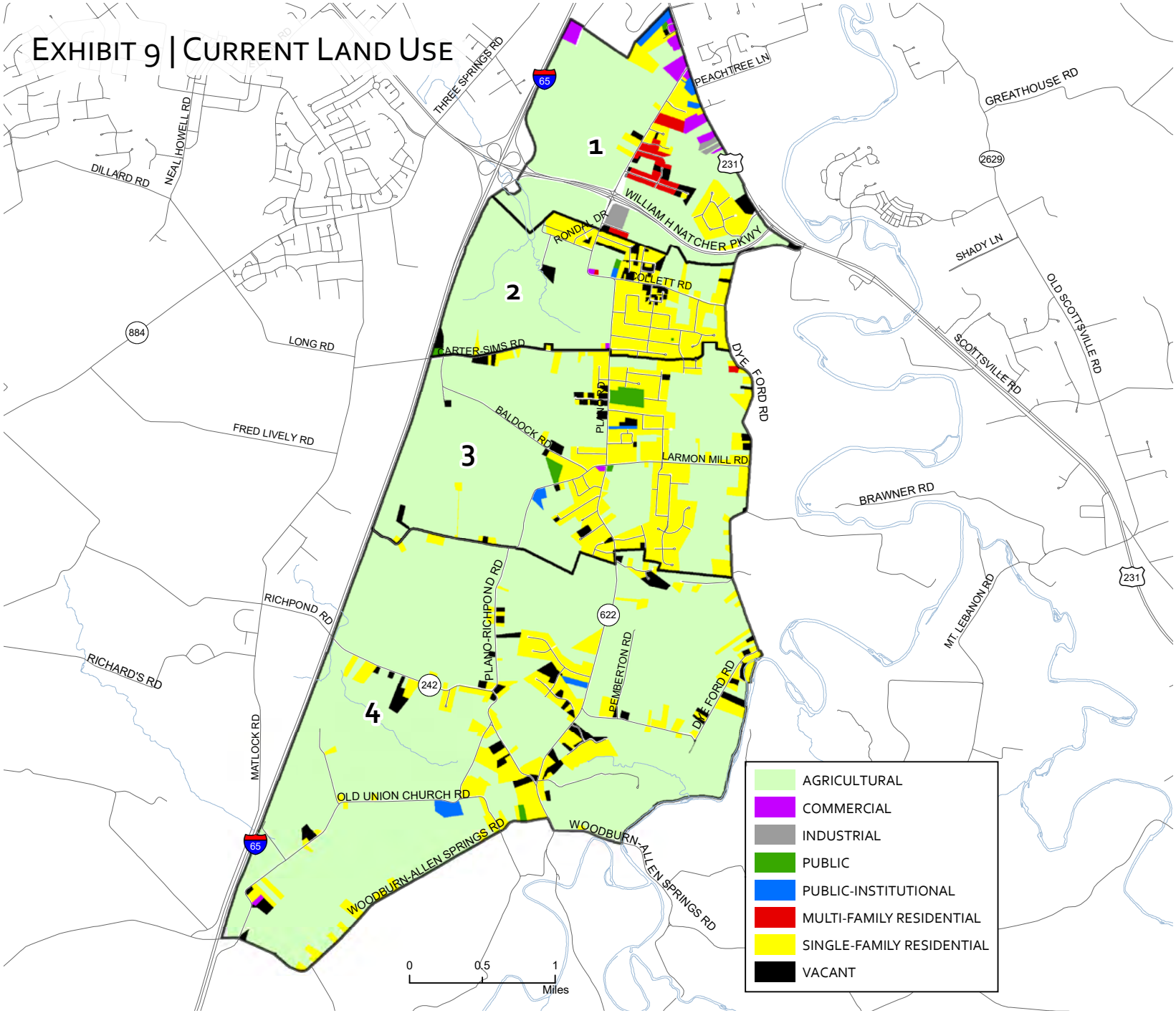


Exhibit 10 | Zoning Districts

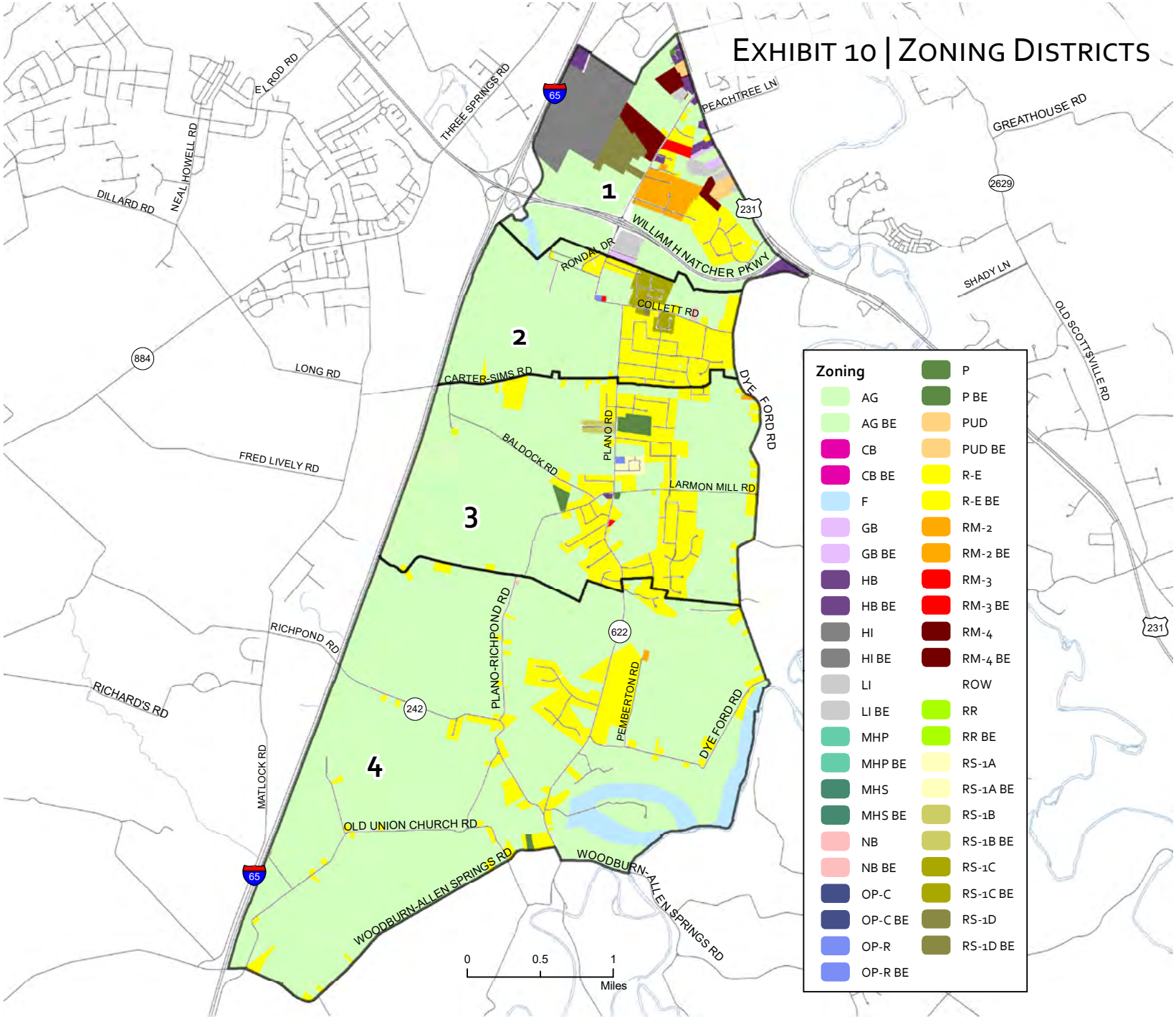


