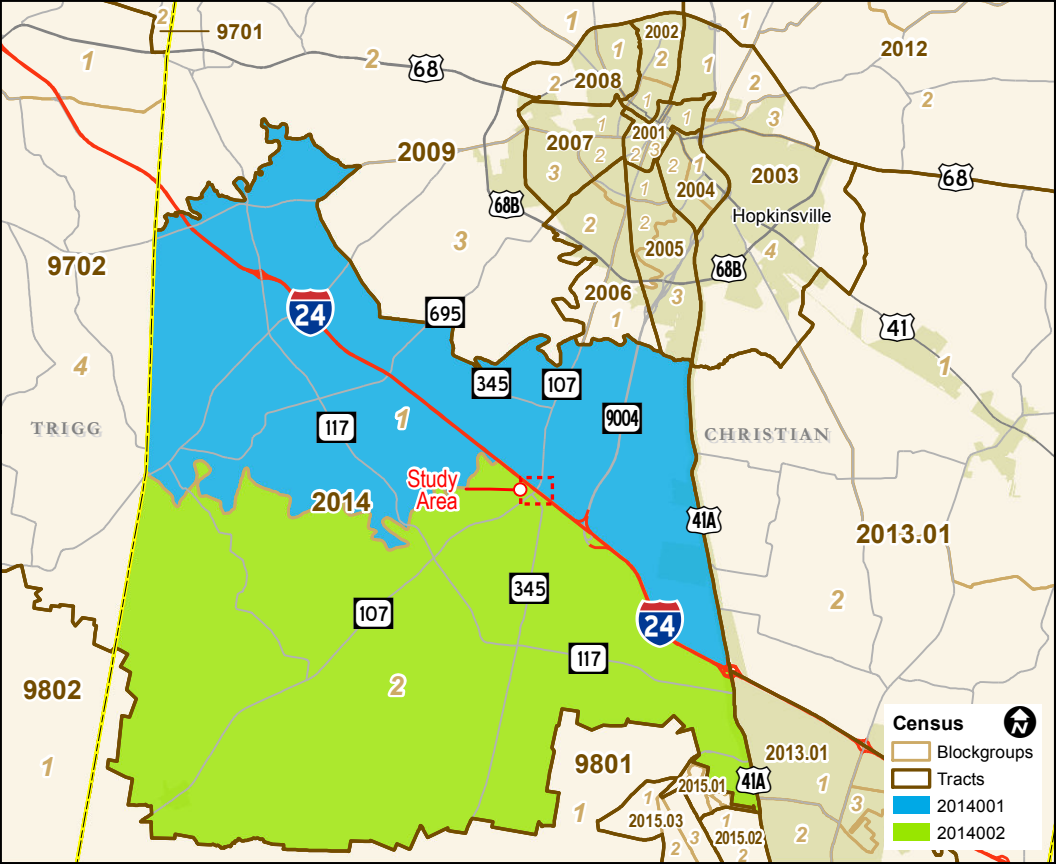


APPENDIX F



DRAFT

**INTERSTATE 24/KY 107 INTERCHANGE
ENVIRONMENTAL JUSTICE REVIEW**

March 10, 2014

Prepared for

Kentucky Transportation Cabinet (KYTC) – Division of Planning



Prepared by

Pennyriple Area Development District



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1.0 INTRODUCTION

This report presents a review of the socioeconomic characteristics in the study area for a proposed new interchange of Interstate 24/KY 107 located in Christian County, Kentucky which is also located within the Pennyriple Area Development District. This area is depicted in *Exhibit 1, Interstate 24/KY 107 Interchange Study Area*. Data from the U.S. Census Bureau's 2010 Census has been utilized for the analysis of the Study Area. It is intended to be used as a "first look study" into the socioeconomic characteristics that exist within the Study area. If, at a later time specific projects and project locations are identified, a more in-depth analysis of the socioeconomic characteristics may be warranted. The information and results are intended 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 states:

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

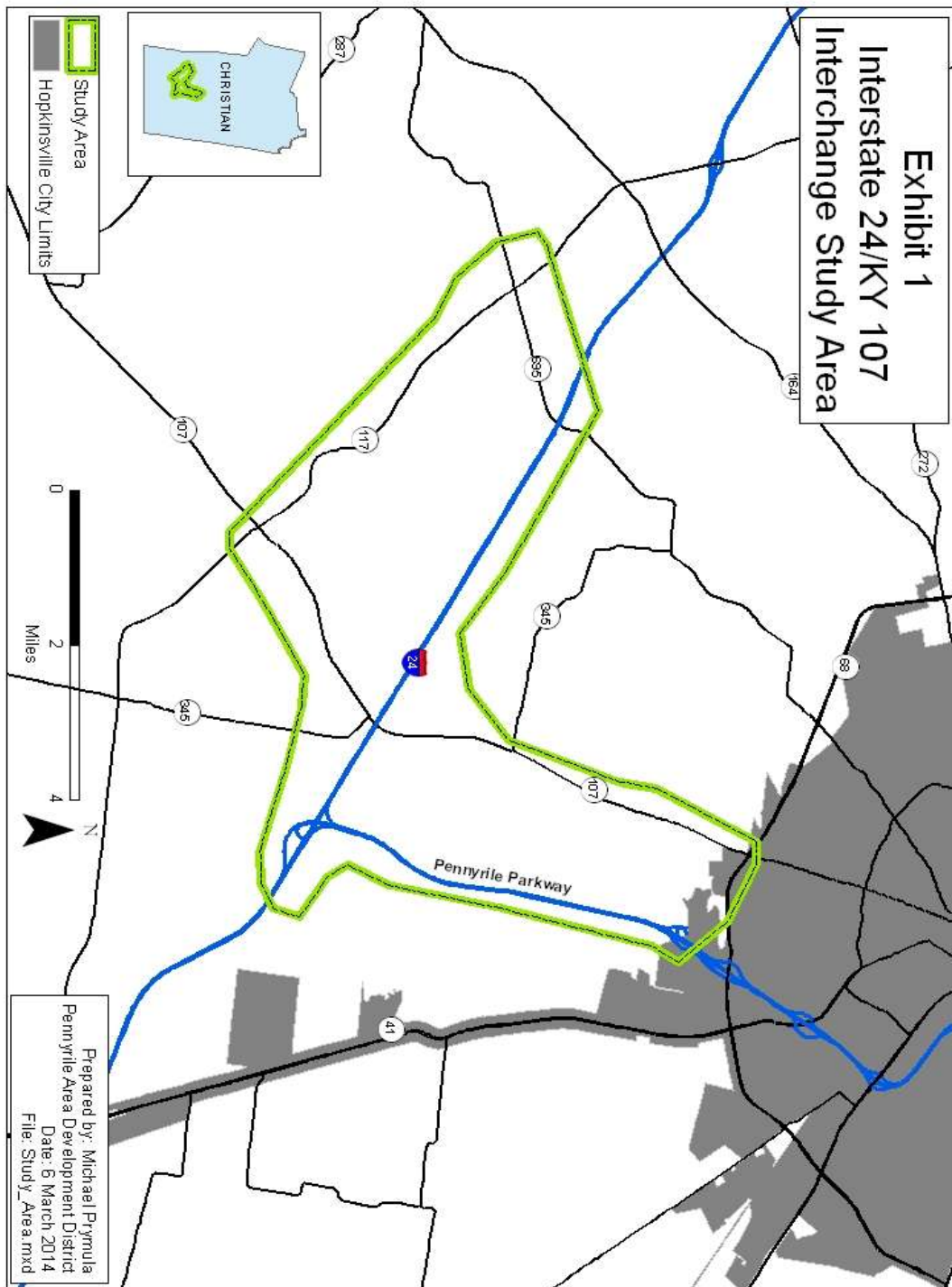
This report outlines Census 2010 statistics for the project area using tables and maps. Statistics are provided on minority, elderly, disabled populations, and low-income for the block groups and census tracts within the project area, Christian County, Kentucky and the United States.

2.0 WHAT IS ENVIRONMENTAL JUSTICE?

The U.S. Department of Transportation (DOT) outlines the three primary Environmental Justice Concepts as:

1. To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority populations and low-income populations.
2. To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
3. To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations.

Low-income is defined in U.S. DOT Order (5610.2) as "a person whose median household income is at or below the Department of Health and Human Services (HHS) poverty guidelines." A low-income population is "any readily identifiable group of low-income persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons..."



The U.S. DOT order defines minority as:

1. Black (a person having origins in any of the 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).
5. Native Hawaiian or Other Pacific Islander - a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

A minority population is “any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons...”

A 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.

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.

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” that is located in *Appendix A, Methodology*. The U.S. Census Data used in the report is taken from American Fact Finder Summary File 3 including tables:

- P7. Hispanic or Latino By Race
- P8. Sex by Age
- P 41. Age by Types of Disability for the Civilian Non-institutionalized Population 5 Years and Over with Disabilities
- P 87. Poverty Status in 1999 by Age

The data was compiled with maps and tables to present a detailed description of the community conditions in and around the study area.

4.0 CENSUS DATA ANALYSIS

U.S. Census data is arranged according to geographic unit. The U.S. Census Bureau defines geographical units as:

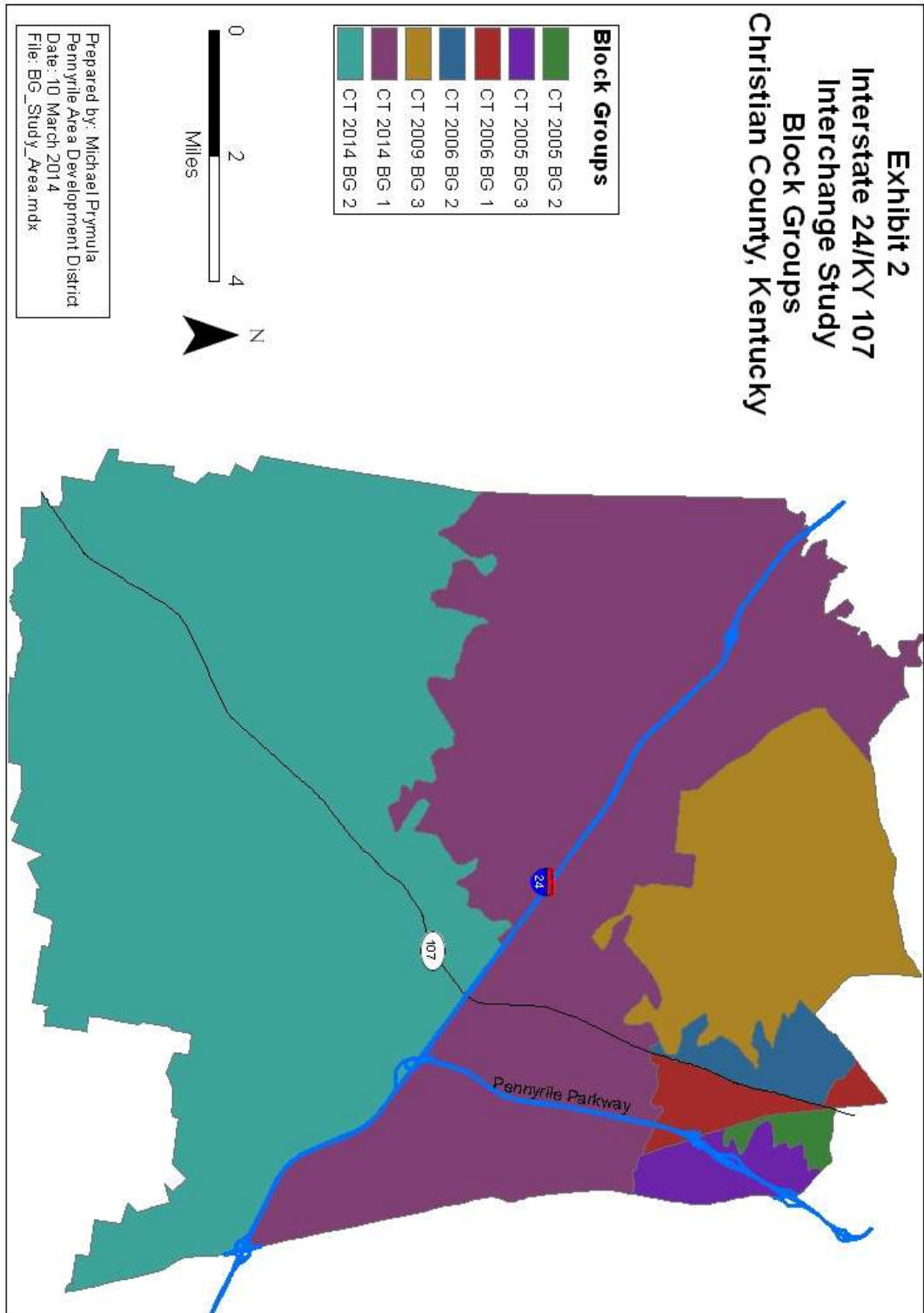
- **Census Tract (CT)** – “A small, relatively permanent statistical subdivision of a county or statistically equivalent entity delineated for data presentation purposes by a local group of census data users or the geographic staff of a regional census center in accordance with Census Bureau guidelines. 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.”
- **Census Block (CB)** – “An area bounded on all sides by visible and/or invisible features shown on a map prepared by the Census Bureau. A CB is the smallest geographic entity for which the Census Bureau tabulates decennial census data.”

The US Census tables in this report include the total number and percentages for minorities, elderly population, disabled population and low-income population levels for the block groups, census tracts, Christian County, State of Kentucky and the United States. There are four (4) census tracts and seven (7) block groups that are relevant to this study area. The Census Data Tables used in this report are located in *Appendix B, Data Tables*. Total population numbers are included in the census tract data even though all block groups within a census tract may not be included in the study area.

A method developed by the Ohio Department of Transportation (ODOT)¹ to identify target populations is applied in this study. This study will use the population percentages for Christian County as the reference threshold for identifying target populations. The County numbers most likely provide a better snapshot of the overall population characteristics of the region in the project area as opposed to the national percentages.

In reviewing each block group for target populations, an analysis range was used based on the reference threshold in each of the four census categories utilized in this study. This range was set at 25 percent above the threshold to 25 percent below the threshold. The full explanation on how this reference threshold is applied is explained in *Appendix C, Analysis Ranges*.

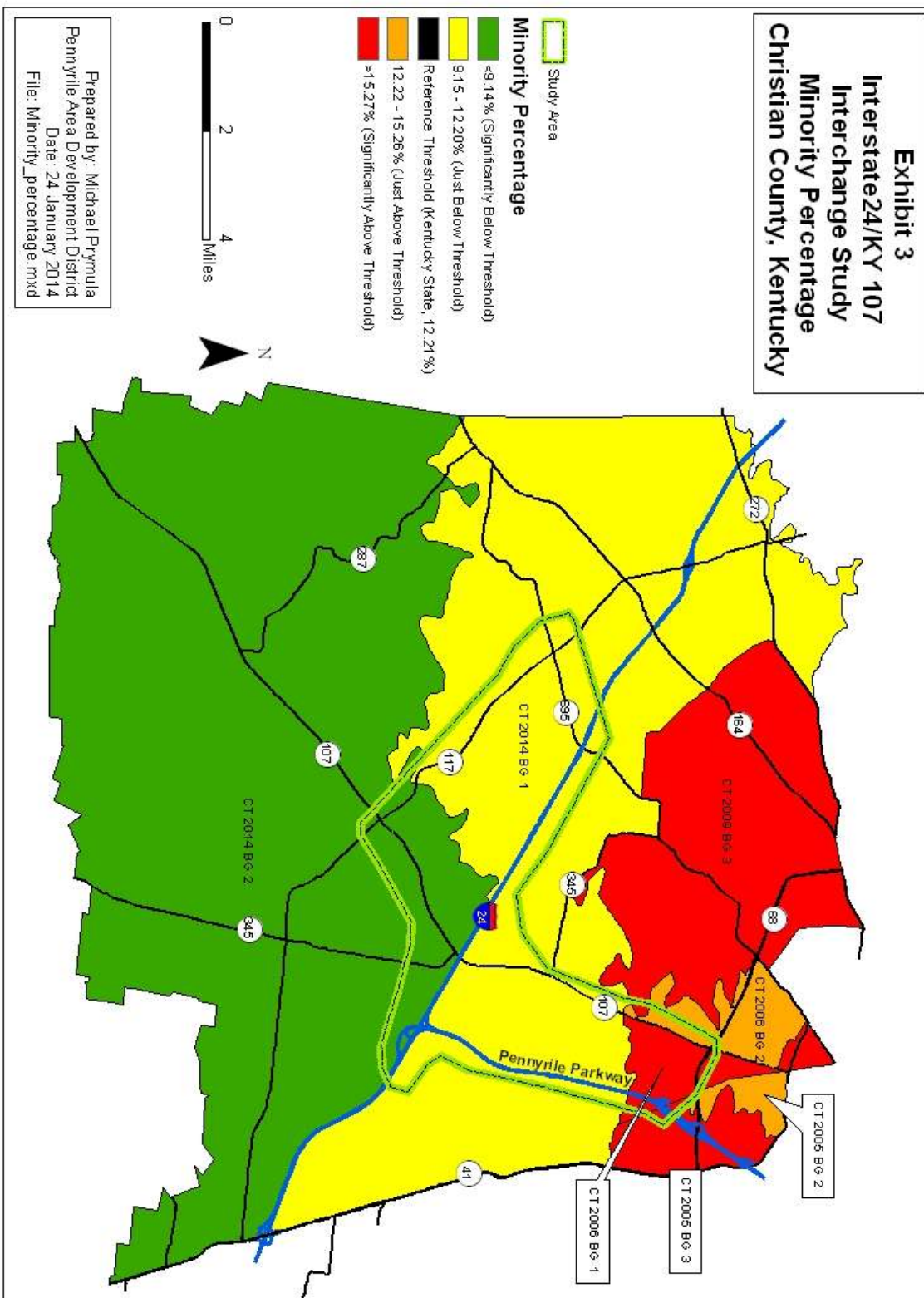
The 2010 Census BlockGroups that comprise the study area are shown in Exhibit 2. It should be noted that some BlockGroups fail to fall within the study area; therefore any BlockGroups that touches the boundary of the study area is included.



