

# Appendix E



Cumberland Expressway  
Interstate Upgrade  
Socioeconomic Study

June 28, 2021

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APPENDIX A: Affected Census Tract and Block Group Table

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Planning Studies



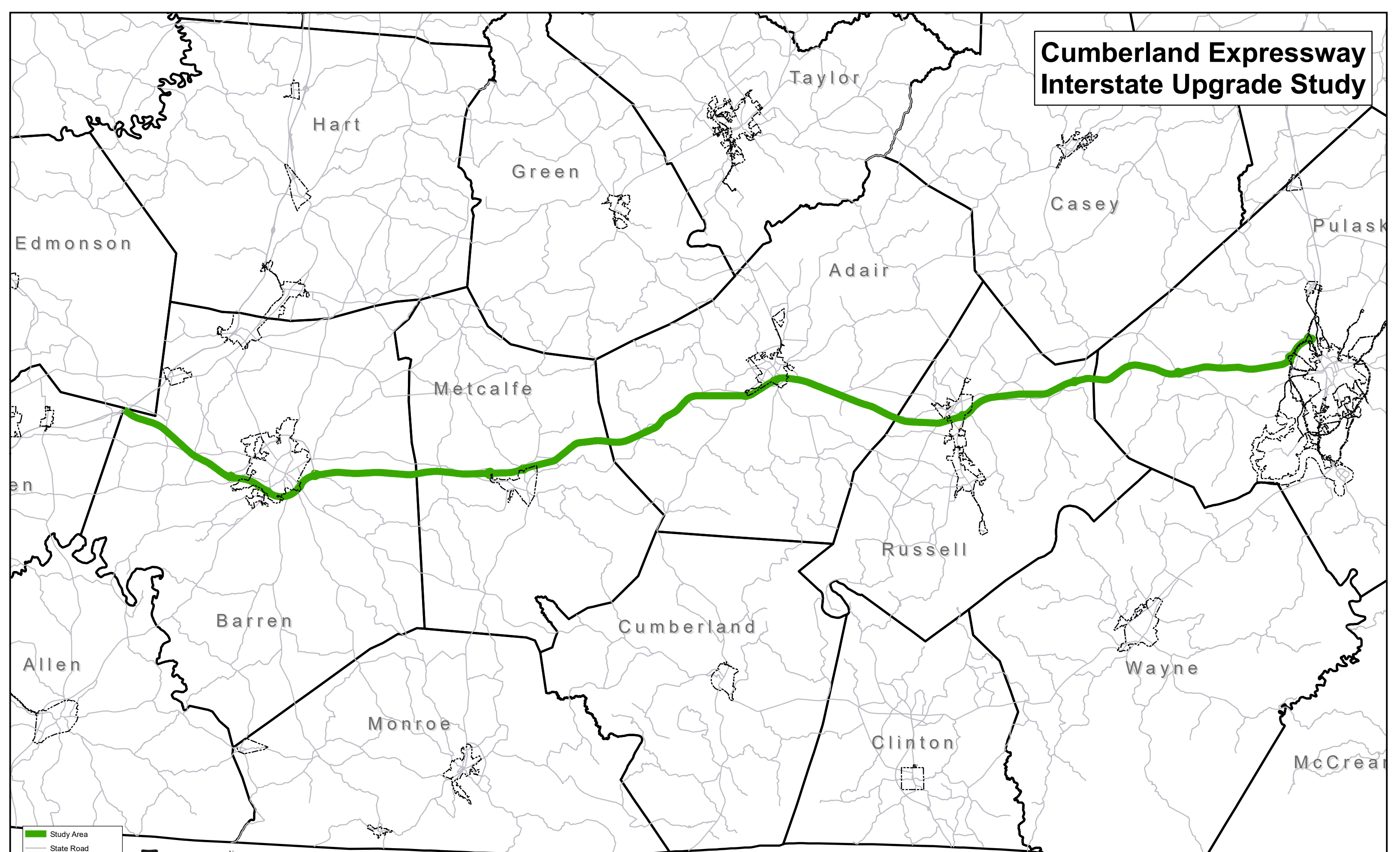
## 1.0 Introduction

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/>).

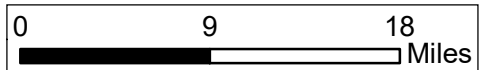
The intent of this review is to assist the Kentucky Transportation Cabinet in making informed and prudent transportation decisions in the study area, especially with regard to the requirements of *Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income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