Exhibit 11 | Existing Future Land Use

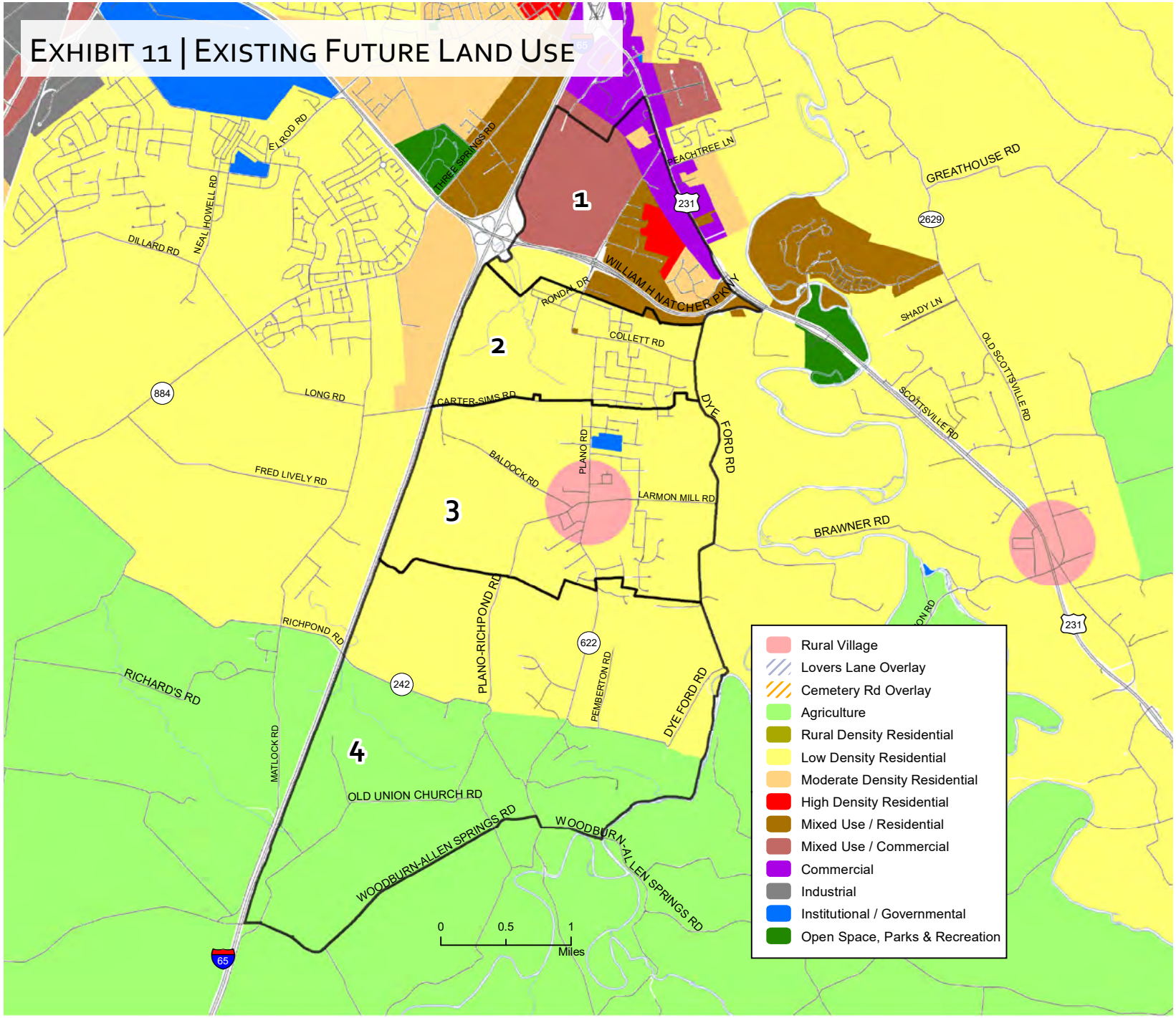


Exhibit 12 | Functional Classification

