



Appendix D – Environmental Justice Review

KY 181/US 79/US 41/KY 294 Intersection Study Guthrie, Kentucky

**ENVIRONMENTAL JUSTICE REVIEW
May 2011**

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 the proposed KY 181/US 79/US 41 /KY 294 intersection in the City of Guthrie, Kentucky located in Todd County, which is also located within the Pennyriple Area Development District. This area is depicted in *Exhibit 1, Proposed KY 181/US 79/US 41/KY 294 Intersection Reconstruction Project Area*. Data from the U.S. Census Bureau Census 2000 has been utilized for the analysis of the project area. It is intended to be used as a “first look study” into the socioeconomic characteristics that exist in the project area. If, at a later time, the Kentucky Transportation Cabinet determines specific project locations, 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 project 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 2000 statistics for the project area using tables and maps. Statistics are provided on minority, low-income, elderly, and disabled populations for the block groups and census tracts within the project area, Todd County, Kentucky and the United States.

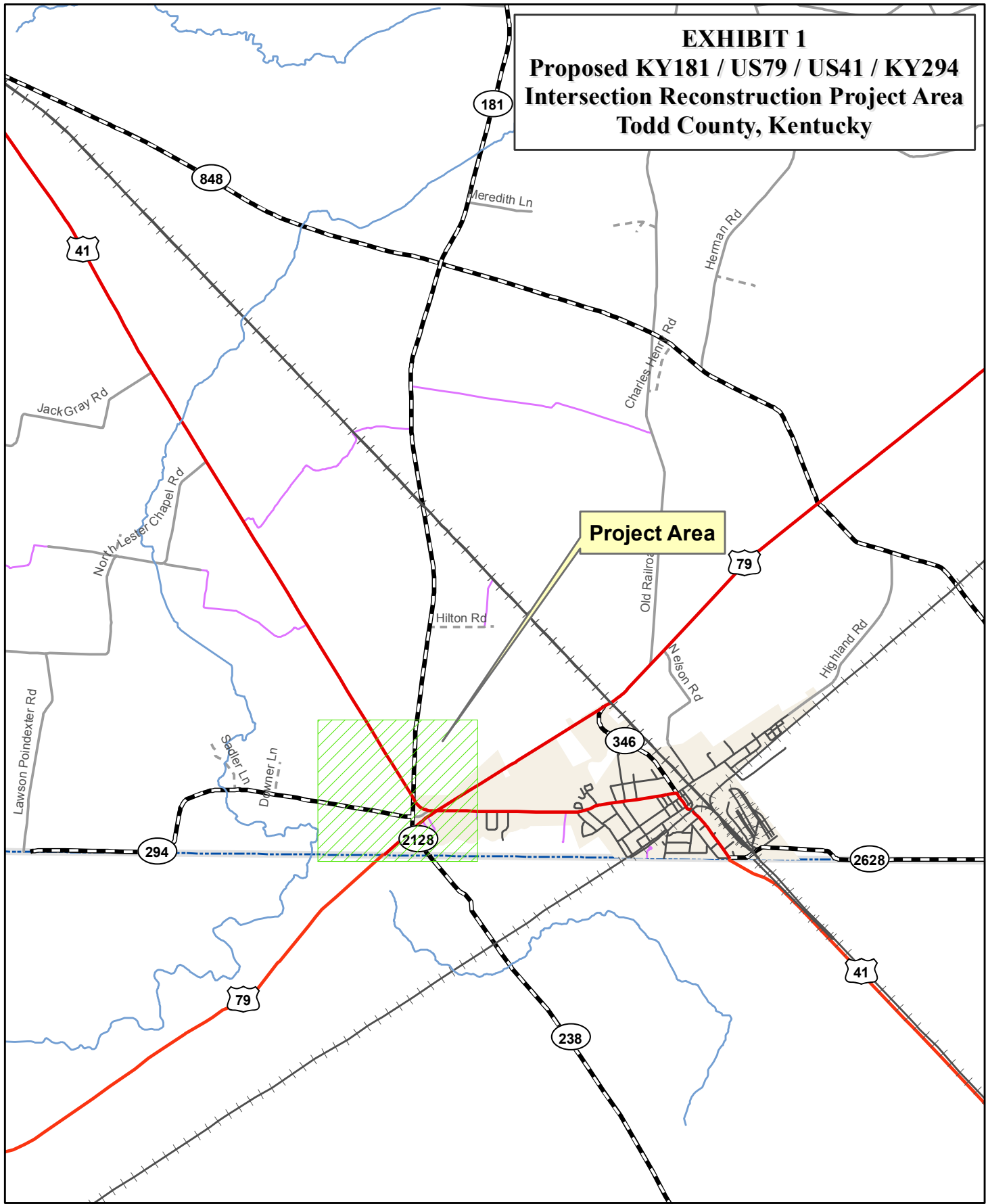
2.0 WHAT IS ENVIRONMENTAL JUSTICE?