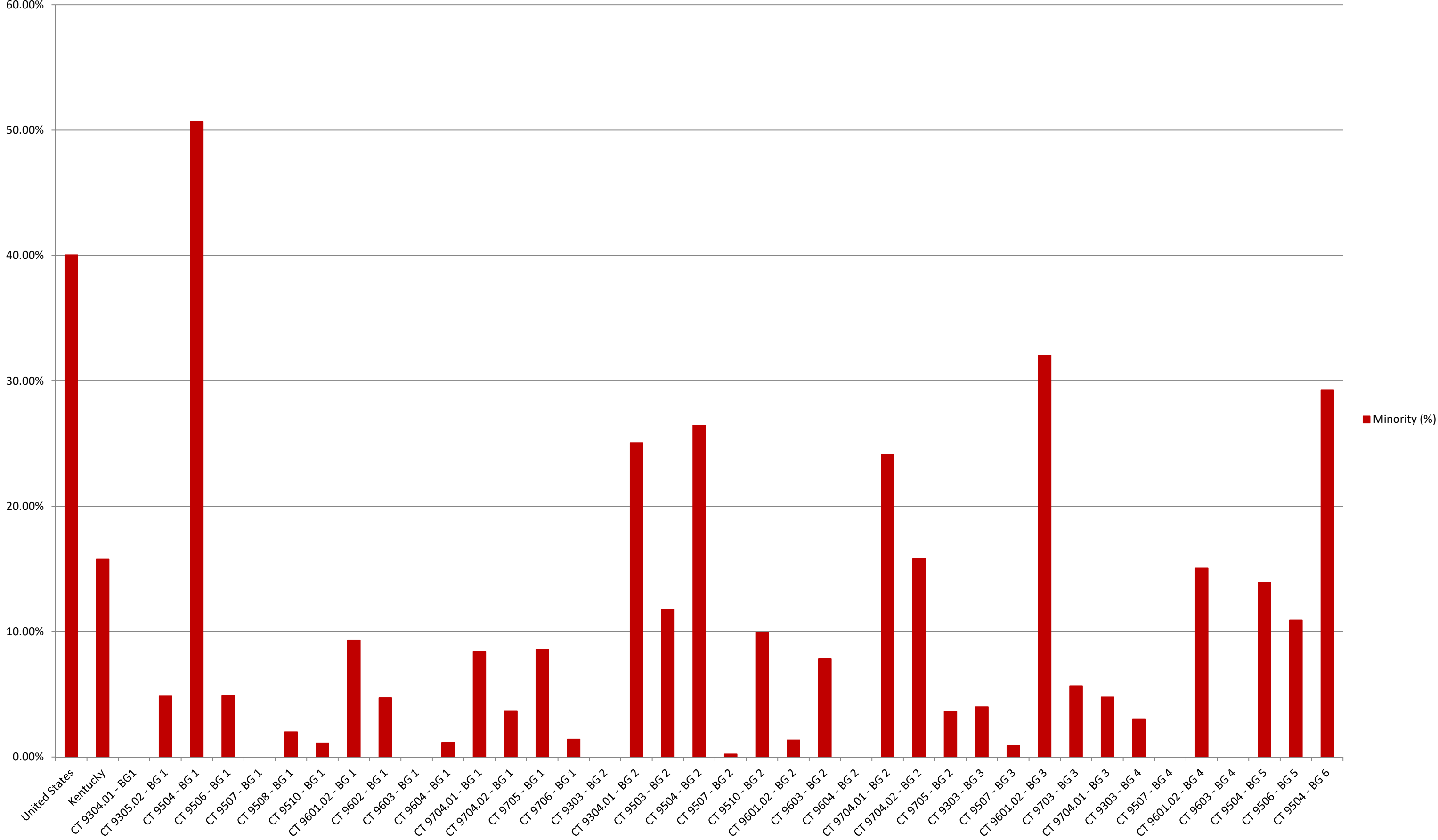
*See Map 1 for reference*

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

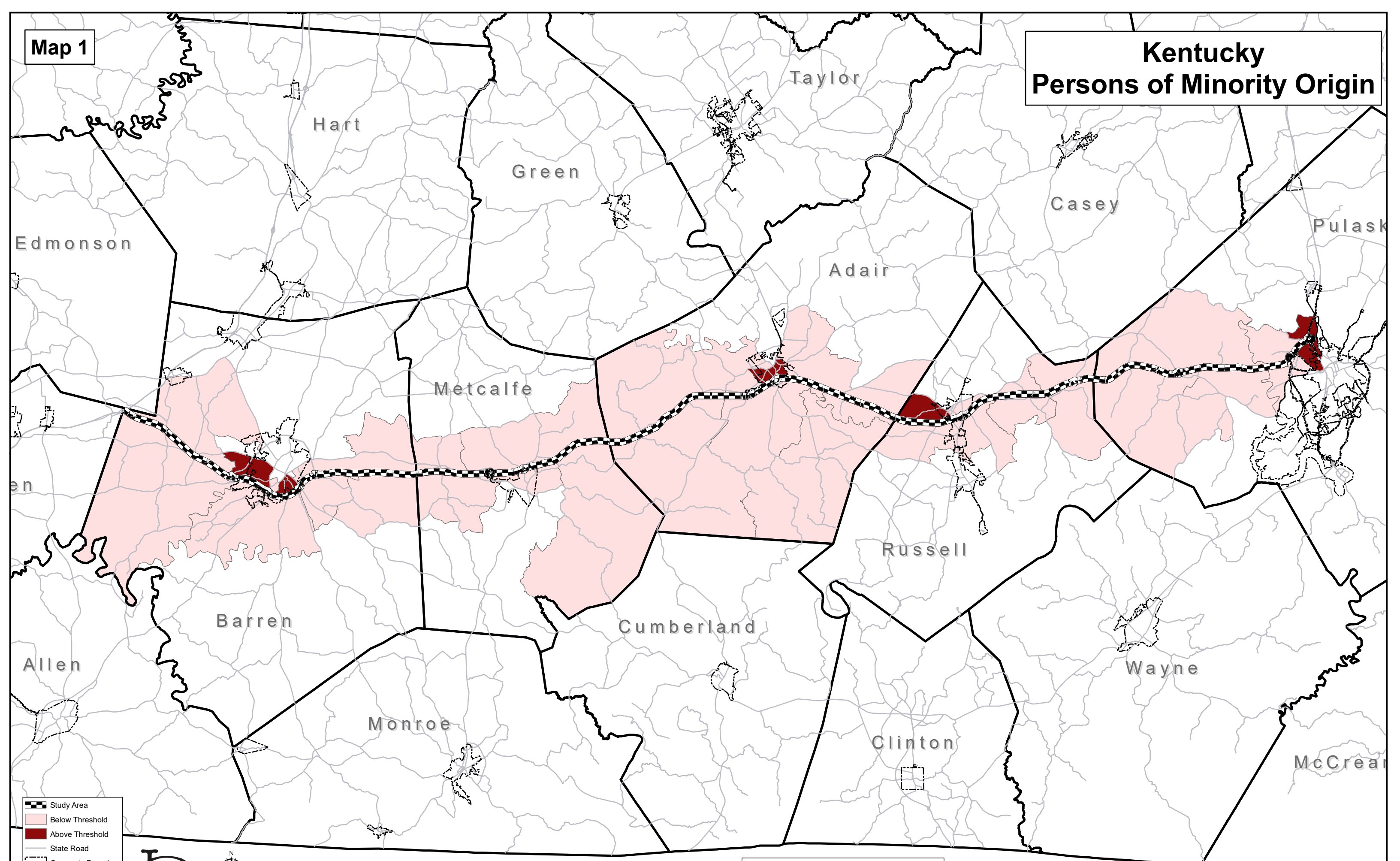
<u>Analysis Range</u>	<u>Percent Minority</u>
Above Threshold	>15.78%
Reference Threshold (State Percentage)	<b>15.78%</b>
Below Threshold	<15.78%

# Minority (%)

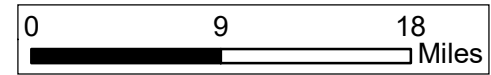




# Kentucky Persons of Minority Origin



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



## 7.0 Population by Below Poverty Status

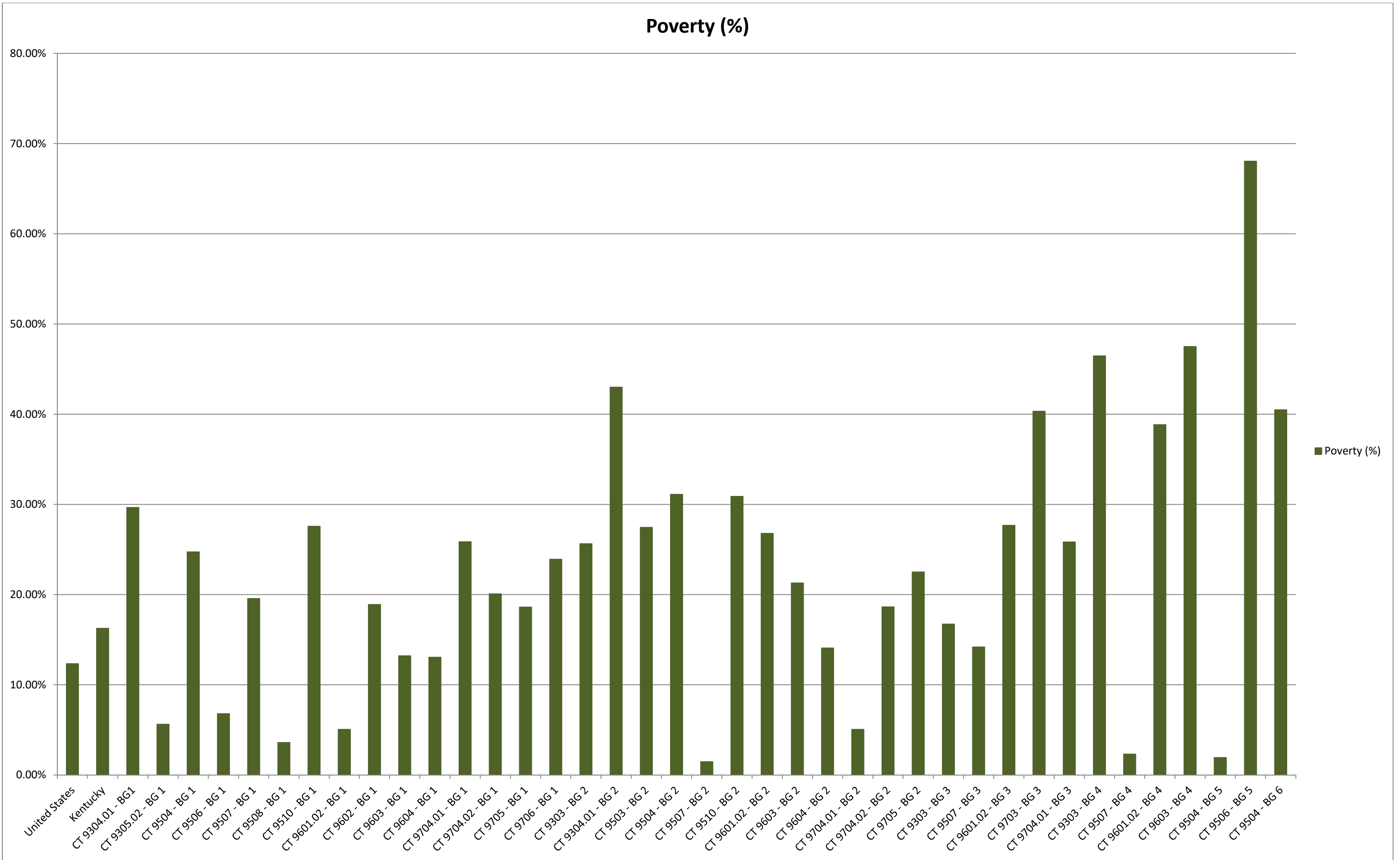
*See Map 2 for reference*

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.