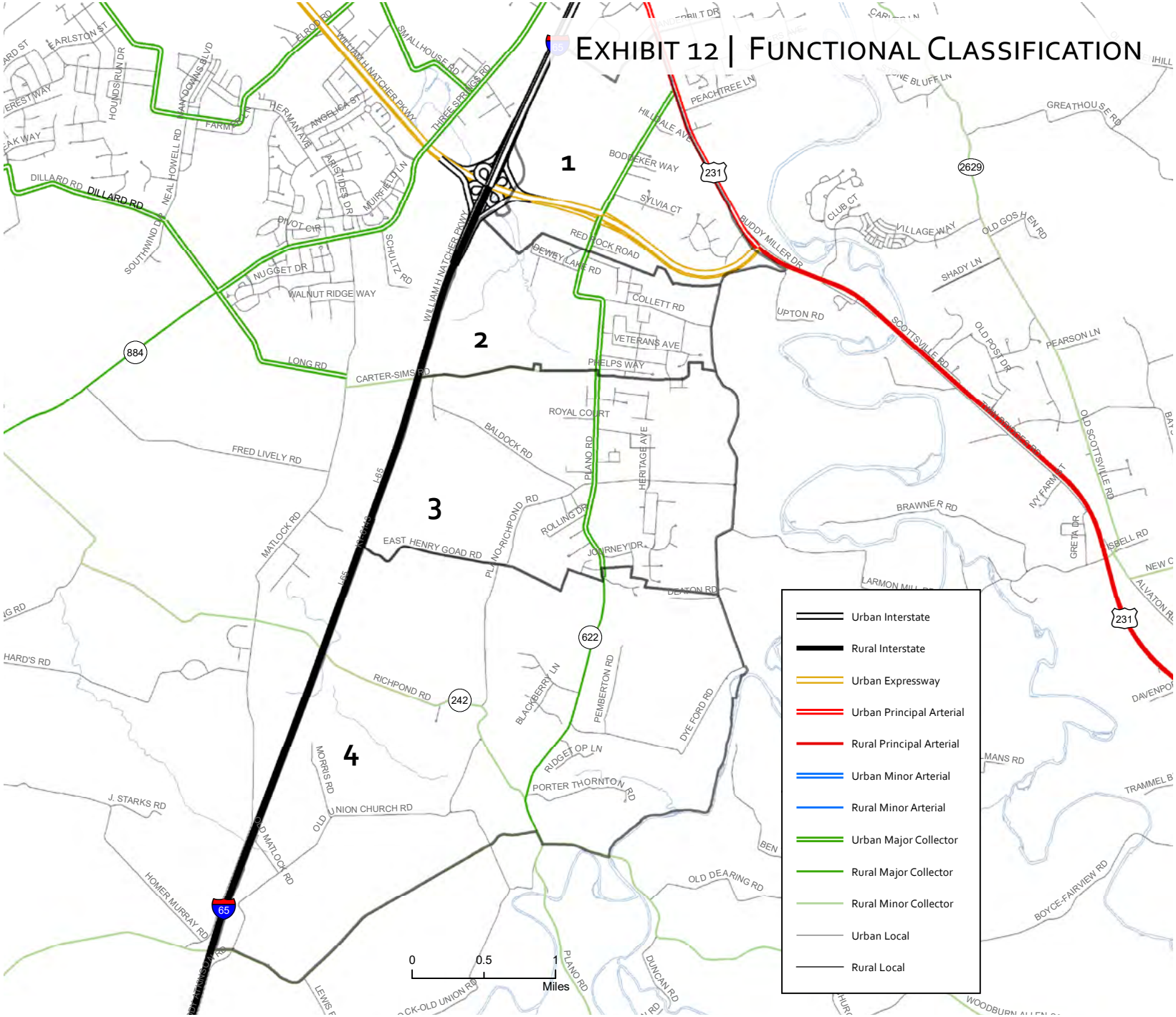


Exhibit 13 | Bicycle, Pedestrian & Recreational Facilities