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

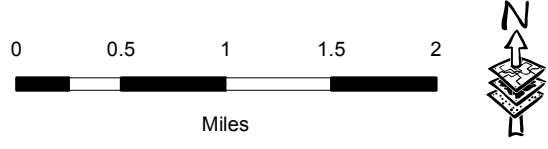
1. To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority populations and low-income populations.
2. To ensure the full and fair participation by all potentially affected communities in the transportation 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...”

EXHIBIT 1
Proposed KY181 / US79 / US41 / KY294
Intersection Reconstruction Project Area
Todd County, Kentucky



Prepared by: Pat Lee, GIS Manager
Pennyriple Area Development District
Print Date: April, 2011
File: Todd - Guthrie - EJ Study - Location Map.mxd



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).

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.

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” 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, Todd County, State of Kentucky and the United States. There are two (2) census tracts and four (4) 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 Todd 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 2000 Census Block Groups that comprised the southern half of Todd County and the project area are shown in *Exhibit 2, Block Group Boundaries, Todd County, KY*. The southern boundary of this project area borders the Kentucky/Tennessee State line.

EXHIBIT 2
Census 2000 - Block Groups
KY181 / US79 / US41 / KY294
Environmental Justice Study
Todd County, Kentucky

Legend

Block Groups

Population

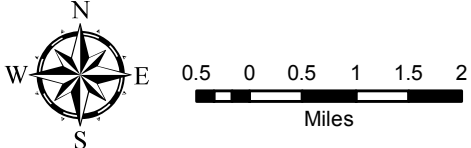
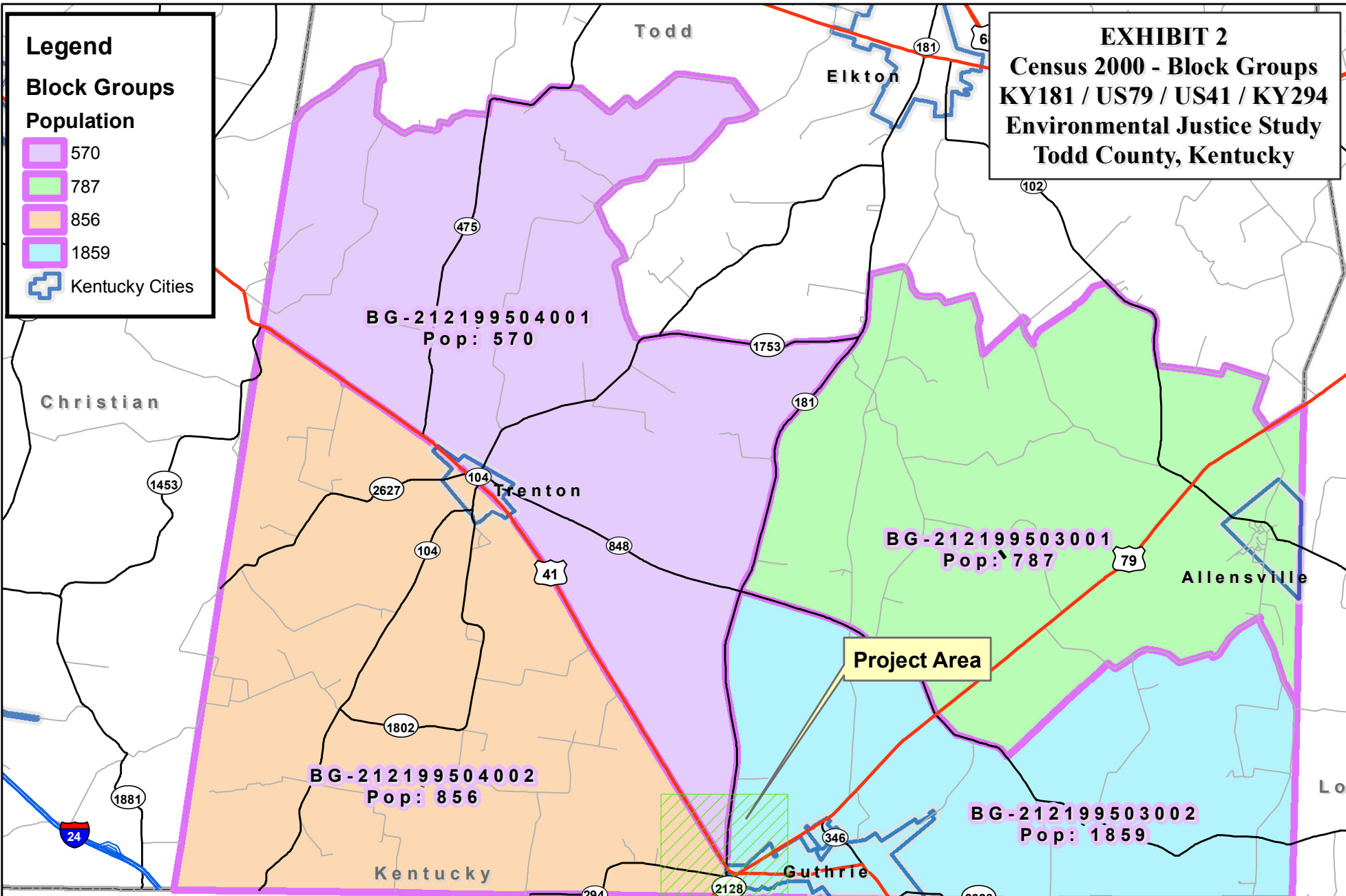
570