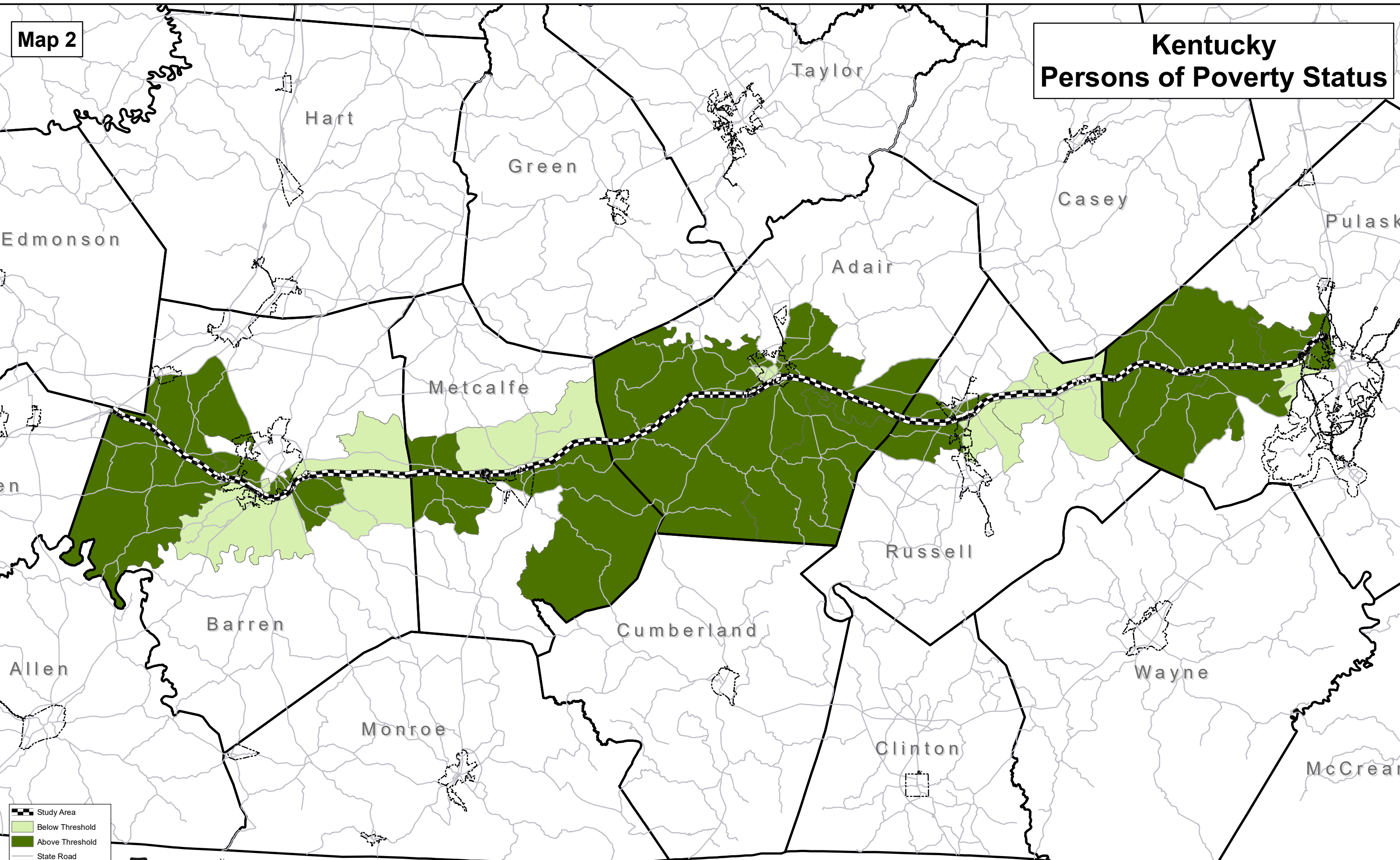
### Reference Thresholds and Analysis Range







<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%

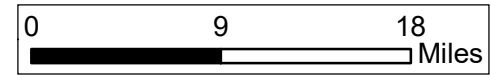
# Poverty (%)



# 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*

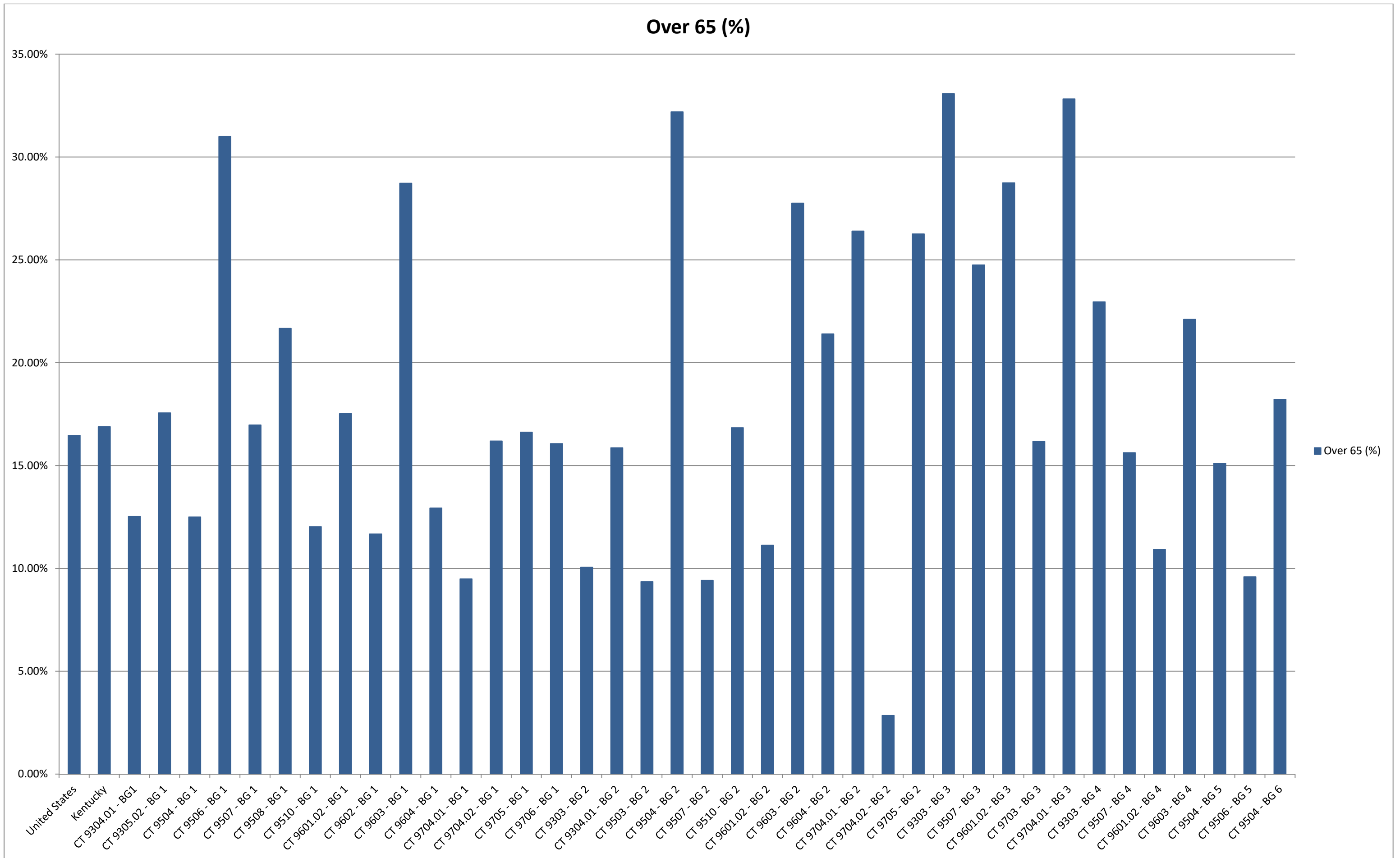
The total population of those over 65 years of age for Kentucky is 16.89%. This is the established reference threshold (see below) for this category. This percentage is above the U.S. (16.47%). For the study area, eighteen (18) Block Groups (CT 9507 – BG1, CT 9601.02 – BG 1, CT 9305.02 – BG 1, CT 9504 – 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

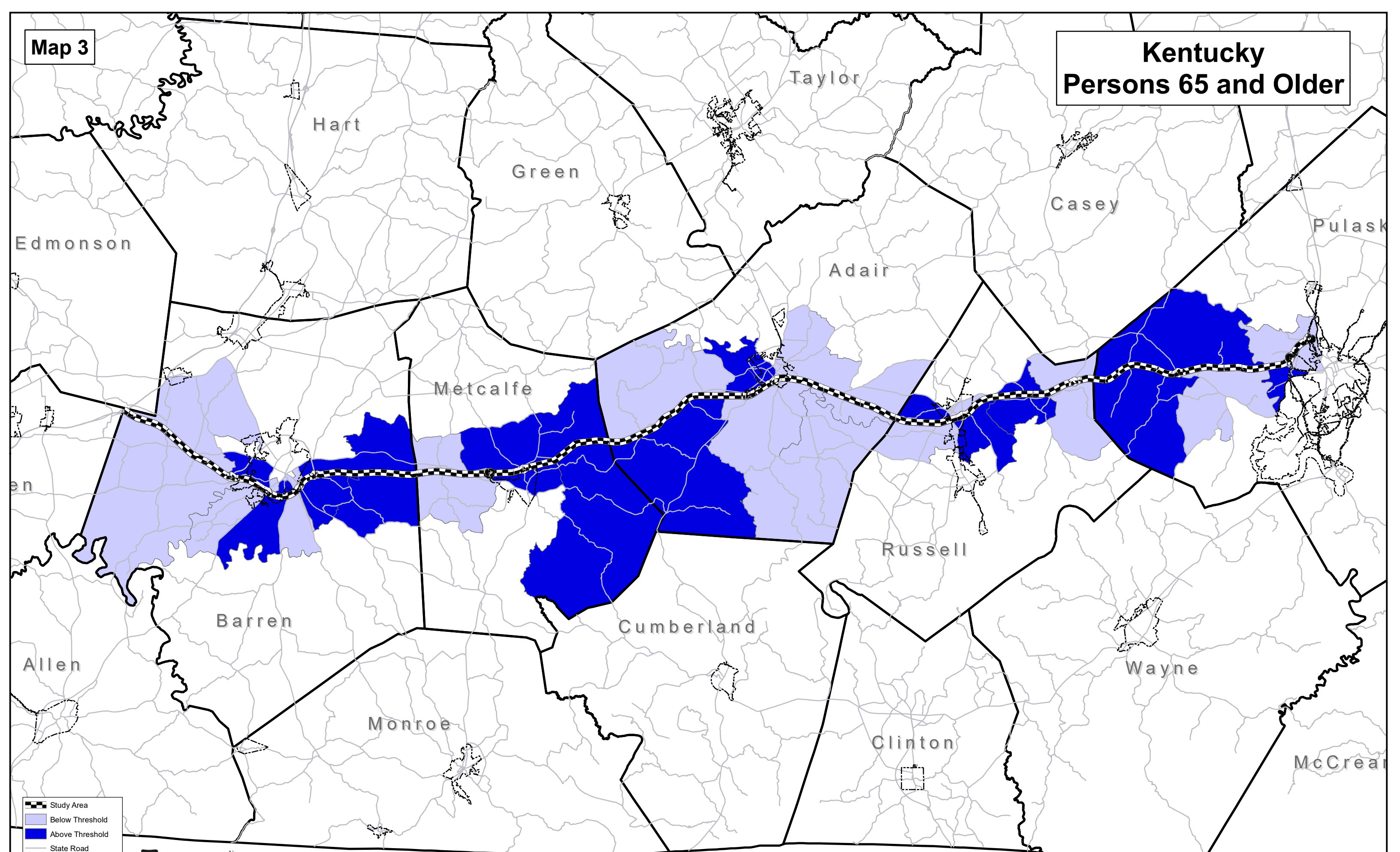
<u>Analysis Range</u>	<u>Percent 65 and Over</u>
Above Threshold	> 16.89%
Reference Threshold (State Percentage)	<b>16.89%</b>
Below Threshold	< 16.89%









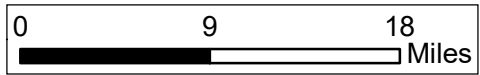
# Over 65 (%)



# Kentucky Persons 65 and Older



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



## 9.0 Population by Disability Status

*See Map 4 for reference*

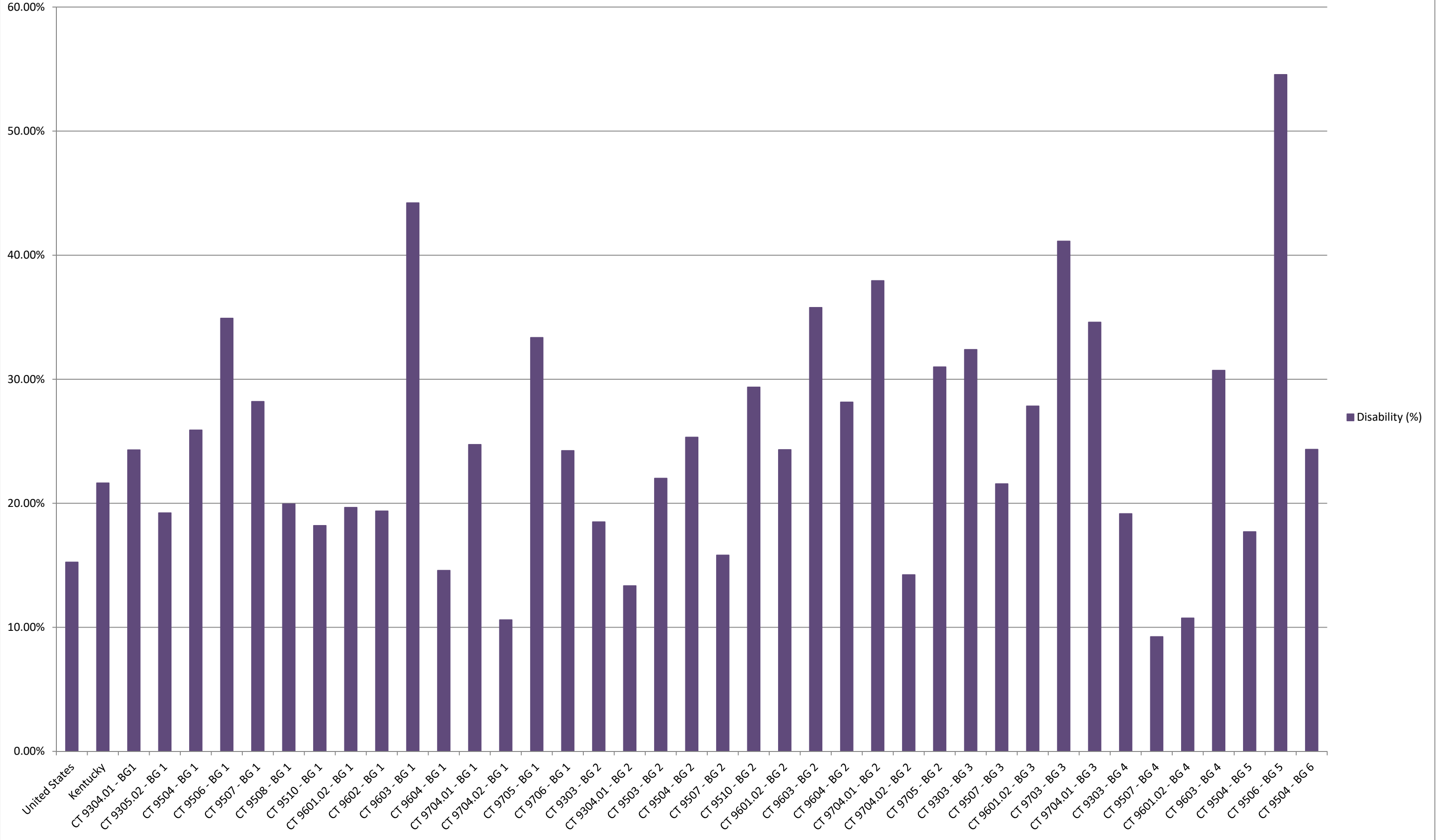
The total population claiming disability status in Kentucky is 21.64%. This is the established reference threshold (see below) for this category. This percentage is above the U.S. (15.26%). For the study area twenty-three (23) Block Groups (CT 9503 – BG 2, CT 9706 – BG 1, CT 9304.01 – BG 1, CT 9601.02 – 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

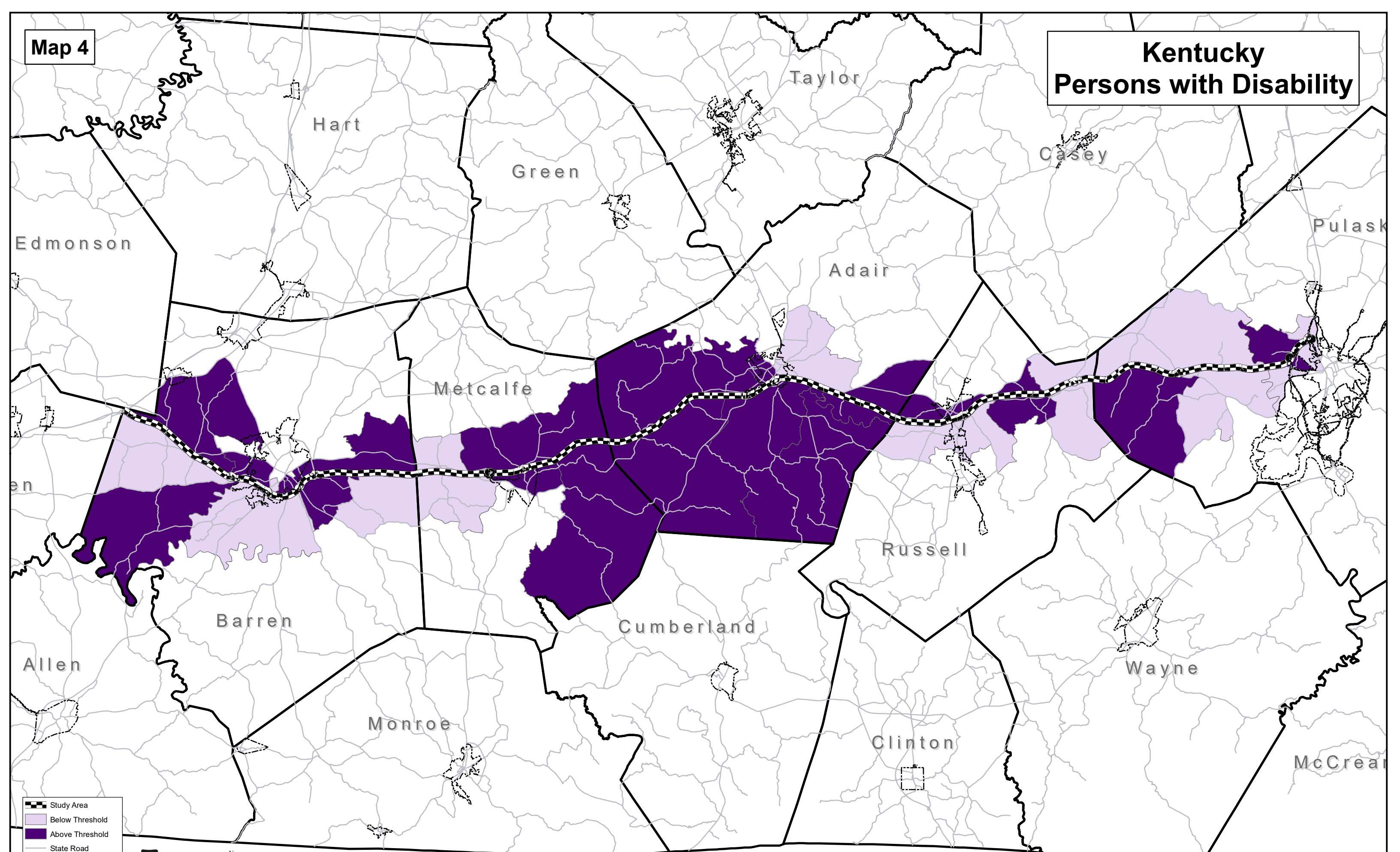
<u>Analysis Range</u>	<u>Percent Disabilities</u>
Above Threshold	> 21.64%
Reference Threshold (State Percentage)	<b>21.64%</b>
Below Threshold	< 21.64%









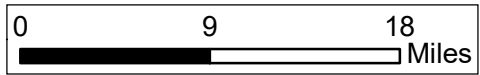
# Disability (%)



# Kentucky Persons with Disability



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



## 10.0 Population Limited English Proficiency

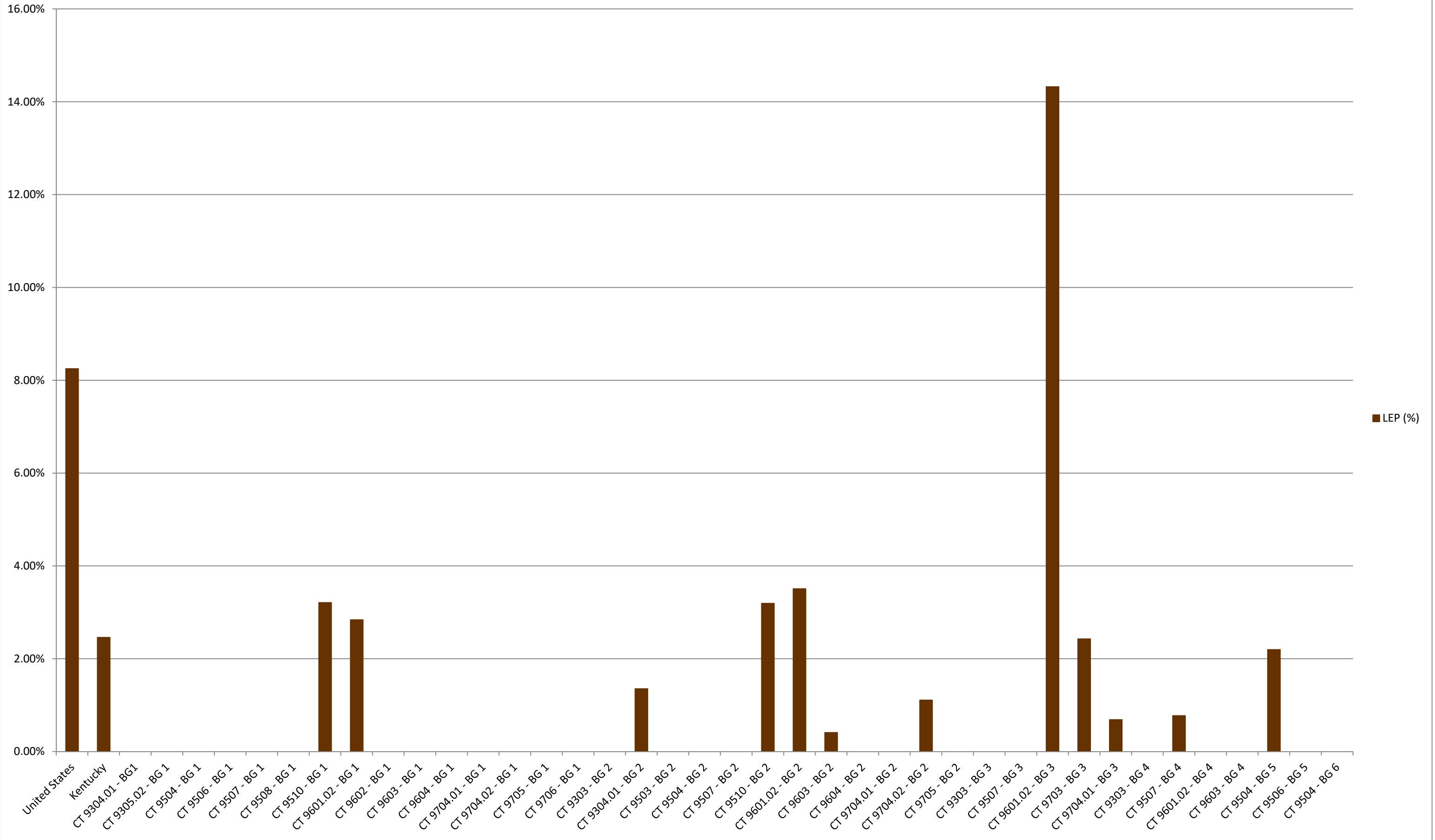
*See Map 5 for reference*

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:

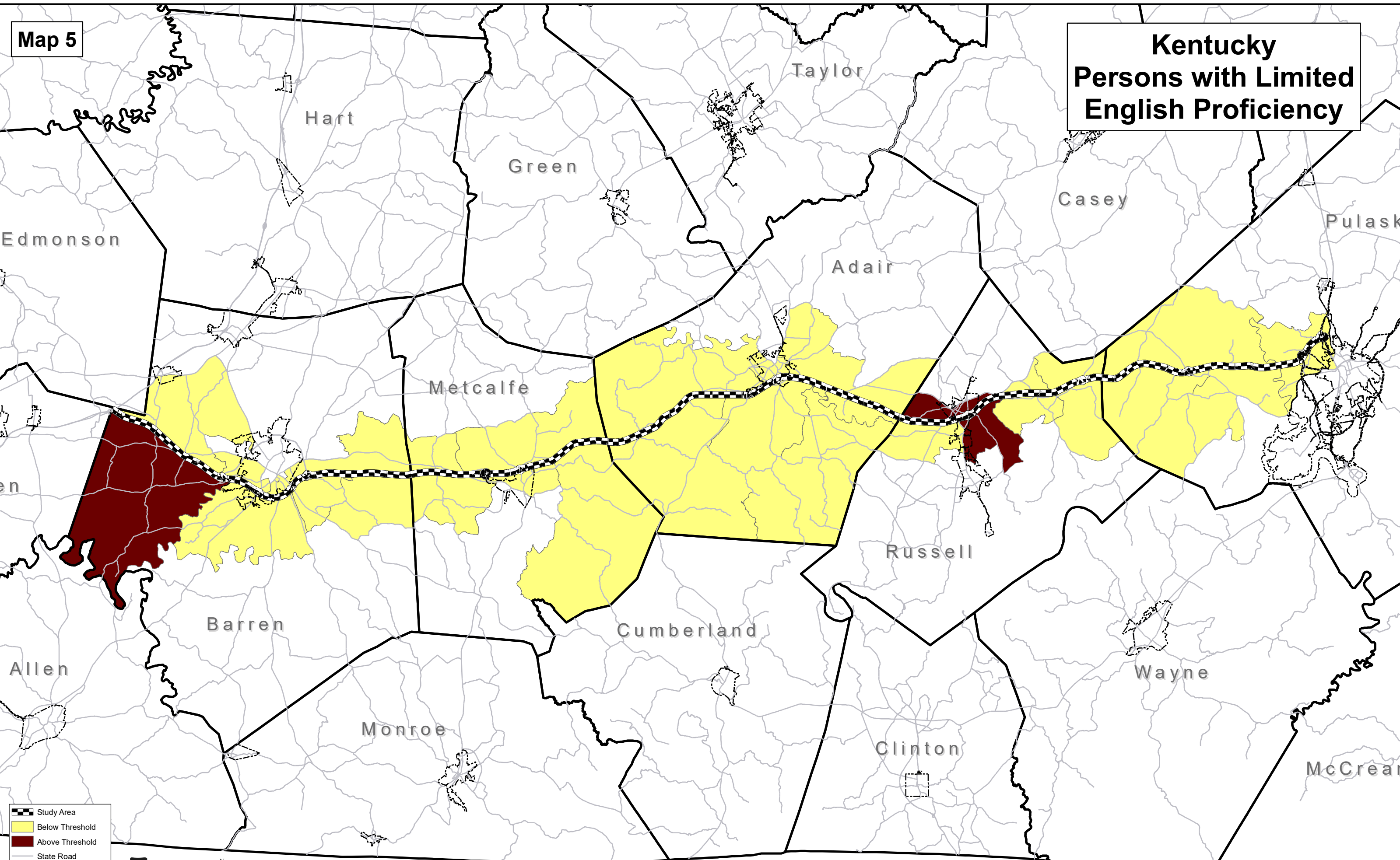
### Reference Thresholds and Analysis Range

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

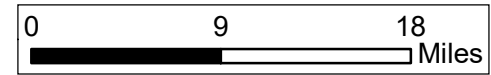
# LEP (%)



# 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**

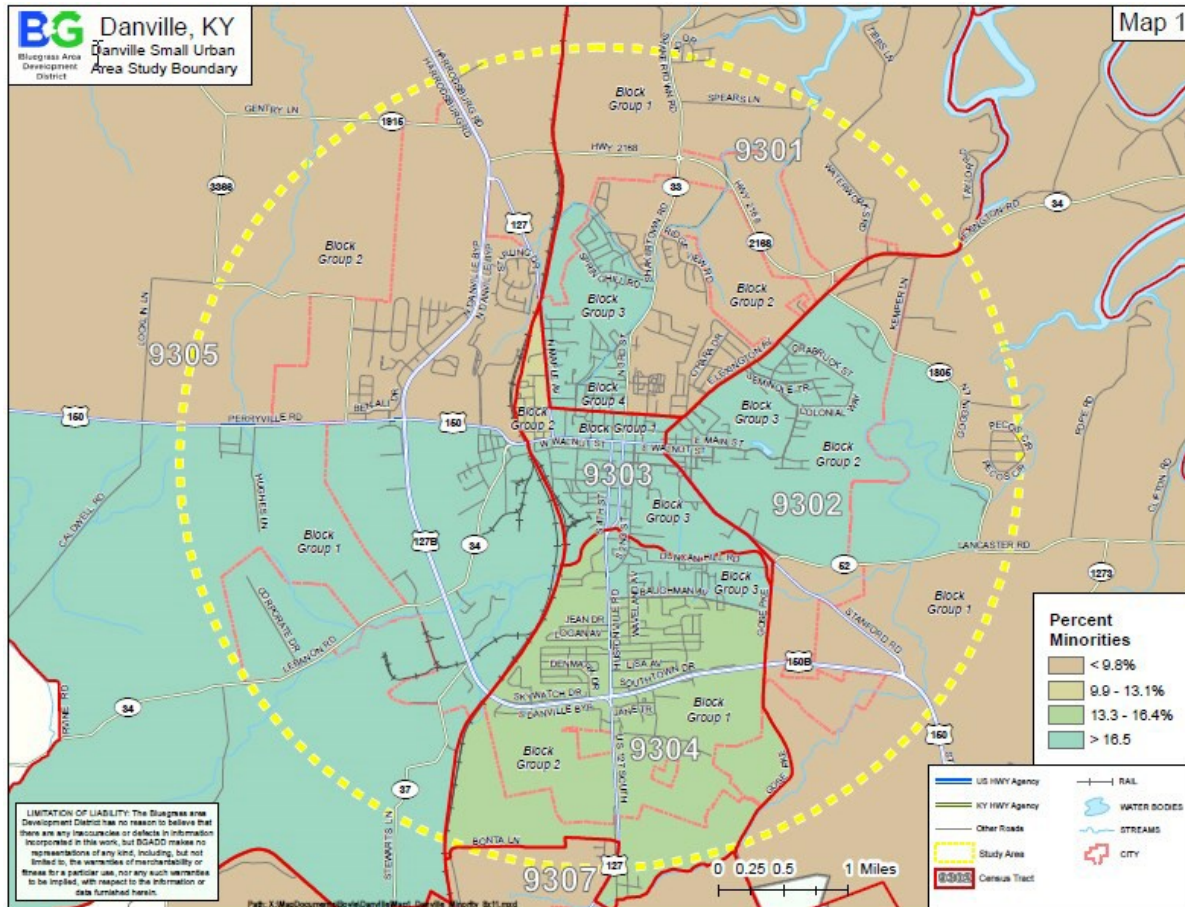
Updated: September 2014

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.