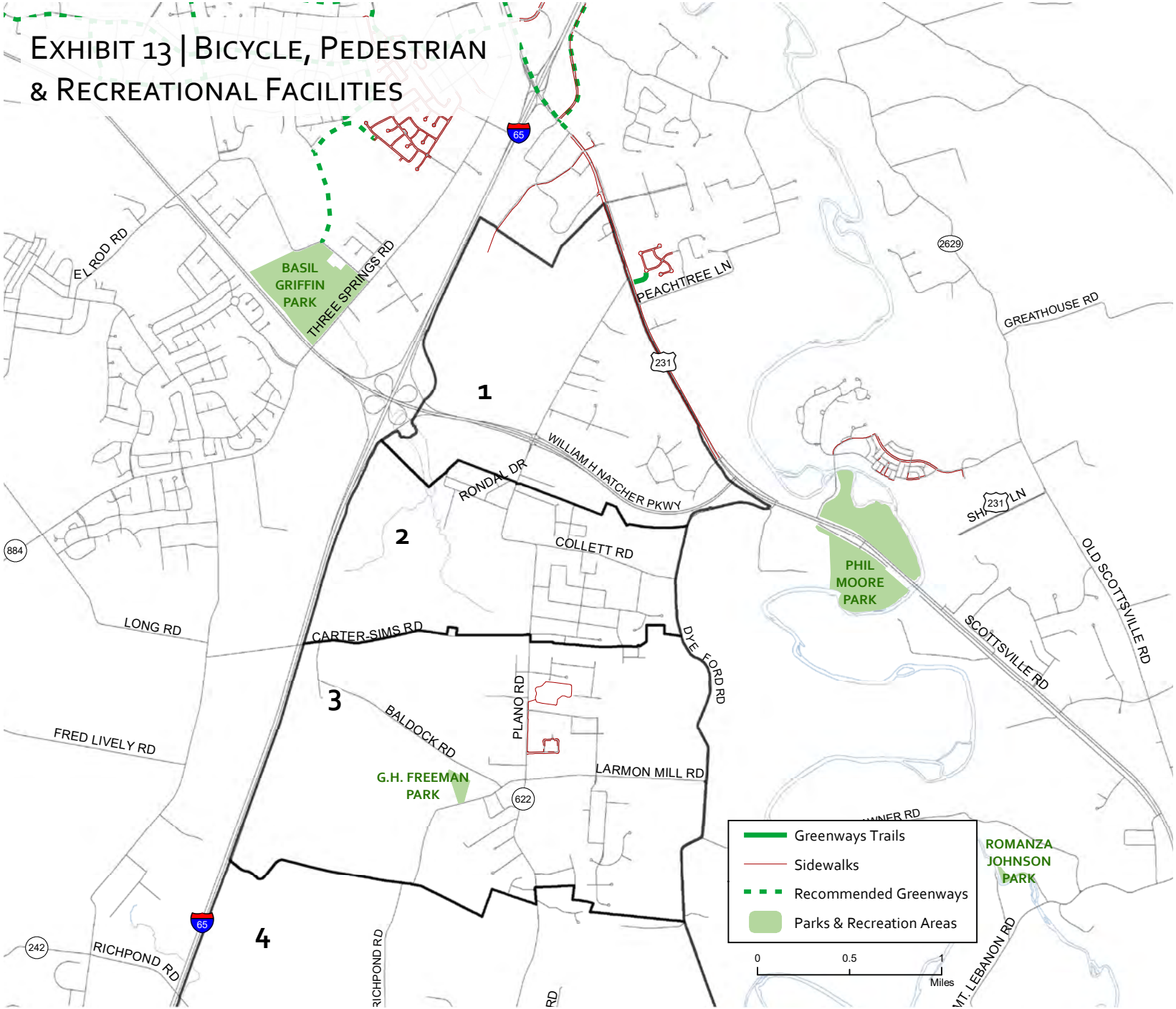


Exhibit 14 | Traffic Counts

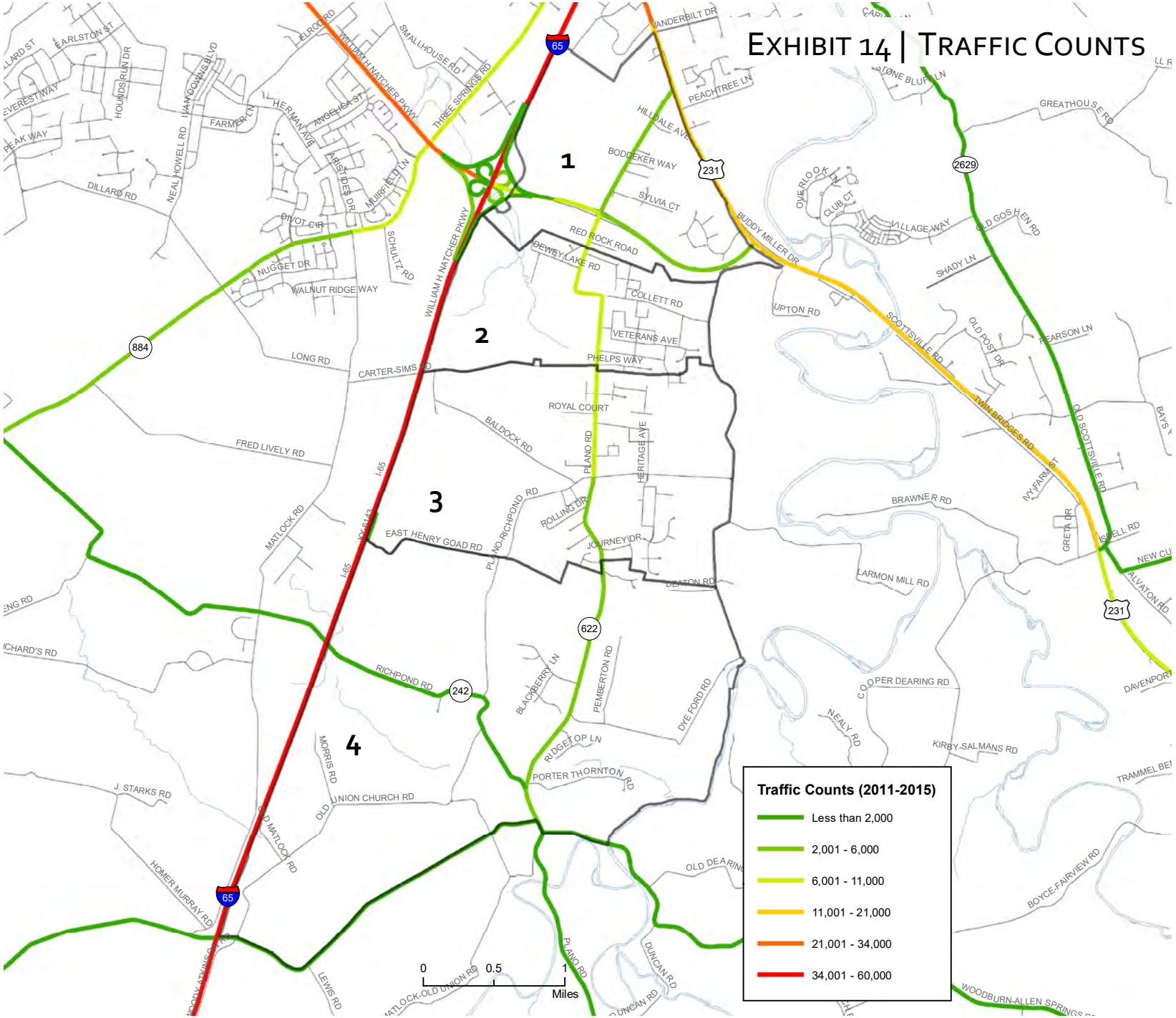


