

APPENDIX

D

ENVIRONMENTAL
OVERVIEW

Environmental Overview

KY 290 Corridor Study

KYTC Item No. 11-80202

Jackson County, Kentucky

January 3, 2024

Table of Contents

Introduction	1
Environmental Considerations	1
Natural Environment.....	2
Streams, Wetlands, and Floodplains.....	2
Threatened and Endangered Species and Important Habitats	2
Human Environment.....	3
Air Quality	3
Traffic Noise.....	3
Environmental Justice	4
Farmland.....	5
Land Use	5
Section 4(f) and Section 6(f) Resources.....	6
Underground Storage Tanks (USTs) and Hazardous Materials.....	6
Cultural Resources	7
Environmental Constraints Summary	8
Conceptual Improvements and Impacts	10

Tables

Table 1 – Study Area Block Groups Meeting EJ Criteria	4
Table 2 – Environmental Constraints within the KY 290 Study Area.....	8
Table 3 – Conceptual Improvements and Anticipated Environmental Impacts	10

Figures

Figure 1 – KY 290 Study Area.....	12
Figure 2 – Study Area Environmental Considerations	13
Figure 3 – Study Area Environmental Considerations (McKee to Annville).....	14
Figure 4 – Study Area Environmental Considerations (Expanded Area between KY 3630 and KY 30).....	15

Attachments

Attachment A – Information for Planning and Consultation (IPaC)	16
Attachment B – Jackson County Highway 290 Study, Socioeconomic Report, December 2023, Cumberland Valley Area Development District.....	26
Attachment C – USDA Natural Resources Conservation Services Web Soil Survey Reports (Prime Farmland)	46

Introduction

The Kentucky Transportation Cabinet (KYTC) is conducting a planning study to evaluate the KY 290 corridor between US 421 in McKee and KY 3630 in Annville, Kentucky. The project is a priority for addressing safety and evaluating potential improvements along the corridor as well as evaluating routes including a new cross-country route from KY 3630 to KY 30. The study includes short- and long-term improvement strategies that KYTC may use for further project development and implementation.

The study area extends from US 421 in McKee (mile point [MP] 8.850) to KY 3630 in Annville (MP 0.00) along KY 290 and includes a larger area from the KY 290 and KY 578 intersection in Annville southward to KY 30. The study area is shown in Figure 1.

KY 290 is classified as a rural major collector in the study area and has two, nine-foot or 10-foot lanes. Shoulders are one-foot wide and are asphalt combination, meaning they are partially paved and partially unpaved. Posted speed limit is 55 miles per hour except for where KY 290 approaches US 421 in McKee from MP 8.420 to 8.850. Advisory speeds are posted along the study area in several places where the roadway geometrics do not meet the 55-mph design speed, typically for sections with sharper curves, compound curves, and sight distance issues.

This Environmental Overview (EO) documents the environmental features known to exist within the study area. The study area for the EO, for the most part, considers a 600-foot buffer (*i.e.*, 300 feet either side of the existing roadway) along existing KY 290, extending southward from McKee. It also includes a larger, expanded area which encompassing portions of Annville and areas to the south of Annville as shown in Figure 1. This expanded area is included for the evaluation of the new cross-country route between KY 3630 and KY 30.

Data collected for the EO is based on a review of existing GIS datasets, state and federal agency databases, literature research, and archival data. Desktop research was performed to identify and locate areas of importance or concern that lie within the study area. The EO considers resources in the following two categories: Natural Environment (ecological resources [*i.e.*, streams, wetlands, and floodplains]; threatened and endangered species and important habitats) and Human Environment (air quality and noise issues; Environmental Justice / socioeconomic data; farmland; land use; hazardous materials; and historic and archaeological resources).

Environmental Considerations

Areas of environmental consideration that apply to the study area are briefly discussed below, by natural environments and human environments. Following these discussions, information gathered is presented in table format. Figure 2 shows these considerations. Figures 3 and 4 show these same considerations broken out for the study area from McKee to Annville (Figure 3) and for the expanded area for the evaluation of the potential new cross-country route between KY 3630 and KY 30 (Figure 4).

Natural Environment

Streams, Wetlands, and Floodplains – Based on KY Division of Water information, Laurel Fork, which crosses KY 290 approximately halfway of the study area, is an Outstanding State Resource Water (OSRW). However, based on EPA data (WATERS GeoViewer 2.0) and the National Hydrography Dataset (NHD), two streams are listed as impaired. They are Alum Cave Branch, which crosses KY 290 perpendicularly near Alum Cave Road, and Pond Creek, which generally parallels KY 3630 in the expanded study area portion south of Annville. Both streams are listed as impaired based on not meeting designated use as warm water aquatic habitat.

Aquatic resources crossed by the study area include, from south to north, Mill Creek, Laurel Fork, and Alum Cave Branch. Hayes Branch, an intermittent stream, generally parallels KY 290 from McKee southward for approximately one mile. Additional streams located in the expanded area in and south of Annville include Pond Creek, two unnamed tributaries to Pond Creek, Dry Fork, and Hazel Branch.

Based on National Wetlands Inventory (NWI) mapping, approximately 25 wetlands are shown within the 600-foot buffer of KY 290 and the expanded area in and south of Annville to KY 30. All are farm ponds (PUBHh) and nearly all are in the southern half of the study area and south of Laurel Fork.

Floodplains are adjacent to major roadways throughout all of McKee and extend southward along approximately half of Hayes Branch adjacent to KY 290. Additional floodplain is associated with the KY 290 crossing of Laurel Fork and areas along Pond Creek in the expanded portion of the study area.

Threatened and Endangered Species and Important Habitats – The attached Information for Planning and Consultation (IPaC) coordination document provided by US Fish and Wildlife Service (USFWS) lists nine federally endangered species as potentially occurring in the study area. The study area is located within potential habitat for the endangered gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), and Virginia big-eared bat (*Corynorhinus townsendii virginianus*). The IPaC coordination also lists five endangered freshwater mussels as potentially occurring in the study area (Attachment A). Mussel species include Cumberland bean (*Villosa trabalis*), Cumberland elktoe (*Alasmidonta atropurpurea*), Cumberlandian combshell (*Epioblasma brevidens*), fluted kidneyshell (*Ptychobranchus subtentus*), and littlewing pearlymussel (*Pegias fabula*).

Information available on the website of the USFWS Kentucky Field Office (KFO) indicates that northern portions of the study area may be within or very close to “Known Swarming 2” habitat of the northern long-eared bat. Similarly, this northern portion of the study area (approximately half of study area) is in “Known Swarming 1” Indiana bat habitat.

Forested areas adjacent to the study area would be considered potential habitat for all four of the above listed bats. Such areas are more limited in the southern half of the study area, although relatively abundant still, as compared to the northern half where Mill Creek Wildlife Management Area (WMA) is located on both sides of the roadway. Stream corridors which contain forested riparian buffers would also be potential habitat for the listed bat species. These

stream corridors serve as flyways for the bat species to access the larger forest blocks outside of the roadway right of way. Gray bat and Virginia big-eared bat mainly uses stream corridors to commute and feed, although they typically roost in caves or cave-like locations, such as mines, year-round. Virginia big-eared bat may roost in different summer and winter caves. Indiana bat and northern long-eared bat winter in caves with forested habitat providing summer roosting.

The study area is primarily non-karst and sinkholes are not evident on topographic mapping; however, Kentucky Coal Mine Maps show evidence of mining activity having occurred between areas south of Laurel Fork to approximately the KY 578/KY 290 intersection north of Annville. Such mined areas could provide winter habitat for all listed bat species or summer roosting habitat for the gray bat and Virginia big-eared bat.

Laurel Fork (OSRW) contains habitat for the listed mussel species in the study area. Other larger streams, such as Mill Creek, Pond Creek, and Alum Cave Branch in the study area may also have potential to provide habitat for these mussel species, although as noted, the latter two streams are listed as impaired for warm water aquatic habitat and thus their potential as mussel habitat has been diminished. Streams would need to be assessed further during any NEPA documentation phase for their potential to be habitat for the listed mussel species.

Mill Creek WMA, owned by the US Forest Service (USFS) and managed with the KY Department of Fish & Wildlife Resources (KDFWR), is an important habitat spanning a sizeable portion of the study area. The WMA, which is part of the larger Daniel Boone National Forest service boundary, is located adjacent to both sides of KY 290. Mill Creek WMA extends from near the McKee city limits to approximately one-half mile south of Laurel Fork. Based on information provided by the KDFWR, Mill Creek WMA covers just over 13,000 acres, of which over 95 percent is forested habitat. The area is further described as primarily hilly with steep slopes and long, narrow ridge tops with flats only in bottoms and on tops of ridges. The WMA is an important habitat for promoting and sustaining wildlife populations.

Human Environment

Air Quality – Areas of the state that have had levels of criteria air pollutants that have exceeded the threshold levels set by the Environmental Protection Agency (EPA) are considered in nonattainment or maintenance for that pollutant and must demonstrate how future transportation improvements are not going to worsen the air quality conditions. The study area is in attainment for all criteria pollutants and as such, a project in the study area will not require any comprehensive air quality review.

A project in the study area would also be considered “Lower Potential for Meaningful MSAT (Mobile Source Air Toxics) Effects” since the design year traffic would be less than 140,000 to 150,000 AADT. As such, a qualitative assessment of the emissions projections should be included in any future NEPA document.

Traffic Noise – Numerous sensitive noise receptors occur adjacent to existing roadways in the study area. Most sensitive receptors are residential. The Federal Highway Administration (FHWA) Noise Standard requires that noise abatement measures be considered when traffic noise impacts are identified for Type I federal projects. As the Kentucky Transportation

Cabinet’s 2020 *Noise Analysis and Abatement Policy (2022 Update)* directs, Type I projects are identified as “The construction of a highway on new location; or the physical alteration of an existing highway where there is either: i. Substantial Horizontal Alteration; or ii. Substantial Vertical Alteration.” Alignment changes which move the roadway off existing alignment and on new location meet Type I criteria. Significant alterations to the existing alignment could also meet Type I criteria. Such alterations could include the addition of turn lanes with which the distance between a noise receptor and the traffic noise source is halved or the shielding between a receptor and the traffic noise source is removed exposing the line of sight between the two. In such cases, the entire project corridor would be considered a Type I project and a noise analysis, which at minimum may require utilization of the *Traffic Noise Impact Screening Tool*, would be required for the entire project per KYTC policy.

Environmental Justice – The U.S. EPA Office of Environmental Justice defines Environmental Justice (EJ) as “The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.” The Cumberland Valley Area Development District (CVADD) prepared the *Jackson County Highway 290 Study Socioeconomic Report (December 2023)* to assess the potential to encounter EJ populations within the study corridor (Attachment B). The report used 2021 U.S. Census Bureau American Community Survey (ACS) 5-year estimates, which utilize 2020 decennial census boundaries. The CVADD reported data for the United States, Kentucky, Jackson County, the three census tracts (CTs) that include the study area, and the three block groups (BGs) that include the study area.

CVADD’s analysis uses the county as the threshold for meeting EJ criteria, based on the estimates obtained from the U.S. Census Bureau for race, poverty, age, disability, and English proficiency. The table below shows those locations where CVADD’s analysis determined that the BG’s population is above that of the reference threshold. Any future NEPA document must consider a project’s potential to disproportionately impact these populations. The full *Socioeconomic Report* is in Appendix C.

Table 1 – Study Area Block Groups Meeting EJ Criteria

County	Census Tract (CT)	Block Group (BG)	Above Reference Threshold for Populations of:				
			Minorities	Below Poverty Level	Age 65 and Older*	Disability*	Limited English Proficiency
Jackson	9601.01	1	✓	✓		✓	
	9601.02	2	✓	✓	✓	✓	
	9603.01	2					✓

*ACS estimates were only available at the census tract level; thus, census tract estimates are compared to that of the county

Farmland – The Farmland Protection Policy Act (FPPA) of 1981 (7 U.S.C. 4201 and 7 CFR Ch. VI Part 658) is intended to minimize conversion of farmland through consideration of impacts and alternative actions. The FPPA applies to activities where federal funds are involved and an irreversible conversion of prime, unique, or state and locally important farmland to non-agricultural use occurs. Some lands are exempt. Those lands may include lands not considered farmland such as land that has been previously developed (e.g., US Census urban areas or existing rights-of-way) or is committed to urban development or water storage.

Prime farmland soils exist in locations throughout the study area, although a large portion of the study area, particularly where these farmland soils occur, has been previously developed as right of way or is in an urban area and no longer qualifies as farmland. In terms of soil classifications, the linear portion of the study area extending from McKee southward toward Annville contains locations of farmland soils, most of which are immediately adjacent to the roadway (Attachment C). In the expanded area surrounding Annville, farmland soils by type are very limited. Areas adjacent to Pond Creek and its tributaries represent the locations where prime farmland soils are primarily found in the expanded area. Other areas of prime farmland or farmland of statewide importance are located along the roadways within Annville where non-farmland uses (e.g., residences, businesses) have already occurred (Attachment C). Although impacts to farmland would be expected to be minor, any future NEPA document will need to consider potential impacts to farmland, and particularly so if improvements are proposed outside of existing right of way.

Land Use – In general, the most developed areas along the KY 290 study area are in McKee in the northern portion of the study area and in Annville in the southern portion. Along KY 290, proceeding southward from McKee, Mill Creek WMA is adjacent to both sides of KY 290, extending for approximately 4.5 miles along the study area. The WMA, which is adjacent to nearly half of the study area, is an entirely forested area with no development. Continuing from the WMA southward into Annville, KY 290 is abutted by sporadic rural residences, small businesses, places of worship, cemeteries, pastureland, and small areas of agricultural land, primarily in pasture or hayfields. The expanded portion of the study area outside of Annville is primarily rural residential.

Based on a review of available online resources, Jackson County does not indicate the presence of a planning and zoning entity. Correspondingly, a review of google imagery, indicates a mix of the above-mentioned land uses along KY 290. A small clustering of these uses exists in the approximate 1.0-mile section of KY 290 between McCowan-Parrett Road and Mildred Road. Several community facilities were identified within the study area. Those included six cemeteries, 11 places of worship, two parks, two fire departments, three government buildings, and four small healthcare facilities. Government buildings are in McKee while fire departments and healthcare facilities are divided between locations in McKee and Annville. One private school, Annville Christian Academy, is in Annville. The highest concentrations of residences, businesses, community facilities and services are in McKee and Annville.