787

856

1859

Kentucky Cities



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 Pennyriple Area Development District
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 File: Proposed Todd Intersection Reconstruction-Exhibit2.mxd

5.0 STUDY FINDINGS: POPULATION BY PERSONS OF MINORITY ORIGIN

As described in the Census Data tables in Appendix B, the minority population percentages for the United States is 30.88 percent, which is significantly higher than Kentucky at 10.68 percent. The Todd County minority population is 10.43 percent, which is very similar to the State percentage.

Three (3) of the four (4) Block Groups (BG's) in the project area had a higher percentage of minority population than the state percentage or reference county threshold of 10.43 percent. The BG with the highest percentage is CT 9503 BG 2 (26.36%). The remaining 2 BGs that were higher than the Todd County threshold (10.43%) are listed in order from highest to lowest as follows: CT 9503 BG 1 (20.36%), CT 9504 BG 1 (12.59%). These BG's can be seen in Appendix D, *Map A, Percent Minority, KY 181/US 70/US 41/KY 294 Study Area, Todd County, KY*.

6.0 STUDY FINDINGS: POPULATION BY PERSONS BELOW POVERTY LEVEL

As described in the Census Data tables in Appendix B, the percentage of persons below the poverty level in the United States is 12.05 percent, which is just below Kentucky's 15.37 percent. The Todd County poverty percentage is 16.94 percent, which is slightly higher than the national percentage.

One (1) of the four (4) Block Groups (BG's) in the project area had a higher percentage of persons below poverty than the state percentage or reference county threshold of 16.94 percent. This BG with the highest percentage is CT 9503 BG 2 (24.49%). The remaining three (3) BG's that are below the reference threshold are listed in order from highest to lowest: CT 9504 BG 1 (13.62%), CT 9504 BG 2 (12.53%), and CT 9503 BG 2 (10.70%). These BG's can be seen in Appendix D, *Map D, Persons Below Poverty Level, KY 181/US 70/US 41/KY 294 Study Area, Todd County, KY*.

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

As described in the Census Data tables in Appendix B, the *Persons 65 and Over Percentages* for the United States was 12.43 percent, which was about equal to the State of Kentucky with 12.46 percent. The Todd County percentage is 13.97 percent, which is slightly higher than the State percentage.

Of the four (4) BG's in the study area, only one had a higher percentage of persons age 65 and older than the Todd County percentage. This BG with the higher percentage is CT 9504 BG 2 (17.26%). The remaining three (3) BG's that are below the reference Todd County threshold are

listed in order from highest to lowest: CT 9503 BG 2 (13.48%), CT 9503 BG 1 (11.60%), and CT 9504 BG 1 (9.83%). These BG's can be seen in Appendix D, *Map B, Percent 65 and Older, KY 181/US 70/US 41/KY 294 Study Area, Todd County, KY*.

8.0 STUDY FINDING: POPULATION BY DISABILITIES AGE 5 AND OVER

As described in the Census Data tables in Appendix B, the *Population By Disabilities Age 5 and Over* for the United States was 31.68 percent, which was lower than the State of Kentucky with 41.73 percent. The Todd County percentage is 43.16 percent, which is slightly higher than the State percentage.