Exhibit 15 | Crashes on Plano Road, 2005-2014

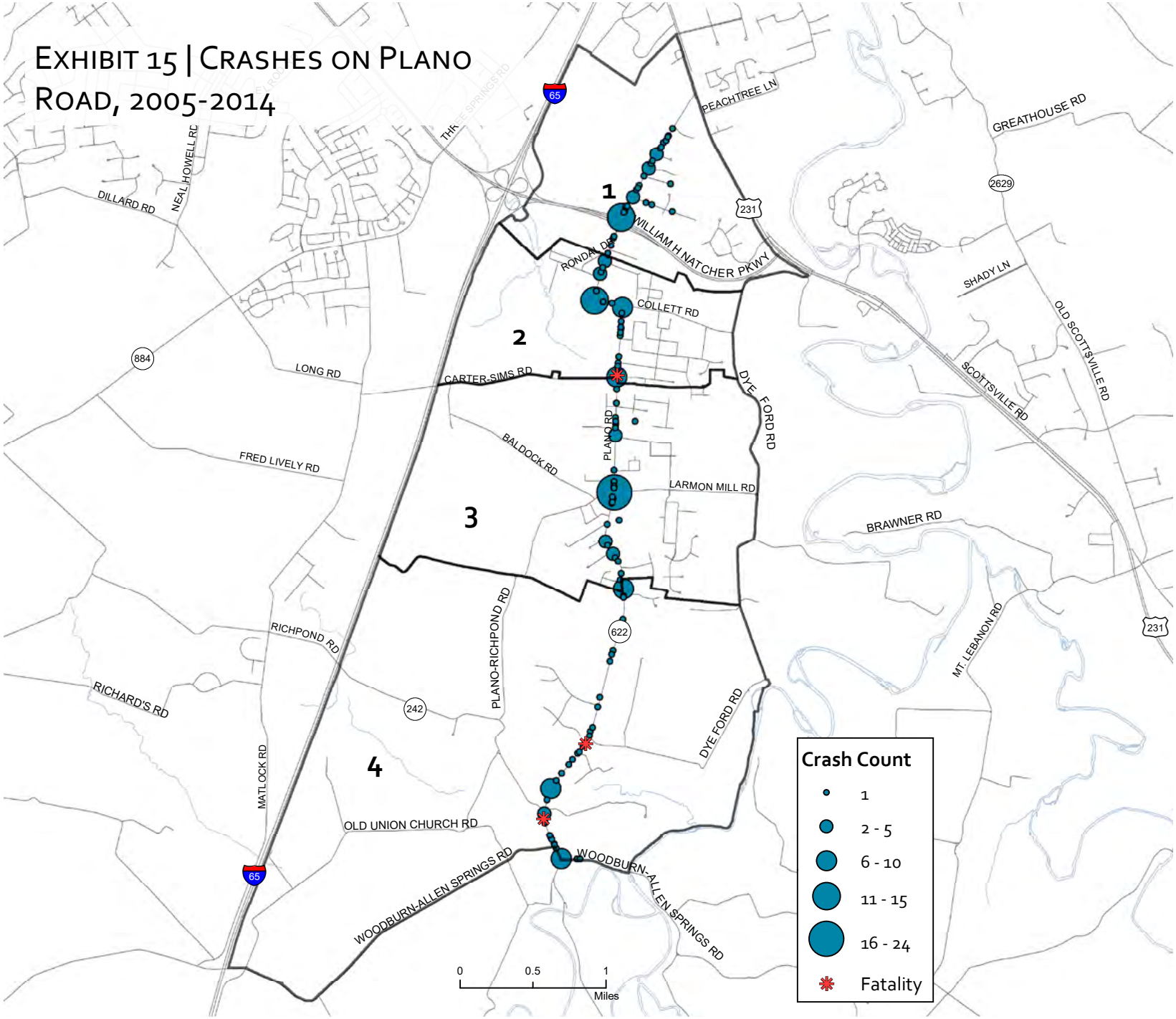
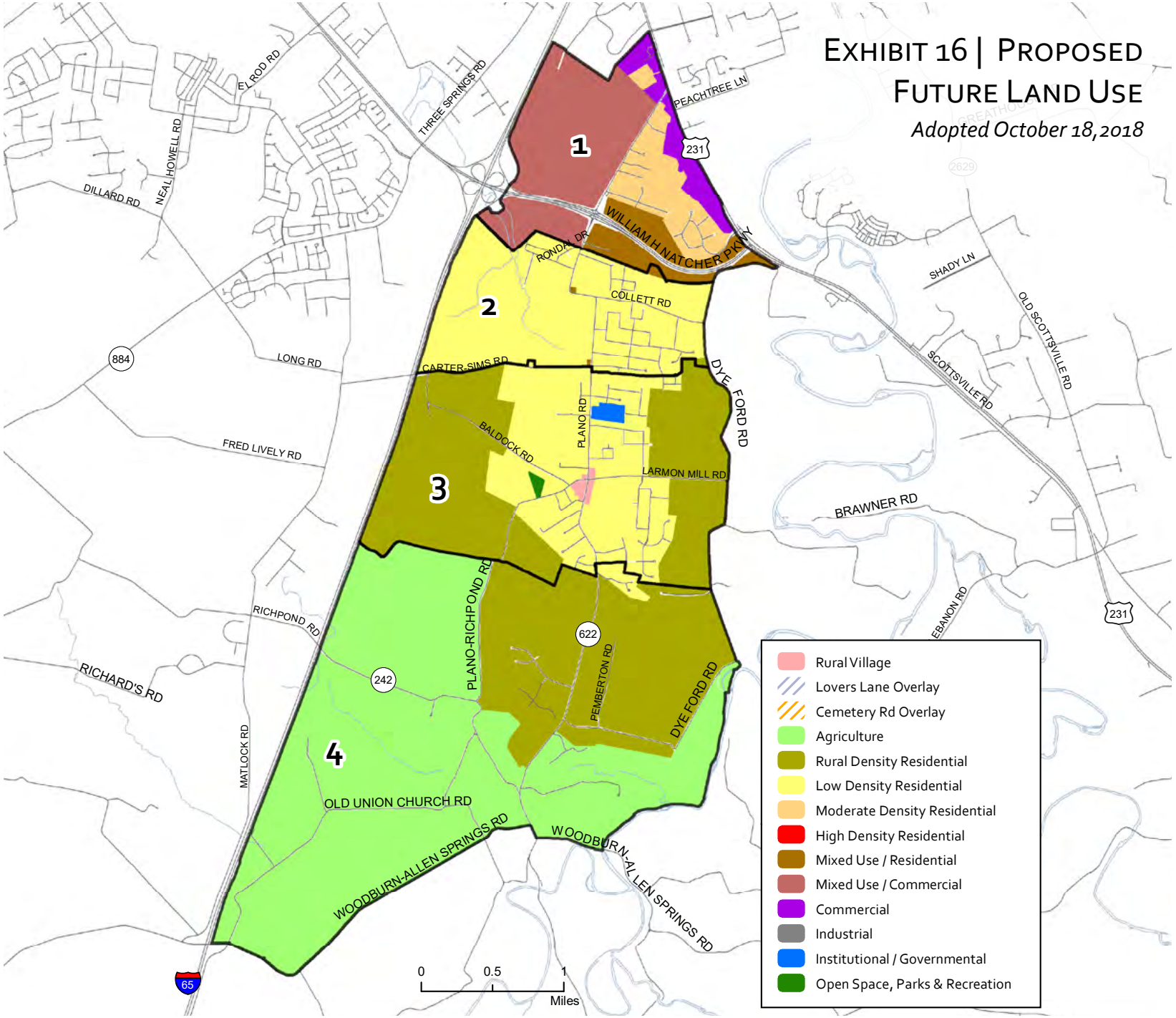