Section 4(f) and Section 6(f) Resources – Section 4(f) [of the U.S. Department of Transportation Act of 1966 as amended in 1983 (49 U.S.C. Section 303)] was enacted to preserve publicly owned land used for recreation, wildlife, and waterfowl refuges. Section 4(f) properties are publicly owned parks, wildlife management areas (WMAs), historic resources that are listed on or eligible for listing on the National Register of Historic Places (NRHP) and archaeological sites that are listed on or eligible for listing on the NRHP and warrant preservation in place.

As noted, two parks are identifiable using online data sources. The two parks include an unnamed roadside park at the northernmost intersection of KY 290 and Shakey Lane near the northern terminus of the study area and a second park, Worthington Community Park, in Annville. Worthington Park is publicly owned and is therefore a Section 4(f) resource. The unnamed park is not listed as a Jackson County owned park on the website of the Jackson County, KY Tourism entity. Ownership of the unnamed park is undetermined at present but would need to be investigated further should any proposed improvements impact the park. In addition to Worthington Park, Mill Creek WMA is also a Section 4(f) resource (see Natural Environment section above) because of its status as a WMA.

Public parks and trails can be subject to Section 6(f) of the Land and Water Conservation Act (LWCF) of 1965 (16 U.S.C. 4601-4). The Act, commonly referred to as Section 6(f), established a funding source for both federal acquisition of park and recreations land and matching grants to state and local governments for recreation planning, acquisition and development. Section 6(f) prohibits the conversion of property acquired or developed with Section 6(f) grants to a nonrecreational purpose without the approval of the National Park Service. Section 6(f) applies only to parks that have received such grant funds. If impacts occur to a Section 6(f) resource, additional coordination is required with the National Park Service and Kentucky Department for Local Government. Based on review of online data, Worthington Park received Section 6(f) funds in 1977 and 1983 for its development. Additionally, as noted Mill Creek WMA is on land designated as part of the Daniel Boone National Forest (DBNF) administrative boundary. Between 1966 and 2016, DBNF has received almost \$2.3 million from the LWCF. If impacts as a result of any improvements will occur to Mill Creek WMA, additional investigation should occur to determine if any portion of the monies DBNF received from the LWCF were used in the development of Mill Creek WMA.

Underground Storage Tanks (USTs) and Hazardous Materials – A review of aerial (Google) imagery, the Environmental Protection Agency (EPA) Envirofacts Multisystem Search, and EPA's UST Finder database was completed of the study area. Envirofacts, an integrated database of information from a variety of databases, provides information on facilities that are required to report activities to state or federal programs, specific to hazardous wastes, toxic and air releases, Superfund sites, and water discharge permits. UST Finder is a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides attributes and locations of active and closed USTs, UST facilities, and LUST sites from states as of 2018-2019, plus data for US territories and tribal lands. Except for two identified sites, all sites are in McKee or in Annville.

The aerial imagery review, which supplemented the database reviews, indicated the presence of two potentially active gas stations in the study area. The Annville Town and Country Market / Shell Gas Station is located approximately 0.4-mile east of the intersection KY 290 and KY 3630 in Annville. The other is Cole's 290 Market / Valero Gas Station, which is located along KY 290 less than 0.1-mile north of Wise Road.

The identified sites, if encroached upon or impacted directly, may require additional assessment during any future design phase to determine their potential to encounter hazardous materials and/or USTs.

Cultural Resources – Historic and archaeological resources exist in the study area (*i.e.*, within one-quarter mile either side of the existing roadway). Coordination with the Kentucky Heritage Council (KHC) and Kentucky Office of State Archaeology (OSA) along with other GIS datasets were used to obtain known resources of significance.

Annville Institute (Site #: JA 5), located within the expanded study area approximately 0.3-mile east of the KY 290 / KY 3630 intersection, is listed on the National Register of Historic Places (NRHP), both as an individual structure and as a NR District comprised of 11 contributing buildings/structures. KHC also identified the Jackson County Courthouse in McKee as meeting NR criteria; it is located at the northwest quadrant of the intersection of KY 290 and US 421, immediately adjacent to the study area's northern boundary. KHC also documented an additional 19 properties within an undetermined status within the study area. All but one of those 19 properties is located either within McKee or in Annville. The one property is in the expanded area south of Annville along D J Dotson Road near KY 30. Those of undetermined status, if potentially affected by any proposed improvements, will require a historic assessment to determine eligibility for the NRHP during a design phase.

The OSA provided information which indicated that much of the northern half of the study area along KY 290 has previously been surveyed for archaeological resources. More limited portions of the southern half of the study area have been surveyed. Overall, OSA data identified two archaeological sites within the study area; they were categorized as "open habitation without mounds". One of the archeological sites has not been assessed for NRHP eligibility and the other was listed as an "Inventory site (does not presently meet NR criteria)". Any future preferred alignment identified during a design phase of project development will likely require a phase I archaeology survey particularly if the improvement exists outside of existing right of way.

Environmental Constraints Summary

The table below summarizes the environmental constraints identified within the study area.

Table 2 – Environmental Constraints within the KY 290 Study Area

Environmental Category	Environmental Constraint
Natural Environment	
Streams	<ul style="list-style-type: none"> • Mill Creek • Laurel Fork – Outstanding State Resource Water (OSRW) • Alum Cave Branch – Impaired • Hayes Branch • Pond Creek – Impaired • Unnamed Tributaries (2) to Pond Creek • Dry Fork • Hazel Branch
Wetlands	Approximately 25 NWI wetlands – All classified as farm ponds (PUBHh)
Floodplains	<ul style="list-style-type: none"> • Floodplains adjacent to major roadways in McKee and along approximately half of Hayes Branch adjacent to KY 290 • Additional floodplain along Laurel Fork and Pond Creek
Threatened & Endangered Species	<ul style="list-style-type: none"> • Within or near “Known Swarming 2” habitat for northern long-eared bat • Within “Known Swarming 1” Indiana bat habitat • Within potential habitat for gray bat and Virginia big-eared bat • Within potential habitat for five endangered freshwater mussels in Laurel Fork (OSRW)
Important Habitats	Mill Creek Wildlife Management Area, within the Daniel Boone National Forest administrative boundary
Human Environment	
Air Quality	<ul style="list-style-type: none"> • In attainment for all criteria pollutants • A project in the study area would also be considered “Lower Potential for Meaningful MSAT Effects”
Traffic Noise	<ul style="list-style-type: none"> • Numerous sensitive noise receptors, primarily residences, are located adjacent to existing roadways • Noise analysis, which at minimum may require use of <i>Traffic Noise Impact Screening Tool</i>, would be needed if a proposed project is considered Type I
Environmental Justice	Future consideration of EJ populations needed due to minority populations, low-income populations, people over the age of 65, a population with disabilities, and low English Proficiency in the study area that are above the county reference threshold.
Prime Farmland	<ul style="list-style-type: none"> • Farmland soils occur in locations throughout study area but are limited and most occur where development has already occurred. • Farmland uses occur in sporadic locations adjacent to existing roadways.
Land Use	<ul style="list-style-type: none"> • Developed areas occur primarily in McKee and Annville with sporadic development adjacent to existing roadways • No indication of planning and zoning entity • Community facilities include: <ul style="list-style-type: none"> • Six cemeteries • 11 places of worship • Two parks • Two fire departments • Three government buildings • Four small healthcare facilities

Environmental Category	Environmental Constraint
Section 4(f) Properties	<ul style="list-style-type: none"> • Two 4(f) resources - Worthington Park and Mill Creek WMA • One potential additional 4(f) resource – Unnamed park at northernmost intersection of KY 290 and Shakey Lane (ownership undetermined)
Section 6(f) Properties (LWCF)	<ul style="list-style-type: none"> • One 6(f) resource - Worthington Park • One potential additional 6(f) resource – Mill Creek WMA/Daniel Boone National Forest
Hazardous Materials/USTs	<ul style="list-style-type: none"> • All identified sites except for two are in McKee or Annville • Two potentially active gas stations (USTs) <ul style="list-style-type: none"> • The Annville Town and Country Market / Shell Gas Station • Cole's 290 Market / Valero Gas Station
Cultural Historic	<ul style="list-style-type: none"> • 1 NRHP listed site (Annville Institute) • 1 NR District (Annville Institute including 11 contributing structures) • 1 meets NR criteria (Jackson County Courthouse) • 19 with undetermined status
Archaeology	<ul style="list-style-type: none"> • Much of northern half of study has been surveyed • Limited portions of southern half of study area has been surveyed • 2 sites including: <ul style="list-style-type: none"> • One site characterized as “open habitation without mounds” • One “inventory site” (does not presently meet NR criteria)

Conceptual Improvements and Impacts

A key consideration for all improvements will be whether they occur outside of existing right-of-way. Those occurring outside of existing right of way have greater potential to impact environmental resources. The table below summarizes potential impacts or considerations that may be anticipated for future design of the conceptual improvements.

Table 3 – Conceptual Improvements and Anticipated Environmental Impacts

Number	Milepoint or Route	Description	Short-Term	Long-Term	Environmental
1	8.85 (US 421 intersection)	Convert to four-way stop or mini roundabout, or continuous right turns (consider peds - Australian RT)?	X	X	Possible Historic, Floodplain, UST / HAZ
2	8.85 (US 421 intersection)	Crosswalks at intersection, including ramps and curbing at the crossing location	X		Possible Historic, Floodplain
3	8.83-8.85 (Just south of US 421)	Change parking to parallel and connect sidewalk on east side	X		
4	8.726 (Old School Road)	Bump out at Old School Road to tighten up intersection / thermo striping	X		UST / HAZ (Brownfields), Place of Worship
5	8.545-8.6 (Park)	Curb and gutter at the park (on east side) / shave hill back on west side / connect sidewalk up to fire station, vehicular traversable sidewalk across fire department entrances	X		Archaeology (ROW), Section 4(f) (Park), Tree Removal (Bats),
6	8.4	Transverse rumble strips approaching McKee / congested area advisory speed to 25 mph	X		None
7	8.0-8.4	Widen road and straighten out/level road		X	Archaeology (ROW), Section 4(f) (WMA), Tree Removal (Bats)
8A	7.5-7.85	New alignment to go around curvature - south of Tower Road to the north above curves - make local road for bike/ped connectivity		X	Archaeology (ROW), Section 4(f) (WMA), Tree Removal (Bats)
8B	7.5-7.85	Widen road and straighten out / level road		X	Archaeology (ROW), Section 4(f) (WMA), Tree Removal (Bats)
9	6.35-7.0 (North of Indian Ridge Road)	Add passing lanes		X	Archaeology (ROW), Section 4(f) (WMA), Tree Removal (Bats)
10	~6.3	Improve pull-off for school bus	X		Archaeology (ROW), Section 4(f) (WMA), Tree Removal (Bats),
11A	6.255	Realign Indian Ridge Road intersection / add signage	X		Archaeology (ROW), Section 4(f) (WMA), Tree Removal (Bats),
11B	6.19-6.26	Straighten out curves at Indian Ridge Road		X	Archaeology (ROW), Section 4(f) (WMA), Tree Removal (Bats)
12	4.71-6.22	Realign curves in high crash cluster area / curve widening, high friction surface treatment		X	Archaeology (ROW), Section 4(f) (WMA), Tree Removal (Bats), Special Use Water
12E	5.2-5.55	Add high friction surface treatment to existing curves	X		N/A
13A	4.711-4.757	Shave back hillside and cut vegetation at Mill Creek Road and Lower Adkinstown Road	X		Archaeology (ROW), Section 4(f) (WMA), Tree Removal (Bats), Cemetery, Special Use Water
13B	4.711-4.757	Intersection warning signage at Mill Creek Road and Lower Adkinstown Road	X		None

Number	Milepoint or Route	Description	Short-Term	Long-Term	Environmental
13C	4.699	Add end treatments to bridge	X		Archaeology (ROW), Section 4(f) (WMA), Tree Removal (Bats), Special Use Water
14	4.699	Replace bridge with a wider one		X	Archaeology (ROW), Section 4(f) (WMA), Tree Removal (Bats), Special Use Water, Floodplain
15	4.65-6.1 or 4.2-6.25	Full new alignment from north of bridge to south of Indian Ridge		X	Archaeology (ROW), Section 4(f) (WMA), Tree Removal (Bats), Cemetery, Special Use Water, Floodplain, Wetlands
16	2.6-3.589	Two-way left turn lane (TWLTL) through the section / curb and gutter		X	Archaeology (ROW), Places of Worship, Tree Removal (Bats), UST / HAZ, Cemetery
17	2.6	Mildred Road intersection (remove access point)	X		Cemetery
18	1.941	Ridgewood Drive - improve skew (N) and sight distance (S)	X		Archaeology (ROW)
19A	1.524-1.551	Improve sight distance at Bailey Road and KY 2003 via mainline improvements / vegetation control		X	Archaeology (ROW), Tree Removal (Bats), Stream Crossing
19B	1.1-1.7	Realign KY 290 at Bailey Road / combine KY 2003 and Alum Branch together for one access point / Continue south past KY 578		X	Archaeology (ROW), Tree Removal (Bats), Stream Crossing, Wetlands
19C	1.1-1.7	Realign KY 290 at Bailey Road / T-intersection at KY 2003 separate from Bailey Road / realign KY 290 at KY 578		X	Archaeology (ROW), Tree Removal (Bats), Stream Crossing, Wetlands
20	0.0-0.2 (KY 3630)	Transverse rumbles thermo restriping, HSFT, solar powered warning signage approaching KY 3630	X		None
21	0-8.85 (Full Corridor)	11-foot lanes, two-foot shoulders, 45 mph design speed, update signing, striping, guardrail, etc.		X	Archaeology (right of way [ROW]), Tree Removal (Bats), Stream Crossing, Floodplain, Possible Historic UST / hazardous materials (HAZ), Special Use Water, Places of Worship, Cemetery, Section 4(f) (Park, WMA), Wetlands
22	0-8.85 (Full Corridor)	11-foot lanes, two-foot shoulders, 55 mph design speed, update signing, striping, guardrail, etc.		X	Archaeology (ROW), Tree Removal (Bats), Stream Crossing, Floodplain, Possible Historic UST / HAZ, Special Use Water, Places of Worship, Cemetery, Section 4(f) (Park, WMA), Wetlands
Other Connections					
N/A	KY 3630 (KY 290 to KY 3444)	Add TWLTL / Access control			Archaeology (ROW), Tree Removal (Bats), UST / HAZ, Stream Crossings, Places of Worship, Possible Historic,
N/A	KY 3444	Improve to match KY 290 typical			Archaeology (ROW), Tree Removal (Bats), Floodplain, UST / HAZ, Stream Crossings, Places of Worship
N/A	KY 290	Roundabout at KY 290 / KY 3630			Archaeology (ROW), Tree Removal (Bats), UST / HAZ
N/A	New Alignment (KY 3630 to KY 30)	Option 1			Archaeology (ROW), Tree Removal (Bats), Stream Crossing, Wetlands, Floodplain, UST / HAZ
N/A	New Alignment (KY 3630 to KY 30)	Option 2			Archaeology (ROW), Tree Removal (Bats), Stream Crossing, Wetlands, Floodplain, UST / HAZ

