

# Appendix D

# Environmental Overview

Cumberland Expressway – KYTC Statewide  
Corridor Planning

*Barren, Metcalfe, Adair, Russell and Pulaski Counties,  
Kentucky*

October 18, 2021

## Environmental Overview – Natural and Environmental Resources

The Cumberland Parkway planning study will assess what upgrades are needed to bring the Cumberland Parkway to interstate standards. This Environmental Overview (EO) documents the environmental features known to exist within the study area. At present, upgrades are anticipated to occur within existing right-of-way. The study area for the EO considers a 250-foot buffer of the existing parkway along its entirely approximate 92-mile length. The Cumberland Parkway extends from interchange at Interstate 65 (I-65) in the west to the City of Somerset in the east. The parkway includes 13 interchanges and spans portions of Barren, Metcalfe, Adair, Russell, and Pulaski counties.

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 categories: ecological resources (i.e., streams, wetlands, and floodplains); threatened and endangered species and important habitats; air quality and noise issues; Environmental Justice / socioeconomic data; land use; hazardous materials; and historic and archaeological resources. Further, for ease of consideration the EO considered these resources within the study areas within five smaller segments. Segments comprise the following:

1. Western terminus at I-65 to US 31E interchange (Milepoint [MP] 0.3 to MP 11.5)
2. US 31E interchange to US 68 interchange (MP 11.5 to MP 29.8)
3. US 68 interchange to KY 55 Columbia interchange (MP 29.8 to MP 48.9)
4. KY 55 Columbia interchange to US 127 Russell Springs interchange (MP 48.9 to 62.4)
5. Russell Springs interchange to eastern terminus at US 27 Somerset interchange (MP 62.4 to MP 88.3)

A few areas of environmental consideration apply to all segments corridor wide and are briefly discussed immediately below. If an environmental constraint is specific to a particular segment, that information is presented in tabular format by segment number, following the overall discussions.

**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** - 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* 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." Unless significant alterations are proposed at an interchange or interchanges, the project will not meet Type I criteria. Significant alterations, however, could include the addition or relocation of ramp lanes such that 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 noise analysis would be required for the entire project corridor.

**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 Lake Cumberland Area Development District (LCADD) prepared the *Cumberland Expressway Interstate Upgrade Socioeconomic Study (6/28/2021)* to assess the potential to encounter EJ populations within the study corridor. The report used 2019 U.S. Census Bureau American Community Survey (ACS) data; numbers for Kentucky were used as the reference thresholds. As a result of this comparative analysis, the report identified seven block groups with minority status and 27 block groups with poverty status.

Block groups with minority populations are concentrated around the corridor locations closest to the more urbanized areas. Those urban areas are Glasgow in Barren County, Columbia in Adair County, Russell Springs in Russell County, and Somerset in Pulaski County. The highest minority populations, which correspond to these urban areas, respectively, extend from the following MP locations: MP 8.3 to MP 14.0, MP 48.0 to MP 49.8, MP 58.0 to MP 61.7, and MP 86.7 to 88.3. Block groups with low-income populations are located throughout the project corridor. Low-income populations, located either north or south of the Cumberland Parkway, are in the following MP locations: MP 0.30 to MP 18.3, MP 24.1 to 64.9, and MP 72.2 to 88.3. Any future NEPA document must consider a project's potential to disproportionately impact these populations. The full *Socioeconomic Study* is attached.

**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 and farmlands of statewide importance are prominent throughout the entire project corridor. Most areas that are not farmland soils are those areas surrounding the

corridor's numerous streams where flooding occurs, or drainage is insufficient to support farmland activity. A few sections along the corridor do noticeably lack farmland soils, however; these areas are in the eastern half of the project corridor and primarily near the end of the study corridor. Those areas are from approximate MP 36.6 to MP 41.9; MP 75.5 to MP 77.9; MP 78.7 to MP 81.5; and 82.7 to 85.7. As the project is currently proposed, i.e., within existing right-of-way, no concerns related to farmland are anticipated for the project. Any future NEPA document will need to consider potential impacts to farmland, and particularly so if any improvements are proposed outside of existing right-of-way.

The environmental constraints specific to a particular segment follow.

### 1. Western Terminus to US 31E (MP 0.3 to MP 11.5)

Environmental Category	Environmental Constraint
<b>Natural Environment</b>	
<b>Streams</b>	16 stream crossings
<b>Wetlands</b>	2 wetlands – 1 at MP 1.85 (PF01A) and 1 at MP 3.2 (PEM1ch)
<b>Floodplains</b>	4 floodplains crossed
<b>Threatened &amp; Endangered Species</b>	Within Indiana bat critical habitat (MP 3.3 to MP 22.35); 1 Indiana bat Known Swarming 1 habitat; and 1 northern long-eared bat Known Swarming 2 habitat 4 bats, 7 mussels, 1 crustacean, and 2 flowering plants listed by the USFWS for the study corridor (see attached USFWS IPaC)
<b>Human Environment</b>	
<b>Land Use</b>	
<b>Neighborhoods</b>	2 neighborhood areas between Glen Garry Road and US 31E (MP 10.5 to 10.9)
<b>Community Facilities and Services</b>	1 cemetery - Barlow Cemetery near MP 11.05
<b>Hazardous Materials/USTs</b>	Glasgow City Landfill from MP 9.4 to MP 10.15
<b>Archaeology</b>	Sites may occur within existing right-of-way – to be analyzed during future design phase

No Section 4(f) properties, Section 6 (f) properties, or currently listed historic structures are known from within the 250-foot buffer of the parkway.

**2. US 31E to US 68 (MP 11.5 to MP 29.8)**

Environmental Category	Environmental Constraint
<b>Natural Environment</b>	
<b>Streams</b>	29 stream crossings
<b>Wetlands</b>	2 wetlands – 1 at MP 16.65 (PF01A) and 1 at MP 21.4 (PEM1Fh)
<b>Floodplains</b>	6 floodplains crossed
<b>Threatened &amp; Endangered Species</b>	Within Indiana bat critical habitat (MP 3.3 to MP 22.35) and Indiana bat and northern long-eared bat Potential habitat 4 bats, 7 mussels, 1 crustacean, and 2 flowering plants listed by the USFWS for the study corridor (see attached USFWS IPaC)
<b>Human Environment</b>	
<b>Land Use</b>	
<b>Neighborhoods</b>	1 neighborhood area at KY 90 Burkesville Road interchange (NW quadrant – MP 13.8)
<b>Community Facilities and Services</b>	2 places of worship – Southside Baptist Church at MP 11.7 and Kingdom Hall of Jehovah’s Witnesses at MP 11.8 3 schools – Barren County Middle School at MP 12.15; Trojan Academy High at MP 12.25 and Barren County High School at MP 12.4
<b>Hazardous Materials/USTs</b>	Glasgow City Landfill from MP 9.4 to MP 10.15
<b>Archaeology</b>	Sites may occur within existing right-of-way – to be analyzed during future design phase

No Section 4(f) properties, Section 6 (f) properties, or currently listed historic structures are known from within the 250-foot buffer of the parkway.

**3. US 68 to KY 55 (MP 29.8 to MP 48.9)**

Environmental Category	Environmental Constraint
<b>Natural Environment</b>	
<b>Streams</b>	34 stream crossings
<b>Floodplains</b>	7 floodplains crossed
<b>Threatened &amp; Endangered Species</b>	Within Indiana bat Potential habitat; 1 northern long-eared bat Known Summer 1 + Swarming 2 habitat location 4 bats, 7 mussels, 1 crustacean, and 2 flowering plants listed by the USFWS for the study corridor (see attached USFWS IPaC)
<b>Human Environment</b>	
<b>Land Use</b>	
<b>Community Facilities and Services</b>	1 cemetery – Clark Cemetery at MP 43.5 1 water tower – Columbia water tower at MP 47.0 1 place of worship – Church of the Nazarene at MP 48.9
<b>Hazardous Materials/USTs</b>	Oil Wells – Numerous mapped oil wells between MP 42.0 and 45.0
<b>Archaeology</b>	Sites may occur within existing right-of-way – to be analyzed during future design phase

No wetlands, neighborhoods, Section 4(f) properties, Section 6(f) properties, or currently listed historic structures are known from within the 250-foot buffer of the parkway.

**4. KY 55 to US 127 (MP 48.9 to 62.4)**

Environmental Category	Environmental Constraint
<b>Natural Environment</b>	
<b>Streams</b>	15 stream crossings
<b>Floodplains</b>	5 floodplains crossed
<b>Threatened &amp; Endangered Species</b>	Within Indiana bat Potential habitat; northern long-eared bat Known Summer 1 + Swarming 2 habitat location 4 bats, 7 mussels, 1 crustacean, and 2 flowering plants listed by the USFWS for the study corridor (see attached USFWS IPaC)
<b>Important Habitats</b>	Crosses Russel Creek, an Outstanding State Resource Water (OSRW) near MP 56.25
<b>Human Environment</b>	
<b>Land Use</b>	
<b>Neighborhoods</b>	2 neighborhoods – 1 larger residential cluster near MP 51.0 (at Saw Mill overpass), 1 small neighborhood at MP 61.6 1 groundwater well (residential use) at MP 56.85
<b>Community Facilities and Services</b>	1 college – Lindsey Wilson Sports Park at MP 49.2
<b>Hazardous Materials/USTs</b>	City of Columbia Landfill at MP 53.5
<b>Archaeology</b>	Sites may occur within existing right-of-way – to be analyzed during future design phase

No wetlands, Section 4(f) properties, Section 6(f), or currently listed historic structures are known from within the 250-foot buffer of the parkway.

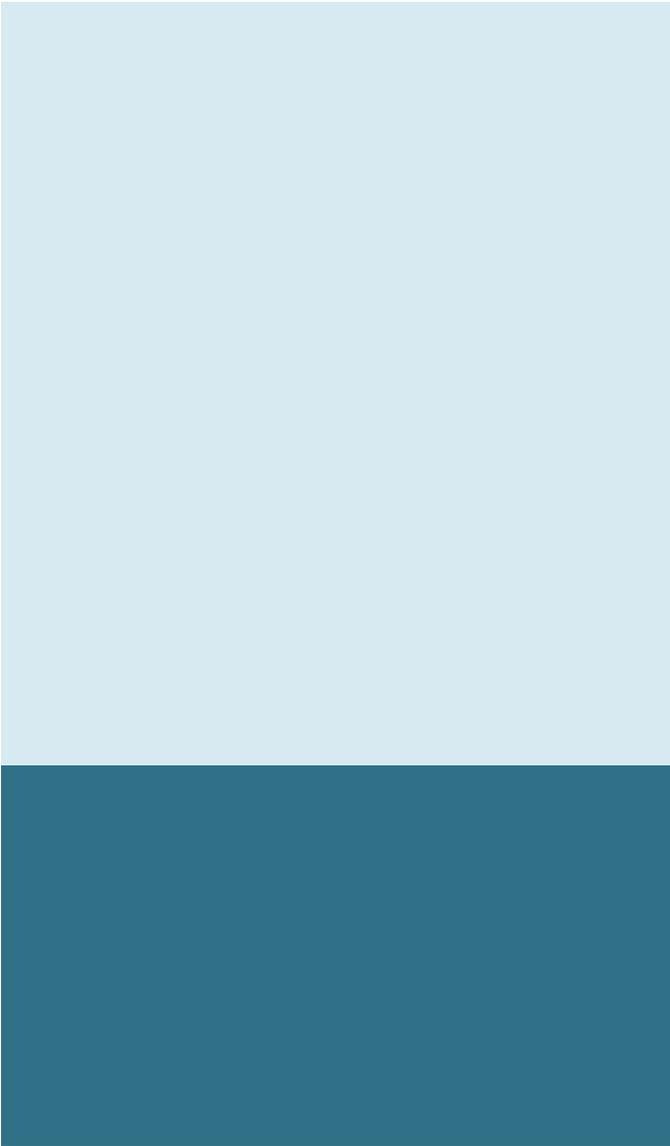
**5. US 127 to US 27 (MP 62.4 to MP 88.3)**

Environmental Category	Environmental Constraint
<b>Natural Environment</b>	
<b>Streams</b>	34 stream crossings
<b>Floodplains</b>	5 floodplains crossed
<b>Threatened &amp; Endangered Species</b>	Within Indiana bat Potential habitat; 2 northern long-eared bat Known Swarming 2 habitat locations; 4 bats, 7 mussels, 1 crustacean, and 2 flowering plants listed by the USFWS for the study corridor (see attached USFWS IPaC)
<b>Important Habitats</b>	Crosses Lake Cumberland Wildlife Management Area (WMA) from MP 84.1 to MP 84.6 and MP 84.8 to MP 85.10
<b>Human Environment</b>	
<b>Land Use</b>	
<b>Neighborhoods</b>	1 neighborhood – residential cluster at KY 910 at MP 65.35 9 groundwater wells (residential use) – 1 near MP 64, 1 near MP 66.9, 1 near MP 68.86, 1 at MP 69.1, 2 near MP 72.1, 1 near MP 74.9, 1 near MP 79.2, 1 at MP 85.5
<b>Community Facilities and Services</b>	1 place of worship and 1 cemetery – Chesterview Baptist Church and cemetery at MP 78.4 (SW quadrant of W KY 80 interchange)
<b>Section 4(f) Properties</b>	1 WMA – Lake Cumberland WMA (See Important Habitats above)
<b>Hazardous Materials/USTs</b>	Potential junkyard at MP 76.2 – Visible on aerial imagery; need to field verify during future design phase
<b>Archaeology</b>	Sites may occur within existing right-of-way – to be analyzed during future design phase

No wetlands, Section 6(f) properties or currently listed historic structures are known from within the 250-foot buffer of the parkway.

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 natural and environmental resources. For archaeological considerations, in some cases, impacts within existing right-of-way may be an environmental constraint; any future design will need to consider archaeological resources in particular where ground disturbance occurs. The table below summarizes potential impacts or considerations that may be anticipated for future design of the conceptual improvements.

Conceptual Improvement	Anticipated Environmental Impact
<b>Mainline</b>	
Shoulder Widening	No Anticipated Impact
Superelevation Adjustment	
Vertical Grade Decrease	
Headlight Sight Distance Increase	
Replace / Raise Guardrail	
<b>Interchanges</b>	
Ramp Accel / Decel Lengthening	Possible Tree Removal (Bat Habitat); Known Summer Northern Long-eared Bat Habitat at Exit 49, KY 55
Lane Width Increase	No Anticipated Impact
Horizontal Curve Radius (Place Auxiliary Speed Signs)	
Interchange Rebuild at Exit 27, US 68	Potential Right-of-Way Needed - Possible Tree Removal (Bat Habitat Potential Area); Potential Archaeological Impacts; Karst Stream Impact
<b>Bridges</b>	
Bridge Railing Replacement	Potential Bat Usage of Bridges; Floodplain Considerations; Potential for Bridge Railing Asbestos
	Lake Cumberland Wildlife Management Area near Bridge over Fishing Creek (MP 84.4)
	Known Indiana Bat Swarming Habitat at Bridge over Beaver Creek (MP 8.2)
	Known Northern Long-Eared Summer 1 and Swarming Habitat at Bridges over Petty's Fork (MP 48.1) and Russell Creek (MP 50.1)
	Russell Creek is an Outstanding State Resource Water (OSRW) (MP 56.2)
Bridge Widening – Over South Fork Beaver Creek	Potential Bat Usage of Bridge; Floodplain Considerations; Potential for Bridge Railing Asbestos
<b>Additional Safety and Operational Improvements</b>	
Removal of Median Turnarounds	No Anticipated Impact
Upgrade Ramp Terminal Design at Exit 14, KY 90 Eastbound Ramp	
Add Traffic Signal at Exit 11 (US 31E) Westbound Ramp Terminal	



Attachment – Cumberland  
Expressway Interstate  
Upgrade Socioeconomic  
Study



Cumberland Expressway  
Interstate Upgrade  
Socioeconomic Study  
June 28, 2021

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Prepared by: Lake Cumberland Area Development District  
2384 Lakeway Dr.  
P.O. Box 1570  
Russell Springs, KY 42642  
270-866-4200

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APPENDIX A: Affected Census Tract and Block Group Table

APPENDIX B: Methodology for Assessing Potential Environmental Justice Concerns for KYTC  
Planning Studies

Prepared by: Lake Cumberland Area Development District  
2384 Lakeway Dr.  
P.O. Box 1570  
Russell Springs, KY 42642  
270-866-4200

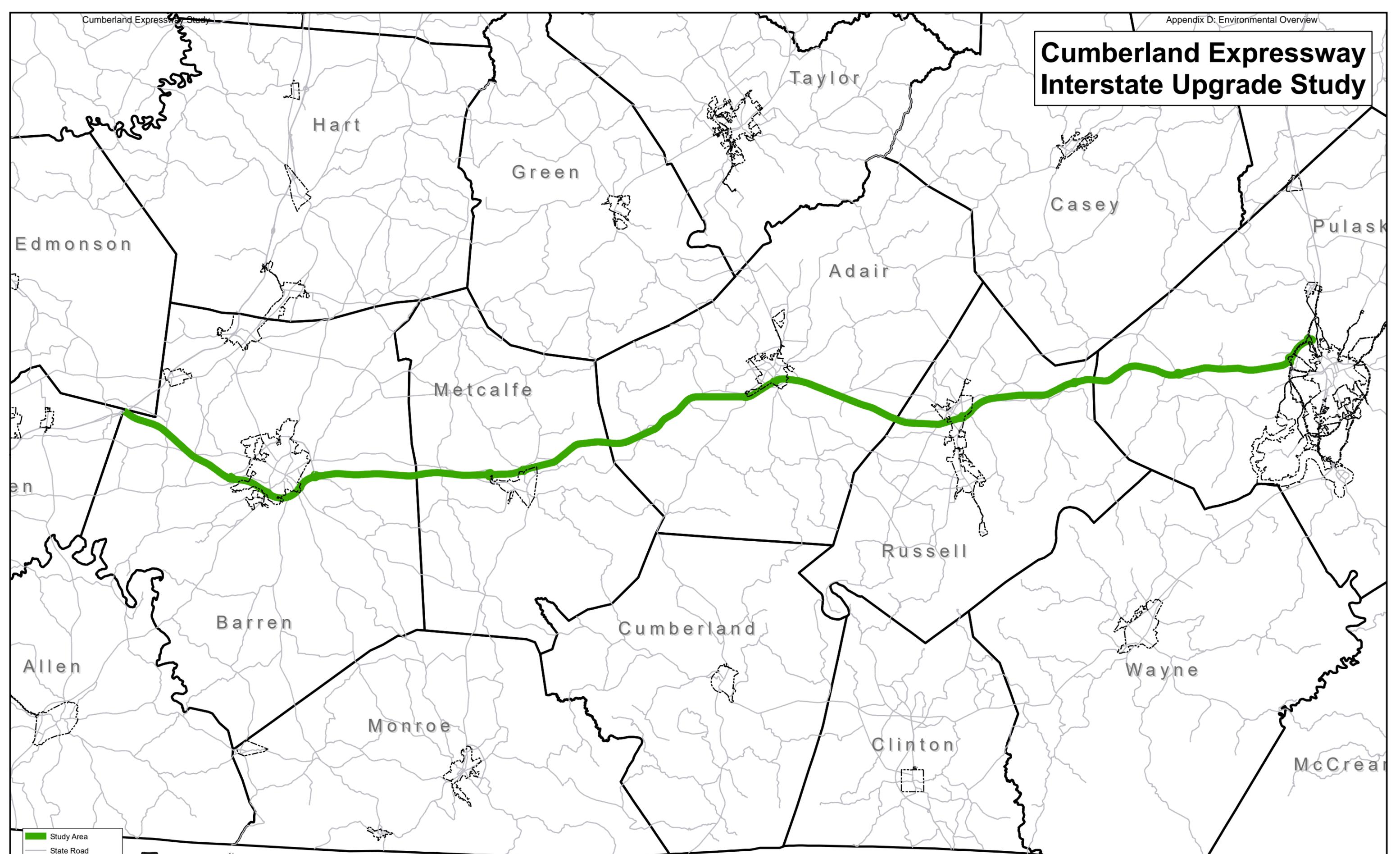
## 1.0 Introduction

This document includes a review of the socioeconomic characteristics in the study area (indicated in map on next page) for the Cumberland Expressway Interstate Upgrade Study, which is located within the Barren River Area Development District (BRADD) and the Lake Cumberland Area Development District (LCADD). Data from the Kentucky State Data Center (KSDC) has been utilized for the analysis of the study area. Please see the KSDC website for more information, data limitations, and an explanation of the methodology used to obtain the data (<http://ksdc.louisville.edu/>).

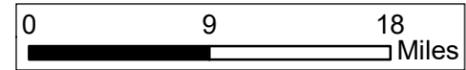
The intent of this review is to assist the Kentucky Transportation Cabinet in making informed and prudent transportation decisions in the study area, especially with regard to the requirements of *Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (signed February 11, 1994). Executive Order 12898.

This report uses the 2019 ACS 5-year estimates and data tables to compare the populations of the census divisions within the study area at the county, state, and national levels. Statistics are provided on minority, low-income, elderly, disabled, and low English proficiency populations for the census tracts within the study area.

# Cumberland Expressway Interstate Upgrade Study



- Study Area
- State Road
- Corporate Boundary
- County Boundary



## 2.0 What is Environmental Justice?

The U.S. EPA Office of Environmental Justice (EJ) defines 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.

[www.epa.gov/environmentjustice](http://www.epa.gov/environmentjustice) describes fair treatment as:

“Fair treatment means that no group of people, including racial, ethnic, or socio- economic 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.”.

The National Environmental Justice Advisory Council (NEJAC) suggestions for meaningful public involvement include: (1) Encourage public participation in all aspects of environmental decision making. (2) Encourage active community participation. (3) Institutionalize public participation. (4) Recognize community knowledge. (5) Utilize cross-cultural formats and exchanges.

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.

## 2.1 Definitions

USDOT Order 5610.2 on EJ, issued in the April 15, 1997 Federal Register, defines what constitutes low-income and minority population.

**Low-Income** is defined as a person whose median household income is at or below the U.S. Department of Health and Human Services poverty guidelines.

**Minority** is defined as a person who is: (1) Black (a person having origins in any black racial groups of Africa); (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); (3) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (4) American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).

**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.

**Minority Population** is defined as any readily identifiable group of minority 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.

**Elderly and disabled populations** (also used in this analysis) 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.

### **Limited English Proficiency**

The term Limited English Proficient (LEP) refers to any person age 5 and older who reported speaking English less than "very well" as classified by the U.S. Census Bureau. The term English proficient refers to people who reported speaking English only or "very well."

## **3.0 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," located in Appendix B.

The primary source of data for this report was assembled from the American Community Survey 2019 Five Year Estimate tables B03002 (Minority Status), B17021 (Poverty status), B01001 (Over 65 status), C21007 (Disabled), and B16004 (Limited English Proficiency) status via the American Fact Finder website (<http://factfinder.census.gov>) and GIS data provided by KYTC.

In reviewing each census block group for target populations, and analysis range was determined based on the reference threshold in each of the five census categories reviewed in this report. For this study the threshold established was the state (Kentucky percentage for each population. For Minority that is 15.78%, Poverty is 16.26%, Over 65 is 16.89%, Disability status is 21.64%, and Limited English Proficiency is 2.46%.

## 4.0 Census Data Analysis

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.

## 5.0 Study Findings/Overview

These Socioeconomic Studies are to be used as a component of the Cumberland Expressway Interstate Upgrade Study currently being conducted by the Kentucky Transportation Cabinet Division of Planning. This report is intended to help define the location of the project and meet the Federal requirements regarding the possible environmental issues as defined in the National Environment Policy Act (NEPA).

According to the 5 year 2019 ACS, there are eighteen (18) Census Tracts (CT); and a total of thirty-nine (39) Block Groups (BG) that encompass the population of the study area.

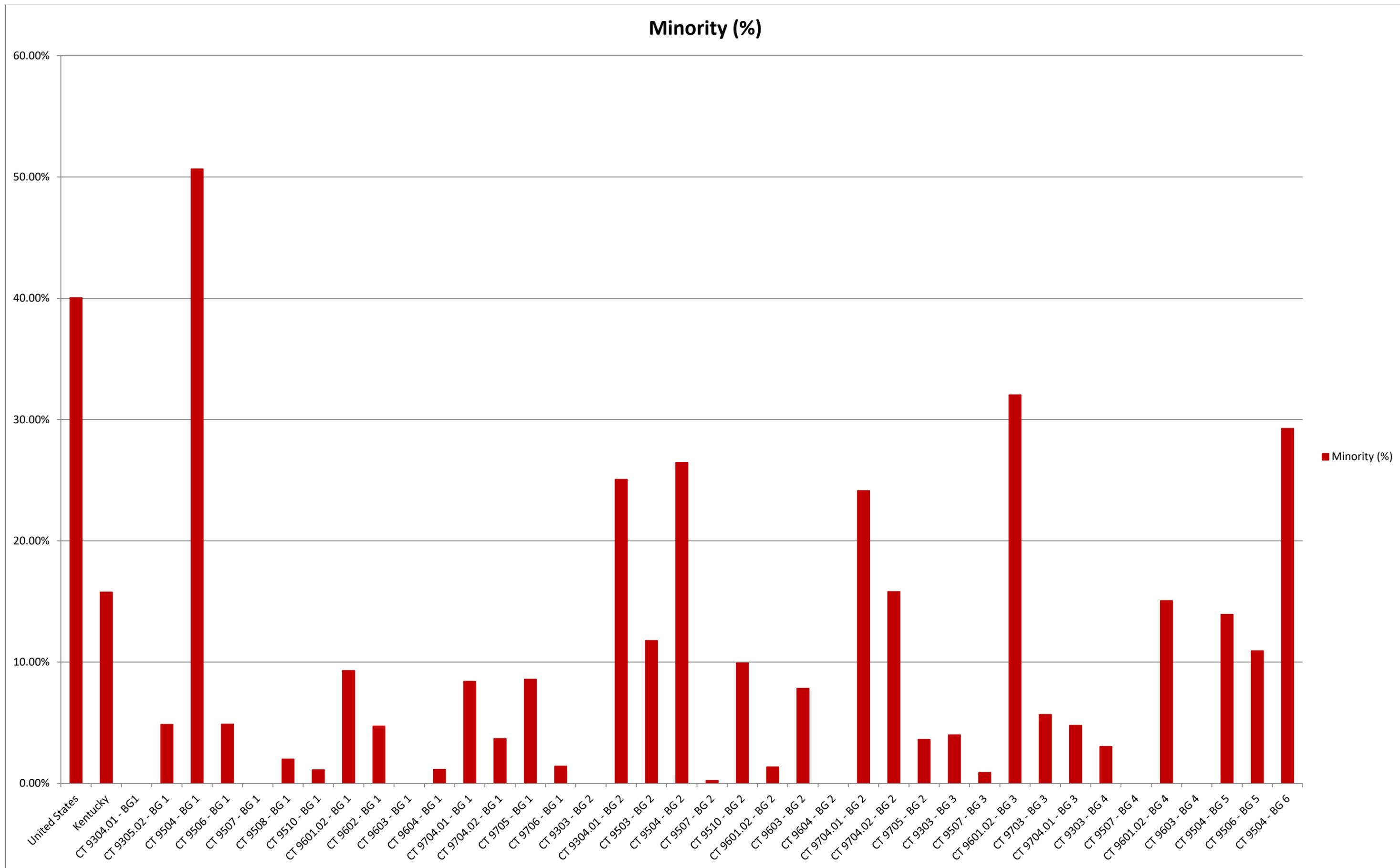
## 6.0 Population by Persons of Minority Origin

*See Map 1 for reference*

The total minority population for Kentucky is 15.78%. This is the established reference threshold for this category (see below). This percentage is below the U.S. (40.05%). For the study area, seven (7) Block Groups (CT 9704.01 – BG 2, CT 9704.02 – BG2, CT 9304.01 – BG 2, CT 9504 – BG 2, CT 9504 – BG 6, CT 9601.02 – BG 3, CT 9504 – BG 1) were identified as having populations above the established threshold.

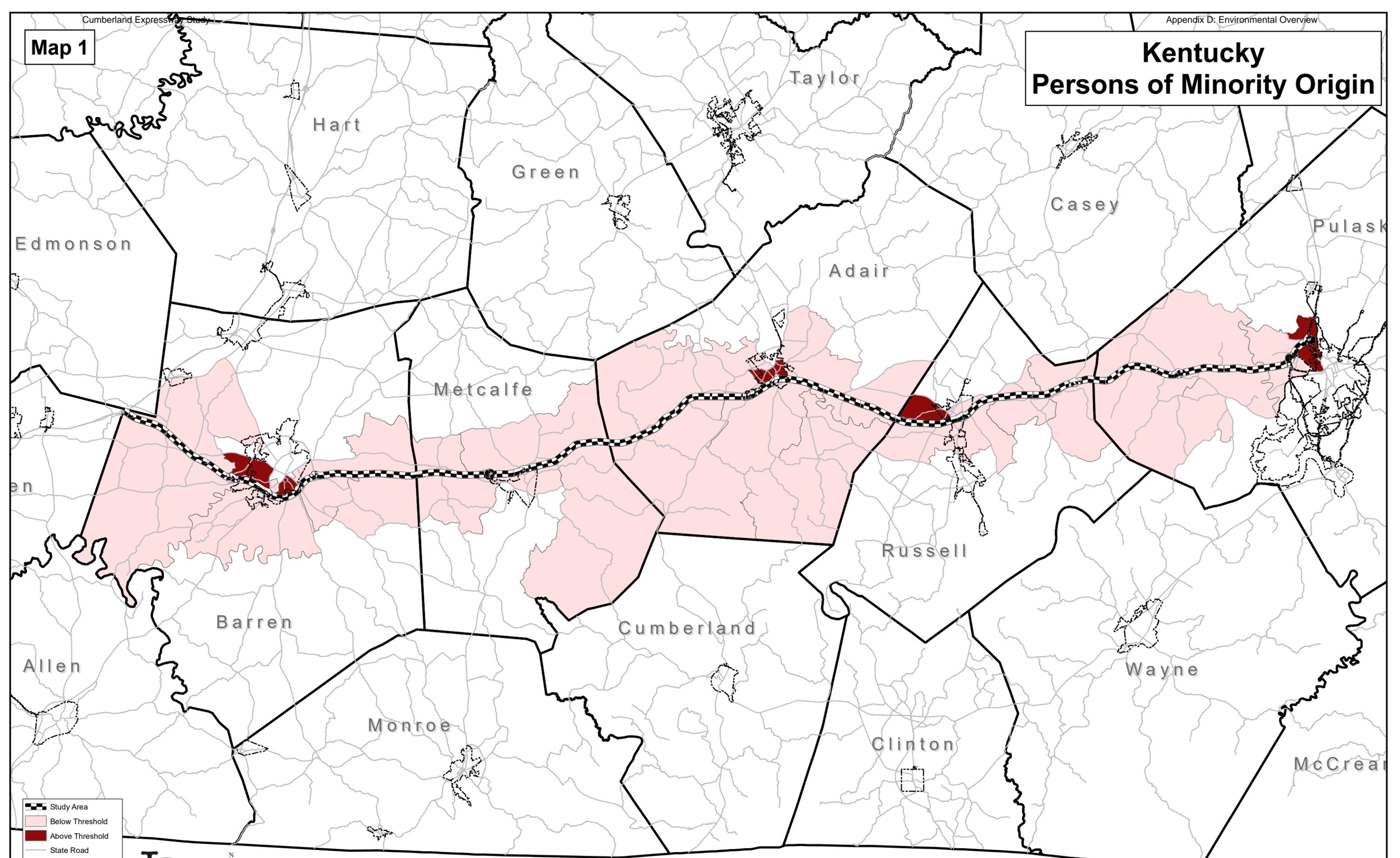
### Reference Thresholds and Analysis Range

<u>Analysis Range</u>	<u>Percent Minority</u>
Above Threshold	>15.78%
Reference Threshold (State Percentage)	<b>15.78%</b>
Below Threshold	<15.78%

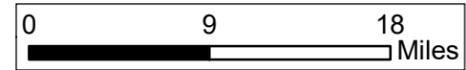


Map 1

# Kentucky Persons of Minority Origin



-  Study Area
-  Below Threshold
-  Above Threshold
-  State Road
-  Corporate Boundary
-  County Boundary



## 7.0 Population by Below Poverty Status

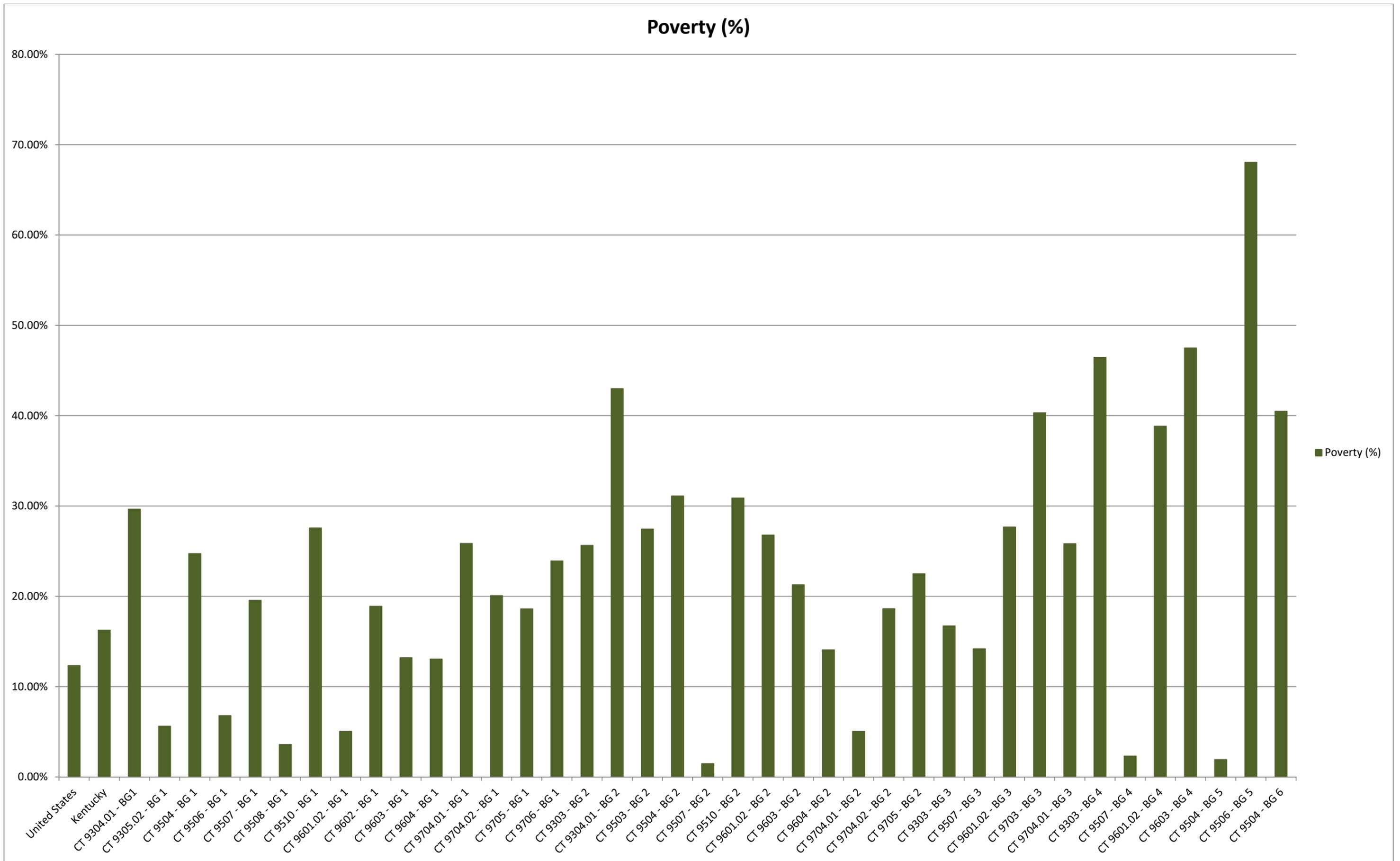
*See Map 2 for reference*

The total below poverty population for Kentucky is 16.26%. This is the established reference threshold for this category (see below). This percentage is above the U.S. (12.34%). For the study area, twenty-seven (27) Block Groups (CT 9309 – BG 3, CT 9705 – BG 1, CT 9704.02 – BG 2, CT 9602 – BG 1, CT 9507 – BG 1, CT 9704.02 – BG 1, CT 9603 – BG 2, CT 9705 – BG 2, CT 9706 – BG 1, CT 9504 – BG 1, CT 9303 – BG 2, CT 9704.01 – BG 3, CT 9704.01 – BG 1, CT9601.02 – BG 2, CT 9503 – BG 2, CT 9510 – BG 1, CT 9601.02 – BG 3, CT9304.01 – BG 1, CT 9510 – BG 2, CT9504 – BG 2, CT 9601.02 – BG 4, CT 9703 – BG 3, CT 9504 – BG 6, CT 9304.01 – BG 2, CT 9303 – BG 4, CT 9603 – BG 4, CT 9506 – BG 5) were identified as having populations above the threshold established for below poverty status.

### Reference Thresholds and Analysis Range

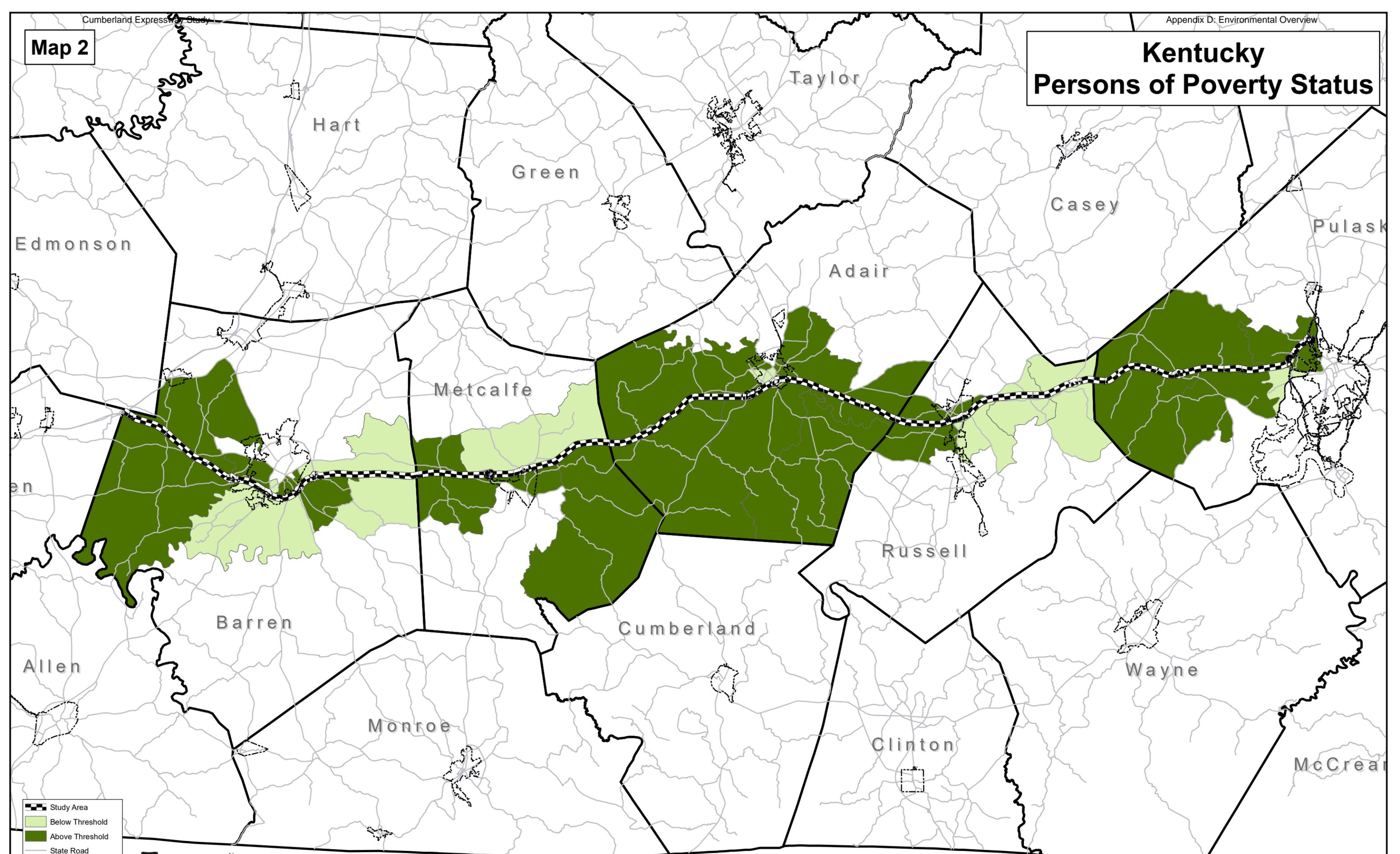
<u>Analysis Range</u>	<u>Percent Below Poverty</u>
Above Threshold	>16.26%
Reference Threshold (State Percentage)	<b>16.26%</b>
Below Threshold	< 16.26%

### Poverty (%)

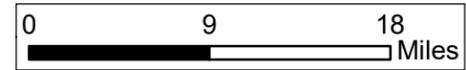


Map 2

# Kentucky Persons of Poverty Status



-  Study Area
-  Below Threshold
-  Above Threshold
-  State Road
-  Corporate Boundary
-  County Boundary



## 8.0 Population by Person 65 and Over

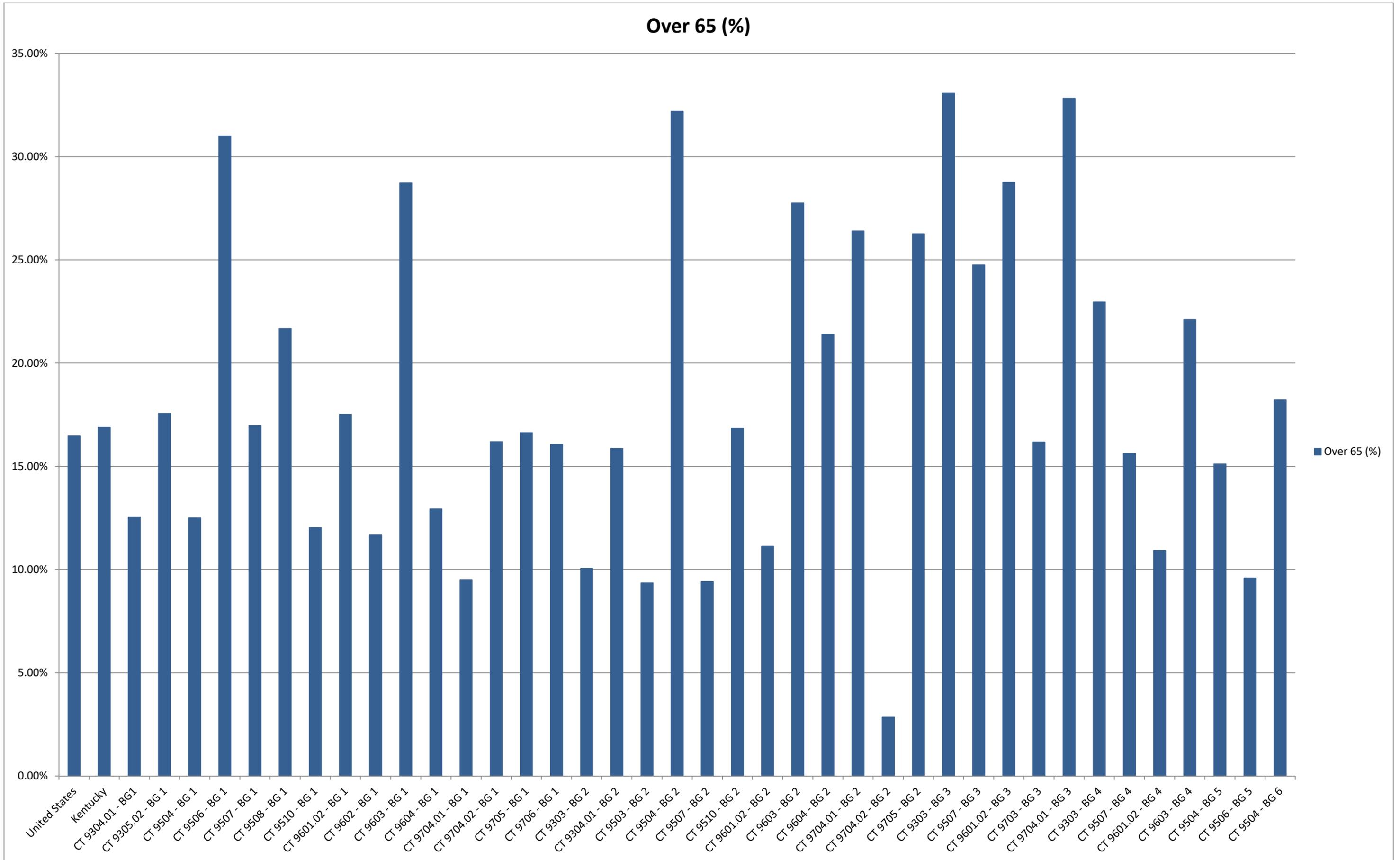
*See Map 3 for reference*

The total population of those over 65 years of age for Kentucky is 16.89%. This is the established reference threshold (see below) for this category. This percentage is above the U.S. (16.47%). For the study area, eighteen (18) Block Groups (CT 9507 – BG1, CT 9601.02 – BG 1, CT 9305.02 – BG 1, CT 9504 – BG 6, CT 9604 – BG 2, CT 9508 – BG 1, CT 9603 – BG 4, CT 9303 – BG 4, CT 9507 – BG 3, CT 9705 – BG 2, CT 9704.01 – BG 2, CT 9603 – BG 2, CT 9603 – BG 1, CT 9601.02 – BG 3, CT 9506 – BG 1, CT 9504 – BG 2, CT 9704.01 – BG 3, CT 9303 – BG 3) were identified as having populations above the threshold established for persons 65 and over.

### Reference Thresholds and Analysis Range

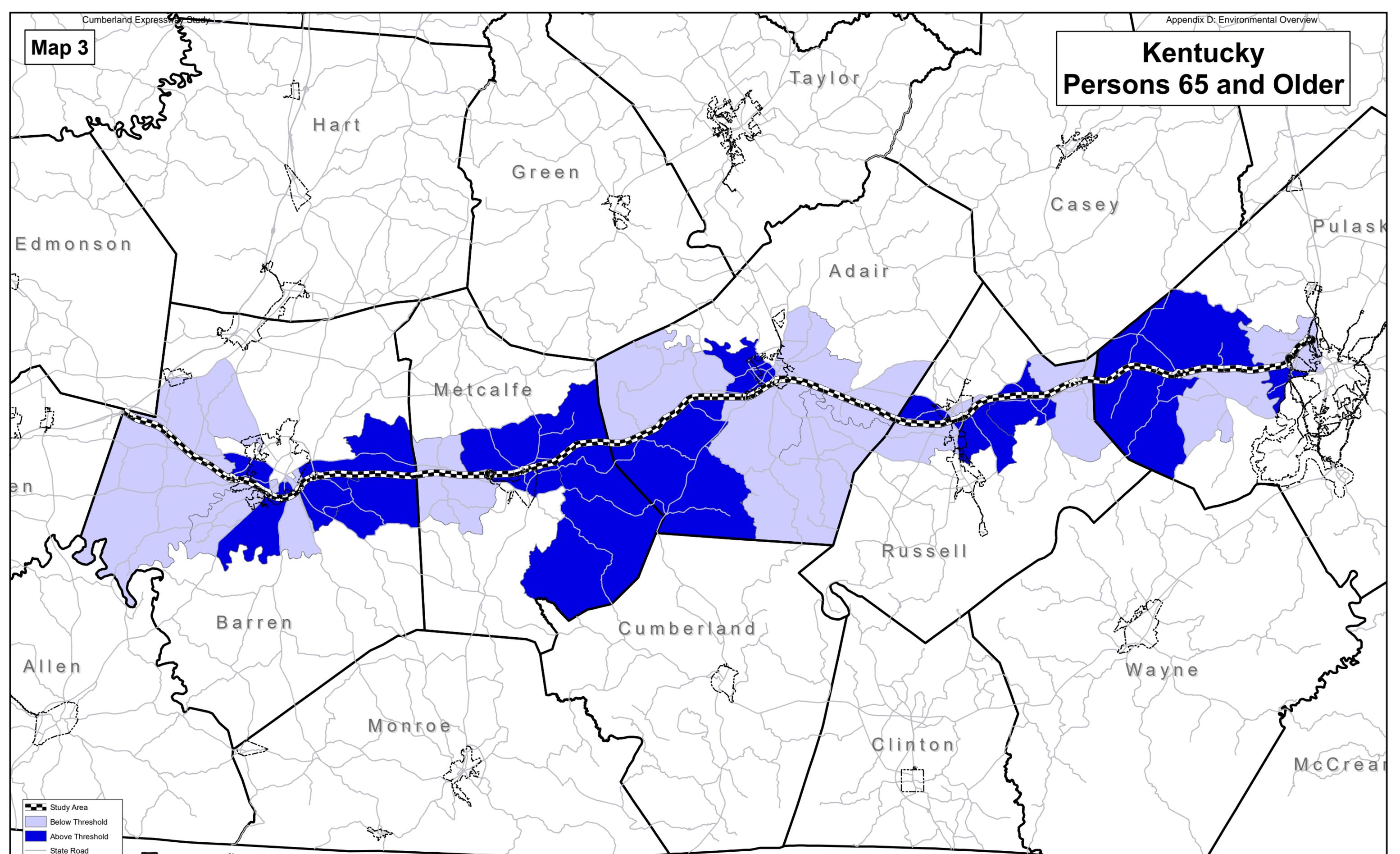
<u>Analysis Range</u>	<u>Percent 65 and Over</u>
Above Threshold	> 16.89%
Reference Threshold (State Percentage)	<b>16.89%</b>
Below Threshold	< 16.89%

### Over 65 (%)

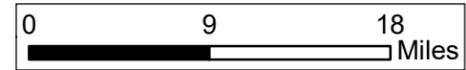


Map 3

# Kentucky Persons 65 and Older



-  Study Area
-  Below Threshold
-  Above Threshold
-  State Road
-  Corporate Boundary
-  County Boundary



McCreary

## 9.0 Population by Disability Status

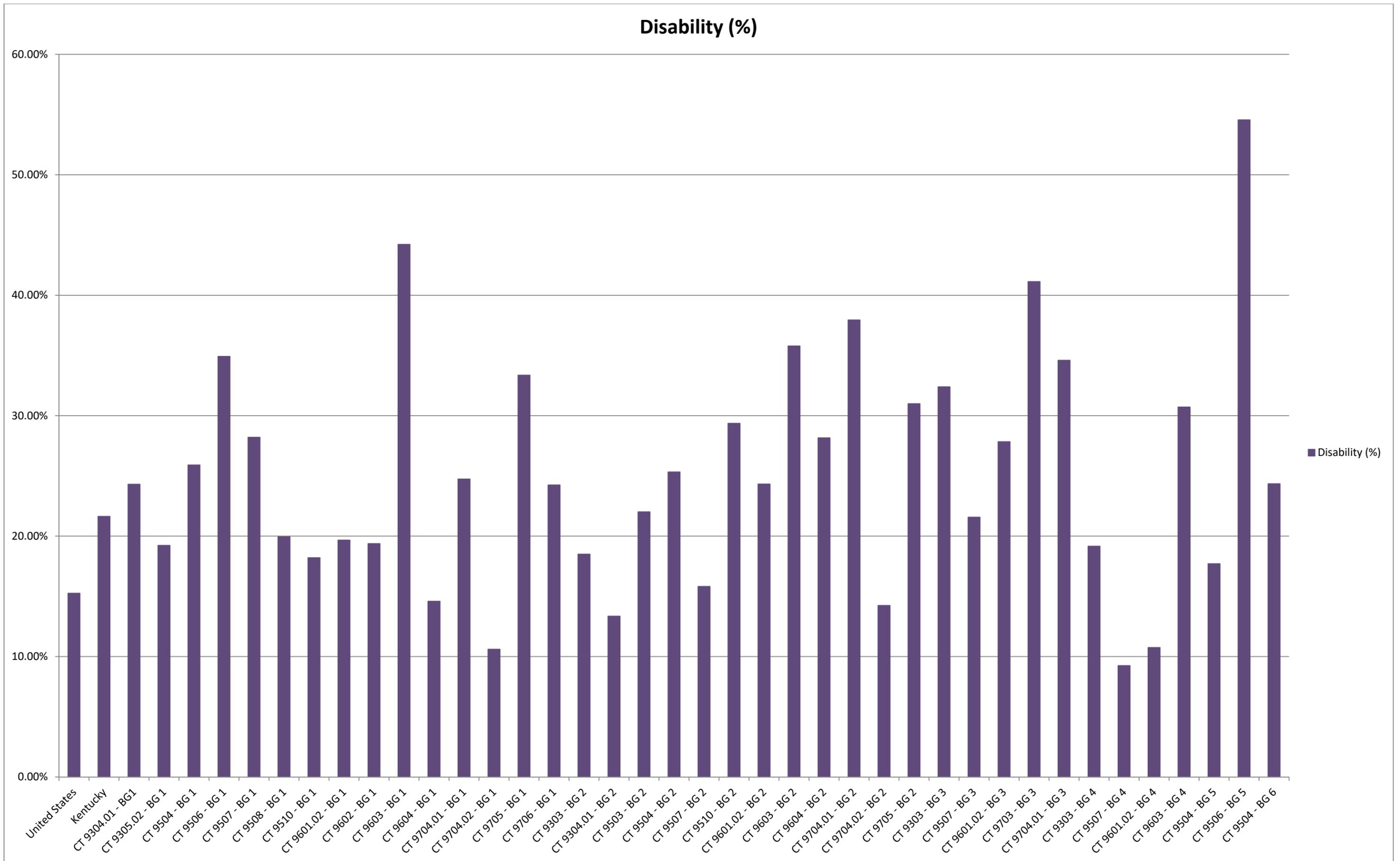
*See Map 4 for reference*

The total population claiming disability status in Kentucky is 21.64%. This is the established reference threshold (see below) for this category. This percentage is above the U.S. (15.26%). For the study area twenty-three (23) Block Groups (CT 9503 – BG 2, CT 9706 – BG 1, CT 9304.01 – BG 1, CT 9601.02 – BG2, CT 9504 – BG 6, CT 9704.01 – BG 1, CT 9504 – BG 2, CT 9504 – BG1, CT9601.02 – BG 3, CT 9604 – BG 2, CT 9507 – BG1, CT 9501 – BG 2, CT 9603 – BG 4, CT 9705 – BG 2, CT 9303 – BG 3, CT 9705 – BG 1, CT 9704.01 – BG 3, CT 9506 – BG 1, CT 9603 – BG 2, CT 9704.01 – BG 2, CT 9703 – BG 3, CT 9603 – BG 1, CT 9506 – BG 5) were identified as having populations above the threshold established for disability status.

### Reference Thresholds and Analysis Range

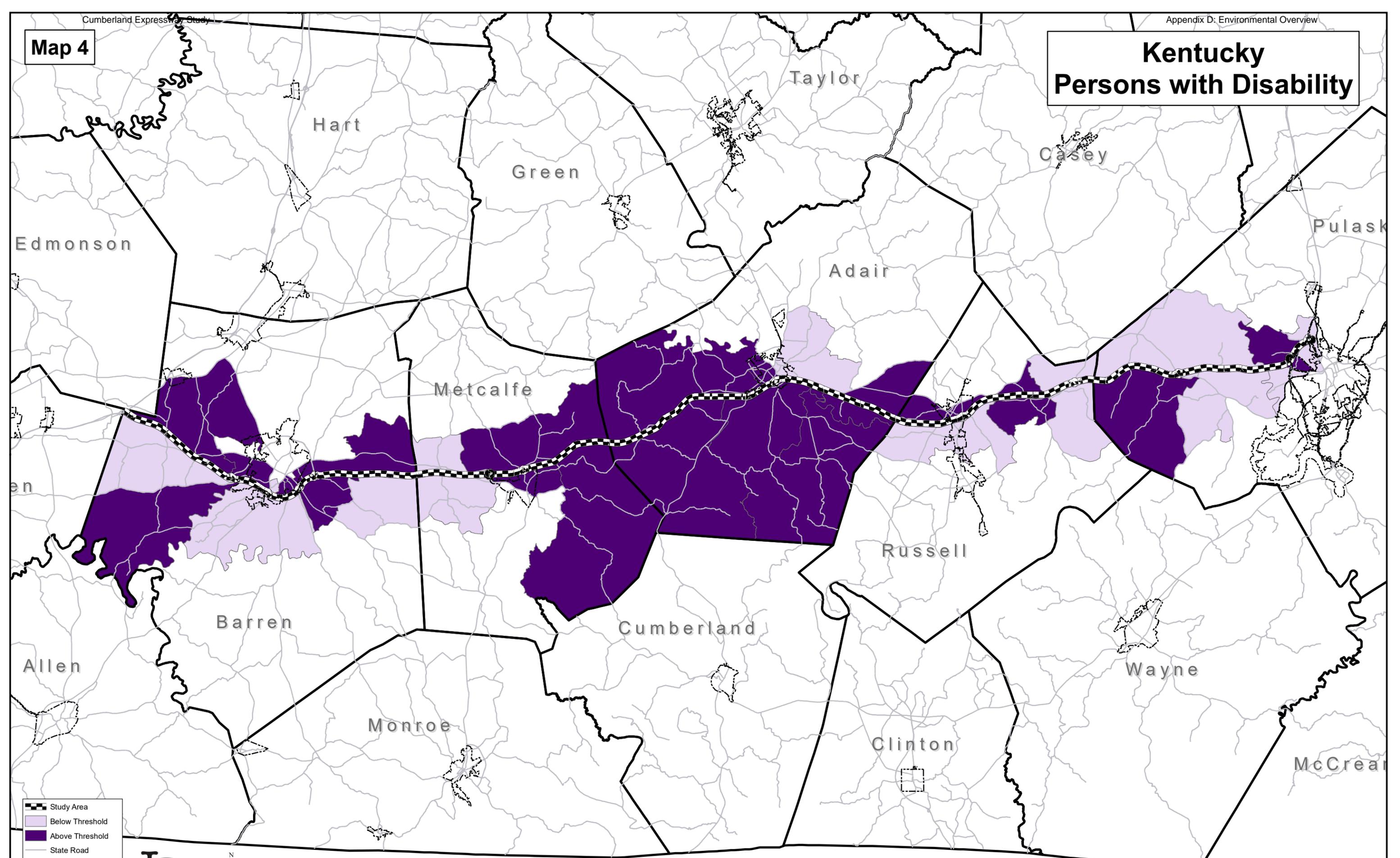
<u>Analysis Range</u>	<u>Percent Disabilities</u>
Above Threshold	> 21.64%
Reference Threshold (State Percentage)	<b>21.64%</b>
Below Threshold	< 21.64%

### Disability (%)

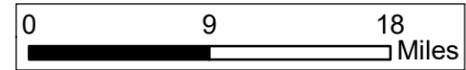


Map 4

# Kentucky Persons with Disability



-  Study Area
-  Below Threshold
-  Above Threshold
-  State Road
-  Corporate Boundary
-  County Boundary



## 10.0 Population Limited English Proficiency

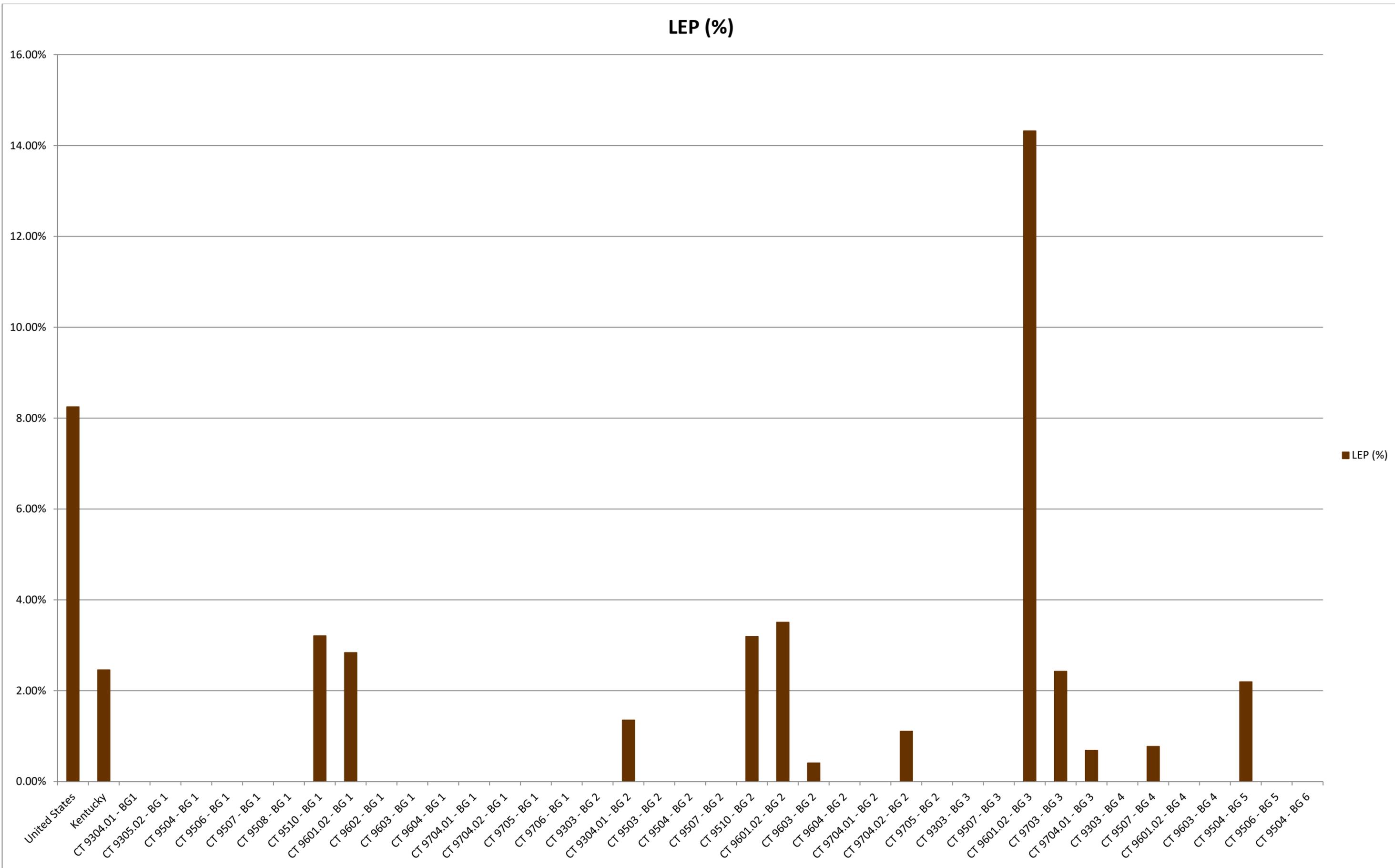
*See Map 5 for reference*

The total population claiming limited English status in Kentucky is 2.46%. This is the established reference threshold (see below) for this category. This percentage is below the U.S. (8.25%). For the study area five (5) Block Groups (CT 9601.02 – BG 1, CT 9510 – BG 2, CT 9510 – BG 1, CT 9601.02 – BG 2, CT 9601.02 – BG 3) were identified as having populations above the threshold established for limited English status:

### Reference Thresholds and Analysis Range

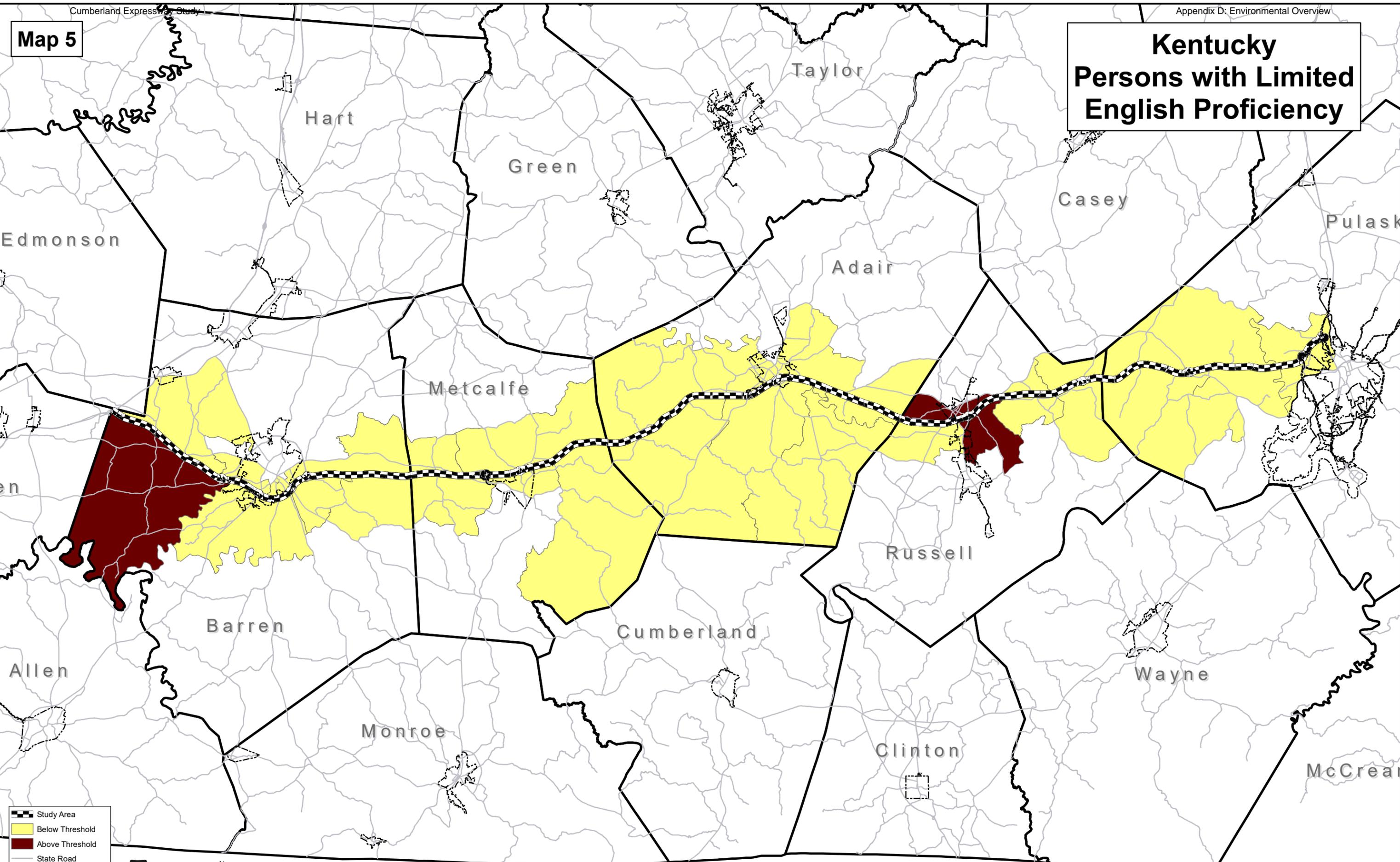
<u>Analysis Range</u>	<u>Percent Disabilities</u>
Above Threshold	> 2.46%
Reference Threshold (State Percentage)	<b>2.46%</b>
Below Threshold	< 2.46%

### LEP (%)

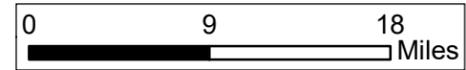


Map 5

# Kentucky Persons with Limited English Proficiency



- Study Area
- Below Threshold
- Above Threshold
- State Road
- Corporate Boundary
- County Boundary



## 11.0 Conclusion

All five of the categories examined: minority status, poverty status, over 65 status, disabled status, and persons with limited English, had at least one Block Group with a percentage of the population above the State threshold.

### APPENDIX A: Affected Census Tract and Block Group Table

		Total Pop	Minority	Poverty	Over 65	Disability	LEP
United States		319,239,523	40.05	12.34	16.47	15.26	8.25
Kentucky		4,467,673	15.78	16.26	16.89	21.64	2.46
Census Tract	Block Group						
9304.01	1	1253	0.00%	29.65%	12.53%	24.30%	0.00%
9305.02	1	986	4.86%	5.63%	17.56%	19.23%	0.00%
9504	1	763	50.67%	24.73%	12.50%	25.91%	0.00%
9506	1	1255	4.88%	6.79%	31.00%	34.92%	0.00%
9507	1	1399	0.00%	19.55%	16.97%	28.21%	0.00%
9508	1	1128	2.01%	3.59%	21.67%	19.95%	0.00%
9510	1	1819	1.13%	27.57%	12.03%	18.21%	3.21%
9601.02	1	1316	9.31%	5.06%	17.52%	19.67%	2.84%
9602	1	1219	4.73%	18.90%	11.67%	19.38%	0.00%
9603	1	904	0.00%	13.21%	28.73%	44.22%	0.00%
9604	1	864	1.16%	13.05%	12.93%	14.59%	0.00%
9704.01	1	1532	8.42%	25.86%	9.49%	24.74%	0.00%
9704.02	1	1926	3.69%	20.08%	16.19%	10.61%	0.00%
9705	1	1284	8.59%	18.62%	16.63%	33.36%	0.00%
9706	1	1403	1.42%	23.92%	16.07%	24.25%	0.00%
9303	2	1647	0.00%	25.64%	10.06%	18.50%	0.00%
9304.01	2	1090	25.07%	43.00%	15.87%	13.35%	1.35%
9503	2	1960	11.78%	27.45%	9.36%	22.02%	0.00%
9504	2	712	26.47%	31.11%	32.20%	25.33%	0.00%
9507	2	896	0.24%	1.48%	9.42%	15.82%	0.00%
9510	2	1688	9.94%	30.88%	16.84%	29.37%	3.19%
9601.02	2	1015	1.36%	26.78%	11.13%	24.33%	3.51%
9603	2	1157	7.84%	21.29%	27.76%	35.79%	0.41%
9604	2	946	0.00%	14.08%	21.40%	28.16%	0.00%
9704.01	2	895	24.14%	5.05%	26.40%	37.95%	0.00%
9704.02	2	1451	15.81%	18.64%	2.85%	14.24%	1.11%
9705	2	1173	3.62%	22.51%	26.26%	30.99%	0.00%
9303	3	1005	4.01%	16.73%	33.07%	32.39%	0.00%

9507	3	1244	0.90%	14.19%	24.75%	21.57%	0.00%
9601.02	3	1196	32.04%	27.68%	28.75%	27.84%	14.32%
9703	3	897	5.68%	40.33%	16.17%	41.13%	2.43%
9704.01	3	1643	4.78%	25.83%	32.83%	34.60%	0.69%
9303	4	1184	3.05%	46.46%	22.96%	19.16%	0.00%
9507	4	2339	0.00%	2.32%	15.63%	9.25%	0.77%
9601.02	4	1659	15.07%	38.84%	10.93%	10.75%	0.00%
9603	4	1169	0.00%	47.50%	22.11%	30.72%	0.00%
9504	5	806	13.93%	1.93%	15.11%	17.71%	2.20%
9506	5	1045	10.93%	68.05%	9.59%	54.56%	0.00%
9504	6	2285	29.27%	40.48%	18.22%	24.35%	0.00%

## APPENDIX B:

### Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies

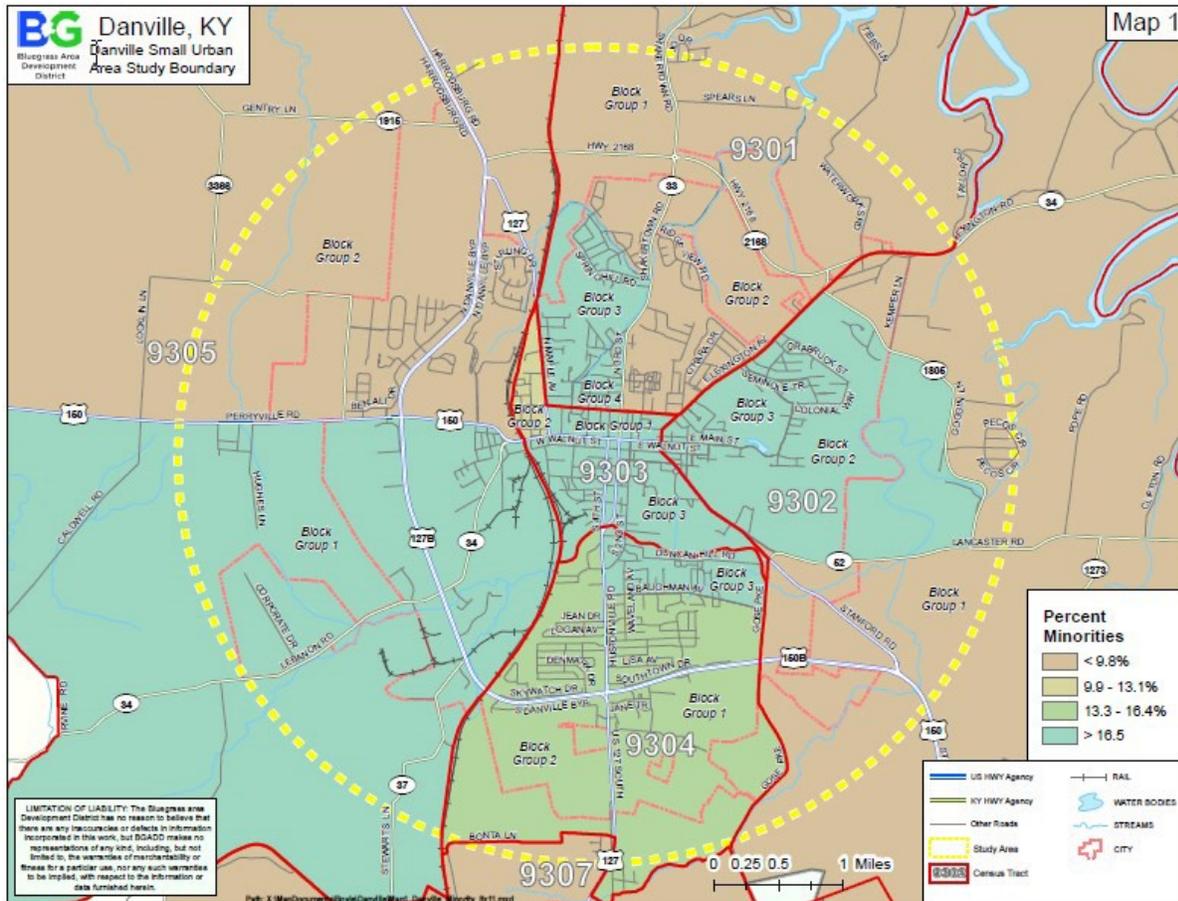
Updated: September 2014

The methodologies used in this planning document are appropriate for identifying possible areas of concern in small urban areas and potential project corridors. However, during future phases of project development a more detailed and robust analysis would be required for the NEPA documentation when assessing the potential for adverse and disproportionate impacts to low- income and minority populations.

A map or shapefile of the alternatives will be provided by the consultant or KYTC to the applicable Area Development District (ADD). KYTC, in conjunction with the consultant, will review the ADD data for quality and completeness. The consultant will summarize the information provided by the ADD in the final report. The full Socioeconomic analysis should be placed in an Appendix for reference as necessary.

Maps should be included with the analysis that depict the project area in relation to the Census tracts and block groups included in the analysis. Maps similar to **Figure 1** should be symbolized utilizing and appropriate range dependent on the relevant data being studied.

### Figure 1



**Additional Information**

The below information may be beneficial to note for future reference

- Changes due to new residential developments in the area
- Increases in Asian and/or Hispanic populations.
- Concentrations or communities that share a common religious, cultural, ethnic, or other background, e.g., Amish communities.
- Communities or neighborhoods that exhibit a high degree of community cohesion or interaction and the ability to mobilize community actions at the start of community involvement.
- Concentrations of common employment, religious centers, and/or educational Institutions.

**Tips:**

- Only include data that is being analyzed. For instance, there is no need to define Block

Groups if they are not used. Similarly, Census Tracts should only be referenced as they relate to location of Block Groups discussed.

- Choropleth maps (shaded, color gradation) should be developed based on population percentage.
- 1 page summary facing the adjacent related map is a functional, readily relatable format.
- At this stage, there is no proposed alignment; therefore we can make no assumptions regarding adverse impacts or mitigation efforts to any populations. We can only identify potential locations of Affected Communities.

### **Applicable Laws, Acts and Executive Orders**

**Civil Rights Act of 1964, Title VI (42 USC 2000d et seq.)** -This title declares it to be the policy of the United States that discrimination on the grounds of race, color, or national origin shall not occur in connection with programs and activities receiving federal financial assistance, and authorizes and directs the appropriate federal departments and agencies to take action to carry out this policy. The Presidential Memorandum accompanying Executive Order 12898 states that in accordance with this title, each federal agency should ensure that all programs or activities receiving federal financial assistance that affect human health or the environment do not directly, or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin.

**Age Discrimination Act of 1975 - 42 U.S.C. 6101**, provides: No person in the United States shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

**Rehabilitation Act of 1973, Section 504 - 42 U.S.C. 794, et seq.**, provides: No qualified handicapped person shall, solely by reason of his handicap, be excluded from participation in, be denied the benefits of, be subjected to discrimination under any program or activity that receives or benefits from Federal financial assistance.

**Americans With Disabilities Act of 1990 - 42 U.S.C. 12131, et seq.**, provides: No qualified individual with a disability shall, by reason of such disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination by a department, agency, special purpose district, or other instrumentality of a State or local government.

**Executive Order #12898** - (Environmental Justice) directs federal agencies to develop strategies to address disproportionately high and adverse human health or environmental effects of their programs on minority and low-income populations.

**Executive Order #13166** - (Limited-English-Proficiency) directs federal agencies to evaluate services provided and implement a system that ensures that Limited English Proficiency persons are able to meaningfully access the services provided consistent with and without unduly burdening the fundamental mission of each federal agency.



This document was prepared in cooperation with the  
Kentucky Transportation Cabinet, 2021.



**Attachment – Information for  
Planning and Consultation /  
Endangered Species List**

# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

Kentucky



## Local office

Kentucky Ecological Services Field Office

☎ (502) 695-0468

📅 (502) 695-1024

J C Watts Federal Building, Room 265  
330 West Broadway  
Frankfort, KY 40601-8670

<http://www.fws.gov/frankfort/>

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [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.

The following species are potentially affected by activities in this location:

## Mammals

NAME

STATUS

**Gray Bat** *Myotis grisescens*

Endangered

Wherever found

This species only needs to be considered if the following condition applies:

- The project area includes potential gray bat habitat.

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/6329>

**Indiana Bat** *Myotis sodalis*

Endangered

Wherever found

This species only needs to be considered if any of the following conditions apply:

- The project area includes known 'swarming 1' habitat.
- The project area includes known 'swarming 2' habitat.
- The project area includes 'potential' habitat. All activities in this location should consider possible effects to this species.

There is **final** critical habitat for this species. Your location overlaps the critical habitat.

<https://ecos.fws.gov/ecp/species/5949>

**Northern Long-eared Bat** *Myotis septentrionalis*

Threatened

Wherever found

This species only needs to be considered if the following condition applies:

- The specified area includes areas in which incidental take would not be prohibited under the 4(d) rule. For reporting purposes, please use the "streamlined consultation form," linked to in the "general project design guidelines" for the species.

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9045>

**Virginia Big-eared Bat** *Corynorhinus (=Plecotus) townsendii*

Endangered

*virginianus*

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/8369>

## Clams

NAME

STATUS

**Cumberland Bean (pearlymussel)** *Villosa trabalis*

Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/6061>

Cumberland Elktoe *Alasmodonta atropurpurea* Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/1248>

Cumberlandian Combshell *Epioblasma brevidens* Endangered

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/3119>

Fluted Kidneyshell *Ptychobranthus subtentus* Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/1397>

Littlewing Pearlymussel *Pegias fabula* Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/2572>

Snuffbox Mussel *Epioblasma triquetra* Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4135>

Tan Riffleshell *Epioblasma florentina walkeri* (=E. walkeri) Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/1247>

## Crustaceans

NAME

STATUS

Kentucky Cave Shrimp *Palaemonias ganteri* Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/5008>

## Flowering Plants

NAME

STATUS

**Virginia Spiraea** *Spiraea virginiana*

Threatened

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/1728>**White Fringeless Orchid** *Platanthera integrilabia*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/1889>

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Indiana Bat <i>Myotis sodalis</i> <a href="https://ecos.fws.gov/ecp/species/5949#crithab">https://ecos.fws.gov/ecp/species/5949#crithab</a>	Final

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on

this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
<p><b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.  <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a></p>	Breeds Sep 1 to Jul 31
<p><b>Blue-winged Warbler</b> <i>Vermivora pinus</i>            This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds May 1 to Jun 30
<p><b>Cerulean Warbler</b> <i>Dendroica cerulea</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/2974">https://ecos.fws.gov/ecp/species/2974</a></p>	Breeds Apr 23 to Jul 20
<p><b>Eastern Whip-poor-will</b> <i>Antrostomus vociferus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Aug 20

<p><b>Henslow's Sparrow</b> <i>Ammodramus henslowii</i>  This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/3941">https://ecos.fws.gov/ecp/species/3941</a></p>	Breeds May 1 to Aug 31
<p><b>Kentucky Warbler</b> <i>Oporornis formosus</i>  This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 20 to Aug 20
<p><b>Lesser Yellowlegs</b> <i>Tringa flavipes</i>  This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a></p>	Breeds elsewhere
<p><b>Prairie Warbler</b> <i>Dendroica discolor</i>  This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Jul 31
<p><b>Red-headed Woodpecker</b> <i>Melanerpes erythrocephalus</i>  This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Sep 10
<p><b>Rusty Blackbird</b> <i>Euphagus carolinus</i>  This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p><b>Semipalmated Sandpiper</b> <i>Calidris pusilla</i>  This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p><b>Wood Thrush</b> <i>Hylocichla mustelina</i>  This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Aug 31

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be

used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

### No Data (—)

A week is marked as having no data if there were no survey events for that week.

### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





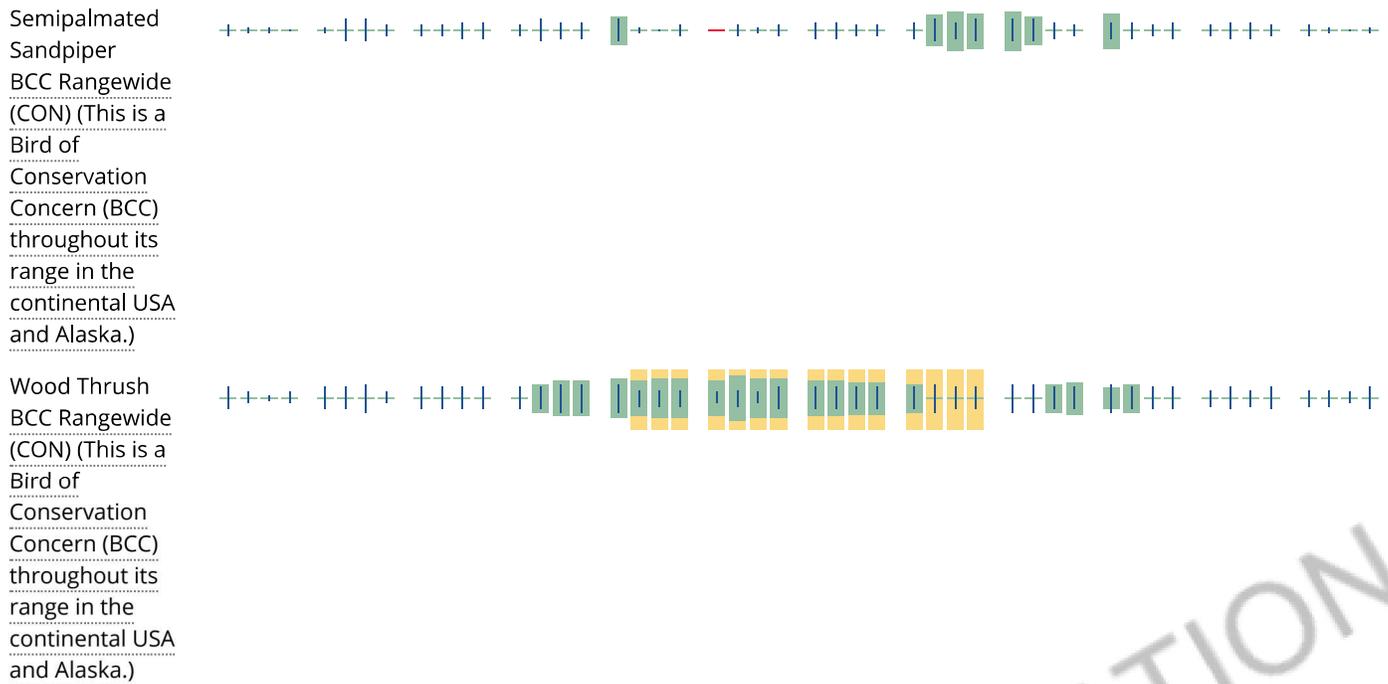
Kentucky Warbler  
 BCC Rangewide  
 (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Lesser Yellowlegs  
 BCC Rangewide  
 (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Prairie Warbler  
 BCC Rangewide  
 (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Red-headed Woodpecker  
 BCC Rangewide  
 (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Rusty Blackbird  
 BCC Rangewide  
 (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look

carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

### National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

### Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

### Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

#### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