Exhibit 16 | Proposed Future Land Use

Adopted October 18, 2018



APPENDIX B | PLANO ROAD CORRIDOR STUDY & POLICY DEVELOPMENT - EXECUTIVE SUMMARY (NEEL-SCHAFFER, INC.)

EXECUTIVE SUMMARY

Study Area and Context

Bowling Green and Warren County, Kentucky, have experienced an enormous amount of residential and commercial growth. This growth has been focused mainly in the southern end of the city and county, in a broad area that includes the unincorporated community of Plano that has an estimated population of 4000 residents. Plano Road (KY 622), a two-lane, state-maintained roadway functions as a major collector within urban and rural contexts and connects the steadily growing community of Plano to the greater urban area of Bowling Green by way of the Natcher Parkway, Scottsville Road (US 231), and Carter Sims Road. With Warren County's population projected to grow 46% by the year 2040, and with a significant portion of this growth expected to occur in the southern part of the county, Plano Road will be highly susceptible to increased development pressure and increased traffic volumes. The City-County Planning Commission of Warren County had already encountered an increase in large-scale zone changes for the construction of multi-family and single-family dwelling units in the Plano Road corridor, especially near Collett Road.

FIGURE E.1 - STUDY AREA

The completion of the Plano Road-Natcher Parkway interchange in 2011 provided some improvement to Plano Road at the interchange, but the remainder of the corridor is predominantly a narrow two-lane roadway with limited shoulders and several curves and hills (with horizontal and vertical alignment deficiencies). The curves located within the vicinity of the intersection of Plano Road and Collett Road present the greatest safety concerns. Although the construction of the Plano Elementary School and some newer subdivisions provided some sidewalks, the opportunities for pedestrians to navigate along the corridor is extremely limited.

Study Purpose

The purpose of this study was to determine a coordinated plan of transportation improvements, land use policies, and interagency agreements of cooperation to address the impacts of residential and commercial growth in the Plano community upon the safety and mobility of the approximately 6-mile segment of Plano Road (KY 622) which functions as the community's "Main Street" from the intersection with KY 240 to the intersection with US 231.