Figure 1 – KY 290 Study Area

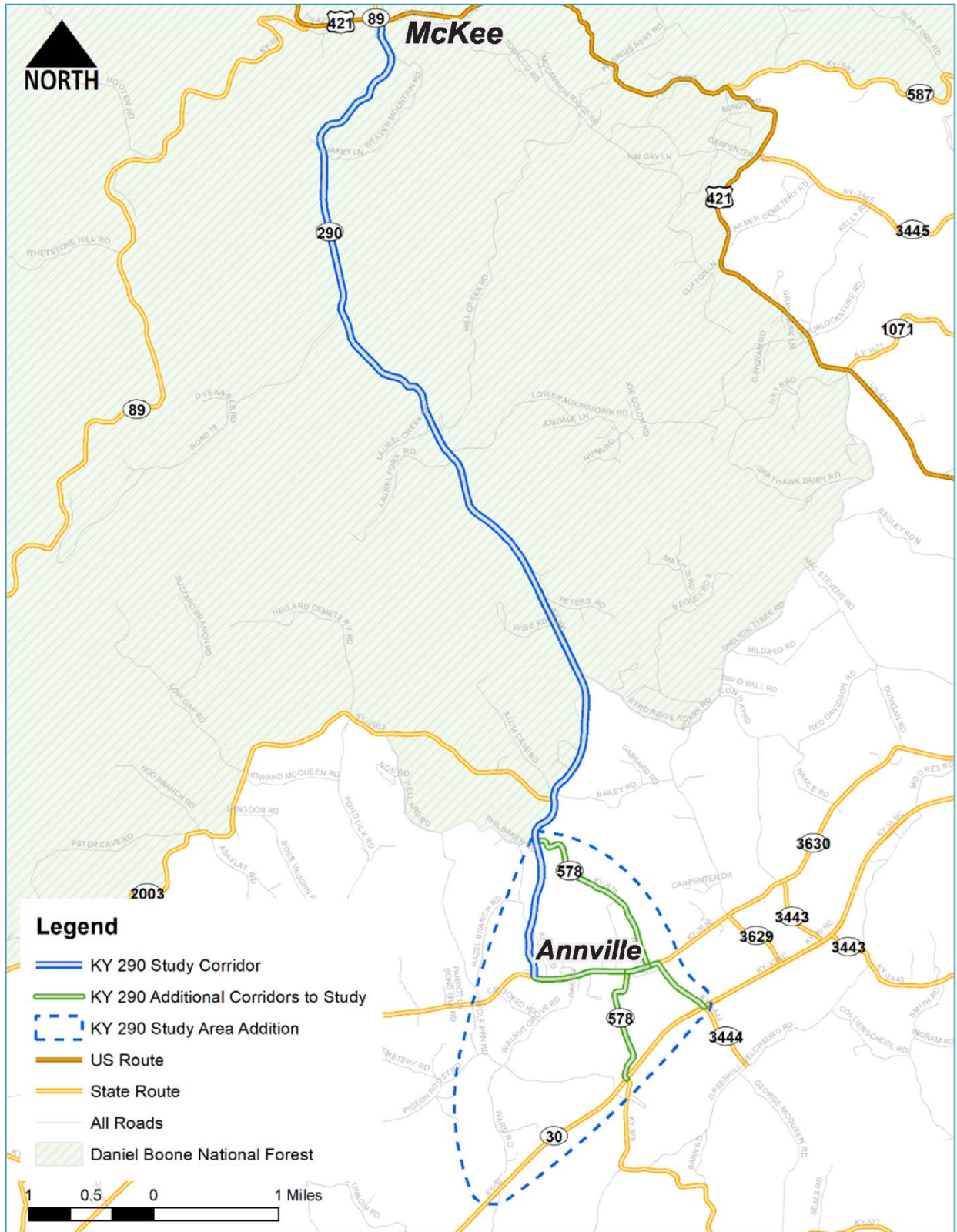


Figure 2 – Study Area Environmental Considerations

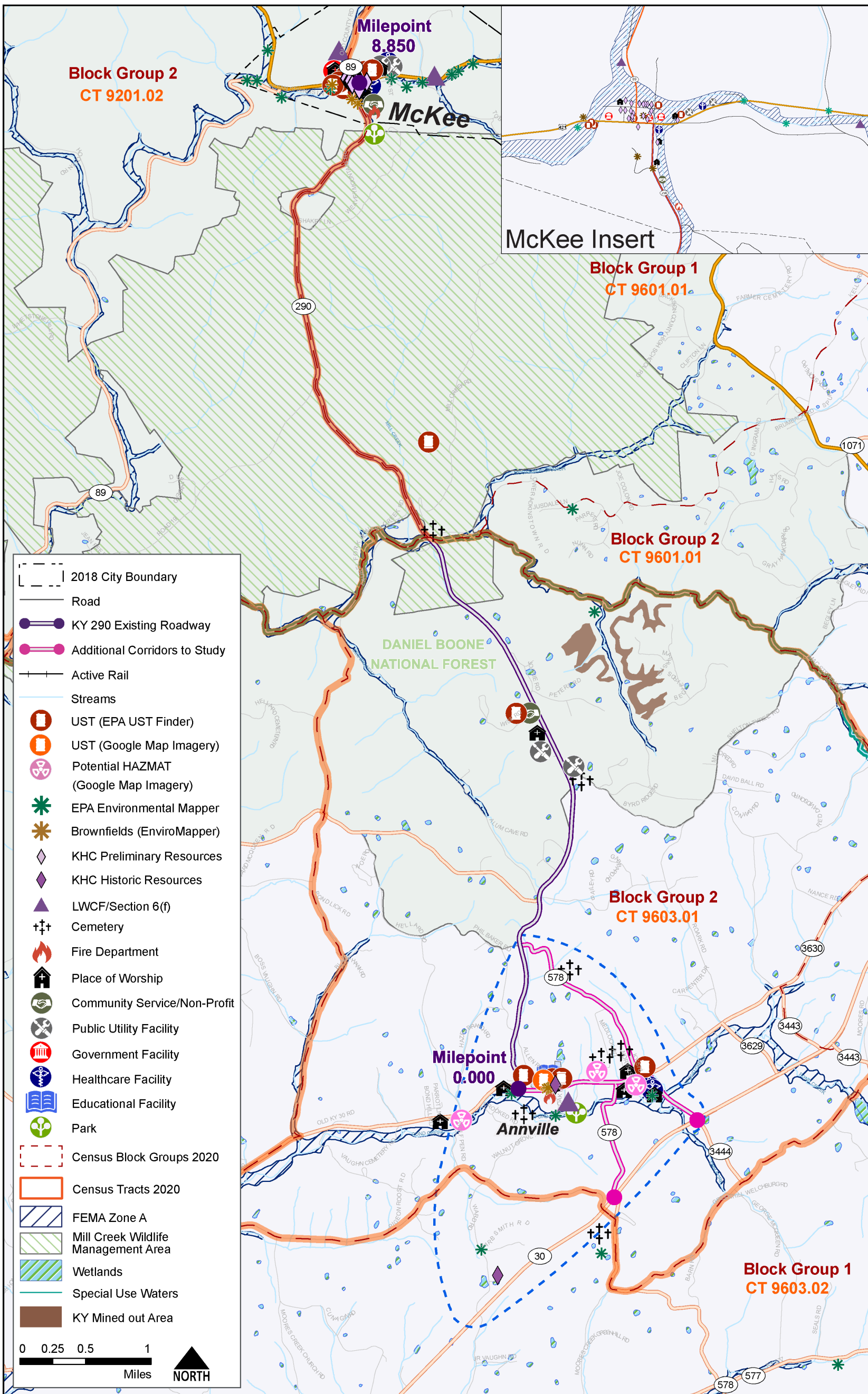


Figure 3 – Study Area Environmental Considerations (McKee to Annville)

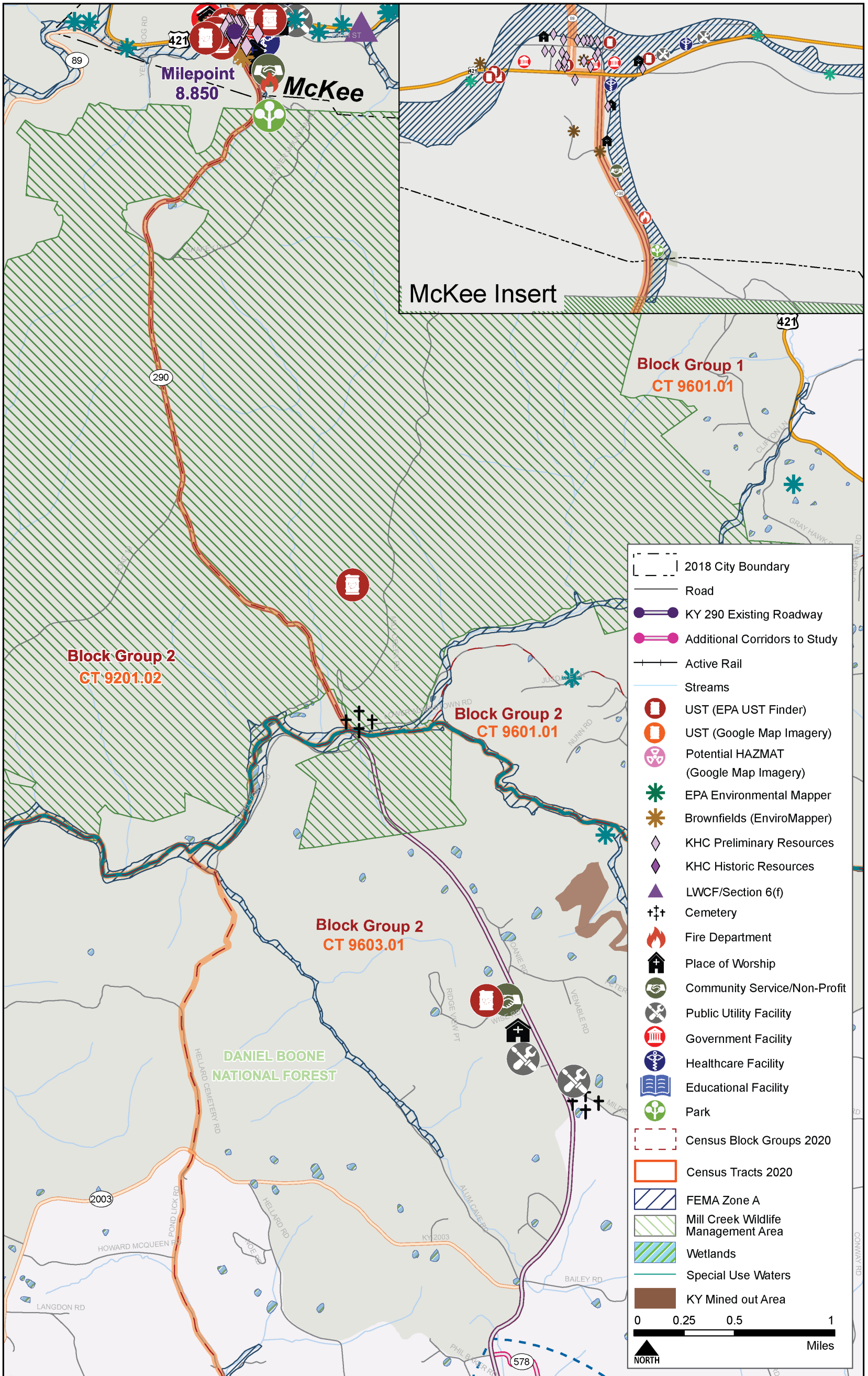
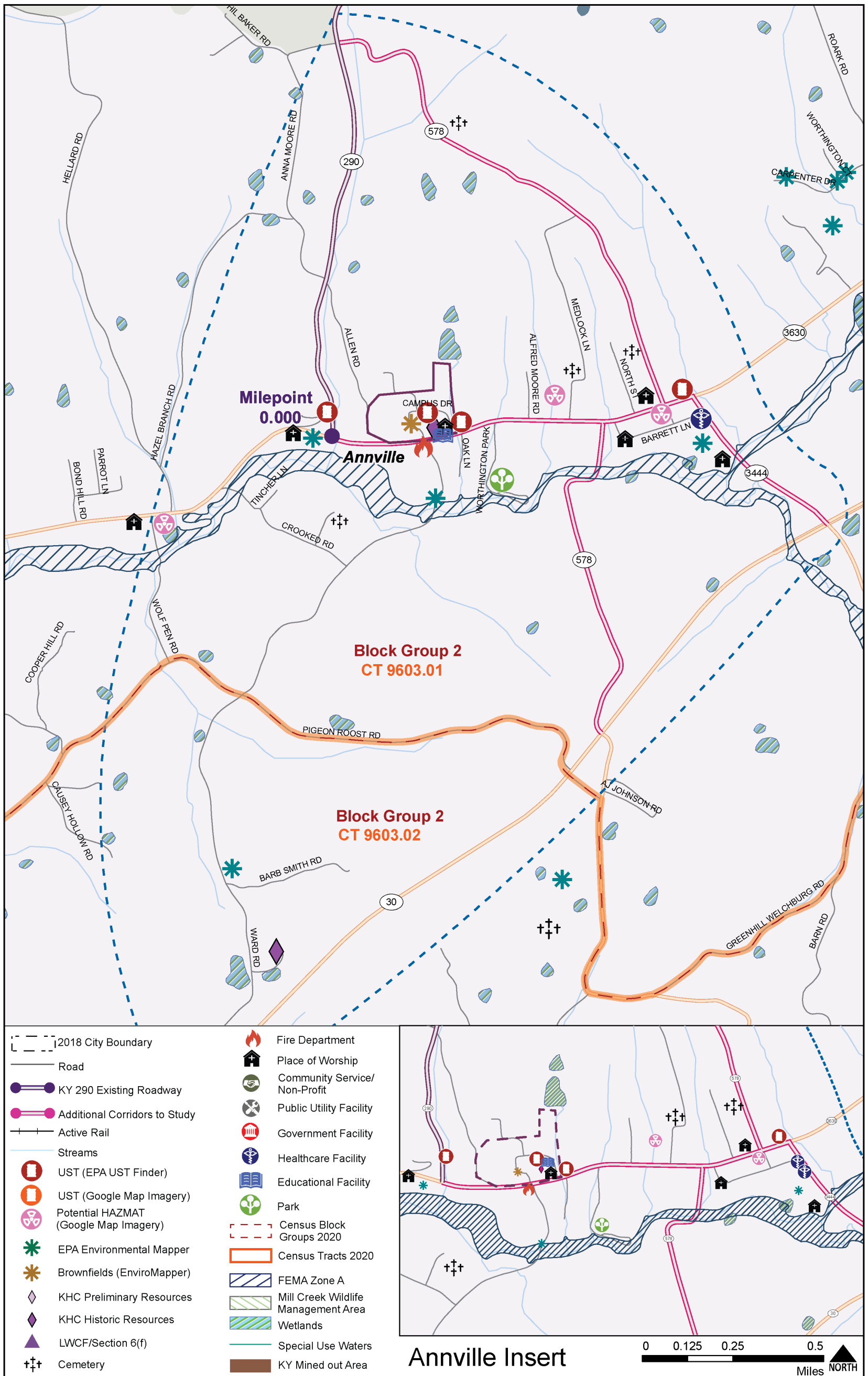