Of the four (4) BG's in the study area, only one had a higher percentage of persons with disabilities age 5 and older than the Todd County percentage. This BG with the higher percentage is CT 9503 BG 2 (46.68%). The remaining three (3) BG's that are below the reference Todd County threshold are listed in order from highest to lowest: CT 9504 BG 1 (41.03%), CT 9504 BG 2 (39.13%), and CT 9503 BG 1 (26.80%). These BG's can be seen in Appendix D, *Map C, Population By Disabilities Age 5 and Over, KY 181/US 70/US 41/KY 294 Study Area, Todd County, KY*.

9.0 CONCLUSION

After the analysis of the study area, it became apparent that there are several Block Groups that may require further evaluation depending on the scope of the improvements planned for the intersection. All of the BG's with higher percentages of populations compared to the Todd County thresholds that were analyzed in the *Study Findings* section of this report will not be re-addressed in this Conclusion Section. However, one of the Block Groups that are identified in this section has two (2) or more significantly higher percentages of the target populations and is addressed in this section to highlight these areas of concern.

The Block Group that comprises the majority of the City of Guthrie, Kentucky (Tract 9503 BG 2), which includes the eastern portion of the project area, has the highest percentage of minorities (26.31%) and persons below the poverty level (24.49%). There is a total population of 1,870 persons in this BG. The total number of minority population in this BG is 492 persons, and the total population below poverty is 458 persons. This BG also has a slightly higher percentage of its population disabled (46.68%) above the Todd County Threshold disabled population (43.16%)

In closing, if the highway improvements are confined to the existing right-of-ways of the proposed intersection, this study has determined that there would be no impact to the EJ populations that were studied as part of this report. However, if the improvements involved in

this project are proposed to take a new route off one of the existing right-of-ways in one or more areas, then additional examination of these areas proposed in the new route(s) should be explored further for EJ impacts.

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 2
 KY181 / US79 / US41 / KY294
 Intersection Project Area

	Total	Some other race alone	Some other race alone (%)	Two or more races	Two or more races (%)	Total Minority	Minority %	Persons 65 and Over	Persons 65 and Over (%)	Population by Disabilities Age 5 and Over	Population by Disabilities Age 5 and Over (%)	Persons Below Poverty Level	Persons Below Poverty Level (%)
United States	281,421,906	447,552	0.16%	5,012,741	1.78%	86,907,766	30.88%	34,978,972	12.43%	89,142,962	31.68%	33,899,812	12.05%
Kentucky	4,041,769	3,303	0.08%	42,137	1.04%	431,657	10.68%	503,668	12.46%	1,686,789	41.73%	621,096	15.37%
Todd Co.	11,971	96	0.80%	102	0.85%	1,248	10.43%	1,672	13.97%	5,167	43.16%	2,028	16.94%
Tract 9503	2,646	33	1.25%	27	1.02%	650	24.57%	342	12.93%	1,081	40.85%	541	20.45%
Block Group 1	776	0	0.00%	5	0.64%	158	20.36%	90	11.60%	208	26.80%	83	10.70%
Block Group 2	1,870	33	1.76%	22	1.18%	492	26.31%	252	13.48%	873	46.68%	458	24.49%
Tract 9504	1,426	14	0.98%	6	0.42%	110	7.71%	203	14.24%	569	39.90%	185	12.97%
Block Group 1	580	14	2.41%	3	0.52%	73	12.59%	57	9.83%	238	41.03%	79	13.62%
Block Group 2	846	0	0.00%	3	0.35%	37	4.37%	146	17.26%	331	39.13%	106	12.53%
Source: US Census Bureau, 2000 Census													
Summary File 3 (SF3)													
Detailed Tables: P7-Hispanic or Latino by Race, P8-Sex by Age, P41 Age by Types of Disability, P87-Poverty Status in 1999 by Age													

Appendix C

Analysis Range Explanation and Methodology for Population Percentages Above or Below the Todd County Threshold

Analysis Ranges Explanation and Methodology

The Todd County 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	> 13.04%
Just Above Threshold	10.43% - 13.04%
REFERENCE THRESHOLD (Todd Co. Percentage)	10.43%
Just Below Threshold	7.82% - 10.43%
Significantly Below Threshold	< 7.82%

PERCENT 65 AND OLDER

<u>Analysis Range</u>	<u>Percent 65 and Older</u>
Significantly Above Threshold	> 17.46%
Just Above Threshold	13.97% - 17.46%
REFERENCE THRESHOLD (Todd Co. Percentage)	13.97%
Just Below Threshold	10.48% - 13.97%
Significantly Below Threshold	< 10.48%