Appendix C | Plano Road Corridor Study & Policy Development - Memorandum of Understanding (Neel-Schaffer, Inc.)

MEMORANDUM OF UNDERSTANDING

KY 622 Corridor Management Partnership, Bowling Green, Warren County

I. Parties: This Memorandum of Understanding (hereinafter referred to as "MOU") is made and entered into by and between the Kentucky Transportation Cabinet (KYTC), Warren County (County), the City of Bowling Green (City), and the Bowling Green-Warren County Metropolitan Planning Organization (MPO). In addition, the City-County Planning Commission of Warren County is recognized as an accessory party to this MOU in acknowledgement of the roles of that agency in carrying out the responsibilities outlined herein.

II. Background:

Bowling Green and Warren County have experienced rapid growth in both the residential and commercial sectors which has led to increased pressure upon the existing highway network especially in the southeastern portion of the city and county. As part of that network, the Plano Road (KY 622) Corridor is a major collector with urban and rural functions connecting the steadily growing community of Plano to the greater urban area of Bowling Green by way of the Natcher Parkway, Scottsville Road (US 231), and Carter Sims Road.

With increased access to the transportation network by way of the Natcher Parkway interchange, the construction of the Plano Elementary School, and the availability of open acreage, the Plano community is positioned for potentially rapid residential and commercial growth over the next two decades, which will lead to a substantial increase in traffic volumes and additional safety concerns along the corridor.

In the spring of 2017, the Bowling Green-Warren County MPO initiated the 2017 Plano Road (KY 622) Corridor Plan and Policy Development Study for the segment of Plano Road (KY 622) from the intersections with KY 240 and KY 242 northward to the intersection with US 231 (Scottsville Road). The purpose of this study was to determine a coordinated plan of transportation improvements and land use policies that would address the impacts of residential and commercial growth.

This MOU represents a balanced effort to accommodate the increase in residential and commercial development, and to protect the effectiveness of future transportation improvements, including those recommended in the 2017 Plano Road (KY 622) Corridor Plan and Policy Development study. The application of "access management" along this corridor in concert with transportation improvements and land use development is the foundation of this effort.

The Federal Highway Administration (FHWA) defines "Access Management" as the process of balancing the competing needs of traffic movement and land access. Access management encompasses a set of techniques which can be used to balance these competing needs of mobility

and accessibility. These techniques can be applied according to the form and function of facilities which comprise the hierarchy of the highway network and can include:

- **Intersection Spacing:** Increased distance between intersections can improve the flow of traffic, reduce congestion, and improve safety along heavily travelled corridors. The spacing of signalized intersections also has an enormous impact on the traffic flow along roadways, and these types of intersections should be spaced at even greater distances than non-signalized intersections.
- **Entrance Spacing:** Fewer driveways spaced further apart allow for more orderly merging of traffic and present fewer conflict points for motorists.
- **Turning Lanes:** Dedicated left and right turn lanes and indirect left-turns and U-turn's can maintain traffic flow through the removal of turning traffic from the through traffic along corridors.

III. Purpose: The purposes of this MOU are to:

- Provide for the mutual acceptance of the 2017 Plano Road (KY 622) Corridor Plan and Policy Development Study as a shared vision of the corridor and its deficiencies and needs;

- Establish a shared commitment in the management and improvement of the Plano Road (KY 622) Corridor to preserve its safety and mobility in a manner that is consistent with the Plano Road Plan and Policy Development;

- Provide a guidance framework for multi-jurisdictional coordination and cooperation in the development review and access permitting decisions that impact the Plano Road (KY 622) Corridor between KY 240 and US 231 (Scottsville Road); **and**

- Establish a set of access management practices which will be applied accordingly along the Plano Road (KY 622) Corridor according to the findings of the 2017 Plano Road (KY 622) Corridor Plan and Policy Development study.

IV. Need: The policies, programmatic procedures, and funding actions required in carrying out development reviews and related access permitting actions for the Plano Road (KY 622) Corridor transcend the resources, authority, and jurisdiction of any single agency or unit of government. In addition, actions taken at any point along the Plano Road (KY 622) Corridor have the potential to impact traffic conditions and travel times. Therefore, coordination and cooperation are necessary between governmental entities to accomplish the access management objectives. Since such coordination has occurred previously on only an informal and ad hoc basis, a mechanism is needed to formalize cooperation for the Plano Road (KY 622) Corridor.

V. Roles/Responsibilities: The general roles and responsibilities of the parties with respect to this MOU are outlined below. Other than the partnerships created for managing access along the

Plano Road (KY 622) Corridor, it is not intended that this MOU create any responsibility or duty of care that did not previously exist or alter any existing responsibility or duty of care. The goal of this MOU is to improve spacing and/or design in conjunction with rezoning or redevelopment of existing properties.

KYTC

- Issuance of access permits or denial of access permit requests on State-maintained roadways, specifically for the Plano Road (KY 622) Corridor.

- Funding allocation and project management for implementation of State-responsible improvement projects for the Plano Road (KY 622) Corridor, including those recommended in the 2017 Plano Road (KY 622) Corridor Plan and Policy Development Study.
- Initiation of efforts to improve access spacing and/or design in conjunction with State-responsible improvement projects.

- Coordination and cooperation with City-County Planning Commission and other participating agencies in review of development proposals, including location and design of access.