Figure 4 – Study Area Environmental Considerations (Expanded Area between KY 3630 and KY 30)



**Attachment A – Information for Planning and Consultation
(IPaC)**



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0468 Fax: (502) 695-1024
Email Address: kentuckyes@fws.gov

In Reply Refer To:

April 25, 2023

Project Code: 2023-0073579

Project Name: KY 290 Jackson County, KYTC Item No. 11-80202.00

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Kentucky Ecological Services Field Office

J C Watts Federal Building, Room 265

330 West Broadway

Frankfort, KY 40601-8670

(502) 695-0468

PROJECT SUMMARY

Project Code: 2023-0073579
Project Name: KY 290 Jackson County, KYTC Item No. 11-80202.00
Project Type: Road/Hwy - Maintenance/Modification
Project Description: Planning study to assess existing conditions, identify issues, and develop improvement concepts to address connectivity, congestion, capacity, and safety.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.36855365,-83.97980811089636,14z>



Counties: Jackson County, Kentucky

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.
-

MAMMALS

NAME	STATUS
<p>Gray Bat <i>Myotis grisescens</i></p> <p>No critical habitat has been designated for this species. This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> ▪ The project area includes potential gray bat habitat. <p>Species profile: https://ecos.fws.gov/ecp/species/6329 General project design guidelines: https://ipac.ecosphere.fws.gov/project/GXS7TZYPNGZLFBI4HW2LSSMMQ/documents/generated/6422.pdf</p>	Endangered
<p>Indiana Bat <i>Myotis sodalis</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat. This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> ▪ The project area includes 'potential' habitat. All activities in this location should consider possible effects to this species. ▪ The project area includes known 'swarming 1' habitat. <p>Species profile: https://ecos.fws.gov/ecp/species/5949 General project design guidelines: https://ipac.ecosphere.fws.gov/project/GXS7TZYPNGZLFBI4HW2LSSMMQ/documents/generated/6422.pdf</p>	Endangered
<p>Northern Long-eared Bat <i>Myotis septentrionalis</i></p> <p>No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045 General project design guidelines: https://ipac.ecosphere.fws.gov/project/GXS7TZYPNGZLFBI4HW2LSSMMQ/documents/generated/6422.pdf</p>	Endangered
<p>Virginia Big-eared Bat <i>Corynorhinus (=Plecotus) townsendii virginianus</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8369 General project design guidelines: https://ipac.ecosphere.fws.gov/project/GXS7TZYPNGZLFBI4HW2LSSMMQ/documents/generated/6422.pdf</p>	Endangered

BIRDS

NAME	STATUS
<p>Whooping Crane <i>Grus americana</i></p> <p>Population: U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/758</p>	Experimental Population, Non- Essential

CLAMS

NAME	STATUS
<p>Cumberland Bean (pearlymussel) <i>Villosa trabalis</i></p> <p>Population: Wherever found; Except where listed as Experimental Populations</p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/6061</p> <p>General project design guidelines: https://ipac.ecosphere.fws.gov/project/GXS7TZYPNGZLFBI4HW2LSSMMQ/documents/generated/5640.pdf</p>	Endangered
<p>Cumberland Elktoe <i>Alasmidonta atropurpurea</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/1248</p>	Endangered
<p>Cumberlandian Combshell <i>Epioblasma brevidens</i></p> <p>Population: Wherever found; Except where listed as Experimental Populations</p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/3119</p> <p>General project design guidelines: https://ipac.ecosphere.fws.gov/project/GXS7TZYPNGZLFBI4HW2LSSMMQ/documents/generated/5640.pdf</p>	Endangered
<p>Fluted Kidneyshell <i>Ptychobranhus subtentus</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/1397</p> <p>General project design guidelines: https://ipac.ecosphere.fws.gov/project/GXS7TZYPNGZLFBI4HW2LSSMMQ/documents/generated/5640.pdf</p>	Endangered
<p>Littlewing Pearlymussel <i>Pegias fabula</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/2572</p> <p>General project design guidelines: https://ipac.ecosphere.fws.gov/project/GXS7TZYPNGZLFBI4HW2LSSMMQ/documents/generated/5640.pdf</p>	Endangered

INSECTS

NAME	STATUS
<p>Monarch Butterfly <i>Danaus plexippus</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/9743</p>	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPAC USER CONTACT INFORMATION

Agency: Kentucky Transportation Cabinet

Name: Rebecca Colvin

Address: 2517 Sir Barton Way

City: Lexington

State: KY

Zip: 40509

Email: rebecca.colvin@hdrinc.com

Phone: 8596294848

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

**Attachment B – Jackson County Highway 290 Study,
Socioeconomic Report, December 2023, Cumberland Valley
Area Development District**

Jackson County Highway 290 Study

Socioeconomic Report

December 2023

Prepared by
Cumberland Valley Area Development District
London, KY
www.cvadd.org



Prepared for
Kentucky Transportation Cabinet (KYTC)—Division of Planning



Contents

Introduction.....	3
What is Environmental Justice?	4
Definitions.....	5
Methodology.....	7
Study Findings.....	10
Population by Persons of Racial Minority Origins.....	10
Population by Persons Age 65 or Older.....	12
Population by Persons Below Poverty Level.....	14
Population by Disability Status.....	16
Population by Persons with Limited English Proficiency.....	17
Conclusion.....	19

Introduction

This report presents an assessment of selected socioeconomic characteristics in the Jackson County Highway 290 Study, which is located within the Cumberland Valley Area Development District (CVADD). The study area is on Highway 290 starting at KY-3630 west of Annsville, KY in Jackson County, KY, running north to US-421 in City of McKee, covering approximately 8.850 miles. Data from the U.S. Census Bureau, as well as the 2017-2021 American Community Survey (ACS) 5-year estimates, has been utilized for the analysis of the study area.

The purpose of this document is to analyze the data and identify potential populations that may be displaced or adversely affected by the recommended improvements proposed in the study. The intent of this review is to assist the Kentucky Transportation Cabinet in making informed and prudent transportation decisions in the study area regarding the requirements of *Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (signed February 11, 1994). Executive Order 12898 states:

“...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations...”

The data presented in this document is intended to be used as an exploration into the socioeconomic characteristics that exist within the study area. Should the project advance to future phases, a more in-depth analysis of the socioeconomic characteristics that are highlighted in this study may be warranted. Statistics are provided for minority, elderly, low-income, limited English proficiency (LEP), poverty status, and disabled populations for the nation, state, county, and block groups within the study area.

Demographic data was compiled at the Census tract level. Tracts allow for larger areas to be assessed, which is more applicable to transportation planning that often considers population along corridors. Tract-level data also allows for continuity to compare different vintages of this data because tracts are more consistent across Census versions.

The planning study area is composed of the following Census Tract Block Groups:

- Jackson County, Census Tract 9601.01, Block Group 1
- Jackson County, Census Tract 9601.02, Block Group 2
- Jackson County, Census Tract 9603.01, Block Group 2

This project is listed as item number 11-80202.00.

Environmental Justice

What is *environmental justice*? The U.S. EPA Office of Environmental Justice (EJ) defines it as:

“The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local and tribal programs and policies.”

Meaningful involvement means:

- People have an opportunity to participate in decisions about activities that may affect their environment and/or health;
- The public's contribution can influence the regulatory agency's decision;
- Community concerns will be considered in the decision-making process; and
- Decision makers will seek out and facilitate the involvement of those potentially affected.

While exact thresholds or benchmarks have not been established, and there is no further guidance on what “elevated” percentages of disadvantaged populations mean, for the purpose of this study “disproportionately high and adverse effect on a minority or low-income population” means an adverse effect that:

1. Is predominately borne by a minority population and/or low-income population, or
2. Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

Definitions

The U.S. Department of Transportation (DOT) defines minority as:

- Black or African American- a person having origins in any of the black racial groups of Africa.
- Hispanic or Latino- a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
- Asian American- a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent.
- American Indian or Alaskan Native- a person having origins in any of the original people of North America, South America (including Central America), and who maintains cultural identification through tribal affiliation or community recognition.
- Native Hawaiian or Other Pacific Islander- people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

U.S DOT also defines the following:

- Elderly and disabled populations are not specifically recognized under the definition of an Environmental Justice community. However, the U.S. DOT specifically encourages the early examination of potential populations of the elderly, children, disabled, and other populations protected by Title VI of the Civil Rights Act of 1964 and related nondiscrimination statutes.
- Low-income population is defined as any readily identifiable group of low-income persons who live in geographic proximity and, if circumstances warrant, geographically dispersed/transient persons who will be similarly affected by a proposed DOT program, policy, or activity. Low-income is defined as persons whose household/median income is at or below the U.S. Department of Health and Human Services poverty guidelines.
- Limited English Proficiency (LEP) is a term used in the United States that refers to a person who is not fluent in the English language, often because it is not their native language. As classified by the U.S. Census Bureau, LEP refers to any person aged 5 and older who reported speaking English less than “very well”.

The U.S. Census Bureau defines geographical units as:

- Census Tract (CT) – A small, relatively permanent statistical subdivision of a county or statistically equivalent entity delineated for data presentation purposes by a local group of census data users or the geographic staff of a regional census center in accordance with Census Bureau guidelines. CTs generally contain between 1,000 and 8,000 people. CT boundaries are delineated with the intention of being stable over many decades, so they generally follow relatively permanent visible features. They may also follow

governmental unit boundaries and other invisible features in some instances; the boundary of a state or county is always a census tract boundary.

- Block Group (BG) – A statistical subdivision of a CT. A BG consists of all tabulation blocks whose numbers begin with the same digit in a CT. BGs generally contain between 300 and 3,000 people, with an optimum size of 1,500 people.

Methodology

Data for this study was collected by using the method outlined by the KYTC document “Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies”. The demographics of the affected area should be defined using U.S. Census Bureau data and the percentages for minorities, elderly, low-income, LEP, poverty status, and disabled populations should be compared for the nation, state, county, and the Census tracts/block groups.