5.0 STUDY FINDINGS: POPULATION BY PERSONS OF MINORITY ORIGIN

As described in the Census Data tables in *Appendix B, US Census Data Tables for Study Area*, the minority population percentages for the United States is 27.59 percent, which is significantly higher than Kentucky at 12.21 percent. The Christian County minority population is 28.48 percent, which is just above the National average and is significantly above State averages.

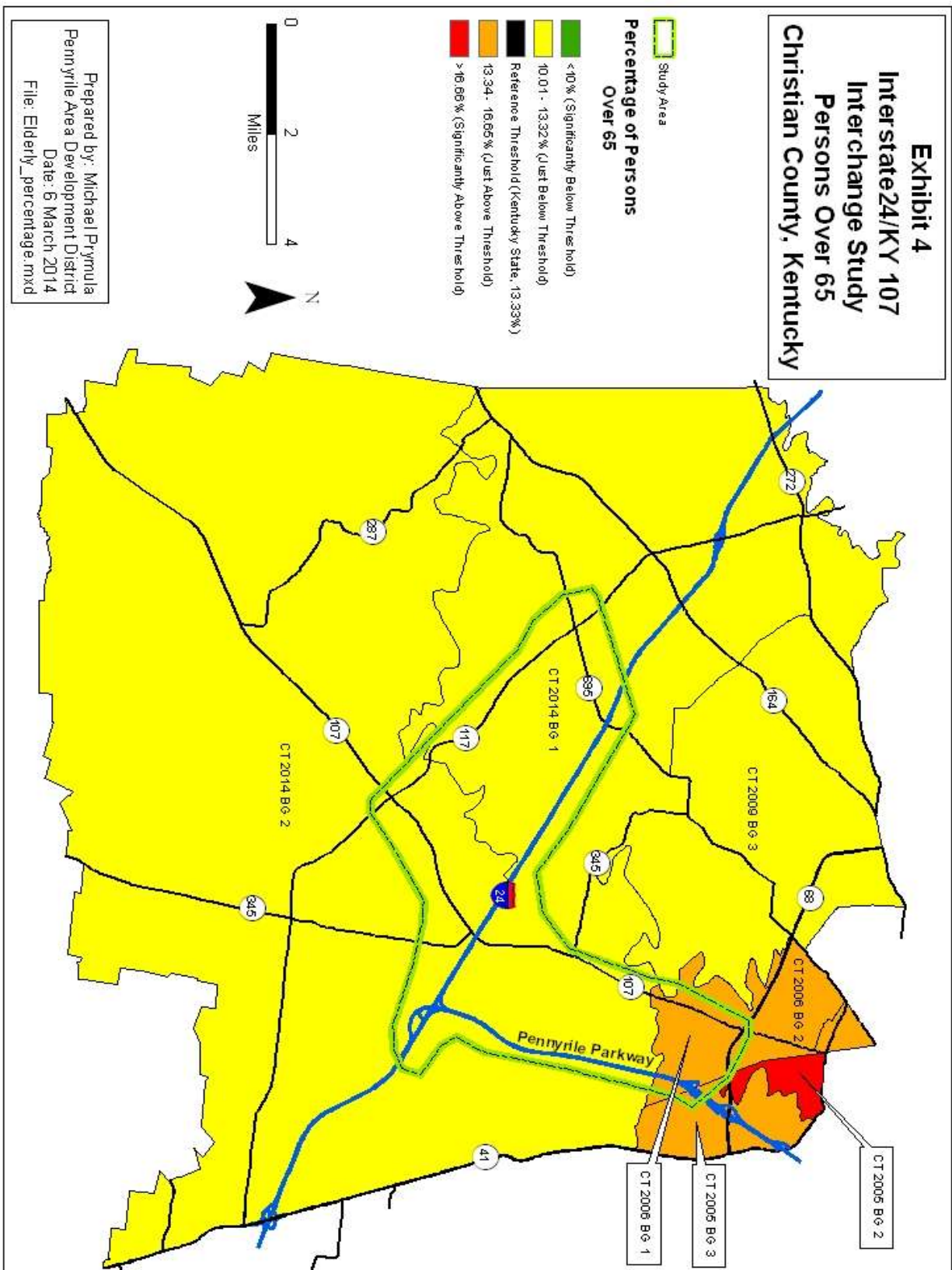
As shown in *Exhibit 3, Minority Population*, two (2) of the seven (7) BlockGroups (BGs) within the study area are either just below or significantly below the state threshold for minority population (12.21%). The remaining five (5) BG are classified as either just above or significantly above the state threshold. The BG with the highest percentage is CT 2009 BG 3 (21.17%). The remaining six (6) BGs are listed in order from highest to lowest as follows: CT 2006 BG 1 (20.87%), CT 2005 BG 3 (19.84%), CT 2005 BG 2 (14.40%), CT 2006 BG 2 (13.82%), CT 2014 BG 1 (10.37%), and CT 2014 BG 2 (7.29%).



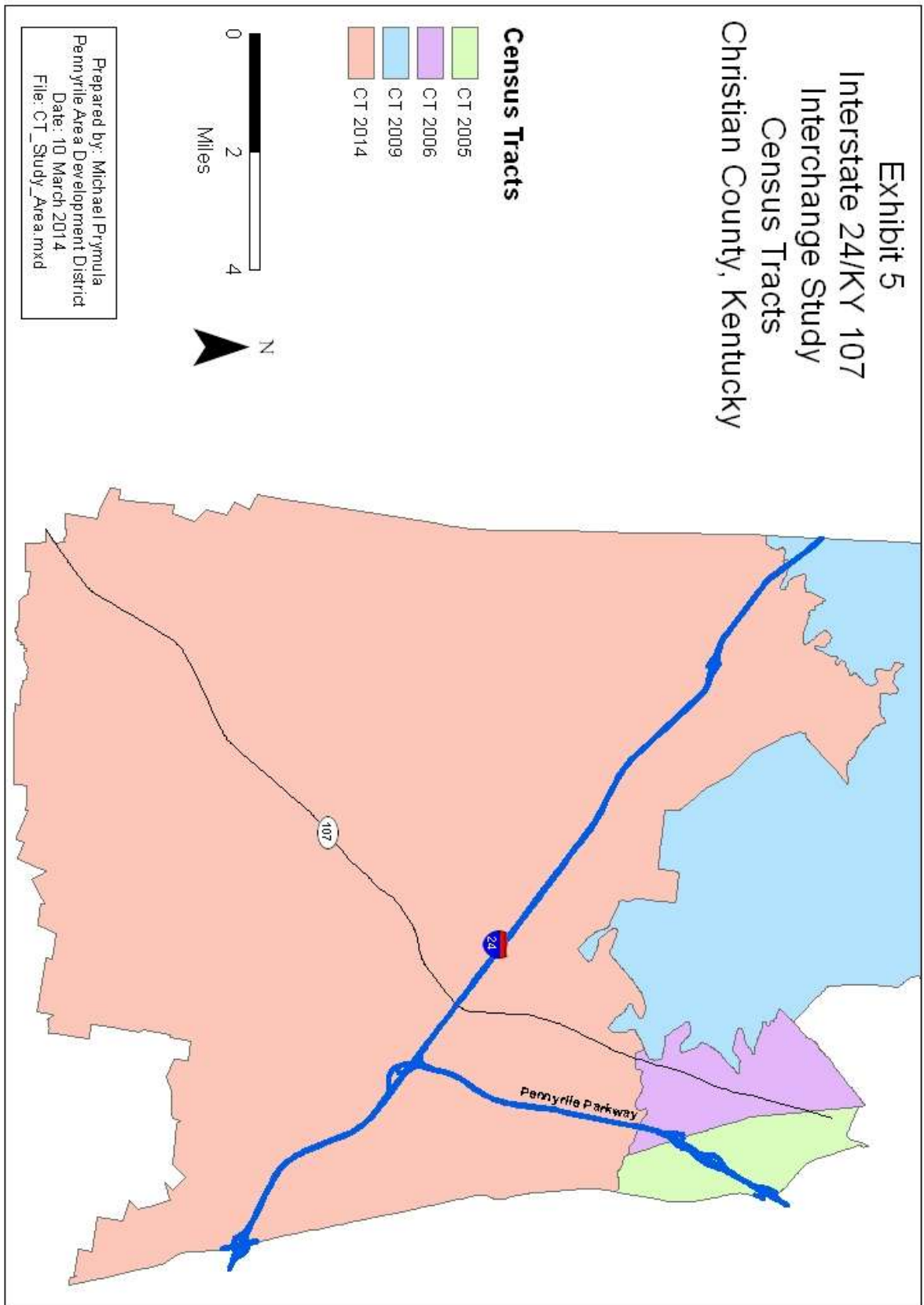
6.0 STUDY FINDING: POPULATION BY PERSONS AGE 65 YEARS AND OLDER

As described in the Census Data Tables in *Appendix B, US Census Data Tables for Study Area* the Persons Age 65 Years and Older Percentage for the United States is 13.04 percent, which was about equal to the State of Kentucky with 13.33 percent. The Christian County percentage is 10.27 percent, which is just below both the National and State percentages.

As shown in *Exhibit 4, Persons over 65*, two (2) of the seven (7) BlockGroups (BGs) within the study area are just below the state threshold for persons age 65 and older (13.33%). The remaining five (5) BG are classified as either just above or significantly above the state threshold. The BG with the highest percentage is CT 2005 BG 2 (18.66%). The remaining six (6) BGs are listed in order from highest to lowest: CT 2006 BG 1 (15.99%), CT 2005 BG 3 (15.87%), CT 2006 BG 2 (15.74%), CT 2014 BG 1 (12%), CT 2014 BG 2 (11.71%), and CT 2009 BG 3 (10.79%).



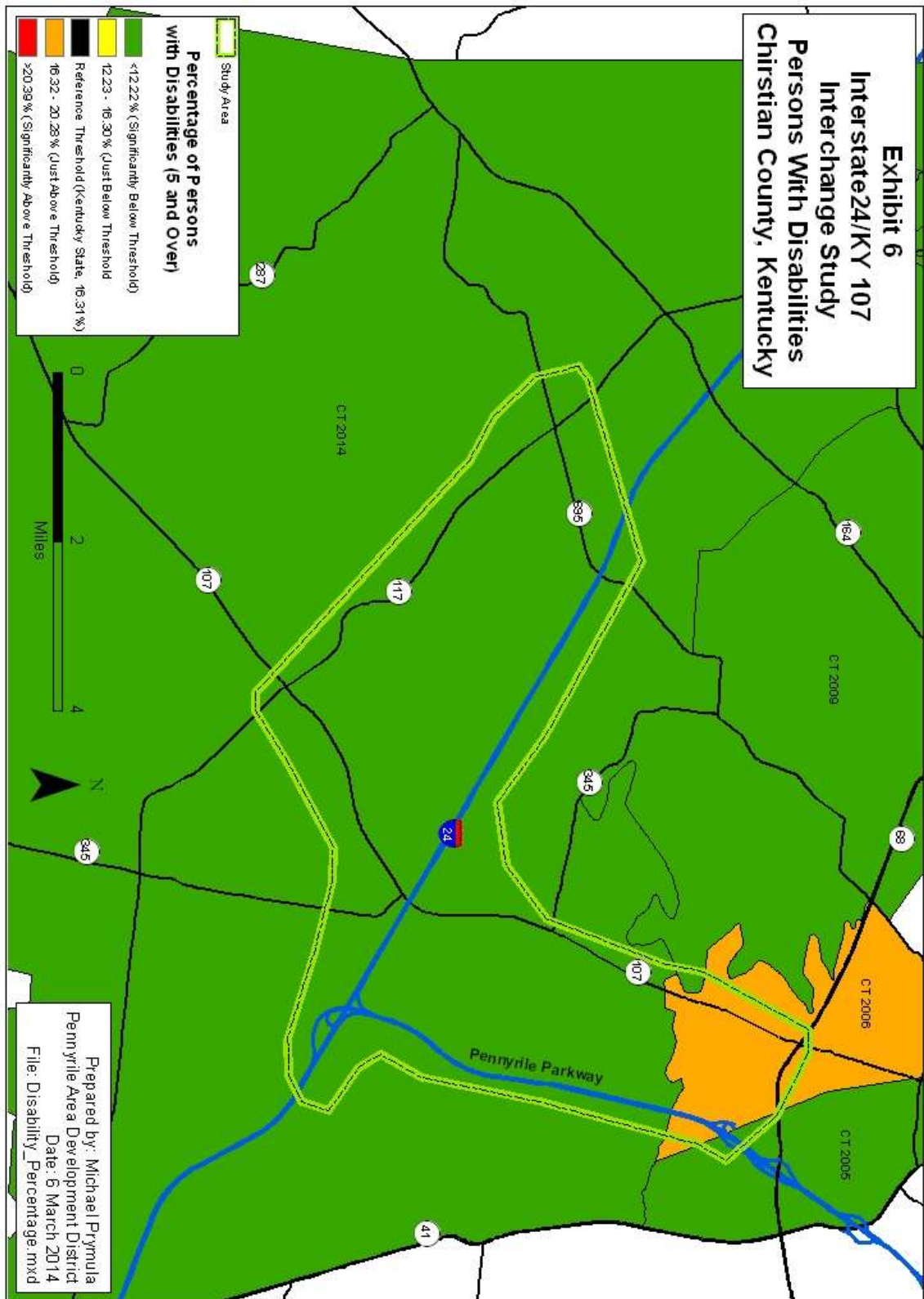
The 2010 Census Tracts that comprise the study area are shown in *Exhibit 5, Census Tracts*. It should be noted that some Census Tracts fail to fall within the study area; therefore any Census Tract that touches the boundary of the study area is included.



7.0 STUDY FINDING: POPULATION BY DISABILITIES AGE 5 AND OVER

As described in the Census Data tables in *Appendix B, US Census Data Tables for Study Area* the Population By Disabilities Age 5 and Over for the United States is 11.72 percent, which was significantly below Kentucky's 16.31 percent. The Christian County percentage is 12.26 percent, which is just above the National percentage and is just below the State percentage.

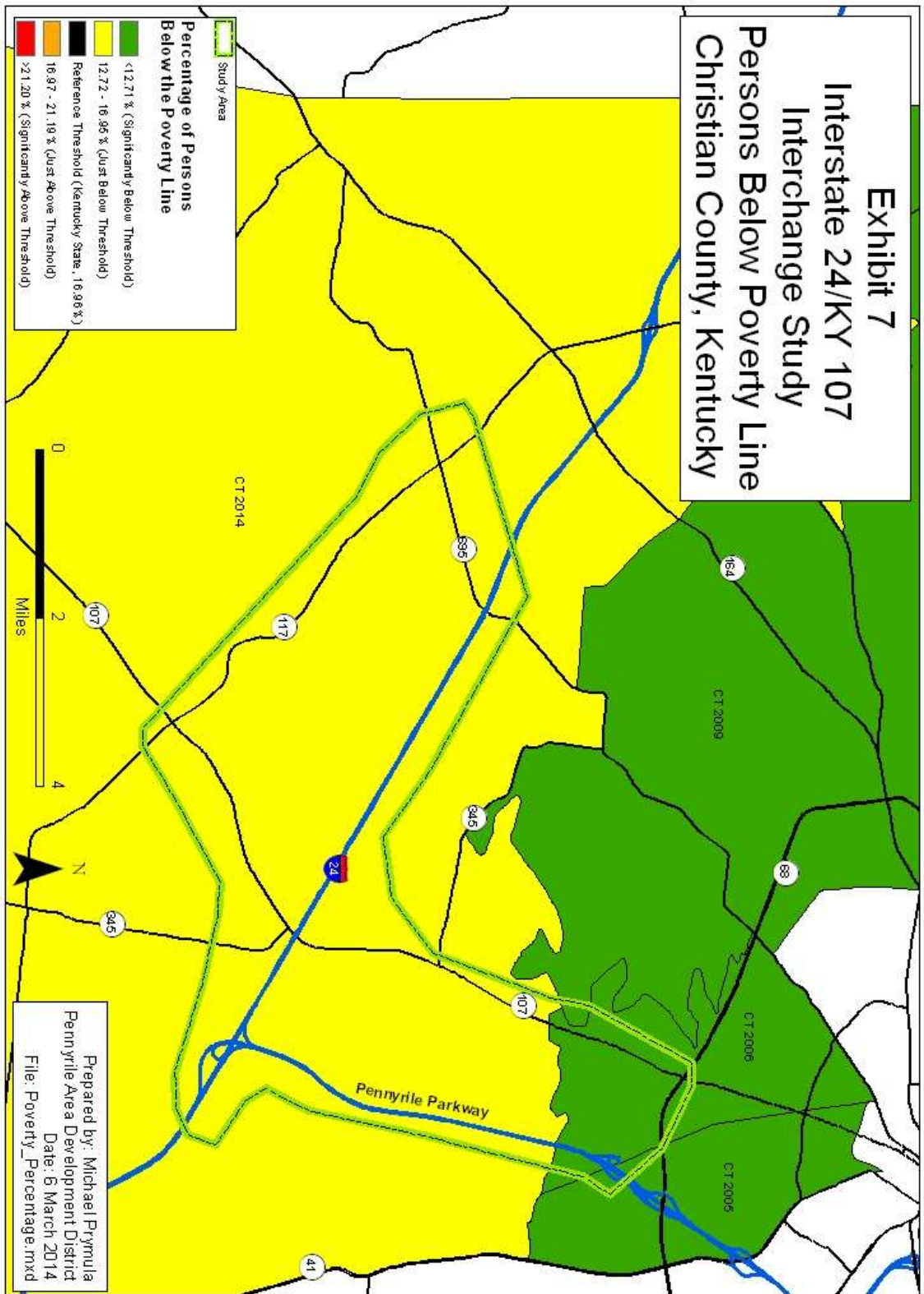
As shown in *Exhibit 6, Persons With Disabilities*, three (3) of the four (4) Census Tracts (CTs) within the study area are significantly below the state threshold for persons with disabilities (5 and over) (16.31%). The CT with the highest percentage is CT 2006 (12.98%), which is just above the state threshold. The remaining three (3) CTs are listed in order from highest to lowest: CT 2005 (8.35%), CT 2014 (11.32%), and CT 2009 (11.95%).



8.0 STUDY FINDINGS: POPULATION BY PERSONS BELOW POVERTY LEVEL

As described in the Census Data tables in *Appendix B, US Census Data Tables for Study Area* the percentage of persons below the poverty level in the United States is 14.30 percent, which is just below Kentucky's 16.96 percent. The Christian County percentage is 21.30 percent, which is significantly above both the National and State percentages.

As shown in *Exhibit 7, Persons Below Poverty Line*, all four (4) Census Tracts (CTs) within the study area are either just below or significantly below the state threshold for persons below poverty line (16.96%). The CT with the highest percentage is CT 2014 (13.56%). The remaining three (3) CTs are listed in order from highest to lowest: CT 2005 (11.46%), CT 2006 (10.70%), and CT 2009 (8.81%).



9.0 CONCLUSION

After the analysis of the study area, it became apparent that there are several BlockGroups that may require further evaluation depending on the scope of the projects planned within the study area. All BGs with higher percentages of the target populations compared to the State thresholds were described in the *Study Findings* section and will not be re-addressed in this Conclusion Section. It should be noted that two (2) of the seven (7) BlockGroups within the study area were either just above or significantly above the state threshold in at least two of the four areas of interest.

Appendix A

Study Methodology

Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies

Updated: February 1, 2002

The demographics of the affected area should be defined using U.S. Census data (Census tracts and block groups) and the percentages for minorities, low-income, elderly, or disabled populations should be compared to those for the following:

- Other nearby Census tracts and block groups,
- The county as a whole,
- The entire state, and
- The United States.

Information from PVA offices, social service agencies, local health organizations, local public agencies, and community action agencies can be used to supplement the Census data.

Specifically, we are interested in obtaining the following information:

- Identification of community leaders or other contacts who may be able to represent these population groups and through which coordination efforts can be made.
- Comparison of the Census tracts and block groups encompassing the project area to other nearby Census tracts and block groups, county, state, and United States percentages.
- Locations of specific or identified minority, low-income, elderly, or disabled population groups within or near the project area. This may require some field reviews and/or discussions with knowledgeable persons to identify locations of public housing, minority communities, ethnic communities, etc., to verify Census data or identify changes that may have occurred since the last Census. Examples would be changes due to new residential developments in the area or 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 with members within walking distance of facilities.
- Potential effects, both positive and negative, of the project on the affected groups as compared to the non-target groups. This may include, but are not limited to:
 1. Access to services, employment or transportation.
 2. Displacement of persons, businesses, farms, or non-profit organizations.
 3. Disruption of community cohesion or vitality.
 4. Effects to human health and/or safety.
- Possible methods to minimize or avoid impacts on the target population groups.

If percentages of these populations are elevated within the project area, it should be brought to the attention of the Division of Planning immediately so that coordination with affected populations may be conducted to determine the affected population's concerns and comments on the project. Also, with this effort, representatives of minority, elderly, low-income, or disabled populations should be identified so that, together, we can build a partnership for the region that may be incorporated into other projects. Also, we hope to build a Commonwealth-wide database of contacts. We are available to participate in any meetings with these affected populations or with their community leaders or representatives.

In identifying communities, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a geographically dispersed/transient set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as not to artificially dilute or inflate the affected population. A target population also exists if there is (1) more than one minority or other group present and (2) the percentages, as calculated by aggregating all minority persons, exceed that of the general population or other appropriate unit of geographic analysis.

Maps should be included that show the Census tracts and block groups included in the analysis as well as the relation of the project area to those Census tracts and block groups.

Appendix B

US Census Data Tables for Study Area

Table 1
2010 Census Data by Race

	Total	Some other race alone	Some other race alone (%)	Two or more races	Two or more races (%)	Total Minority	Minority %
United States	308,745,538	19,107,368	6.19%	9,009,073	2.92%	85,192,273	27.59%
Kentucky	4,339,367	55,551	1.28%	75,208	1.73%	529,830	12.21%
Christian Co.	73,955	1,472	1.99%	2,406	3.25%	21,059	28.48%
Tract 2005	4,205	59	1.40%	129	3.07%	801	19.05%
Block Group 2	986	4	0.41%	30	3.04%	142	14.40%
Block Group 3	1,260	24	1.90%	29	2.30%	250	19.84%
Tract 2006	4,608	33	0.72%	89	1.93%	796	17.27%
Block Group 1	2,257	21	0.93%	52	2.30%	471	20.87%
Block Group 2	2,351	12	0.51%	37	1.57%	325	13.82%
Tract 2009	6,073	37	0.61%	101	1.66%	808	13.30%
Block Group 3	2,234	11	0.49%	49	2.19%	473	21.17%
Tract 201400	2,817	16	0.57%	38	1.35%	249	8.84%
Block Group 1	1,417	8	0.56%	17	1.20%	147	10.37%
Block Group 2	1,400	8	0.57%	21	1.50%	102	7.29%

Table 2
2000 Census Data by Age, Disability and Poverty

	Total	Persons 65 and Over	Persons 65 and Over (%)	Population by Disabilitie s Age 5 and Over	Population by Disabilitie s Age 5 and Over (%)	Persons Below Poverty Level	Persons Below Poverty Level (%)
United States	308,745,538	40,267,984	13.04%	36,198,674	11.72%	44,150,612	14.30%
Kentucky	4,339,367	578,227	13.33%	707,878	16.31%	735,782	16.96%
Christian Co.	73,955	7,593	10.27%	9,064	12.26%	15,752	21.30%
Tract 2005	4,205	615	14.63%	351	8.35%	482	11.46%
Block Group 2	986	184	18.66%		0.00%		0.00%
Block Group 3	1,260	200	15.87%		0.00%		0.00%
Tract 2006	4,608	731	15.86%	598	12.98%	493	10.70%
Block Group 1	2,257	361	15.99%		0.00%		0.00%
Block Group 2	2,351	370	15.74%		0.00%		0.00%
Tract 2009	6,073	741	12.20%	726	11.95%	535	8.81%
Block Group 3	2,234	241	10.79%		0.00%		0.00%
Tract 201400	2,817	334	11.86%	319	11.32%	382	13.56%
Block Group 1	1,417	170	12.00%		0.00%		0.00%
Block Group 2	1,400	164	11.71%		0.00%		0.00%

Appendix C

Analysis Ranges Explanation and Methodology

**Analysis Ranges
Explanation and Methodology**

The Kentucky State percentages are used as a reference threshold in each of the census data categories utilized for this report. Areas that are up to 25% higher than the reference threshold are considered just above the threshold, and areas that are 25% or higher are considered significantly above the threshold.

PERCENT MINORITY

<u>Analysis Range</u>	<u>Percent Minority</u>
Significantly Above Threshold	> 15.27%
Just Above Threshold	12.22 - 15.26%
REFERENCE THRESHOLD (Kentucky State)	12.21%
Just Below Threshold	9.15% - 12.20%
Significantly Below Threshold	< 9.14%

PERCENT 65 AND OLDER

<u>Analysis Range</u>	<u>Percent 65 and Older</u>
Significantly Above Threshold	> 16.66%
Just Above Threshold	13.34 - 16.67%
REFERENCE THRESHOLD (Kentucky State)	13.33%
Just Below Threshold	10.01% - 13.32%
Significantly Below Threshold	< 10%

PERCENT DISABLED

<u>Analysis Range</u>	<u>Percent Disabled</u>
Significantly Above Threshold	> 20.39%
Just Above Threshold	16.32 - 20.38%
REFERENCE THRESHOLD (Kentucky State)	16.31%
Just Below Threshold	12.23 – 16.30%
Significantly Below Threshold	< 12.22%

PERCENT BELOW POVERTY

<u>Analysis Range</u>	<u>Percent Below Poverty</u>
Significantly Above Threshold	> 21.20%
Just Above Threshold	16.97 – 21.19%
REFERENCE THRESHOLD (Kentucky State)	16.96%
Just Below Threshold	12.72 – 16.95%
Significantly Below Threshold	< 12.71%