County and City Agencies

- **City-County Planning Commission**
    - Coordination and cooperation with KYTC, the City of Bowling Green, and Warren County during actions related to zoning and development proposals for properties adjacent to and desiring access to Plano Road (KY 622).
    - Coordination with the participating agencies within this MOU to develop a plan of adequately spaced primary (signalized) and secondary access points along the corridor, particularly within the segment of Plano Road (KY 622) from the Natcher Interchange to US 231 and in the area of the Collett Road intersection and curves.
    - Promotion of the interconnectivity of the roadway network within the development or redevelopment of properties in the Plano Community.
    - Incorporation of property set-backs and other coordination tools that can preserve right-of-way and constructability for transportation improvements, including those recommended in the 2017 Plano Road (KY 622) Corridor Plan and Policy Development Study.
    - Periodic review and reassessment of the findings and recommendations of the Plano Road (KY 622) Corridor Access

Management Partnership and revision as necessary through the MPO Transportation Planning Process.

- **Warren County**
    - Review of the access permits for county roads within the Plano transportation network using the criteria of the City-County Planning Commission. These include adherence to distance from intersections, adequate entrance pipe lengths, and diversion of storm water.
    - Support of efforts to improve access spacing and/or design in conjunction with rezoning or redevelopment of existing properties and County-responsible improvement projects.
    - Funding allocation and project management for implementation of County-responsible transportation improvement projects.

- **City of Bowling Green**
    - Access permits within the Plano transportation network will be issued in accordance with the City's Standards for Access Management.
    - Support of efforts to improve access spacing and/or design in conjunction with rezoning or redevelopment of existing properties and City-responsible improvement projects.
    - Funding allocation and project management for implementation of City-responsible transportation improvement projects.

MPO

- Documentation within the MPO's Transportation Plan of the transportation improvements recommended in the 2017 Plano Road (KY 622) Corridor Plan and Policy Development Study.

- Prioritization of the recommended improvement projects in relation to other identified projects within the metropolitan area.

- Incorporation of these recommended improvement projects utilizing federal highway funds into the MPO's Transportation Improvement Program (TIP).

- Periodic review and reassessment of the findings and recommendations of the Plano Road (KY 622) Corridor Access Management Partnership and revision as necessary through the MPO Transportation Planning Process.

VI. Understandings: Consideration of requests for new access points along the corridor will be coordinated between KYTC and the local governmental agency having jurisdiction. KYTC will not issue an access permit until development plans have been approved.

The initial agency receiving a property development or zone change request which includes new access points shall notify the other affected agencies. This will initiate the approval process for the request in accordance with the applicable access management guidance of the affected agency. The representatives of those affected agencies who will participate in this coordination include the following:

District Permits Engineer, Kentucky Transportation Cabinet
City Engineer/Traffic Engineer, City of Bowling Green
County Engineer, Warren County Public Works
Executive Director, City-County Planning Commission

In circumstances which precipitate a variance in the access management guidance, the above named representatives will participate in the review and ultimate decision.

This Memorandum of Understanding should achieve within a collaborative effort among the signatory parties the following:

(a) New Access points along the Plano Road (KY 622) corridor shall be governed by the following guidance that reduce the number of access points and/or establish minimum spacing between access points.

1) New Access points should not be situated within the functional area of a signalized intersection including the limits of any auxiliary lanes being utilized. For a 45-mph roadway such as Plano Road (KY 622), the KYTC recommends 500 feet minimum spacing, measured from stop bar to end of access radius.

2) Spacing for unsignalized access should also be restricted to no less than the minimum stopping sight distance for a 45-mph roadway; the KYTC recommends 360 feet minimum spacing.

3) If the posted speed limit along the affected section of Plano Road (KY 622) is reduced in the future, or if future roadway expansion includes other access management techniques, like raised medians, adjustments to the minimum spacing may be appropriate.

4) If frontage roads are proposed within a development, all signatory parties require 150 feet minimum spacing on the cross road between the frontage road and Plano Road.

(b) Limit the number of new signalized intersections along the entire corridor, but specifically within the section of Plano Road (KY 622) between the Natcher Parkway interchange signal and the signalized intersection with US 231 (Scottsville Road). Traffic signals may be proposed, when warranted, at no more than two intersections within this segment of the corridor. These intersections are located at Sylvia Way (mile point 7.482), which is approximately 930 feet from the existing signal at the Natcher Parkway

Interchange, and at Hilldale Ave. (mile point 8.043), which is approximately 1,430 feet from the existing signal at Scottsville Road.

VII. Variances: Variances of any guidance outlined in this MOU will be heard on a case by case basis by the MPO Policy Committee. Variance requests should be made through the Planning Commission office and be placed on the next Policy Committee Agenda. It shall take a majority vote of the MPO Policy Committee to grant a variance of the guidance that is within this MOU.

VIII. MOU/Plan Amendment: Revisions to the Plan may result from periodic review and reassessment by the MPO. Amendments to this MOU may be requested by any of the signatory parties and must be adopted by all parties.

IX. Signatures: This MOU becomes effective when all the following parties have signed for either their recommendation for approval or approval as has been assigned. The Signatures of the KYTC Legal Services and the KYTC Secretary of Transportation will be the final signatures collected to approve this MOU.

Recommended for Approval By:

_____ Date_____
Joseph Plunk, Chief District Engineer
Kentucky Transportation Cabinet, District 3

_____ Date_____
Josh Moore
Director, Warren County Public Works

_____ Date_____
Greg Meredith
Director, City of Bowling Green Public Works

_____ Date_____
Benjamin Peterson
Executive Director, City-County Planning Commission

Approved By:

_____ *Date*_____

County Judge/Executive
Warren County
Chairman, MPO Policy Committee

_____ Date_____

Mayor
City of Bowling Green

_____ Date_____

Office of Legal Services
Kentucky Transportation Cabinet

_____ Date_____

Secretary of Transportation
Kentucky Transportation Cabinet

[End of Document]