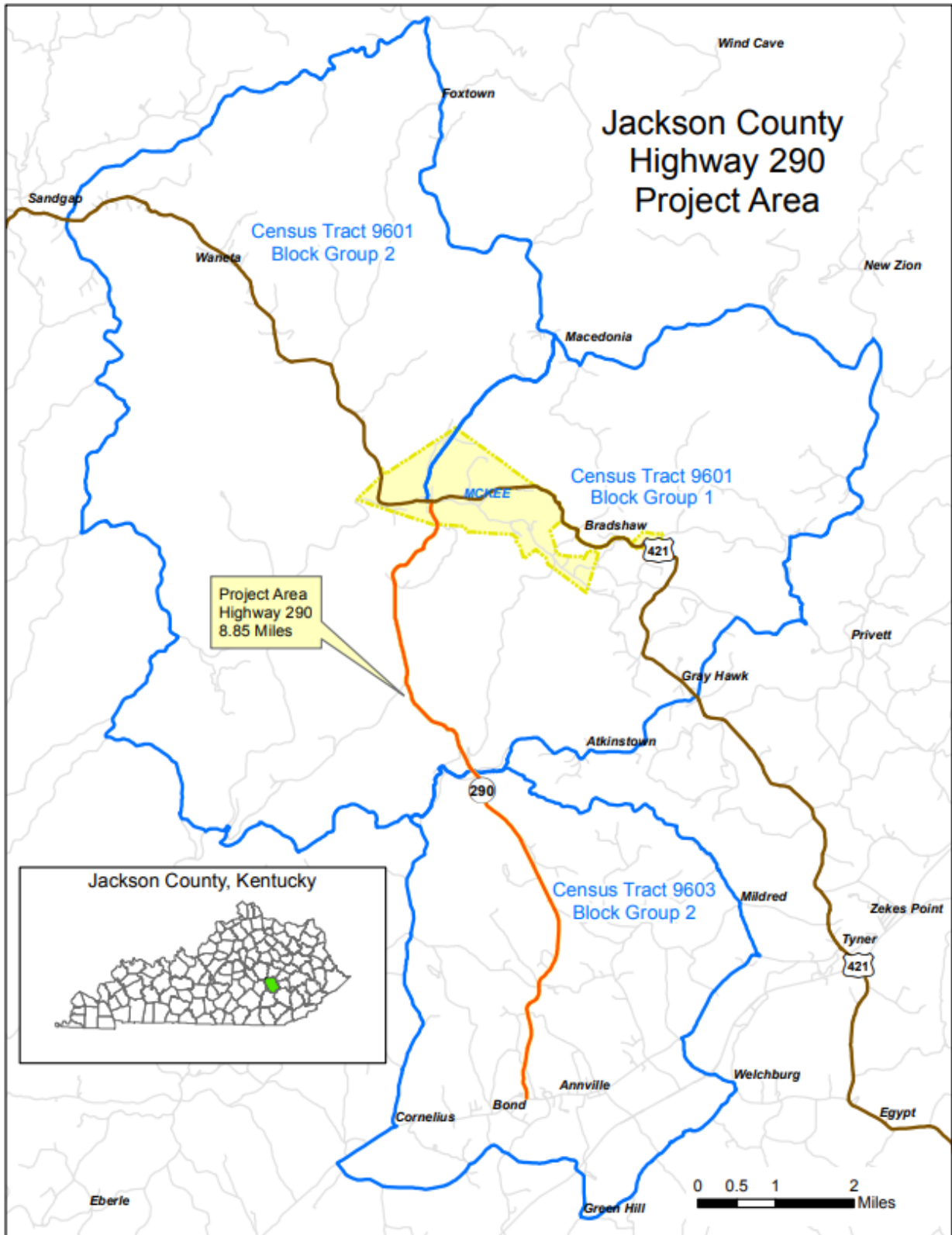
The primary source of data for this report is the 2020 U.S. Census data, as well as the 2017-2021 American Community Survey (ACS) 5-year estimates including data from the following tables:

- S0101- Age and Sex
- B03002- Hispanic or Latino Origin by Race
- B16004- Age by Language Spoken at Home by Ability to Speak English for the Population 5 years and Over
- B17021- Poverty Status of Individuals in the Past 12 Months by Living Arrangement
- B18101- Sex by Age by Disability Status

Should the project advance to future phases, a more in-depth analysis of the socioeconomic characteristics that are highlighted in this study may be warranted.

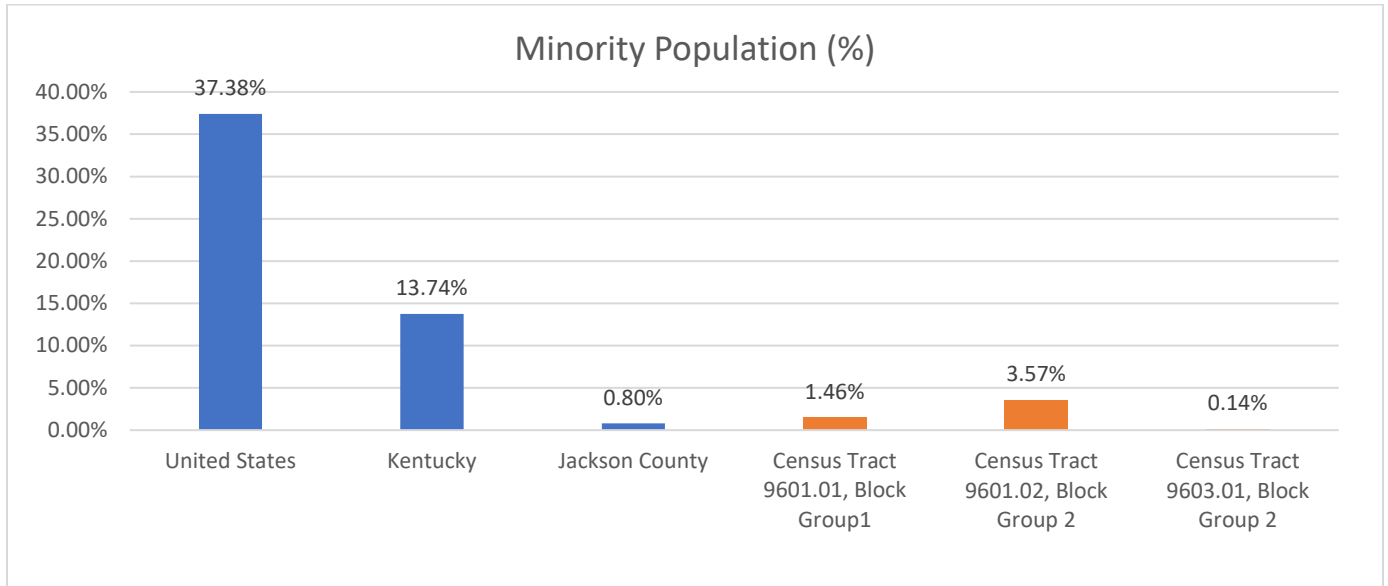
The tables in this report include total number and percentages for minorities, elderly, low-income, LEP, poverty status, and disabled populations for the nation, state, county, and the Census tracts/block groups. This project is located within the Cumberland Valley Area Development District. The reporting populations are from Jackson County as the reference threshold for identifying target populations. The county population provide a better snapshot of the overall population characteristics in the study area as opposed to the United States or Kentucky as a whole.

The methodologies in this study are appropriate for identifying possible areas of concern in small urban areas and project corridors. If applicable under the National Environmental Policy Act (NEPA), a more detailed analysis will be required when assessing the potential for adverse and disproportionate impacts to low-income and minority populations.



Study Findings

Population by Persons of Racial Minority

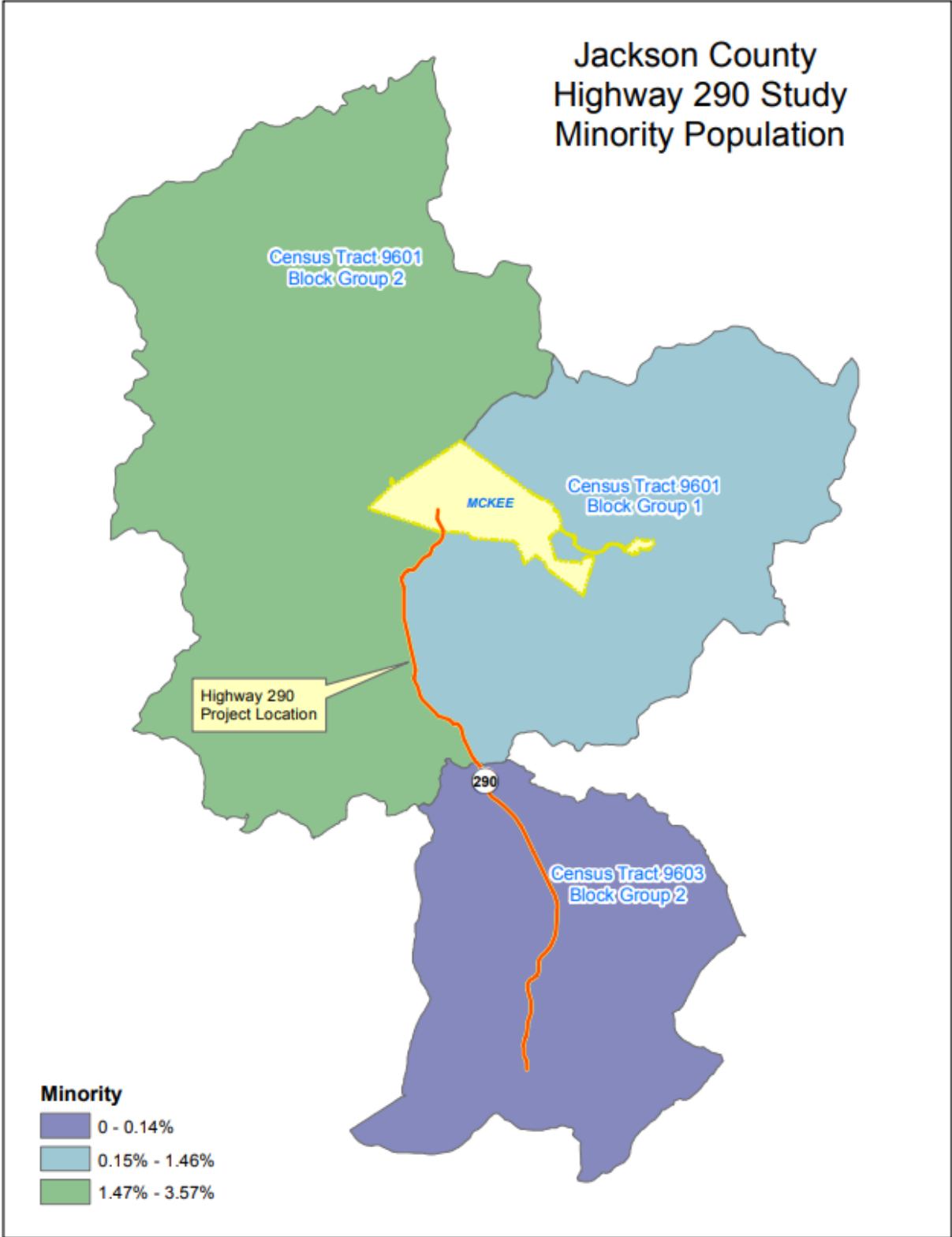


Racial minorities in the United States make up 37.38% of the population, while Kentucky's is significantly lower with 13.74% of the population being a minority. Jackson County displays an even lower percentage of .80%. The defined study area within Jackson County that encompasses Census Tract 9601.02 Block Group 1, Census Tract 9601.02 Block Group 2, and Census Tract 9603.01 Block Group 1 have lower percentages than the national and state average. On the other hand, Census Tract 9601.02 Block Group 1 and Census Tract 9601.02 Block Group 2 have higher percentages than Jackson County as a whole.

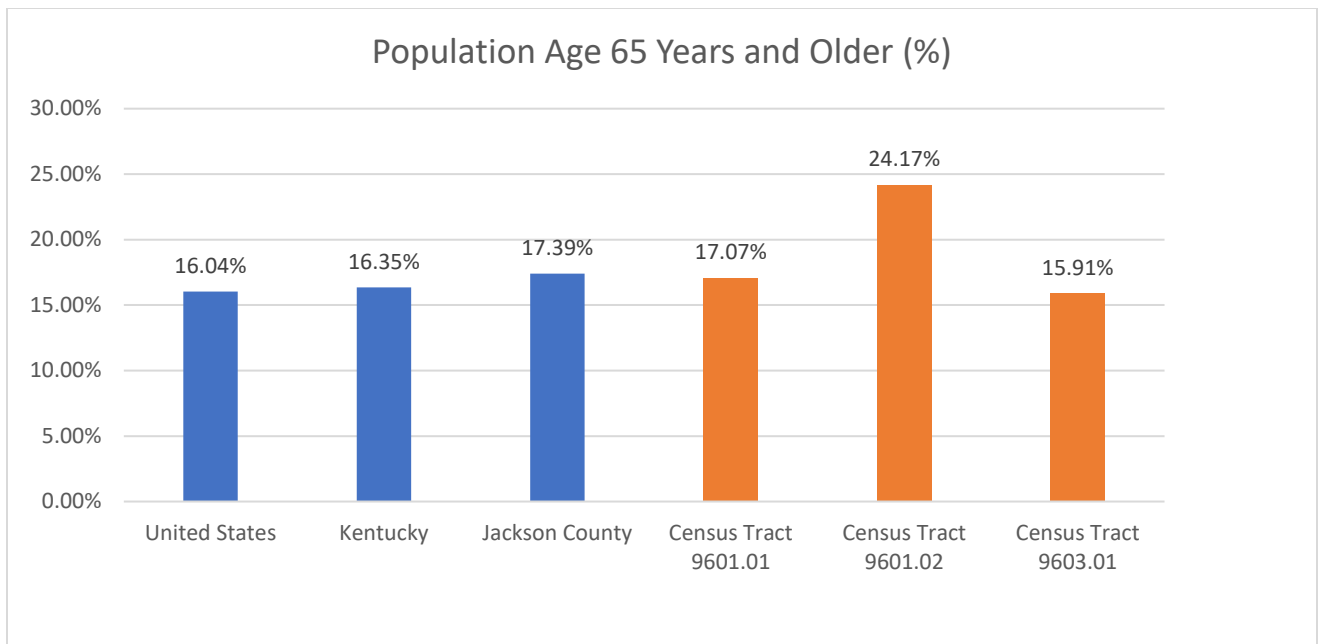
Location	Total Population	Minority Population	Minority Population (%)
United States	329,725,481	123,258,789	37.38%
Kentucky	4,494,141	617,554	13.74%
Jackson County	13,029	104	0.80%
Census Tract 9601.01, Block Group 1	1,297	19	1.46%
Census Tract 9601.02, Block Group 2	1,009	36	3.57%
Census Tract 9603.01, Block Group 2	1,424	2	0.14%

