

## **Appendix E: Environmental Justice Review**

BARREN RIVER AREA DEVELOPMENT DISTRICT

# Environmental Justice Review

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## U.S. 231 (Scottsville Road) Scoping Study from Three Springs Road to Lovers Lane

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



Prepared by  
Barren River Area Development District  
Bowling Green – Warren County MPO



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

The BRADD is the staff agency for the Bowling Green – Warren County MPO.

## Contents

Introduction .....	1
What is Environmental Justice? .....	2
Methodology.....	3
Study Findings .....	4
Population by Persons of Racial Minority Origin .....	4
Chart 1: Racial Minority Population.....	4
Population by Persons of Hispanic or Latino Origin.....	4
Chart 2: Hispanic or Latino Origin Population.....	5
Population by Persons Age 65 Years and Older .....	5
Chart 3: Persons 65 and Older .....	5
Population by Persons below Poverty Level .....	6
Chart 4: Persons below Poverty Level.....	6
Disabled Members of the Non-Institutionalized Population .....	6
Chart 5: Disabled Members of the Non-Institutionalized Population .....	7
Conclusion.....	8
Appendices.....	9
Appendix A: Map of Study Area.....	10
Appendix B: Methodology from KYTC.....	11
Appendix C: U.S. Census Data Tables for Study Area .....	13
Appendix C: U.S. Census Data Tables for Study Area and Maps.....	14
Statistics for Racial and Ethnic Minorities.....	14
Statistics for Age, Poverty, and Disabled Populations .....	14
Appendix D.....	22

## Introduction

This report presents an overview of the findings for selected socioeconomic characteristics in the US 231 planning study area from the interchange with Three Springs Road northward to the intersection with KY 880 (Campbell Lane/Lovers Lane). The objective of the planning study is to identify both short-term spot improvements as well as some long-term solutions in which both approaches improves the safety and the mobility of Scottsville Road and to provide reasonable access along this vital corridor.

The information in this report outlines 2008-2012 American Community Survey statistics in and near the project area using tables, charts, and maps. The purpose of the report is to analyze the data and identify potential populations that may be displaced or adversely impacted by the recommended improvements proposed in the planning study. Statistics are provided for minority, elderly, low-income and disabled populations for the nation, state, city, census tracts, and block groups located within the project area.

This information is intended to aid the Kentucky Transportation Cabinet (KYTC) 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 policies, and activities on minority populations and low-income populations...”

The project study area is located in Warren County, beginning close to newly reconstructed intersection with KY 884 (Three Springs Road) which is located in the Bowling Green – Warren County Metropolitan Planning Organization. Warren County is located in the south central part of the state of Kentucky and covers a land area of 541.60 square miles. According to the 2008-2012 ACS, it has a population of 113,792 persons. The county seat is Bowling Green, and it serves as the major economic center for the county. The 2008-2012 American Community Survey reported the City of Bowling Green of having a population of 58,067 persons. Bowling Green is also home to the second largest public university undergraduate population in the state, Western Kentucky University.

Warren County is composed of twenty-four census tracts. The planning study area is situated in Block Groups (BG) 1 and 2 in Census Tract (CT) 107.1 and BG 2 in CT 107.2. A map of the planning study area in relation to the CTs is displayed in Appendix A.

## What is Environmental Justice?

The U.S. Department of Transportation (DOT) outlines 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 population and low-income populations.

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...”

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...”

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 population of the elderly, children, disabled, and other populations protected by the Title VI of the Civil Rights Act of 1964 and related nondiscrimination statuses.

## Methodology

The data was collected using the method outlined by the KYTC document “Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies” (See Appendix B). The demographics of the affected area should be defined using U.S. Census Bureau data and the percentages for minorities, low-income, elderly and disabled populations should be compared to the Census tracts and block groups, the county as a whole, the entire state and the United States.

The primary source of data for this report is the 2008-2012 US Census Bureau American Community Survey including tables:

- DP02
- DP03
- DP05

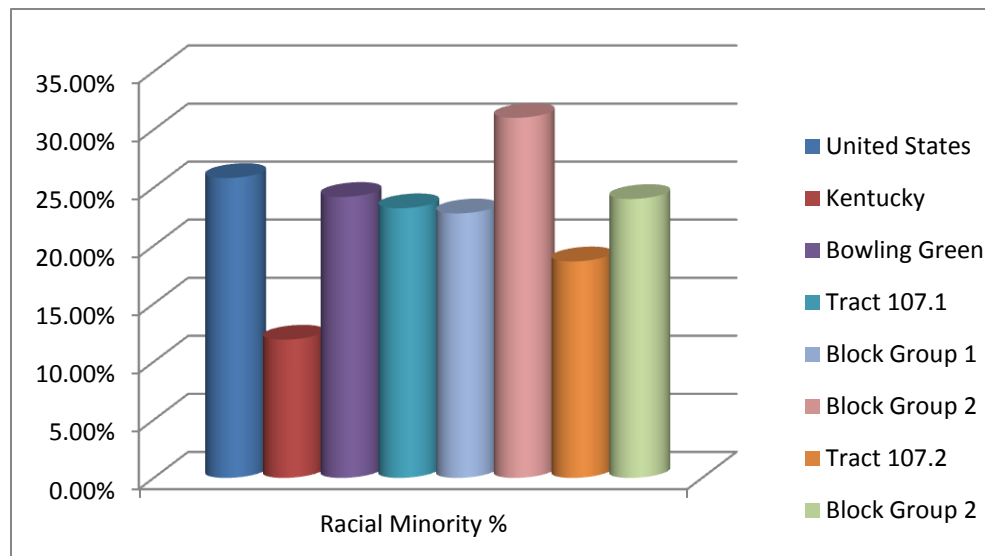
The Census tables (See Appendix C) in this report include the total number and percentages for minorities, elderly, low-income and disabled population levels for the census tract, city, county, state and nation. This report uses the population percentages for Bowling Green as the reference threshold for identifying target populations. The city numbers were selected as the reference threshold because the project is completely within the city limits and less than 1.5 miles in length. The city numbers most likely provide a better snapshot of the overall population characteristics of the two census tracts in the planning study area as opposed to the United States or state percentages.

In reviewing each census tract for target populations, an analysis range was determined based on the reference threshold in each of the four census categories reviewed in this report. This range was set at 25 percent above the threshold to 25 percent below the threshold (See Appendix D).

## Study Findings

### Population by Persons of Racial Minority Origin

Chart 1: Racial Minority Population

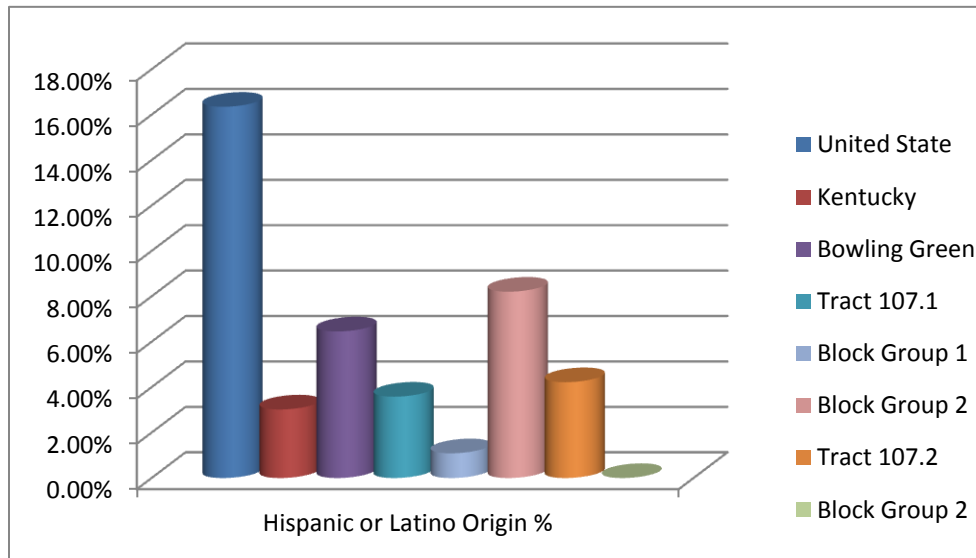


Racial minorities in the United States make up 25.83% of the population, but in Kentucky that percentage drops significantly to just 11.91%. Bowling Green displays a higher percentage of racial minorities than that of the state with 24.20% being reported as racial minorities by the 2008-2012 American Community Survey. Block Group (BG) 1 of Census Tract (CT) 107.1 has a minority population accounting for 22.78% of the CT's population which is comparative to the city and nation. BG 2 of CT 107.1 has a minority population that is, percentage wise, significantly above the reference threshold with 31.1% of the population reporting as a racial minority. Block Group 2 of CT 107.2 is just below the reference threshold at 24.03%

### Population by Persons of Hispanic or Latino Origin

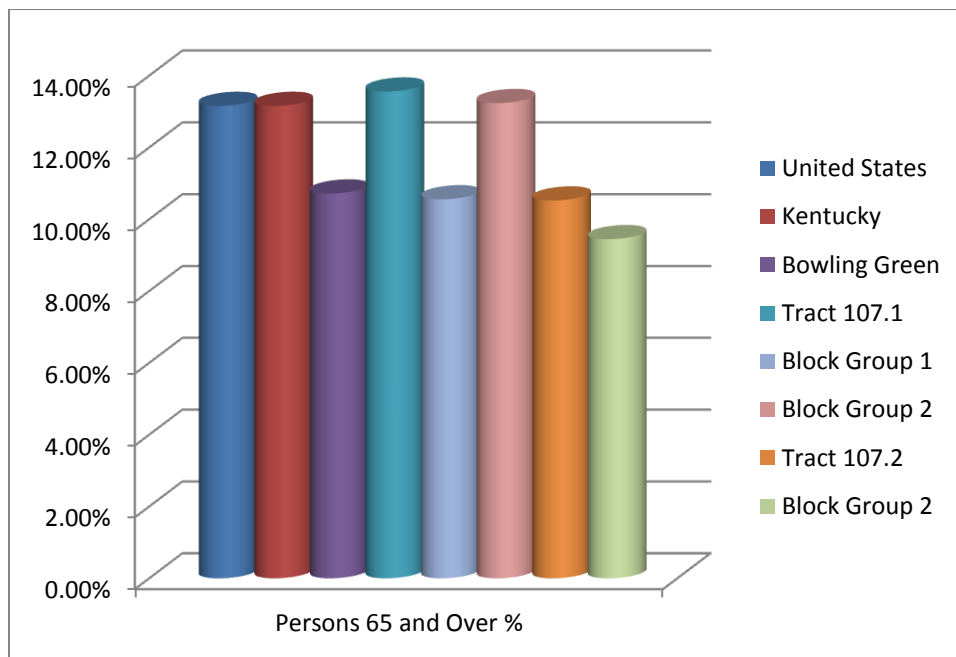
Persons of Hispanic or Latino origin are an ethnic minority group growing at a rapid rate nationwide. In the United States this group represents 16.35% of the total population. In Kentucky only 3.02% of the population was reported as being of Hispanic or Latino origin on the 2008-2012 ACS. Bowling Green has a higher representation of Hispanic or Latino individuals than that of the state with 6.46% of the city's population indicating they belong to this ethnic minority. The 2008-2012 ACS reported that BG 1 of CT 107.1 had 1.09% which is significantly less than the reference threshold, and BG 2 of CT 107.1 had 8.21% of the population being of Hispanic or Latino origin which is significantly higher than the city. BG 2 of CT 107.2 reported a 0.00% Hispanic or Latino population.

Chart 2: Hispanic or Latino Origin Population



## Population by Persons Age 65 Years and Older

Chart 3: Persons 65 and Older



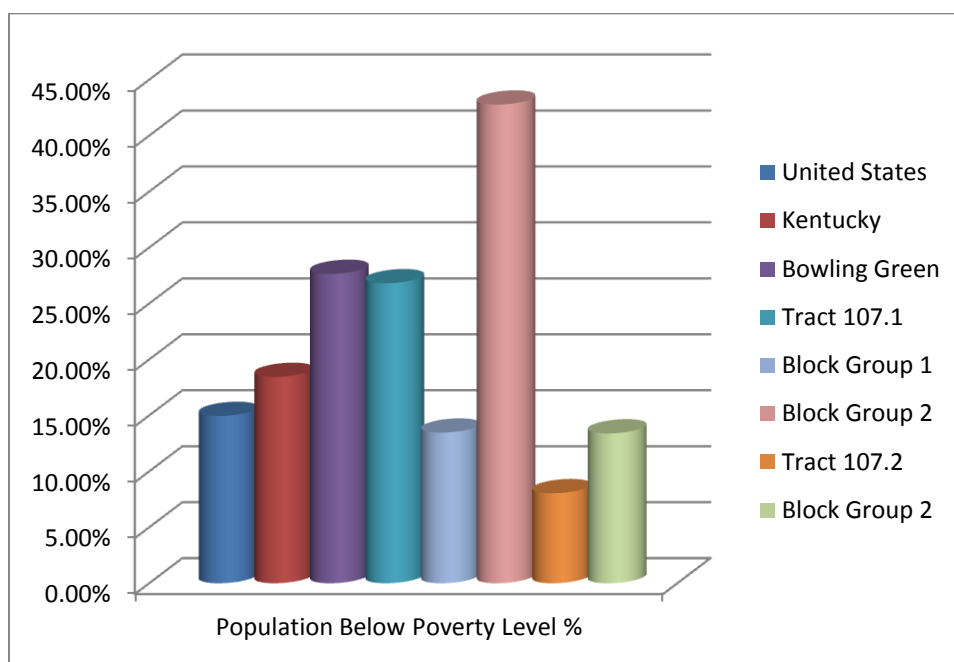
Bowling Green has a much lower percentage (10.72%) of *Persons Age 65 Years and Older* than both the state (13.43%) and the U.S. (13.16%). All three CTs in the project area have elevated percentages of elderly persons. BG 1 of CT 107.1 is significantly above the reference threshold with 23.12% of persons



being 65 years or older. BG 2 of CT 107.1 reported 12.19% with BG 2 of CT 107.2 reporting a slightly less percentage with 12.13% of residents being 65 years or older.

## Population by Persons below Poverty Level

Chart 4: Persons below Poverty Level



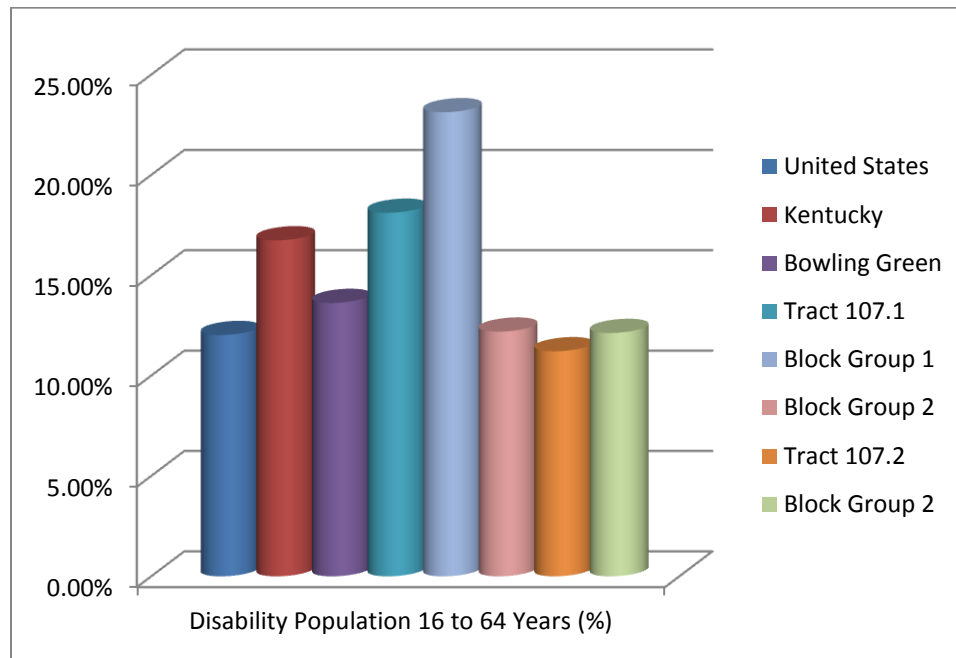
The percentage of persons living below the poverty level in Kentucky (18.60%) is significantly higher than that of the United States (14.90%). Bowling Green has a notably higher percentage than the state and nation at 27.65%. BG 1 of CT 107.1 has significantly lower levels of poverty than does the city, state and U.S with 13.46% of persons living below the poverty level; however BG 2 of CT 107.1 has a significantly higher poverty level than that of the city, state, and nation with 42.77%. BG 2 of CT 107.2 has a lower level of poverty than the city, state, and nation with 13.39% of residents living below the poverty level.

## Disabled Population 16 to 64 years

According to 2008-2012 American Community Survey numbers, Kentucky had 16.74% percent of its population with some type of disability. This is considerably higher than the national percentage for disabled members of the non-institutionalized working-age population (12.02%). Bowling Green displays a lower percentages of disabled persons (13.62%) than does the state. 2008-2012 ACS data shows BG 1 of CT 107.1 to have a percentage of disabled persons that is significantly high (23.12%),

however BG 2 of the same CT has 12.19% of its population being reported as having a disability which is below the city, state, and national percentages. BG 2 of CT 107.2 also has a lower percentage of disabled persons than that of the city, state, and nation at 12.13%.

**Chart 5: Disabled Population 16 to 64 years**



## Conclusion

Based on the data obtained from the U.S. Census Bureau for race, ethnicity, age, income and disability there does not appear to be a defined environmental justice community within Block Group 2 of Census Tract 107.2.

Analysis of Block Group 1 of Census Tract 107.1 shows a slightly elevated percentage of ethnic minorities (22.78%) and a significantly elevated percentage of disabled population (23.12%) located in this area. While this percentage is not alarming, it should be noted that a small concentration of ethnic minorities does exist. The percentage is however consistent with city levels. Also noted is the 23.12% of disabled population level for this Block Group. The percentage is significantly above the reference threshold of the city at 23.12% and is considerably higher than the state and nation.

Block Group 2 of Census Tract 107.1 shows significantly elevated percentages of ethnic minorities (31.01%), Hispanic or Latino origin (8.21%), and persons below the poverty level (42.77%). These populations should be taken into consideration in the recommended short-term improvements and long-term solutions of the planning study.

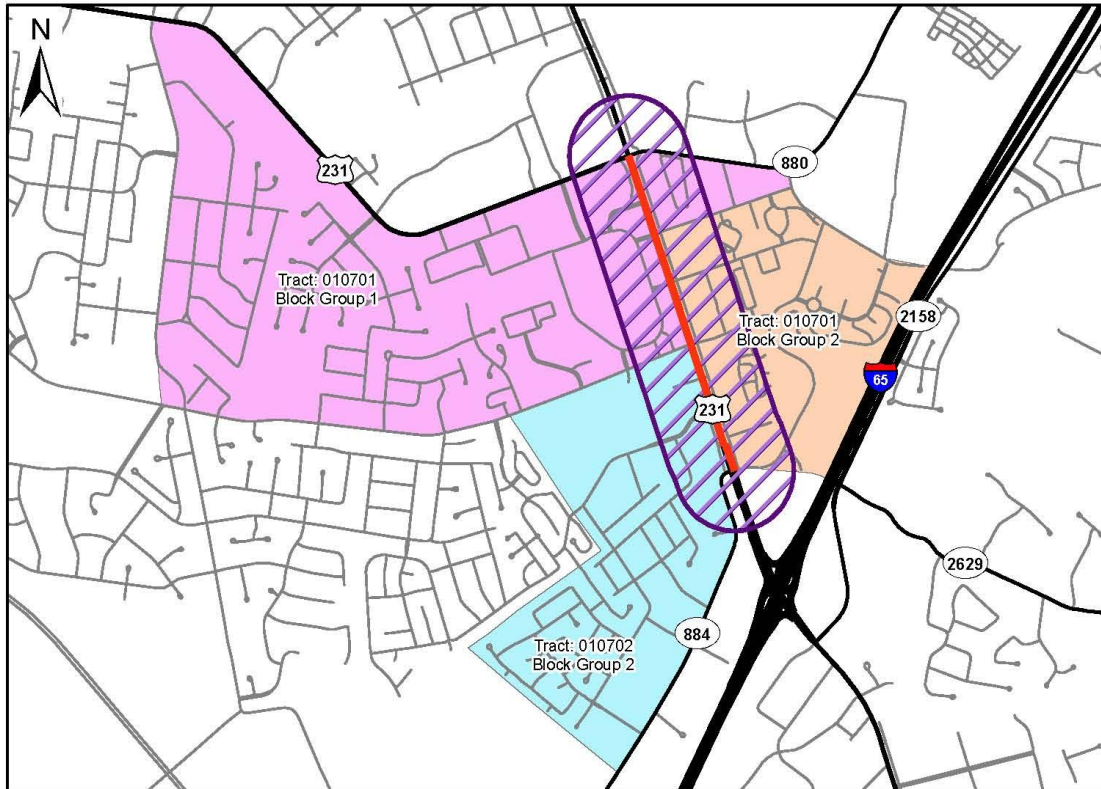
These areas should be noted in the future project planning and design phases and, if necessary, field visits, discussions with local officials and/or other sources of information should be consulted.

Impacts associated with any project will likely be mitigated by the improvements in corridor access, safety and traffic flow.

## Appendices

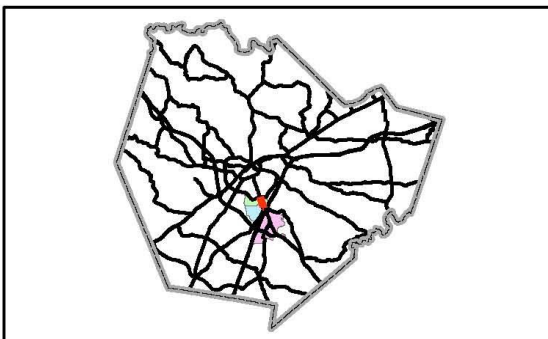
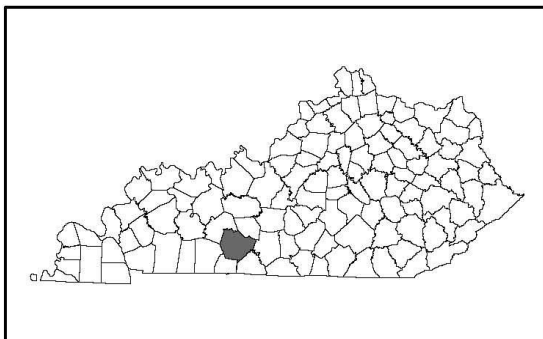
## Appendix A: Map of Study Area

### Census Block Group Boundaries in Project Area US 231 Scoping Study KY 884 to KY 880



#### Legend

- Project Area
- State Highways
- Interstate
- 1000 ft Buffer
- US Highways
- Local Roads



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## Appendix B: Methodology from KYTC

### Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies Updated: March 2014

#### Analysis

Environmental Justice (EJ) analysis is required for any study that may result in disproportionately high adverse impact on a minority, low income, elderly or disabled population in or near the Affected Community.

Examples of these studies include, but are not limited to:

- Corridor Studies
- Traffic Studies
- Small Urban Area Studies
- Feasibility Studies
- Interchange Justification Studies
- Interchange Modification Reports

Affected Communities (AC) with potential EJ impacts are determined by locating target populations of minority, low-income, disabled or elderly and calculating their percentage in the area relative to a reference community of comparison (COC). A determination may then be made if there are potential adverse impacts to the AC.

Potential communities of comparison:

- The county percentage
- Nearby block groups
- Kentucky percentage
- The United States percentage

The demographics of the study area should be defined using Block Group data accessed via the American Community Survey 5 year data. KYTC will work in conjunction with the State Data Center to provide pertinent spatial data for minorities, low-income, elderly, and disabled populations on a yearly basis as the update schedule allows.

Target Population concentrations are considered elevated when:

- Percentages of a population reach 25% greater than the county threshold
- Percentages of a population reach 50% or more of the affected community
- More than one EJ group is present

Thresholds or Census level of analysis from above, may be required pending size, sensitivity or other factors specific to given study. 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. If a level of analysis other than block group is needed, it should be agreed upon at the outset.

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, and the consultant will summarize the information provided by the ADD in the final report. The full EJ should be placed in an Appendix.

Maps should be included in the EJ that depict the project area in relation to the Census tracts and block groups included in the analysis.

## Appendix C: U.S. Census Data Tables for Study Area



## Appendix C: U.S. Census Data Tables for Study Area and Maps

### Statistics for Racial and Ethnic Minorities

	Total	Total Minority	Minority %	Black or African American Alone	Black or African American Alone (%)	American Indian and Alaska Native Alone	American Indian and Alaska Native Alone (%)	Asian Alone	Asian Alone (%)
<b>United States</b>	309,138,711	79,839,805	25.83%	38,825,848	12.56%	2,529,100	0.82%	14,859,795	4.81%
<b>Kentucky</b>	4,340,167	516,823	11.91%	339,228	7.82%	8,607	0.20%	49,681	1.14%
<b>Warren Co.</b>	113,792	18,625	16.37%	10,311	9.06%	315	0.28%	3,184	2.80%
<b>Bowling Green</b>	58,067	14,054	24.20%	8,071	13.90%	158	0.27%	2,416	4.16%
<b>Tract 107.1</b>	5,274	1,225	23.23%	434	8.23%	11	0.21%	630	11.95%
<b>Block Group 1</b>	2,937	669	22.78%	96	3.27%	0	0.00%	573	19.51%
<b>Block Group 2</b>	2,486	771	31.01%	272	10.94%	0	0.00%	282	11.34%
<b>Tract 107.2</b>	5,427	1,012	18.65%	506	9.32%	10	0.18%	392	7.22%
<b>Block Group 2</b>	2,181	524	24.03%	366	16.78%	0	0.00%	158	7.24%

	Total	Some other race alone	Some other race alone (%)	Two or more races	Two or more races (%)	Native Hawaiian and other Pacific Islander alone	Native Hawaiian and other Pacific Islander alone (%)	Hispanic or Latino Origin*	Hispanic or Latino Origin (%)*
<b>United States</b>	309,138,711	14,814,369	4.79%	8,296,291	2.68%	514,402	0.17%	50,545,275	16.35%
<b>Kentucky</b>	4,340,167	42,557	0.98%	74,380	1.71%	2,370	0.05%	131,039	3.02%
<b>Warren Co.</b>	113,792	2,304	2.02%	2,382	2.09%	129	0.11%	5,174	4.55%
<b>Bowling Green</b>	58,067	1,754	3.02%	1,549	2.67%	106	0.18%	3,749	6.46%
<b>Tract 107.1</b>	5,274	16	0.30%	118	2.24%	16	0.30%	189	3.58%
<b>Block Group 1</b>	2,937	0	0.00%	0	0.00%	0	0.00%	32	1.09%
<b>Block Group 2</b>	2,486	0	0.00%	217	8.73%	0	0.00%	204	8.21%
<b>Tract 107.2</b>	5,427	17	0.31%	84	1.55%	3	0.06%	229	4.22%
<b>Block Group 2</b>	2,181	0	0.00%	0	0.00%	0	0.00%	0	0.00%

Source: US Census Bureau, 2008-2012 American Community Survey Tables: DO02, DP03, & DP05

\*Hispanic or Latino Origin represents ethnicity data rather than racial. These figures have been kept out of the calculation for total minority as they could result in duplication of individuals also reporting as a racial group listed in this table.

### Statistics for Age, Poverty, and Disabled Populations

	Total	Persons 65 and Over	Persons 65 and Over (%)
United States	309,138,711	40,671,441	13.16%
Kentucky	4,340,167	583,077	13.43%
Warren Co.	113,792	12,440	10.93%
Bowling Green	58,067	6,223	10.72%
Tract 107.1	5,274	715	13.56%
Block Group 1	2,937	310	10.55%
Block Group 2	2,486	329	13.23%
Tract 107.2	5,427	571	10.52%
Block Group 2	2,181	206	9.45%

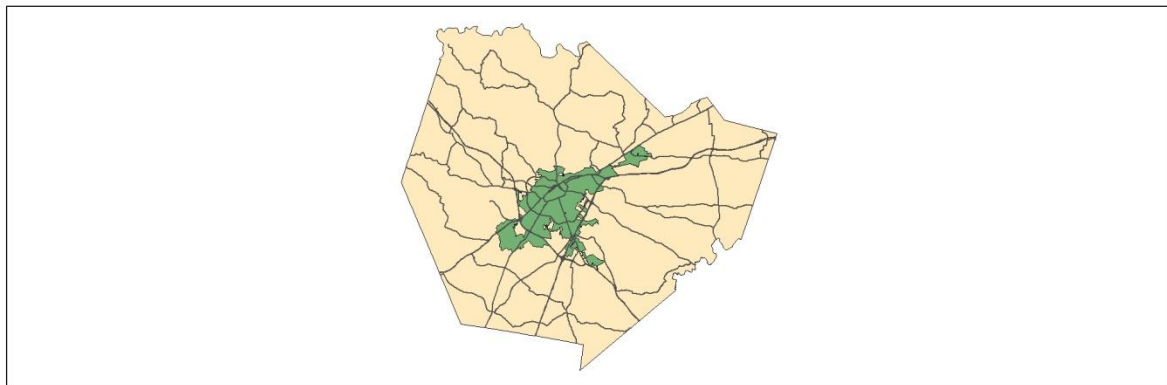
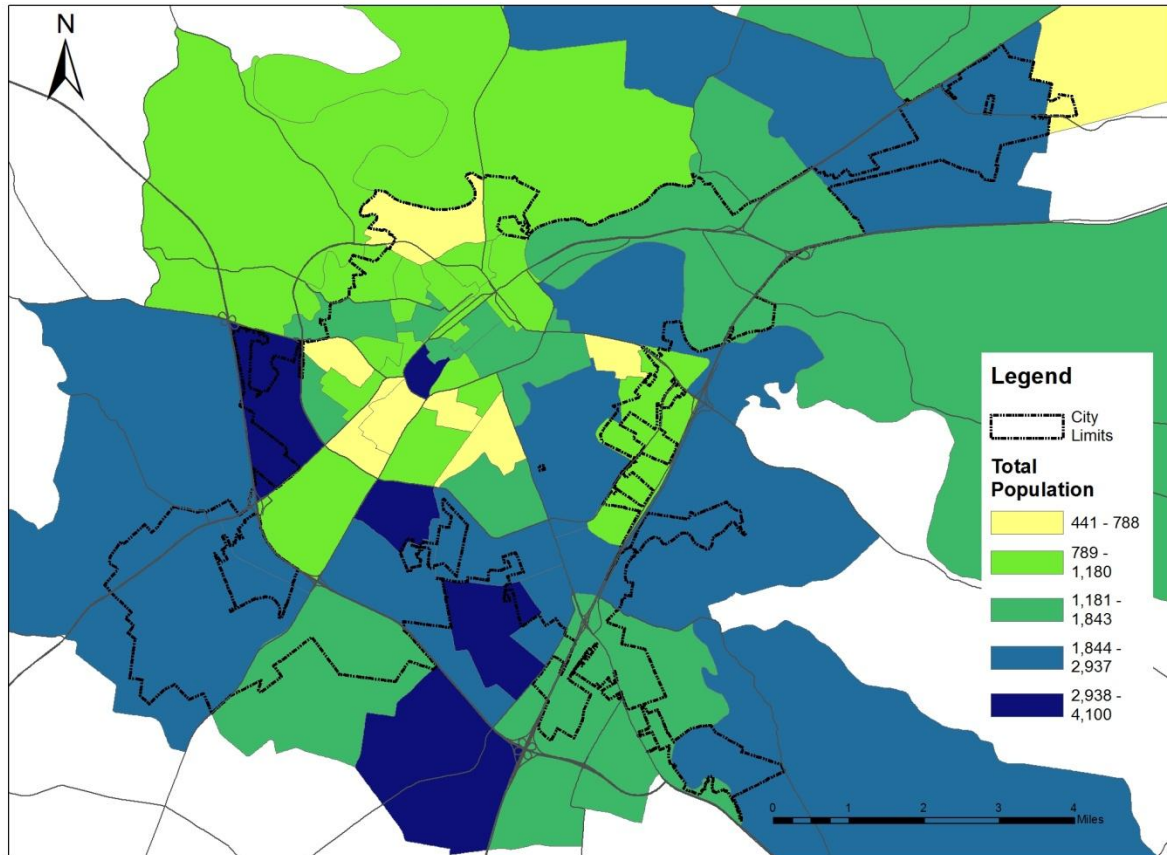
	Total	Population Below Poverty Level	Population Below Poverty Level (%)
United States	309,138,711	46,215,956	14.95%
Kentucky	4,340,167	800,226	18.44%
Warren Co.	107,652	20,355	18.91%
Bowling Green	52,670	14,561	27.65%
Tract 107.1	5,305	1,422	26.80%
Block Group 1	2,890	389	13.46%
Block Group 2	2,415	1,033	42.77%
Tract 107.2	5,680	457	8.05%
Block Group 2	2,181	292	13.39%

	Total	Disabled Population 16 to 64 Years	Disabled Population 16 to 64 Years (%)
United States	303,984,214	36,551,038	12.02%
Kentucky	4,251,528	711,788	16.74%
Warren Co.	112,669	15,710	13.94%
Bowling Green	57,575	7,843	13.62%
Tract 107.1	5,305	961	18.11%
Block Group 1	2,132	493	23.12%
Block Group 2	1,468	179	12.19%
Tract 107.2	5,680	637	11.21%
Block Group 2	1,534	186	12.13%

Source: US Census Bureau for Age data, 2008-2012  
American Community Survey for Poverty and Disabled data

# City of Bowling Green

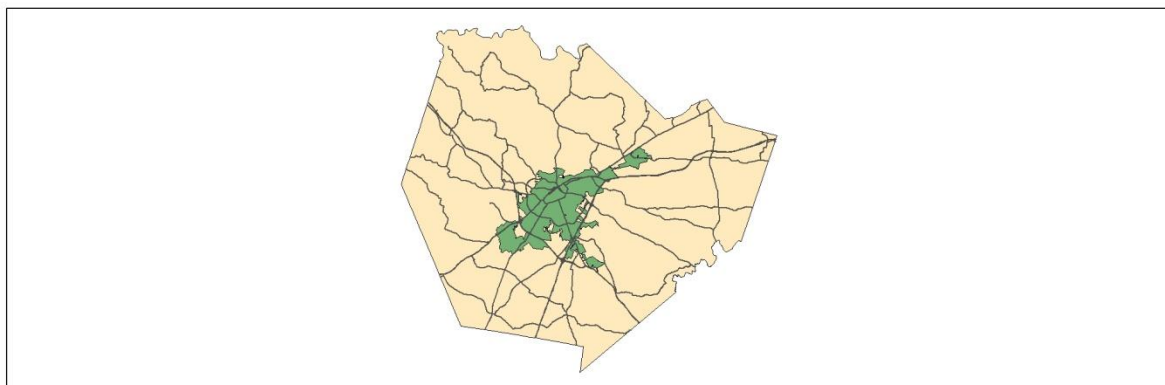
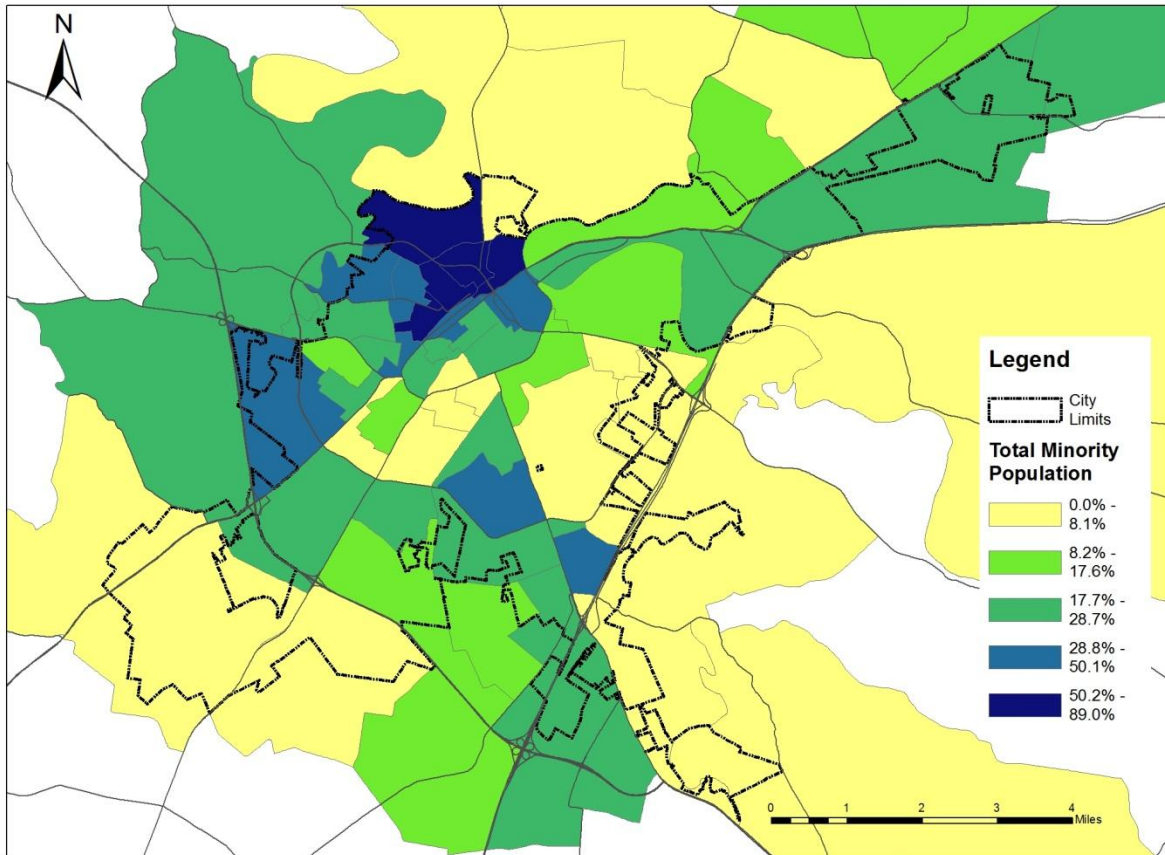
## Total Population by Census Block Group



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# City of Bowling Green

## Total Minority Population as a Percent of Census Block Group

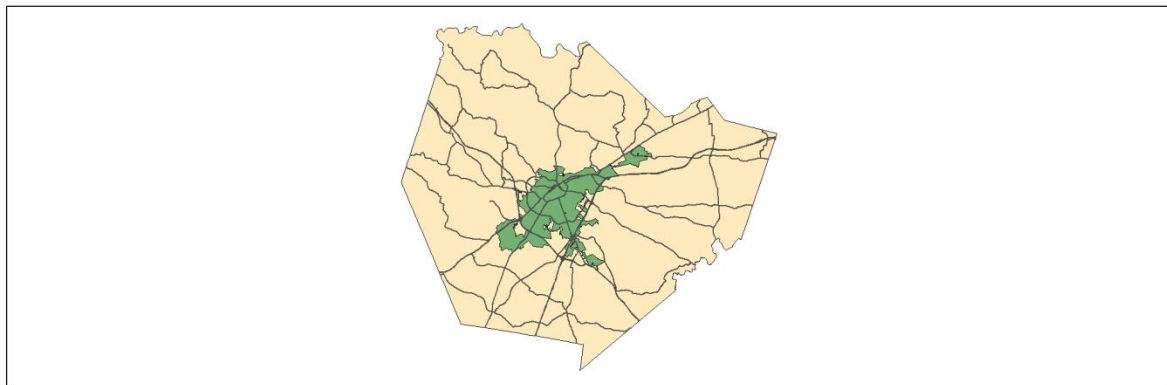
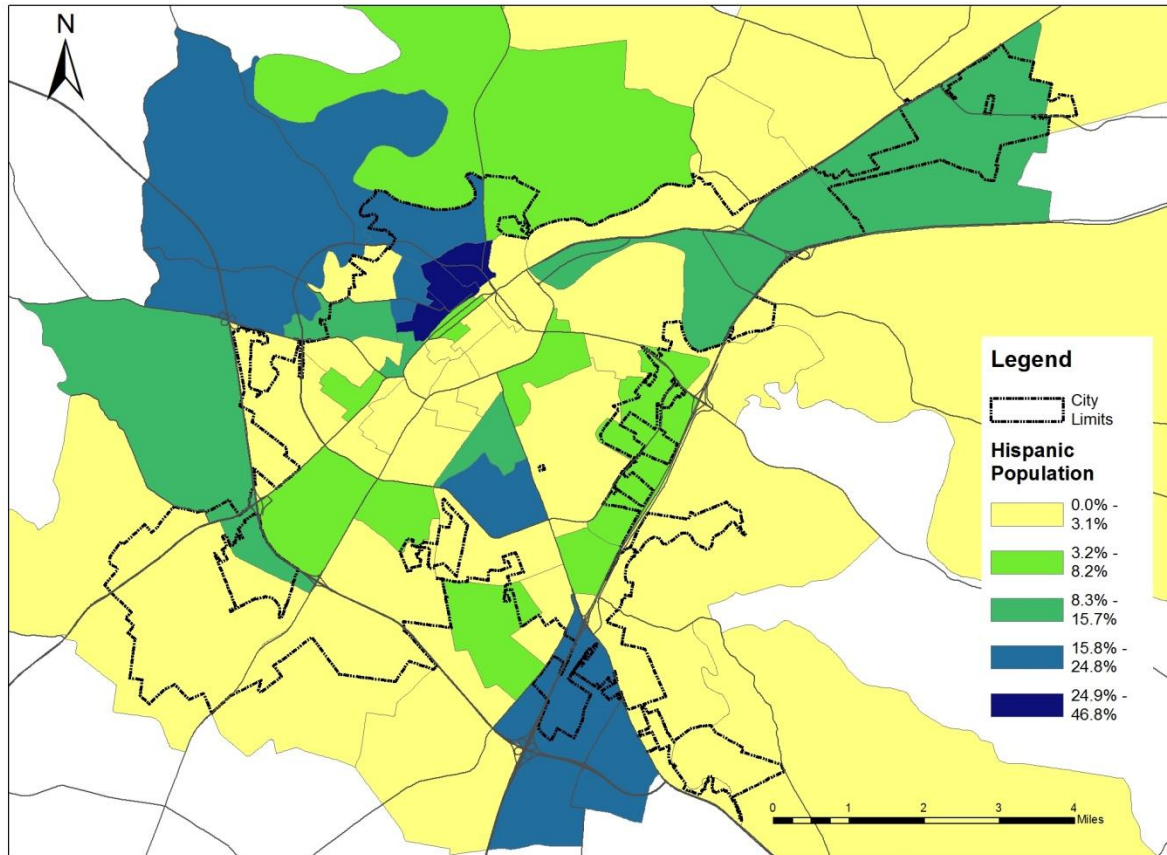


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# City of Bowling Green

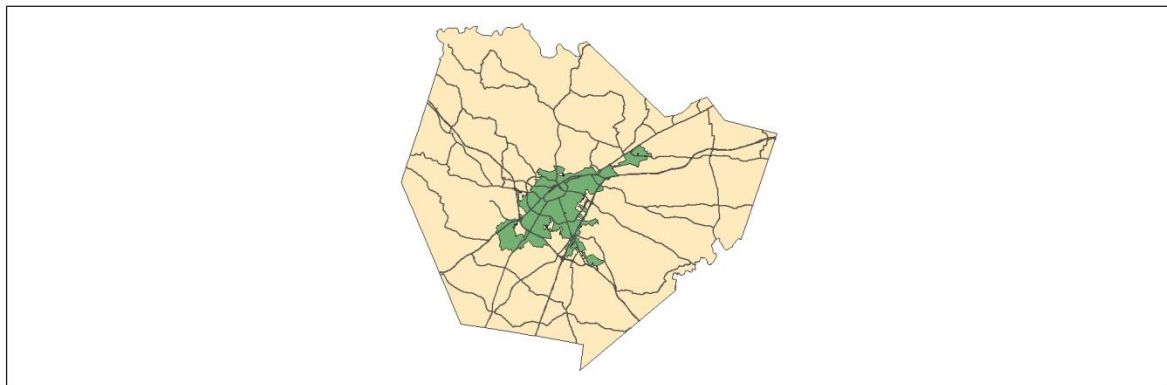
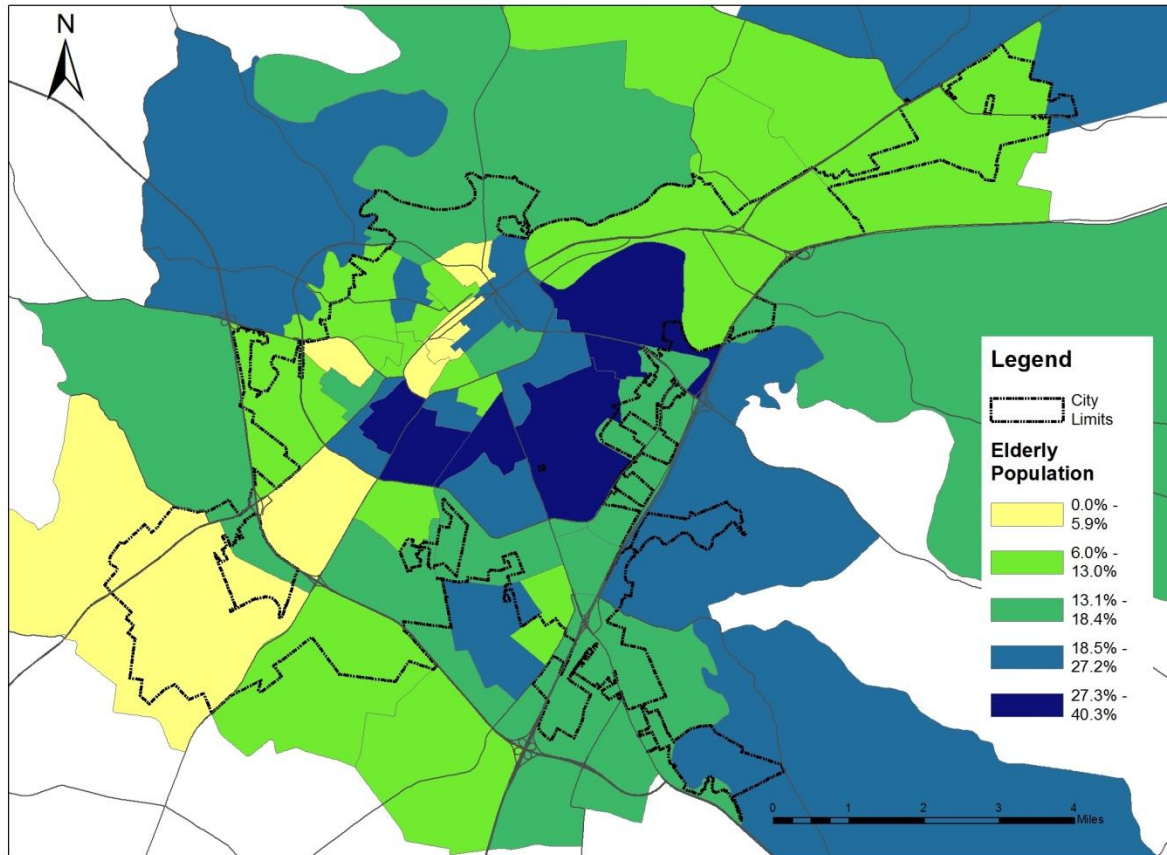
## Hispanic Population as a Percent of Census Block Group



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# City of Bowling Green

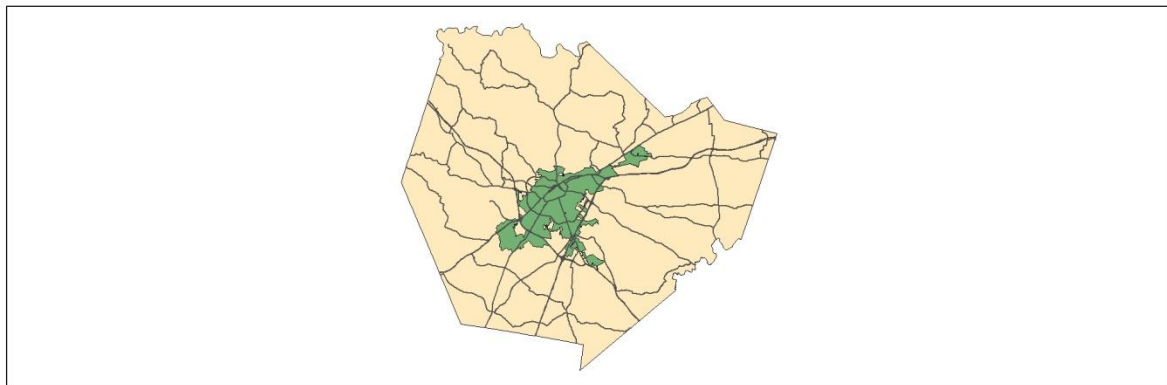
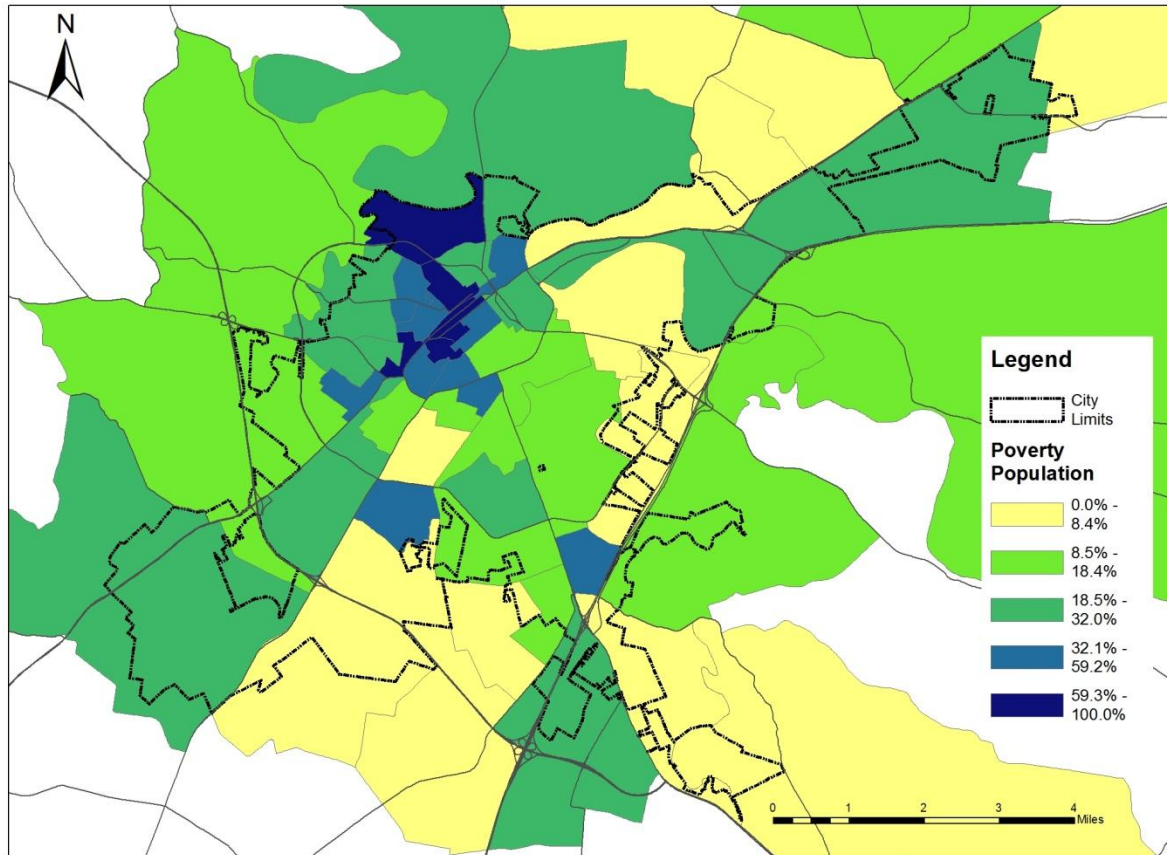
## Elderly Population as a Percent of Census Block Group



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# City of Bowling Green

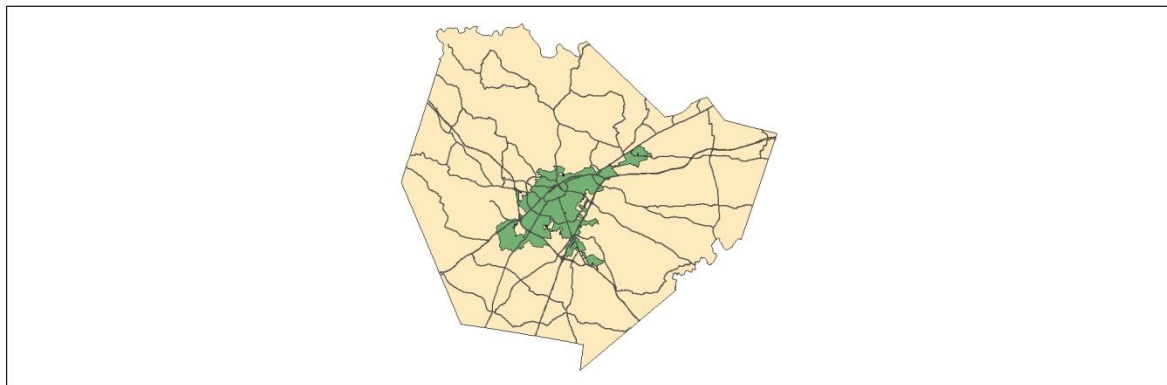
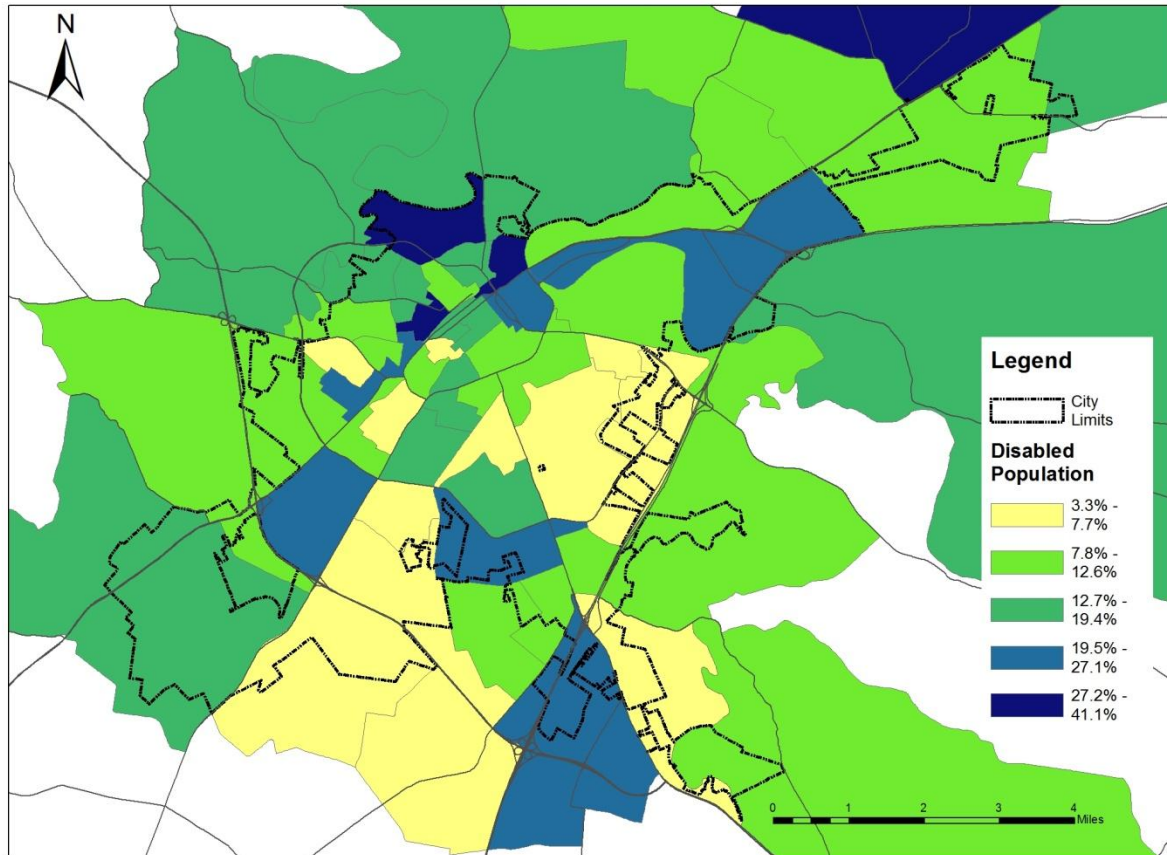
## Poverty Population as a Percent of Census Block Group





# City of Bowling Green

## Disabled Population as a Percent of Census Block Group



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## Appendix D

### Analysis Range Explanation and Methodology for Population Percentages Above or Below the City of Bowling Green Threshold

#### Percent Racial Minority

Analysis Range	Percent Minority
Significantly Above Threshold (> 125%)	> 30.25%
Just Above Threshold (100% - 125%)	24.20% - 30.25%
<b>REFERENCE THRESHOLD (CITY PERCENTAGE)</b>	<b>24.20%</b>
Just Below Threshold (75% - 100%)	18.15%-24.20%
Significantly Below Threshold (< 75%)	< 18.15%

#### Percent Hispanic or Latino Origin

Analysis Range	Percent Minority
Significantly Above Threshold (> 125%)	> 8.08%
Just Above Threshold (100% - 125%)	6.46% - 8.08%
<b>REFERENCE THRESHOLD (CITY PERCENTAGE)</b>	<b>6.46%</b>
Just Below Threshold (75% - 100%)	4.85% - 6.46 %
Significantly Below Threshold (< 75%)	< 4.85%

#### Percent 65 and Older

Analysis Range	Percent 65 and Older
Significantly Above Threshold (> 125%)	> 13.40%
Just Above Threshold (100% - 125%)	10.72% - 13.40%
<b>REFERENCE THRESHOLD (CITY PERCENTAGE)</b>	<b>10.72%</b>
Just Below Threshold (75% - 100%)	8.04% - 10.72%
Significantly Below Threshold (< 75%)	< 8.04%

#### Percent Below Poverty

Analysis Range	Percent Below Poverty
Significantly Above Threshold (> 125%)	>34.56%
Just Above Threshold (100% - 125%)	27.65% - 34.56%
<b>REFERENCE THRESHOLD (CITY PERCENTAGE)</b>	<b>27.65%</b>
Just Below Threshold (75% - 100%)	20.75% - 27.65%
Significantly Below Threshold (< 75%)	< 20.74%

### Percent Disabilities

Analysis Range	Percent Disabilities Age 5 and Over
Significantly Above Threshold (> 125%)	> 17.03%
Just Above Threshold (100% - 125%)	13.62% - 17.03%
<b>REFERENCE THRESHOLD (CITY PERCENTAGE)</b>	<b>13.62%</b>
Just Below Threshold (75% - 100%)	10.22% - 13.62%
Significantly Below Threshold (< 75%)	<10.22%