PERCENT DISABLED

<u>Analysis Range</u>	<u>Percent Disabled</u>
Significantly Above Threshold	> 53.95%
Just Above Threshold	43.16% - 53.95%
REFERENCE THRESHOLD (Todd Co. Percentage)	43.16%
Just Below Threshold	32.37% - 43.16%
Significantly Below Threshold	< 32.37%

PERCENT BELOW POVERTY

<u>Analysis Range</u>	<u>Percent Below Poverty</u>
Significantly Above Threshold	> 21.17%
Just Above Threshold	16.94% - 21.17%
REFERENCE THRESHOLD (Todd Co Percentage)	16.94%
Just Below Threshold	12.70% - 16.94%
Significantly Below Threshold	< 12.70%

Appendix D

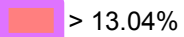
Block Groups Above or Below Todd County Population Threshold Maps

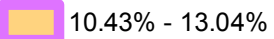
MAP A
Minority Population Percent
KY181 / US79 / US41 / KY294
Environmental Justice Study
Todd County, Kentucky

Legend

Block Groups

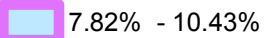
Above County Threshold

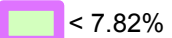
 > 13.04%


 10.43% - 13.04%

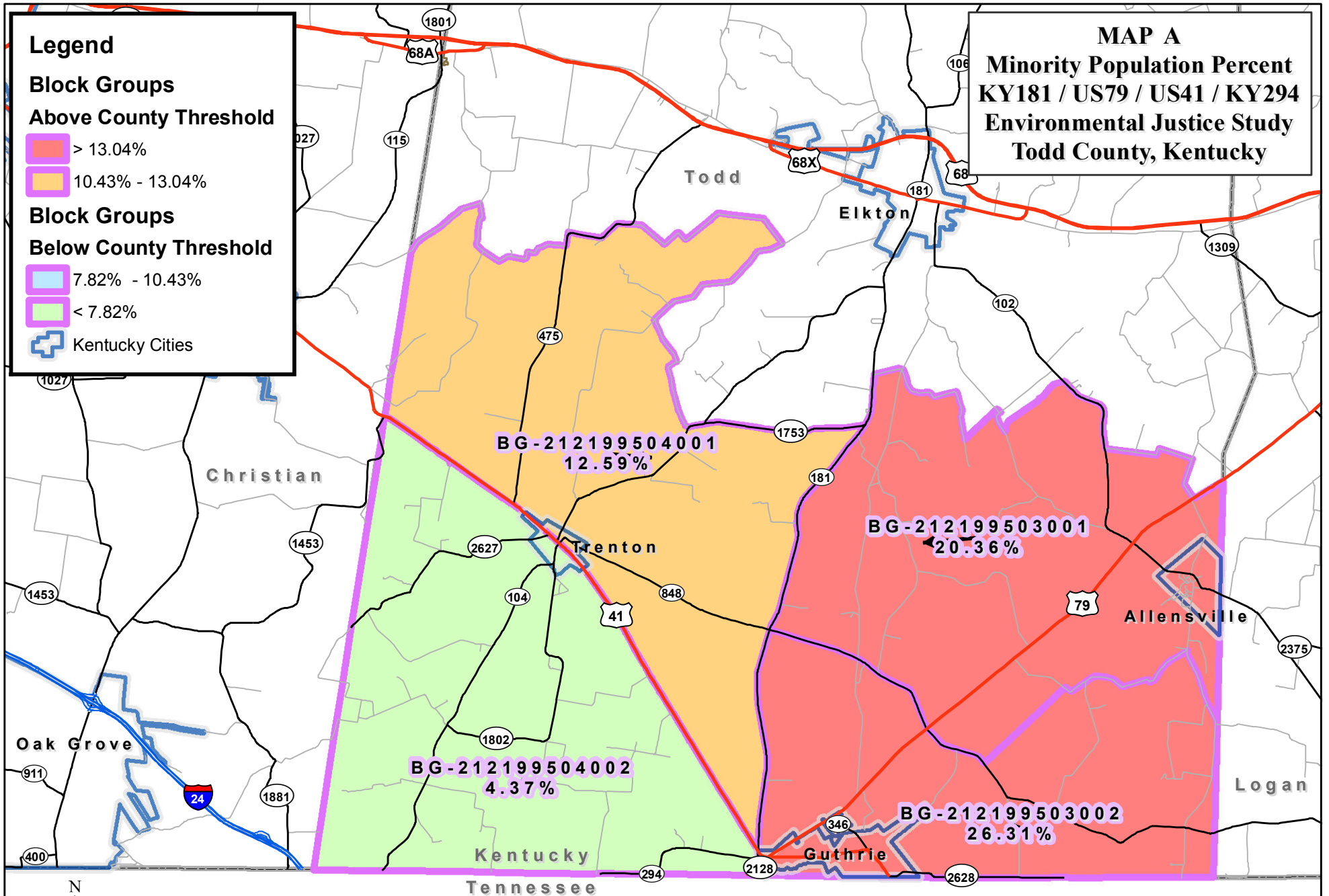
Block Groups

Below County Threshold

 7.82% - 10.43%

 < 7.82%

 Kentucky Cities



NOTE: Minority populations are stated in each Block Group by percentages.

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 Pennyriple Area Development District
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 File: Proposed Todd Intersection Reconstruction-Map A.mxd

MAP B
Percent 65 and Older
KY181 / US79 / US41 / KY294
Environmental Justice Study
Todd County, Kentucky

Legend

Block Groups

Above County Threshold

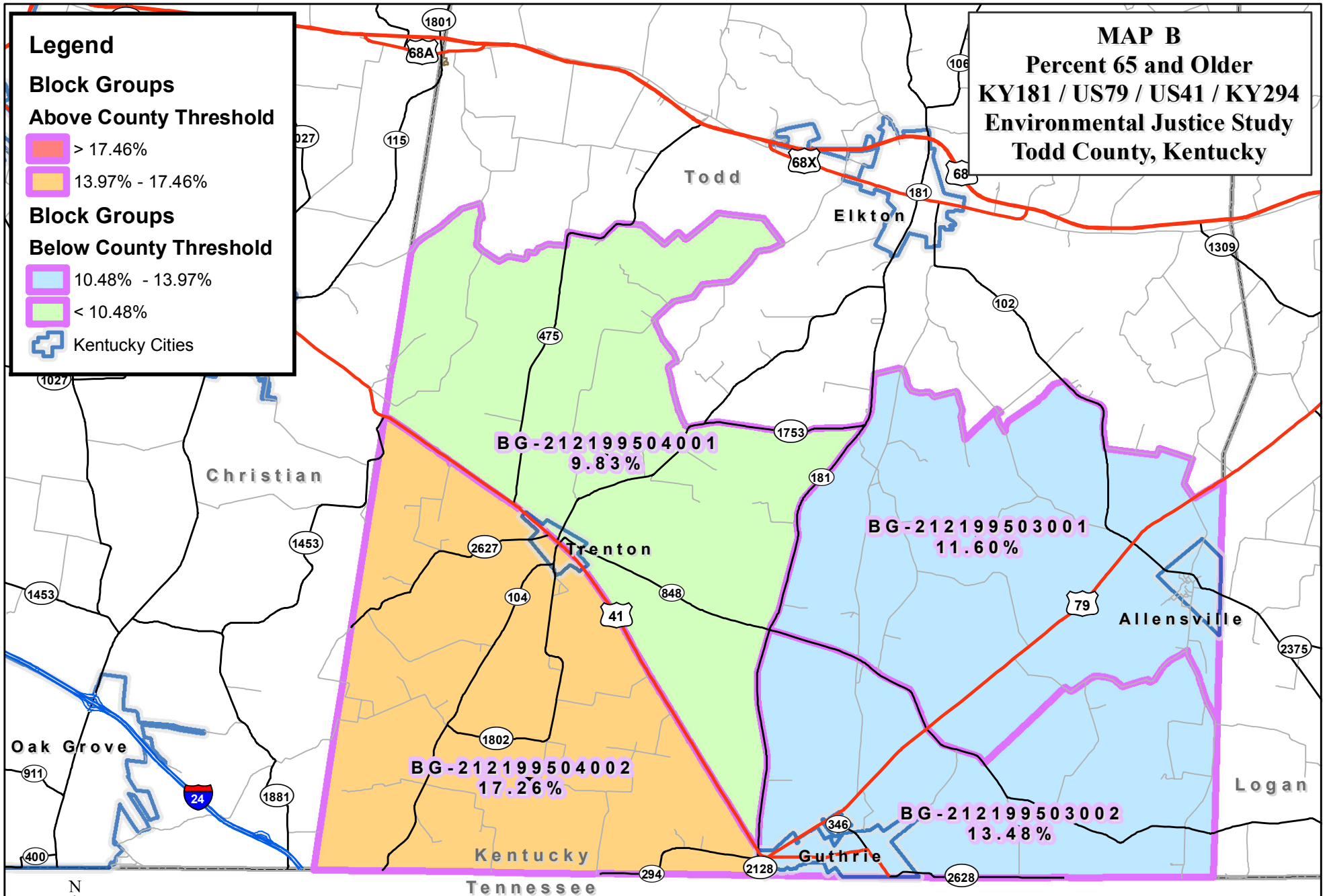
- > 17.46%
- 13.97% - 17.46%

Block Groups

Below County Threshold

- 10.48% - 13.97%
- < 10.48%

- Kentucky Cities



NOTE: 65 and older are stated in each Block Group by percentages.

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 Pennyriple Area Development District
 Printing Date: April 26, 2011
 File: Proposed Todd Intersection Reconstruction-Map B.mxd

MAP C
Percent Disabled
KY181 / US79 / US41 / KY294
Environmental Justice Study
Todd County, Kentucky

Legend

Block Groups

Above County Threshold

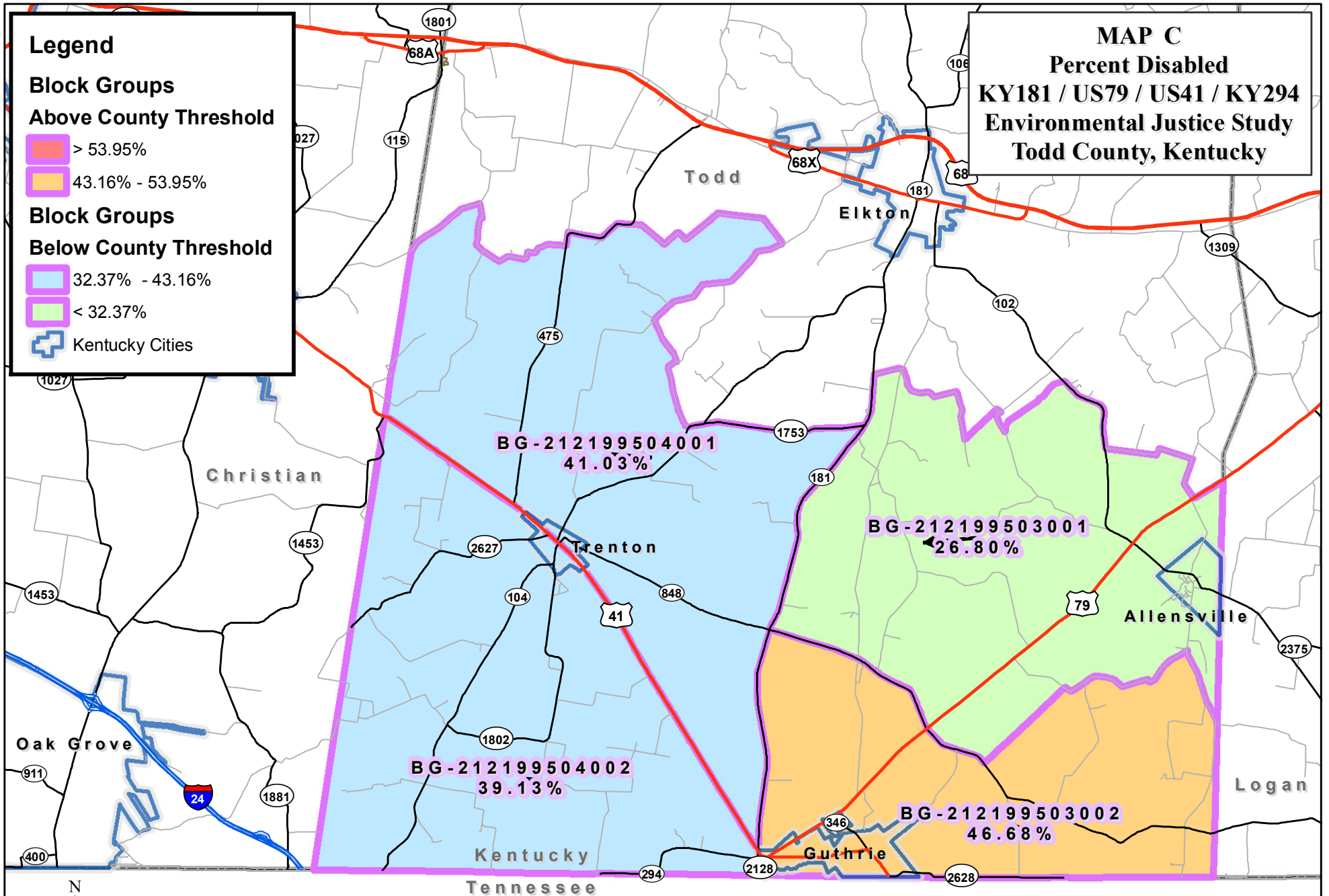
- > 53.95%
- 43.16% - 53.95%

Block Groups

Below County Threshold

- 32.37% - 43.16%
- < 32.37%

Kentucky Cities



NOTE: Disabled are stated in each Block Group by percentages.

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 Pennyriple Area Development District
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 File: Proposed Todd Intersection Reconstruction-Map C.mxd

MAP D
Percent Below Poverty
KY181 / US79 / US41 / KY294
Environmental Justice Study
Todd County, Kentucky

Legend

Block Groups

Above County Threshold

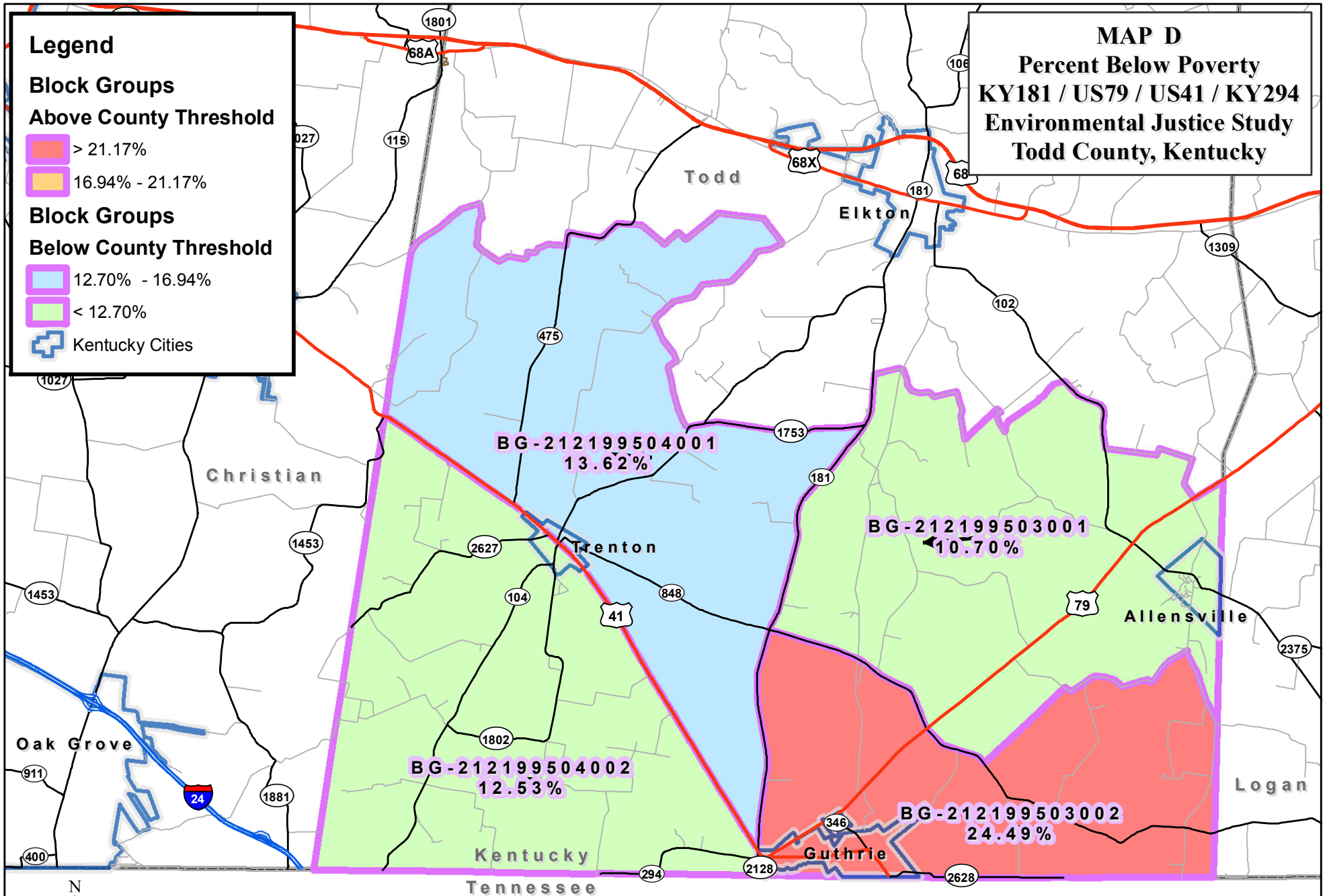
- > 21.17%
- 16.94% - 21.17%

Block Groups

Below County Threshold

- 12.70% - 16.94%
- < 12.70%

Kentucky Cities



NOTE: Below poverty are stated in each Block Group by percentages.

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 File: Proposed Todd Intersection Reconstruction-Map D.mxd