Source: U.S. Census Bureau 2017-2021 American Community Survey 5-Year Estimates

Jackson County Highway 290 Study Minority Population



Population by Persons Age 65 or Older

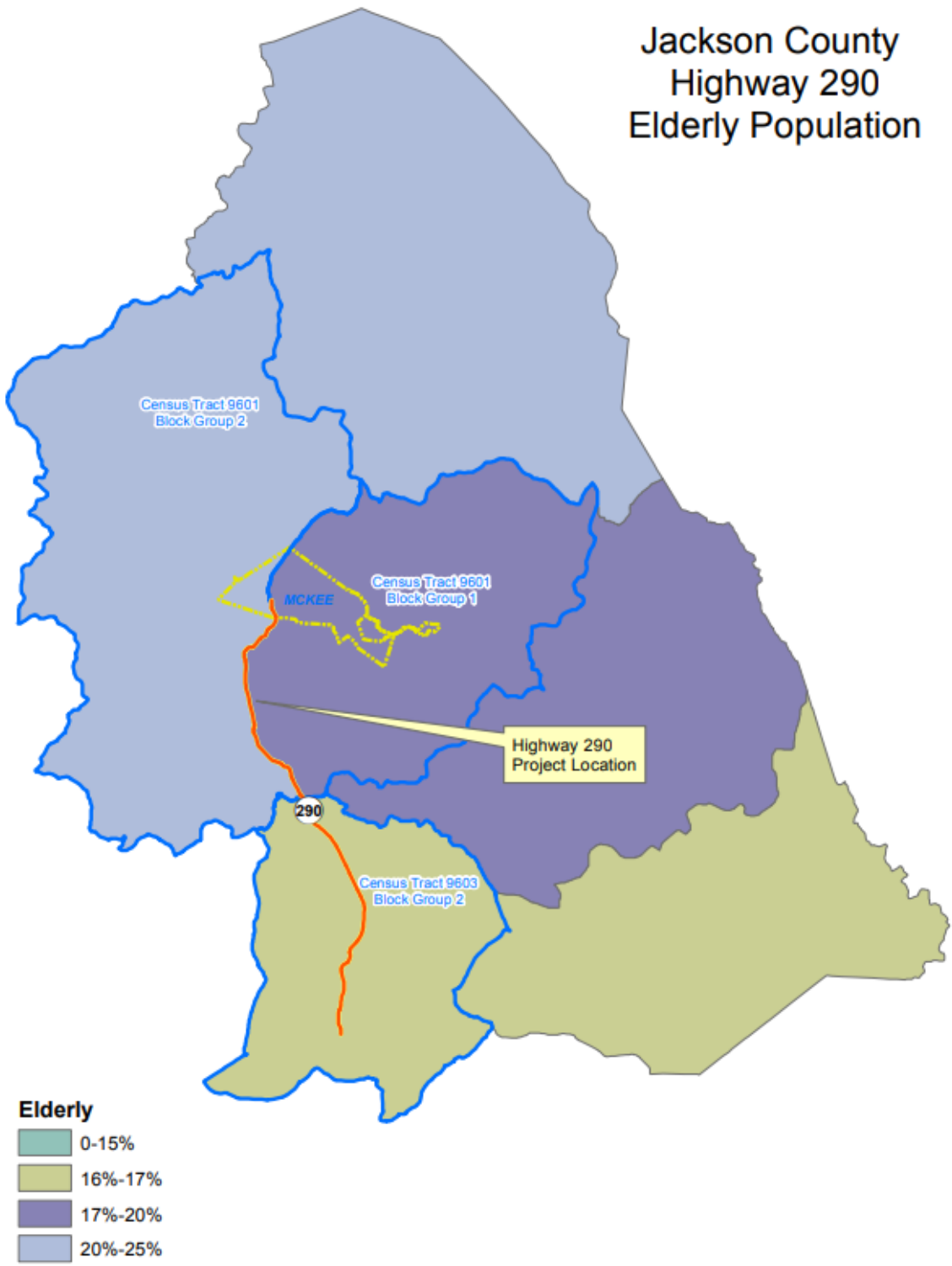


Because of limited data within the American Community Survey, we were able to only compile data for the three Census Tracts as a whole. Census Tract 9601.02 (24.17%) has a significantly higher percentage of elderly persons compared to the national, state, and county population percentages. Census Tract 9603.01 (15.91%) has a lower percentage of elderly persons than the United States, Kentucky, Jackson County, and the other two Census Tracts within the project study area.

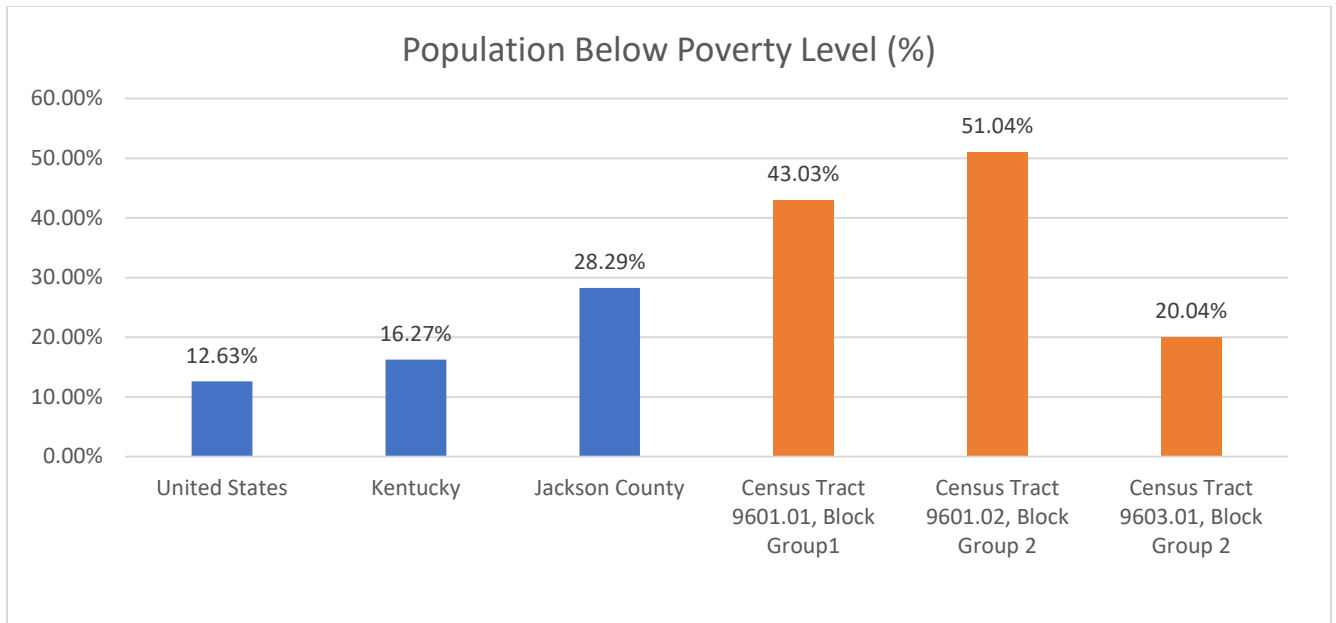
Location	Total Population	Population Age 65 Years and Older	Population Age 65 Years and Older (%)
United States	329,725,481	52,888,621	16.04%
Kentucky	4,494,141	734,851	16.35%
Jackson County	13,029	2,266	17.39%
Census Tract 9601.01	2,671	456	17.07%
Census Tract 9601.02	1,969	476	24.17%
Census Tract 9603.01	3,401	541	15.91%

Source: U.S. Census Bureau 2017-2021 American Community Survey 5-Year Estimates

Jackson County Highway 290 Elderly Population



Population by Persons Below Poverty Level

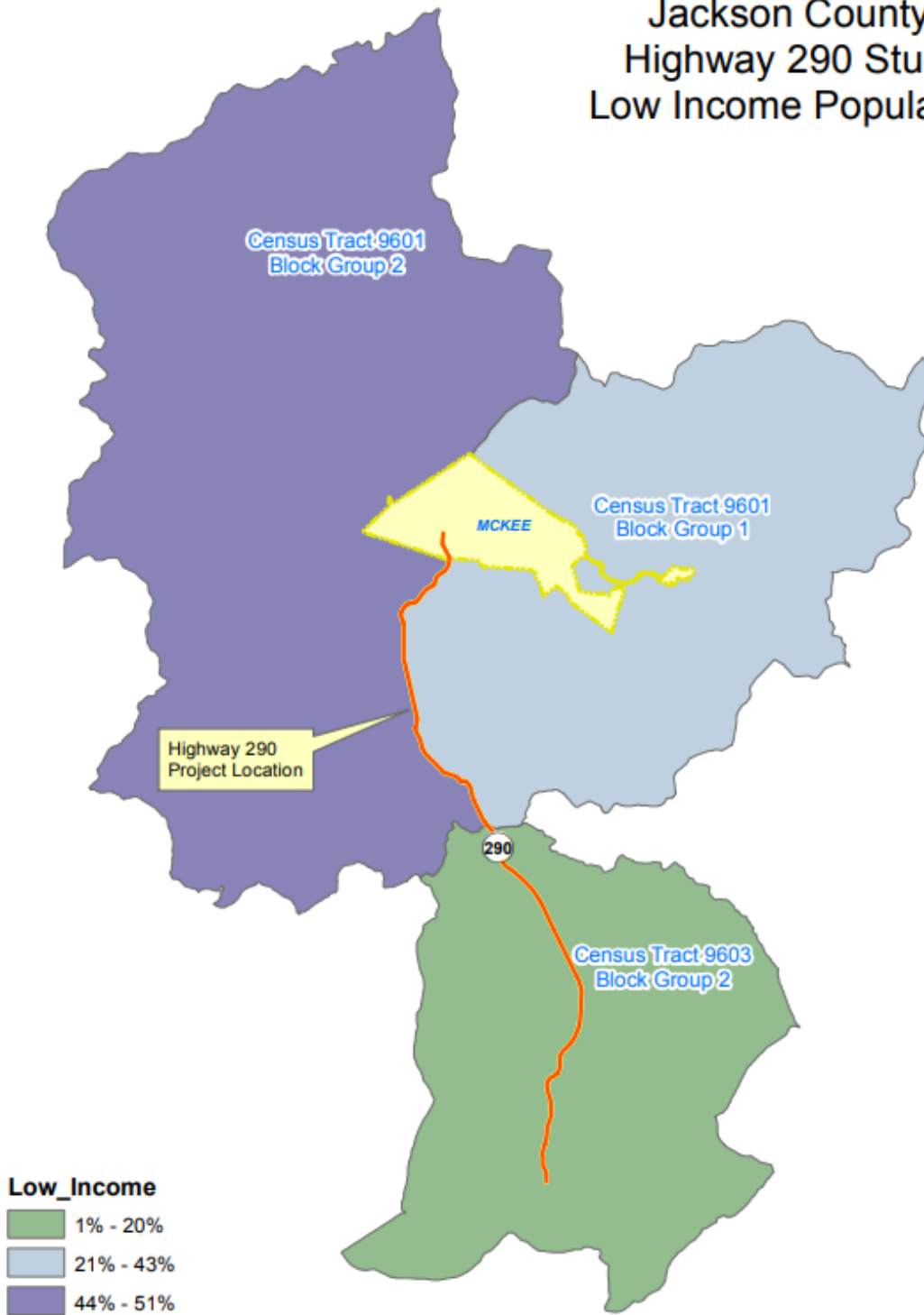


The percentage of persons living below the poverty level in Jackson County (28.29%) is significantly higher than national and state percentages. The highest population that is living below the poverty level within the project study area is Census Tract 9601.02 Block Group 2 at 51.04%. Census Tract 9601.01 Block Group 1 is only 8 percentage points lower than Census Tract 9601.02 Block Group 2 at 43.03%. The percentages of persons below the poverty level in the project study area is significantly larger than the nation and state.

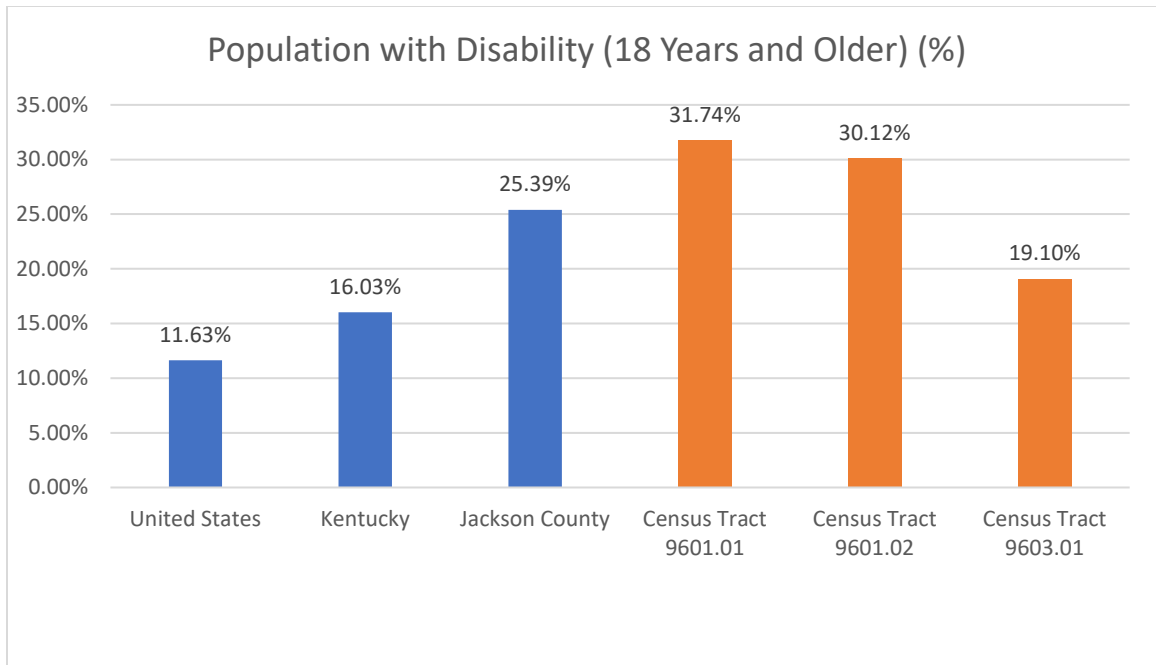
Location	Total Population	Population Below Poverty Level	Population Below Poverty Level (%)
United States	321,897,703	40,661,636	12.63%
Kentucky	4,359,181	709,140	16.27%
Jackson County	12,862	3,639	28.29%
Census Tract 9601.01, Block Group 1	1,269	546	43.03%
Census Tract 9601.02, Block Group 2	1,009	515	51.04%
Census Tract 9603.01, Block Group 2	1,352	271	20.04%

Source: U.S. Census Bureau 2017-2021 American Community Survey 5-Year Estimates

Jackson County Highway 290 Study Low Income Population



Population by Disability Status

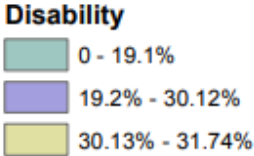
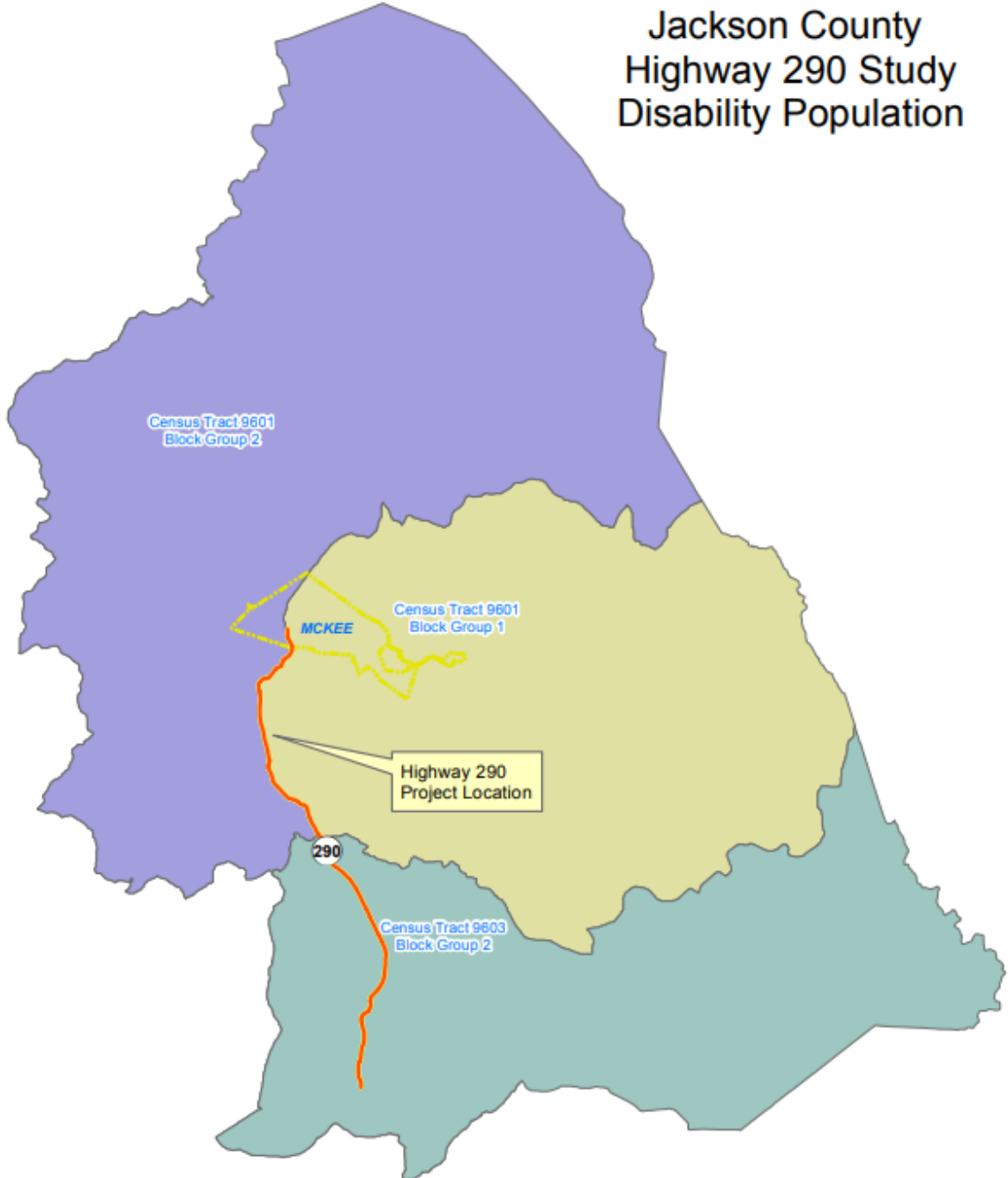


Because of limited data within the American Community Survey, we were able to only compile data for the three Census Tracts as a whole. Jackson County (25.39%) has a significantly higher disabled population compared to the nation and state. Census Tract 9601.01 and Census Tract 9601.02 both have percentages that are 5 percentage points and above the nation, state, and county.

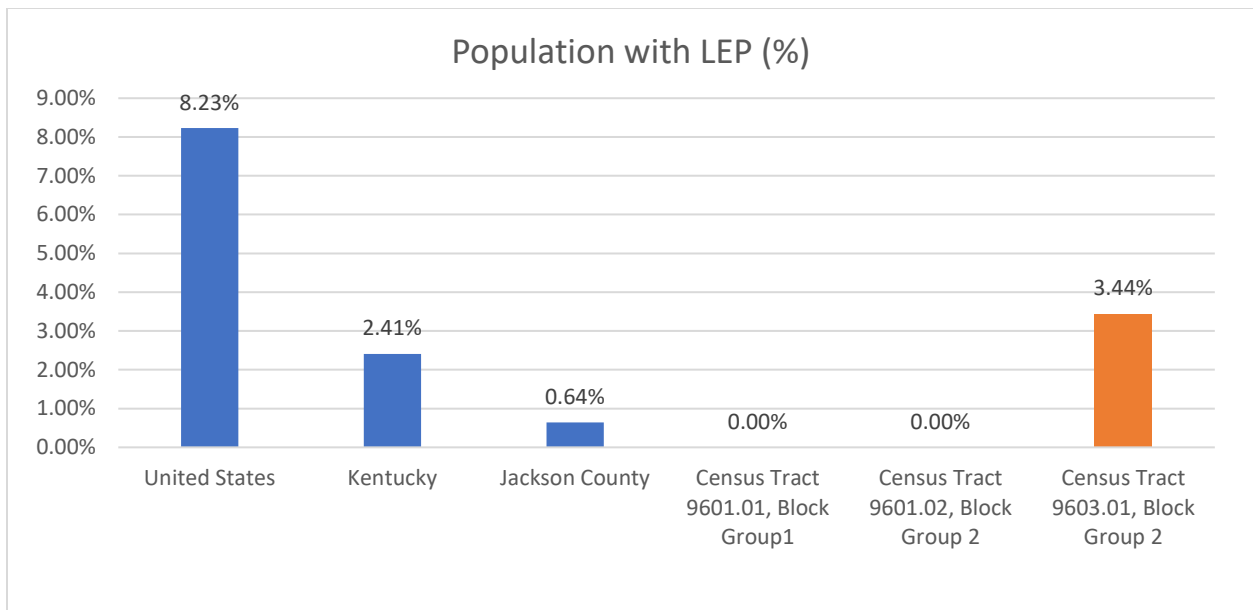
Location	Total Population Surveyed (18 Years and Older)	Population with Disability (18 Years and Older)	Population with Disability (18 Years and Older) (%)
United States	324,818,565	37,784,814	11.63%
Kentucky	4,416,344	707,753	16.03%
Jackson County	12,929	3,283	25.39%
Census Tract 9601.01	2,643	839	31.74%
Census Tract 9601.02	1,969	593	30.12%
Census Tract 9603.01	3,329	636	19.10%

Source: U.S. Census Bureau 2017-2021 American Community Survey 5-Year Estimates

Jackson County Highway 290 Study Disability Population



Population by Persons with Limited English Proficiency

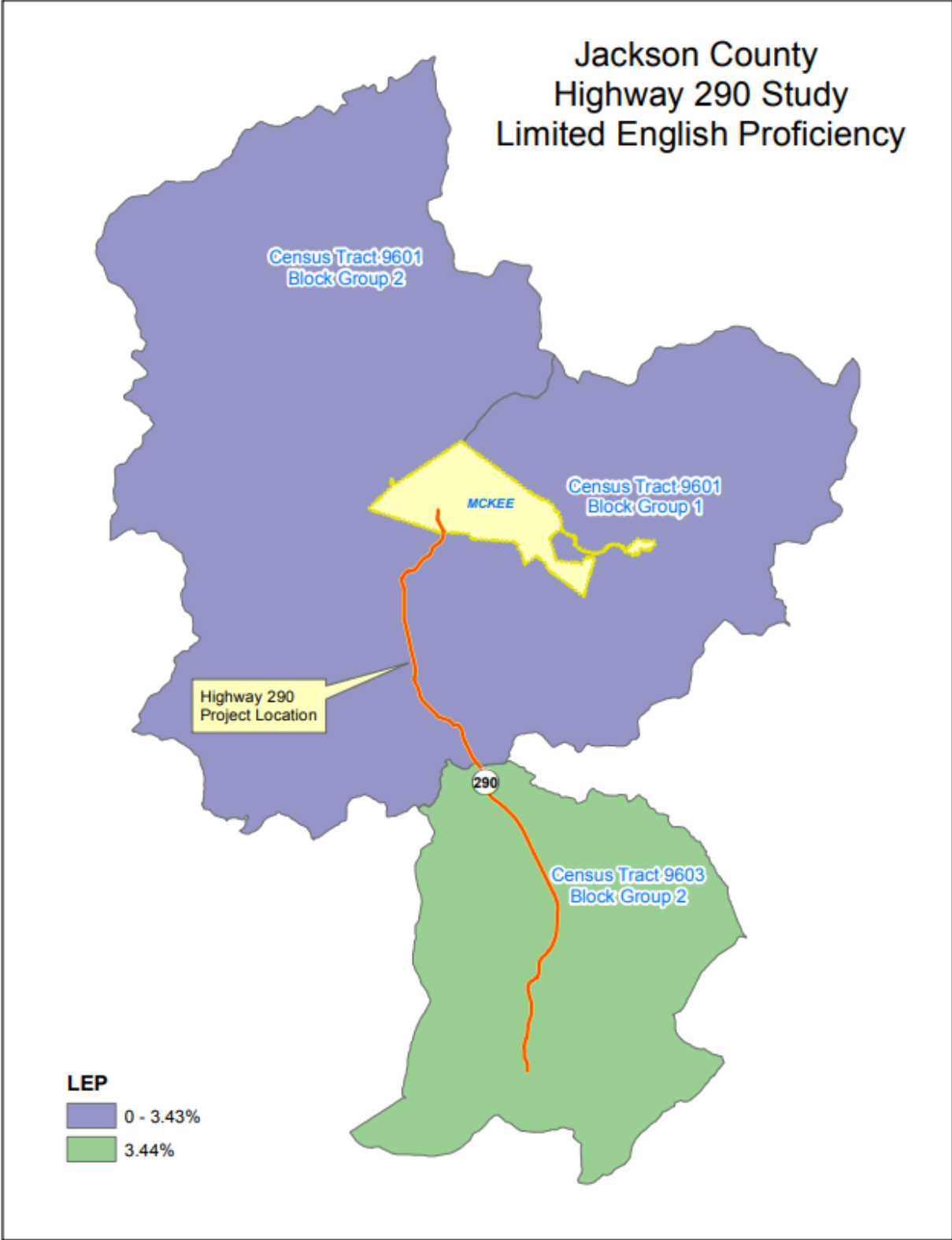


Persons with Limited English Proficiency (LEP) in the United States make up 8.23% of the population, but in Kentucky that percentage is significantly lower sitting at 2.41%. Census Tract 9601.01 Block Group 1 and Census Tract 9601.02 Block Group 2 have 0 people with LEP. However, Census Tract 9603.01 Block Group 2 has a percentage of 3.44, which is almost as high as the state.

Location	Total Population Surveyed	Population with Limited English Proficiency	Population with Limited English Proficiency (%)
United States	310,302,360	25,535,259	8.23%
Kentucky	4,223,282	101,826	2.41%
Jackson County	58,213	373	0.64%
Census Tract 9601.01, Block Group 1	1,204	-	0.00%
Census Tract 9601.02, Block Group 2	1,009	-	0.00%
Census Tract 9603.01, Block Group 2	1,365	47	3.44%

Source: U.S. Census Bureau 2017-2021 American Community Survey 5-Year Estimates

Jackson County Highway 290 Study Limited English Proficiency



Conclusion

Population by Persons of Racial Minority Origin

Racial Minorities in the majority of the project area are higher than Jackson County's percentages, but lower than the nation and state's population percentage.

Population by Persons Age 65 Years and Older

Due to limited data within the American Community Survey, data was only compiled to the three Census Tracts as a whole. Census Tract 9601.02 had a higher percentage of elderly persons compared to the nation, state, and county. Census Tract 9603.01 had a lower percentage of elderly persons than the nation, state, county, and other Census Tracts in the project study area.

Population by Persons Below Poverty Level

Census Tract 9601.02 Block Group 2 had a significantly high population percentage that live below the poverty level. Census Tract 9601.01 Block Group 1 was only 8 percentage points lower than Census Tract 9601.02 Block Group 2. The percentages of persons below the poverty level in the project study area is significantly larger than the nation and state.

Population by Disability Status

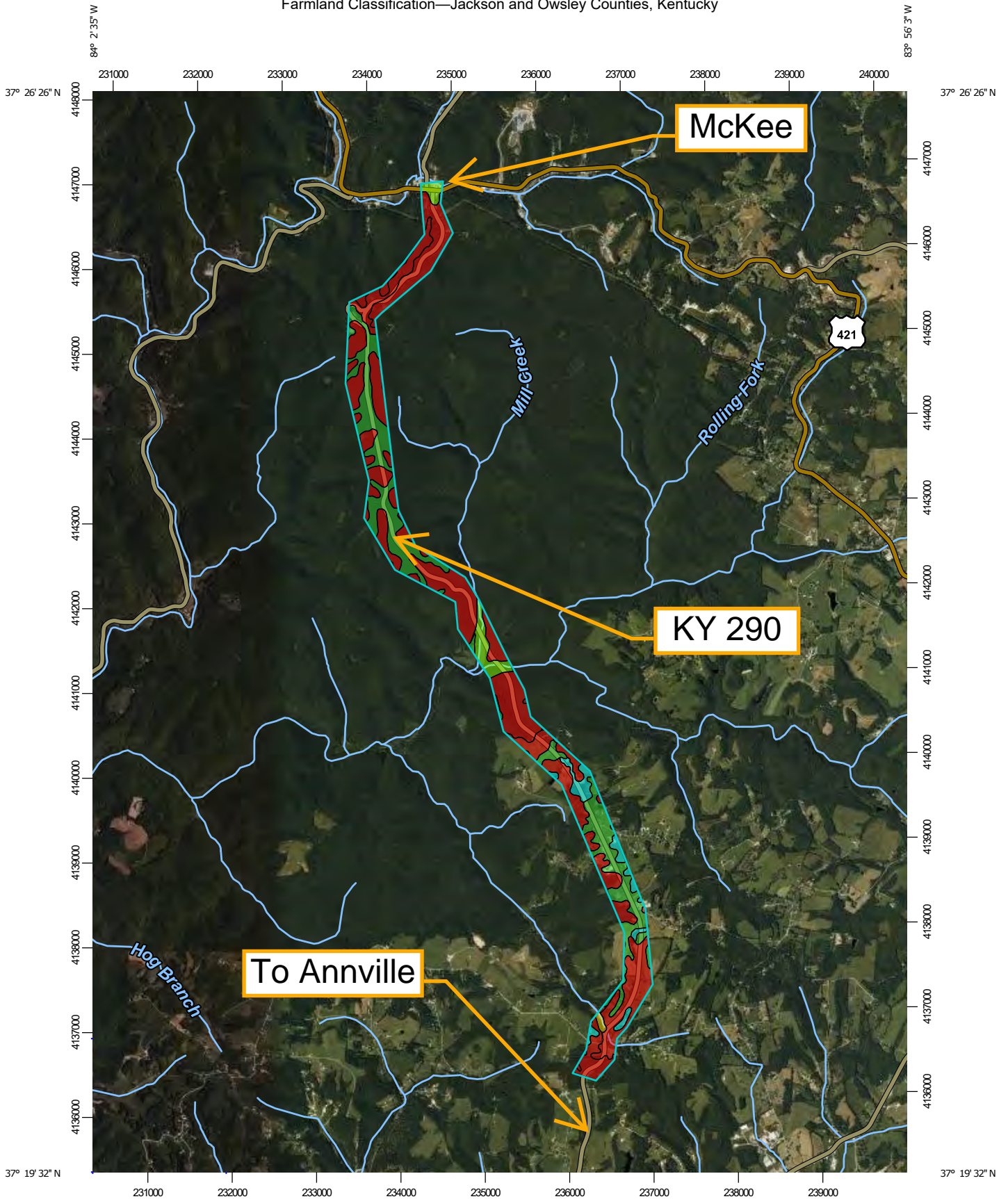
Because of limited data within the American Community Survey, we were able to only compile data for the three Census Tracts as a whole. Census Tract 9601.01 and Census Tract 9601.02 both have percentages that are 5 percentage points and above the nation, state, and county.

Persons with Limited English Proficiency

Census Tract 9601.01 Block Group 1 and Census Tract 9601.02 Block Group 2 have 0 people with LEP. However, Census Tract 9603.01 Block Group 2 has a percentage of 3.44, which is almost as high as the state.

**Attachment C – USDA Natural Resources Conservation
Services Web Soil Survey Reports (Prime Farmland)**

Farmland Classification—Jackson and Owsley Counties, Kentucky



Map Scale: 1:62,200 if printed on A portrait (8.5" x 11") sheet.

0 500 1000 2000 3000 Meters


0 3000 6000 12000 18000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84











MAP LEGEND








Area of Interest (AOI)






 Area of Interest (AOI)







Soils



Soil Rating Polygons

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season









-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of statewide importance, if drained
-  Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated

-  Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated and drained
-  Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
-  Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60




































-  Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough
-  Farmland of local importance
-  Farmland of local importance, if irrigated

-  Farmland of unique importance
-  Not rated or not available




















Soil Rating Lines

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Farmland Classification—Jackson and Owsley Counties, Kentucky

	Prime farmland if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium		Farmland of unique importance		Prime farmland if subsoiled, completely removing the root inhibiting soil layer
	Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if irrigated and drained		Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season	Soil Rating Points			Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
	Prime farmland if irrigated and reclaimed of excess salts and sodium		Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season		Not prime farmland		Prime farmland if irrigated and reclaimed of excess salts and sodium
	Farmland of statewide importance		Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if warm enough		Prime farmland if drained		Farmland of statewide importance
	Farmland of statewide importance, if drained		Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of local importance		Prime farmland if irrigated		Farmland of statewide importance, if drained
	Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season				Farmland of statewide importance, if thawed		Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
	Farmland of statewide importance, if irrigated				Farmland of local importance, if irrigated		Prime farmland if irrigated and drained		Farmland of statewide importance, if irrigated
							Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season		

Farmland Classification—Jackson and Owsley Counties, Kentucky

<p> Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season</p> <p> Farmland of statewide importance, if irrigated and drained</p> <p> Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season</p> <p> Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer</p> <p> Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60</p>	<p> Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium</p> <p> Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season</p> <p> Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season</p> <p> Farmland of statewide importance, if warm enough</p> <p> Farmland of statewide importance, if thawed</p> <p> Farmland of local importance</p> <p> Farmland of local importance, if irrigated</p>	<p> Farmland of unique importance</p> <p> Not rated or not available</p> <p>Water Features</p> <p> Streams and Canals</p> <p>Transportation</p> <p> Rails</p> <p> Interstate Highways</p> <p> US Routes</p> <p> Major Roads</p> <p> Local Roads</p> <p>Background</p> <p> Aerial Photography</p>	<p>The soil surveys that comprise your AOI were mapped at 1:20,000.</p> <p>Please rely on the bar scale on each map sheet for map measurements.</p> <p>Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)</p> <p>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</p> <p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p> <p>Soil Survey Area: Jackson and Owsley Counties, Kentucky Survey Area Data: Version 20, Sep 10, 2023</p> <p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p> <p>Date(s) aerial images were photographed: Nov 1, 2014—Sep 15, 2019</p> <p>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</p>
---	---	--	--

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AvB	Allegheny variant silt loam, 2 to 6 percent slopes	All areas are prime farmland	2.5	0.3%
GnC	Gilpin silt loam, 5 to 12 percent slopes	Farmland of statewide importance	45.5	4.5%
GpB	Gilpin-Rayne silt loams, 2 to 6 percent slopes	All areas are prime farmland	277.0	27.3%
GrD	Gilpin-Rayne-Sequoia silt loams, 12 to 25 percent slopes	Not prime farmland	182.9	18.0%
Gs	Grigsby fine sandy loam, 0 to 3 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season	44.8	4.4%
Gv	Grigsby-Orrville variant complex, 0 to 3 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	4.4	0.4%
RCF	Rigley-Rock outcrop association, steep	Not prime farmland	44.5	4.4%
SgF	Shelocta-Gilpin complex, 20 to 65 percent slopes, stony	Not prime farmland	413.4	40.7%
SrF	Steinsburg and Gilpin soils and rock outcrop, steep	Not prime farmland	1.1	0.1%
Totals for Area of Interest			1,016.2	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

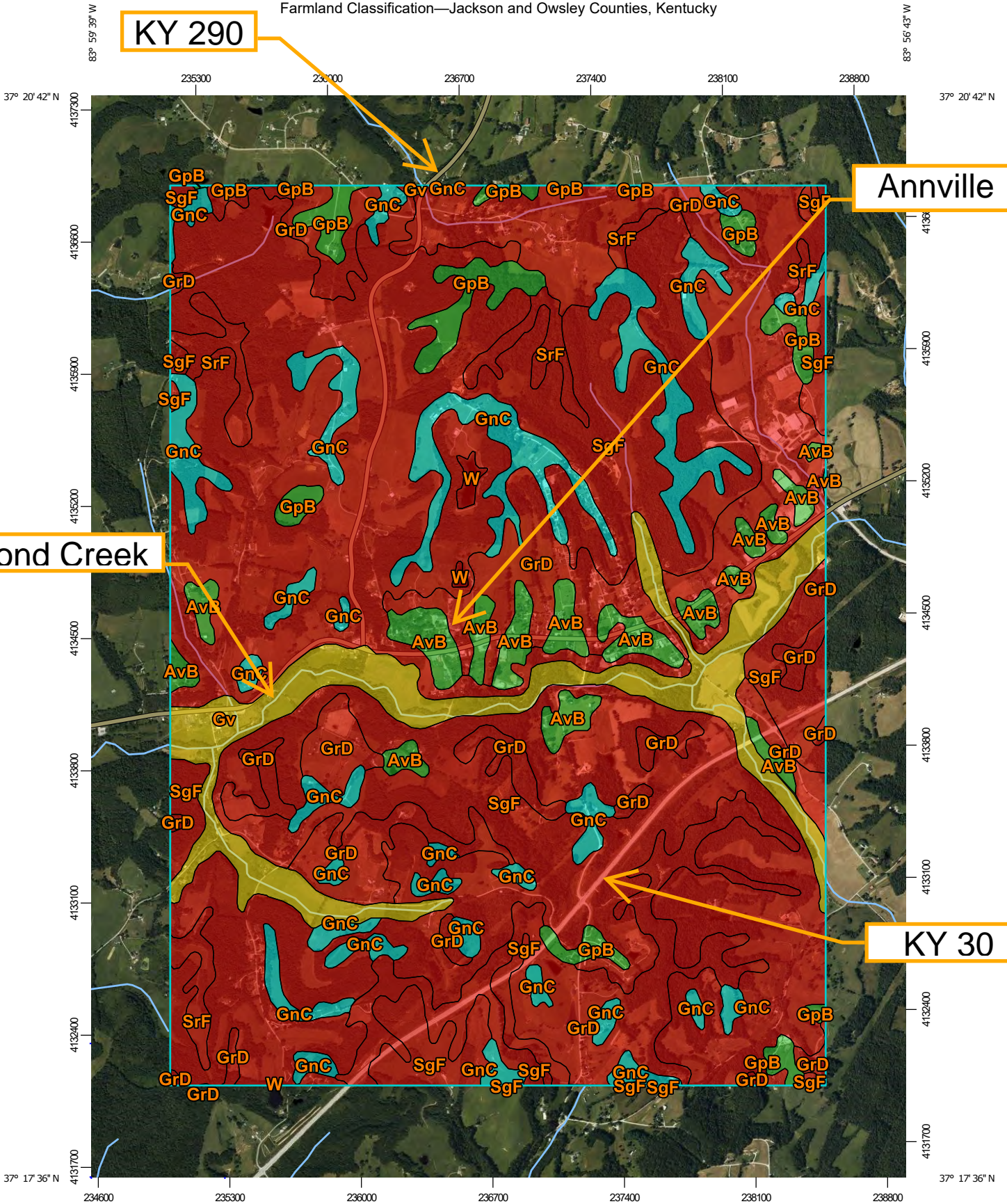
Farmland Classification—Jackson and Owsley Counties, Kentucky

KY 290

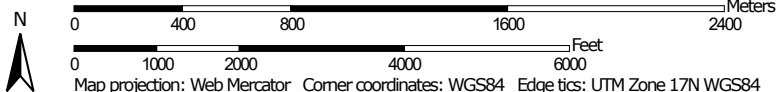
Annville

Pond Creek

KY 30



Map Scale: 1:27,900 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84




Natural Resources Conservation Service

Web Soil Survey National Cooperative Soil Survey

11/1/2023 Page 1 of 5









MAP LEGEND








Area of Interest (AOI)






 Area of Interest (AOI)







Soils



Soil Rating Polygons

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season









-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of statewide importance, if drained
-  Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated

-  Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated and drained
-  Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
-  Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60

































-  Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough
-  Farmland of local importance
-  Farmland of local importance, if irrigated

-  Farmland of unique importance
-  Not rated or not available

Soil Rating Lines

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Farmland Classification—Jackson and Owsley Counties, Kentucky

	Prime farmland if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium		Farmland of unique importance		Prime farmland if subsoiled, completely removing the root inhibiting soil layer	
	Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if irrigated and drained		Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season	Soil Rating Points		Not prime farmland		Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
	Prime farmland if irrigated and reclaimed of excess salts and sodium		Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season		Prime farmland if drained		Prime farmland if irrigated and reclaimed of excess salts and sodium	
	Farmland of statewide importance		Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if warm enough		Prime farmland if irrigated		Farmland of statewide importance	
	Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if thawed		Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if drained	
	Farmland of statewide importance, if irrigated				Farmland of local importance		Prime farmland if irrigated and drained		Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season	
					Farmland of local importance, if irrigated		Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if irrigated	

Farmland Classification—Jackson and Owsley Counties, Kentucky

Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season	Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium	Farmland of unique importance Not rated or not available	<p>The soil surveys that comprise your AOI were mapped at 1:20,000.</p>
Farmland of statewide importance, if irrigated and drained	Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season	<p>Water Features Streams and Canals </p>	<p>Please rely on the bar scale on each map sheet for map measurements.</p>
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season	Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season	<p>Transportation</p>	<p>Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)</p>
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer	Farmland of statewide importance, if warm enough	Rails	<p>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</p>
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60	Farmland of statewide importance, if thawed	Interstate Highways	<p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p>
	Farmland of local importance	US Routes	<p>Soil Survey Area: Jackson and Owsley Counties, Kentucky Survey Area Data: Version 20, Sep 10, 2023</p>
	Farmland of local importance, if irrigated	Major Roads	<p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p>
		Local Roads	<p>Date(s) aerial images were photographed: Nov 1, 2014—Sep 15, 2019</p>
		<p>Background</p>	<p>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</p>
		Aerial Photography	

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AvB	Allegheny variant silt loam, 2 to 6 percent slopes	All areas are prime farmland	157.5	3.8%
GnC	Gilpin silt loam, 5 to 12 percent slopes	Farmland of statewide importance	345.7	8.4%
GpB	Gilpin-Rayne silt loams, 2 to 6 percent slopes	All areas are prime farmland	107.1	2.6%
GrD	Gilpin-Rayne-Sequoia silt loams, 12 to 25 percent slopes	Not prime farmland	933.0	22.6%
Gv	Grigsby-Orrville variant complex, 0 to 3 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	287.8	7.0%
SgF	Shelocta-Gilpin complex, 20 to 65 percent slopes, stony	Not prime farmland	2,189.9	53.1%
SrF	Steinsburg and Gilpin soils and rock outcrop, steep	Not prime farmland	90.9	2.2%
W	Water	Not prime farmland	8.3	0.2%
Totals for Area of Interest			4,120.4	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower