

SOCIOECONOMIC STUDY

KYTC ITEM NO. 5-80000

I-64 New Interchange and Connector Study

PREPARED FOR:

KENTUCKY TRANSPORTATION CABINET



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Appendix A: Methodology from KYTC

Appendix B: EJSCREEN Report for Study Area

1. Introduction

This document includes a review of the socioeconomic characteristics in the study area (**Figure 1**) for the I-64 New Interchange and Connector Study in Jefferson and Shelby Counties. Data from the U.S. Census Bureau 2021 American Community Survey (ACS) five-year estimates has been utilized for the analysis of the study area. Please see the Census website¹ for more information, data limitations, and an explanation of the methodology used to obtain the data.

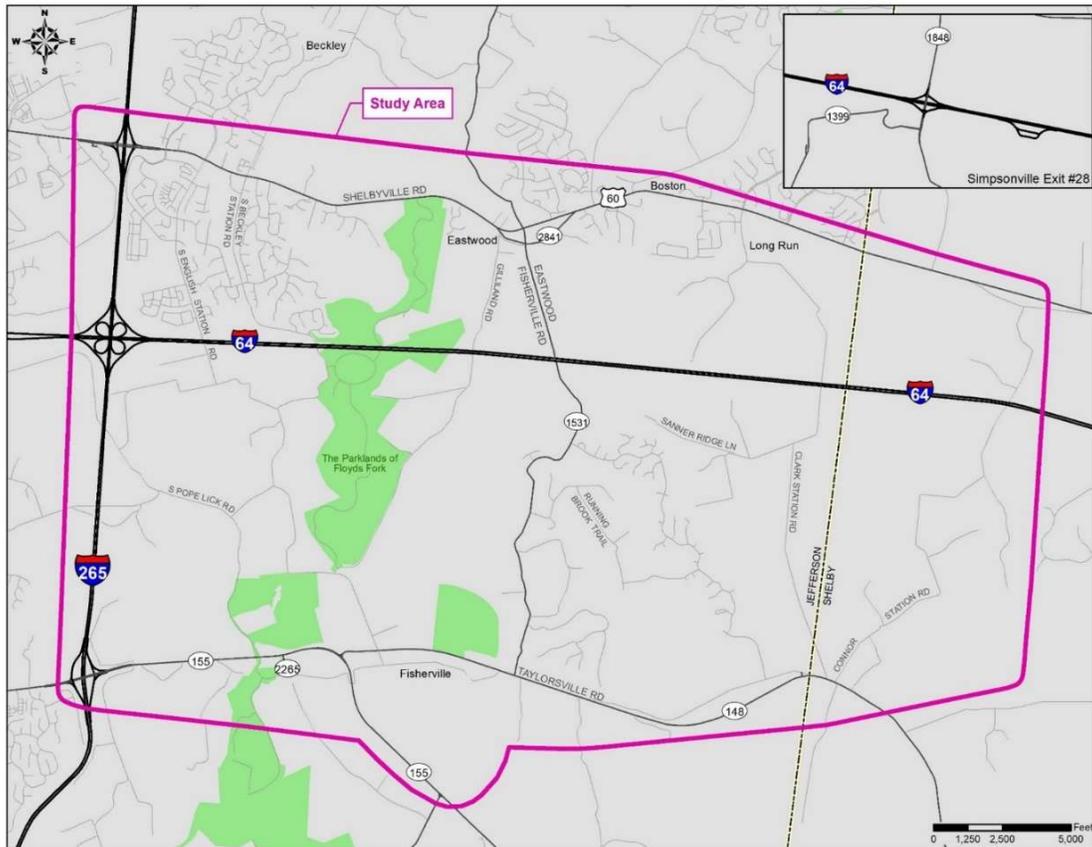


Figure 1. Study Area

The intent of this review is to assist the Kentucky Transportation Cabinet (KYTC) 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).

This report uses the 2021 ACS 5-year estimates and data tables to compare the populations of the census divisions within the study area at the county, and state levels. Statistics are provided on minority, low-income, elderly, disabled, and limited English proficiency populations for the census tracts and block groups within the study area.

¹ <https://www.census.gov/programs-surveys/acs/>

2. What Is Environmental Justice?

The U.S. Environmental Protection Agency (USEPA) 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.”

Further, it describes fair treatment: “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, and 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 USDOT 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 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 "very well."

3. 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" attached in **Appendix A**.

The primary source of data for this report was assembled from the ACS 2021 Five-Year Estimates from the Census Data website.² Specific table references are noted throughout subsequent discussions.

In reviewing each census block group for target populations, an analysis range was determined based on the reference threshold in each of the census categories reviewed in this report. For this study, the threshold established was the county percentage for each population.

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.

² <https://data.census.gov/cedsci/>

4. Census Data Analysis

The U.S. Census Bureau³ defines geographical units as:

Census Tracts (CT) Are small, relatively permanent statistical subdivisions of a county or equivalent entity that are updated by local participants prior to each decennial census as part of the Census Bureau's Participant Statistical Areas Program. The Census Bureau delineates census tracts in situations where no local participant existed or where state, local, or tribal governments declined to participate. The primary purpose of census tracts is to provide a stable set of geographic units for the presentation of statistical data.

Census tracts generally have a population size between 1,200 and 8,000 people, with an optimum size of 4,000 people. A census tract usually covers a contiguous area; however, the spatial size of census tracts varies widely depending on the density of settlement. Census tract boundaries are delineated with the intention of being maintained over a long time so that statistical comparisons can be made from census to census. Census tracts occasionally are split due to population growth or merged as a result of substantial population decline.

Census tract boundaries generally follow visible and identifiable features. They may follow nonvisible legal boundaries, such as minor civil division (MCD) or incorporated place boundaries in some states and situations, to allow for census-tract-to-governmental-unit relationships where the governmental boundaries tend to remain unchanged between censuses. State and county boundaries always are census tract boundaries in the standard census geographic hierarchy. Tribal census tracts are a unique geographic entity defined within federally recognized American Indian reservations and off-reservation trust lands and can cross state and county boundaries. Tribal census tracts may be completely different from the census tracts and block groups defined by state and county (see "Tribal Census Tract").

Block Groups (BG) Are statistical divisions of census tracts, are generally defined to contain between 600 and 3,000 people and are used to present data and control block numbering. A block group consists of clusters of blocks within the same census tract that have the same first digit of their four-digit census block number. For example, blocks 3001, 3002, 3003, . . . , 3999 in Census Tract 1210.02 belong to Block Group 3 in that census tract. Most block groups were delineated by local participants in the Census Bureau's Participant Statistical Areas Program. The Census Bureau delineated block groups only where a local or tribal government declined to participate, and a regional organization or State Data Center was not available to participate.

A block group usually covers a contiguous area. Each census tract contains at least one block group, and block groups are uniquely numbered within the census tract. Within the standard census geographic hierarchy, block groups never cross state, county, or census tract boundaries but may cross the boundaries of any other geographic entity. Tribal census tracts and tribal block groups are separate and unique geographic areas defined within federally

³ <https://www.census.gov/programs-surveys/geography/about/glossary.html>

recognized American Indian reservations and can cross state and county boundaries (see "Tribal Census Tract" and "Tribal Block Group"). The tribal census tracts and tribal block groups may be completely different from the census tracts and block groups defined by state and county.

5. Study Findings

This Socioeconomic Study is to be used as a component of the *5-8000 I-64 New Interchange and Connector Study* currently being conducted by the Kentucky Transportation Cabinet. This report is intended to help identify potential populations that may be impacted by a future project. However, future phases of project development may require a more detailed and robust analysis as required by the *National Environment Policy Act (NEPA)* to assess the potential for adverse and disproportionate impacts to low-income and minority populations.

According to the 2021 ACS, there are twenty-two Block Groups in Jefferson and Shelby Counties that encompass the population of the study area (**Figure 2**). Most of the properties within the study area are suburban or rural residential, with a few commercial properties.

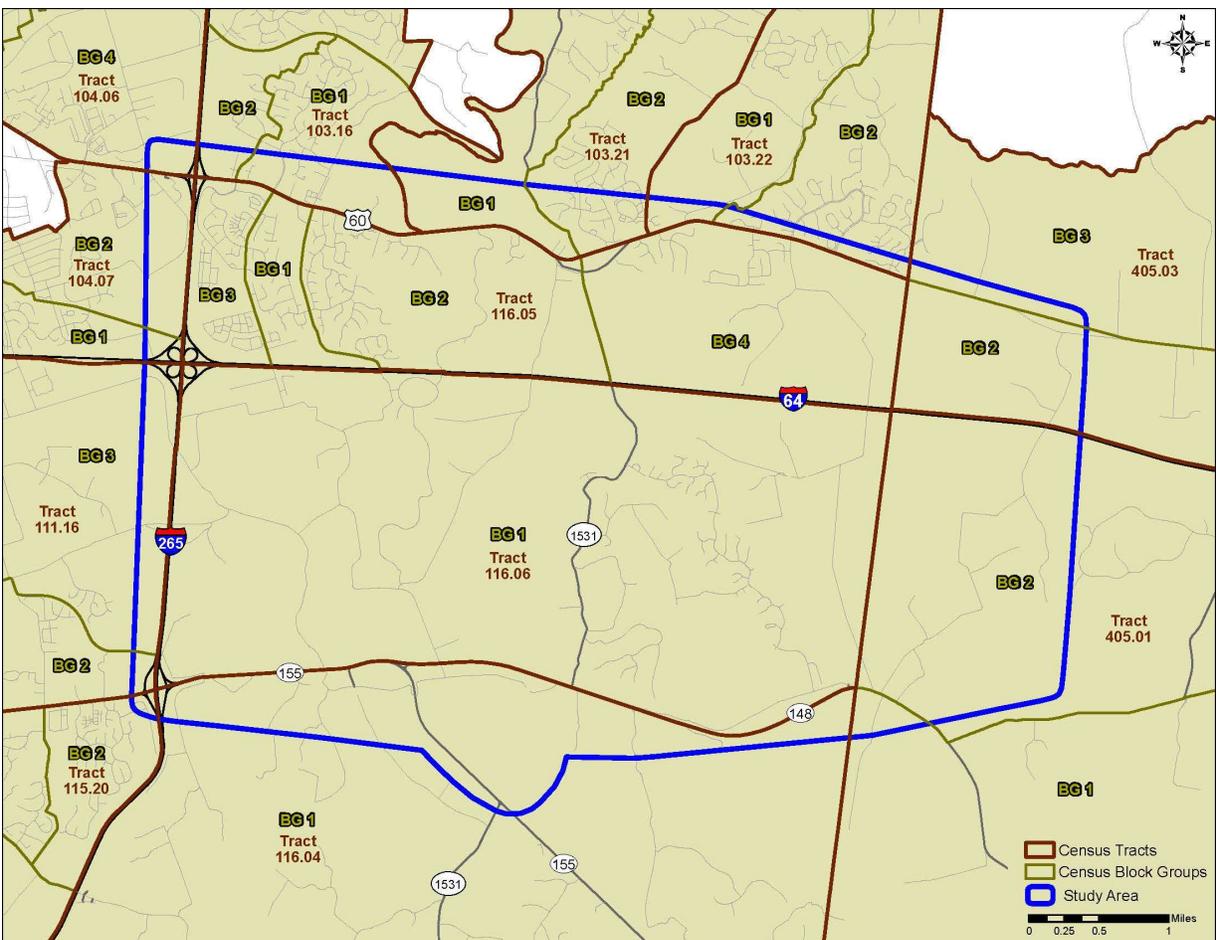


Figure 2. Census Statistical Geographies within and around the Study Area

This Socioeconomic Study compares block group data to the county level to identify potential populations that may be impacted should highway improvements take place in the future. The 2021 ACS boundary of the potentially affected communities and sensitive community resources along I-64 identified in each are summarized below and identified in **Figure 3** (neighborhoods) and **Figure 4** (community resources—churches, schools, historic properties, parks, etc.). Each of these neighborhoods and the individual subdivisions within likely experience a sense of community cohesion.

- **Anchorage** is a home rule-class city in northeast Jefferson County and is in the northwestern portion of the study area, west of I-265. The population was 2,500 in 2020. Anchorage is a scenic, park-like historic community, home to about 850 residences, one school several small businesses, and a handful of churches.⁴
- **Middletown** is an independent, home rule-class city in eastern Jefferson County and is in the northwestern portion of the study area west of I-265. Presumed to be named for being the mid-point between Louisville and Shelbyville. It is a major suburb of Louisville, providing shopping, dining, and recreational experiences with immediate access to I-265. There are several dense residential neighborhoods, with quick access to the Parklands of Floyds Fork—an urban park corridor of nearly 4,000 acres that belts the outskirts of Louisville.⁵ The population in 2020 was 9,706, nearly 35% higher than the 2010 population of 7,218. This area has been rapidly growing and developing over the last few decades.
- **Jeffersontown** is a large home rule-class city in eastern Jefferson County located in the western and southwestern portion of the study area. It is another major suburb of Louisville and is the second largest city in Jefferson County.⁶ It's 2020 population was 28,474 a less than 10% increase from 2010.⁷ It has a small town neighborhood shopping district in the historic Gaslight Square, a few large shopping centers (including Stony Brook and Plainview) with premier commercial corridor (Hurstbourne Parkway), and the County's fastest growing mixed-use development (Blankenbaker Crossings)⁸ which is situated in Bluegrass Commerce Park—the largest in the state, home to about 850 businesses.⁹
- **Lake Forest/Beckley** are highly sought-after neighborhoods in eastern Jefferson County. They are in the northern portion of the study area. Lake Forest is the largest subdivision in Beckley.¹⁰ It spans over 2,000 acres with nearly 1,800 stately homes. The neighborhood is known for its well-manicured, meandering streets. It offers many amenities, including an 18-hole golf course, pools, walking trails, tennis courts, and playgrounds. The neighborhood association supports several community events throughout the year.¹¹

⁴ <https://www.cityofanchorage.org/community/history.php>

⁵ <https://theparklands.org/about/>

⁶ <https://www.jeffersontownky.com/232/History>

⁷

<https://www.census.gov/quickfacts/fact/table/jeffersontowncitykentucky,middletowncitykentucky,KY/PST045222>

⁸ <https://www.itownchamber.com/the-chamber/city-info/>

⁹ https://en.wikipedia.org/wiki/Jeffersontown,_Kentucky

¹⁰ https://en.wikipedia.org/wiki/Beckley,_Louisville

¹¹ <https://lakeforestky.com/page/42326~882725/why-lake-forest>

- **Eastwood/Fisherville** are neighborhoods in southeastern Jefferson County, located in the central and eastern portion of the study area, and bounded by the Shelby County line to the east. Eastwood is a small, rural residential community about 2 miles from the county line. This small, historic village provides neighborhood serving retail, office, multi-family, and institutional areas.¹² Fisherville is a more expansive rural residential area that has recently seen an uptick in residential development. The area is characterized by large lots on rolling hills, but with a small-town feel. It has an area neighborhood association which includes 14 homeowner associations/subdivisions, whose main goal is to preserve the rural character and natural assets of the area.¹³
- **Simpsonville** in Shelby County is in the eastern portion of the study area. It encompasses about 1.3 square miles and is home to 2,990 people (2020), an approximate 6% population increase since 2010.¹⁴ It is primarily a rural residential area with a quaint downtown offering a few local businesses. This small-town is surrounded by many of the world’s premier American Saddlebred Horse Farms and is primarily agrarian.¹⁵

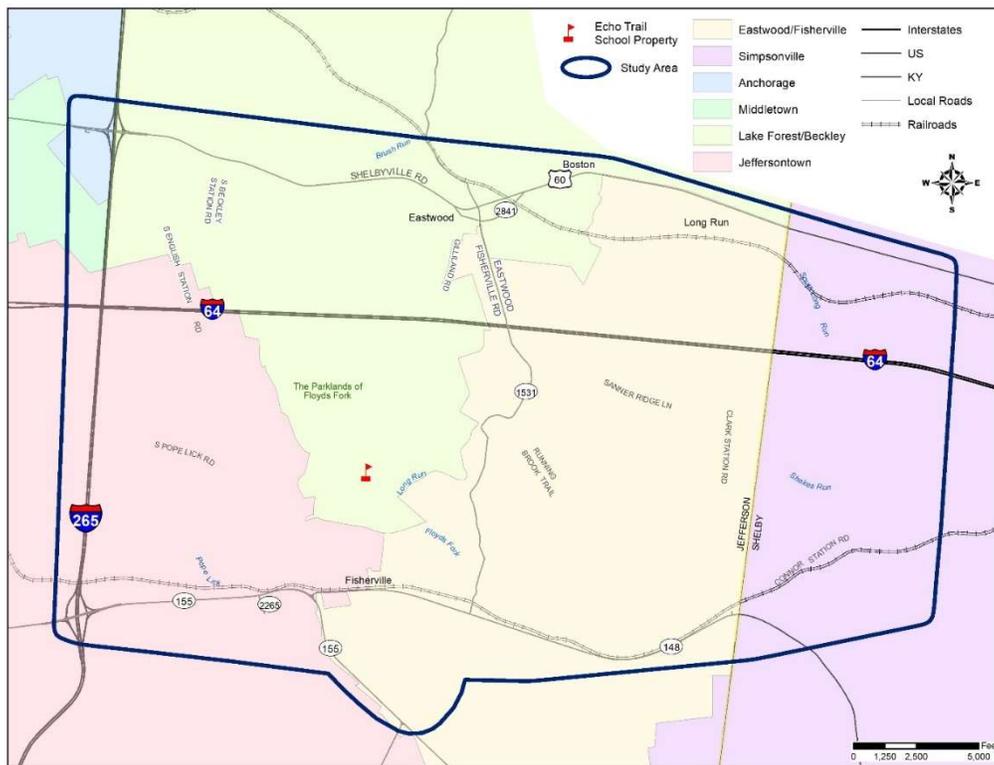


Figure 3. Neighborhoods within and around the Study Area

¹² <https://louisvilleky.gov/advanced-planning-and-sustainability/document/eastwood-neighborhood-plan-adopted>

¹³ <https://fishervilleana.org/neighborhood-area/>

¹⁴

https://www.dropbox.com/s/f1drywulf0sx7u/053123_Simpsonville%20Shine%20Public%20Review%20Draft.pdf?dl=0

¹⁵ <https://cityofsimpsonvilleky.com/community-links>

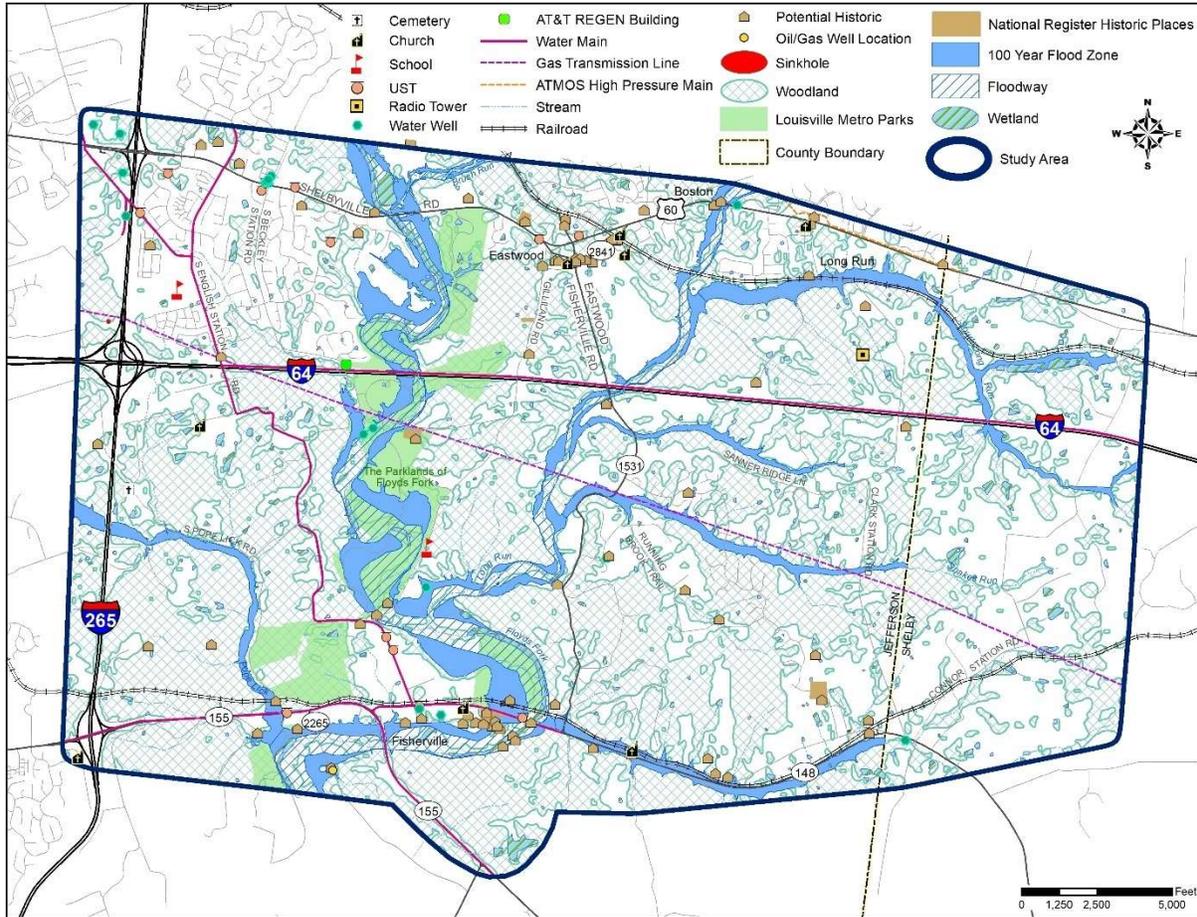


Figure 4. Community Resources within Environmental Setting

The Environmental Justice Screening and Mapping Tool (EJ Screen) reported the following information for the study area:

- The study area size is 25.80 square miles with a population of 11,522.
- Eight percent (8%) of homes speak a language other than English.
- Persons aged 65 and older represent 19% of the population.
- Seven percent (7%) of the population are people with disabilities.
- The minority population is 14%.
- The low-income population is 12%.

6. Population of Persons by Minority Origin

Table 1 summarizes the minority populations for the state, Jefferson County, Shelby County, study census tracts, and block groups. Both Jefferson and Shelby Counties have a greater percentage of minority persons than the state. As highlighted in red and shown in **Figure 5**, Census Tract 405.03 Block Group 2 exceeds the reference threshold (Shelby County). This block group is located north of I-64 in the eastern part of the study area.

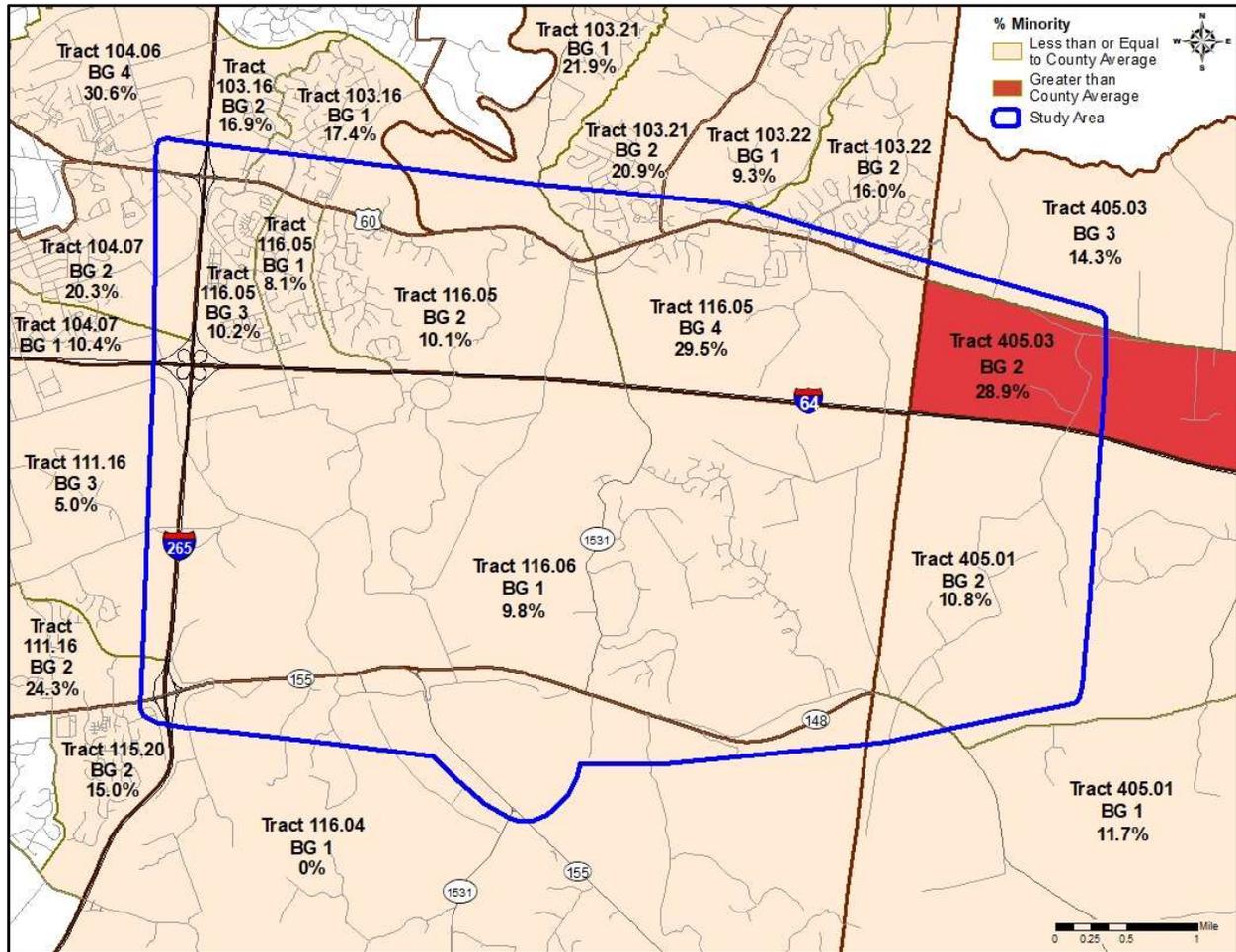


Figure 5. Minority Populations

Table 1. Population by Race

Geography	Population	Minority	% Minority
Kentucky	4,494,141	735,062	16.36%
Jefferson County	780,449	265,939	34.08%
Census Tract 103.16	6,792	1,144	16.84%
Block Group 1	3,637	633	17.40%
Block Group 2	721	122	16.92%
Census Tract 103.21	5,068	1,082	21.35%
Block Group 1	2,199	481	21.87%
Block Group 2	2,869	601	20.95%
Census Tract 103.22	2,921	420	14.38%
Block Group 1	708	66	9.32%
Block Group 2	2,213	354	16.00%
Census Tract 104.06	6,271	1,171	18.67%
Block Group 4	1,762	540	30.65%
Census Tract 104.07	3,943	659	16.71%
Block Group 1	1,419	147	10.36%
Block Group 2	2,524	512	20.29%
Census Tract 111.16	3,834	699	18.23%
Block Group 2	1,113	270	24.26%
Block Group 3	1,585	80	5.05%
Census Tract 115.20	4,634	775	16.72%
Block Group 2	2,074	312	15.04%
Census Tract 116.04	2,308	29	1.26%
Block Group 1	1,190	0	0.00%
Census Tract 116.05	7,551	1,064	14.09%
Block Group 1	1,117	91	8.15%
Block Group 2	1,967	198	10.07%
Block Group 3	2,820	289	10.25%
Block Group 4	1,647	486	29.51%
Census Tract 116.06	1,578	154	9.76%
Block Group 1	1,578	154	9.76%
Shelby County	47,523	9,846	20.72%
Census Tract 405.01	3,062	351	11.46%
Block Group 1	2,112	248	11.74%
Block Group 2	950	103	10.84%
Census Tract 405.03	3,825	875	22.88%
Block Group 2	1,286	372	28.93%
Block Group 3	1,554	222	14.29%

Source: 2021 ACS 5-Year Estimates Table B02001

7. Population by Poverty Status

Compared to Kentucky’s percentage of persons below the poverty level, the percentage of people living below the poverty level in Jefferson County is less at 13.74% and much less in Shelby County at 9.39%. The county level serves as the reference threshold. As shown in **Table 2**, most individuals in the study area census tract and block groups have even lesser percentage of persons living below the poverty level, with only two exceeding the reference threshold. Census Tract 104.06 Block Group 4 is considerable higher than Jefferson County at 25.48% and Census Tract 405.03 Block Group 2 is more than triple that of the Shelby County at 28.93%. Results are also mapped in **Figure 6**.

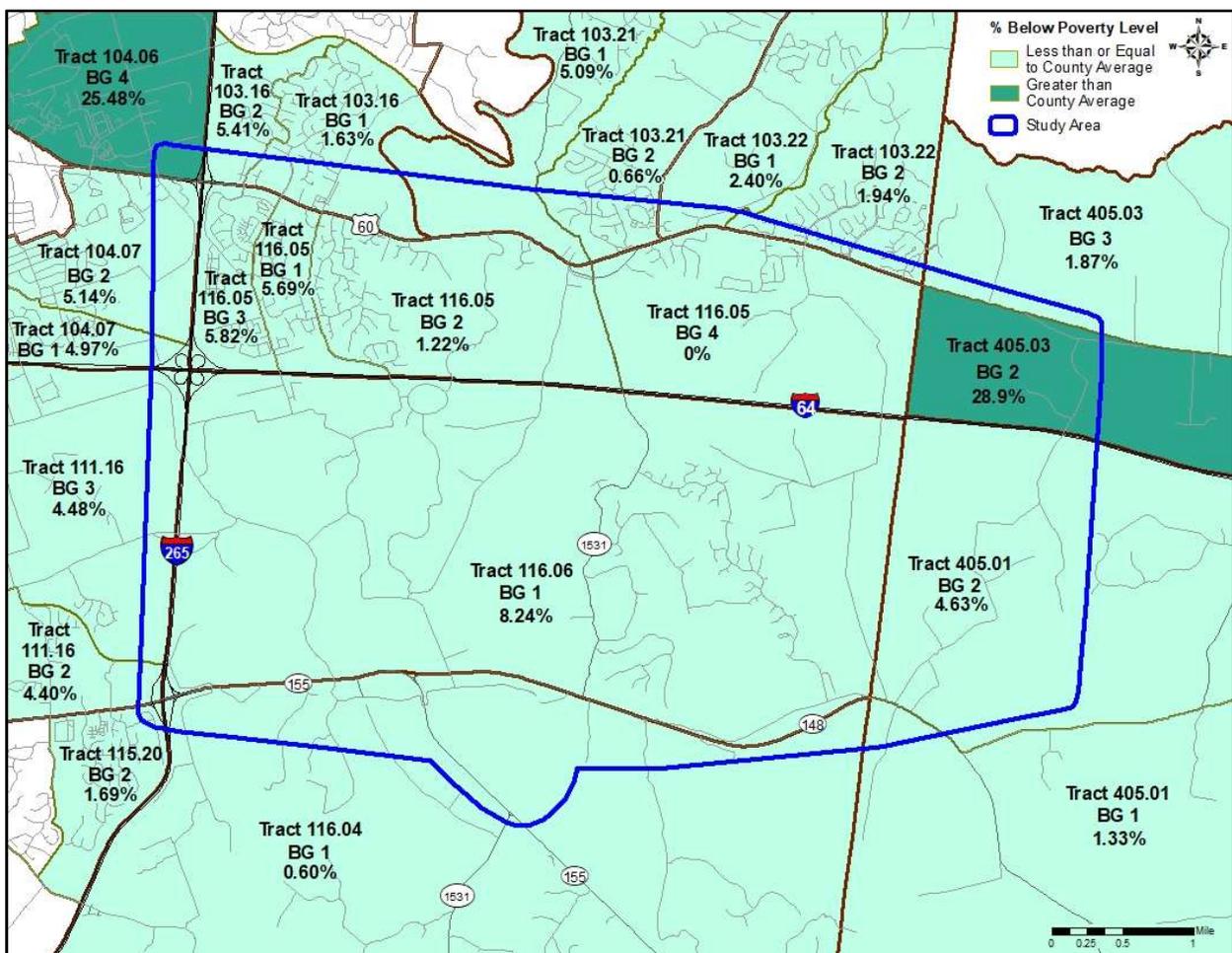


Figure 6. Persons Below Poverty Level

Table 2. Population by Poverty Level

Geography	Population	% Below Poverty Level
Kentucky	4,494,141	16.27%
Jefferson County	780,449	13.74%
Census Tract 103.16	6,792	9.68%
Block Group 1	3,637	1.63%
Block Group 2	721	5.41%
Census Tract 103.21	5,068	2.58%
Block Group 1	2,199	5.09%
Block Group 2	2,869	0.66%
Census Tract 103.22	2,921	2.05%
Block Group 1	708	2.40%
Block Group 2	2,213	1.94%
Census Tract 104.06	6,271	8.21%
Block Group 4	1,762	25.48%
Census Tract 104.07	3,943	5.08%
Block Group 1	1,419	4.97%
Block Group 2	2,524	5.14%
Census Tract 111.16	3,834	4.33%
Block Group 2	1,113	4.40%
Block Group 3	1,585	4.48%
Census Tract 115.20	4,634	1.84%
Block Group 2	2,074	1.69%
Census Tract 116.04	2,308	0.66%
Block Group 1	1,190	0.60%
Census Tract 116.05	7,551	3.31%
Block Group 1	1,117	5.69%
Block Group 2	1,967	1.22%
Block Group 3	2,820	5.82%
Block Group 4	1,647	0.00%
Census Tract 116.06	1,578	8.24%
Block Group 1	1,578	8.24%
Shelby County	47,523	9.39%
Census Tract 405.01	3,062	2.35%
Block Group 1	2,112	1.33%
Block Group 2	950	4.63%
Census Tract 405.03	3,825	12.47%
Block Group 2	1,286	28.93%
Block Group 3	1,554	1.87%

Source: 2021 ACS 5-Year Estimates Table B17021

8. Population by Persons Age 65 and Over

Table 3 summarizes the population over 65. The reference threshold is at the county level, which is 16.16% for Jefferson County and 15.98% for Shelby County. Both are less than the state at 16.35%. Highlighted in red in the table, eleven Block Groups in Jefferson County exceed the threshold ranging from 17.16% to 38.32%. Two Block Groups in Shelby County exceed the threshold rating at 20.84% and 22.08%. They are mapped as dark blue in **Figure 7**.

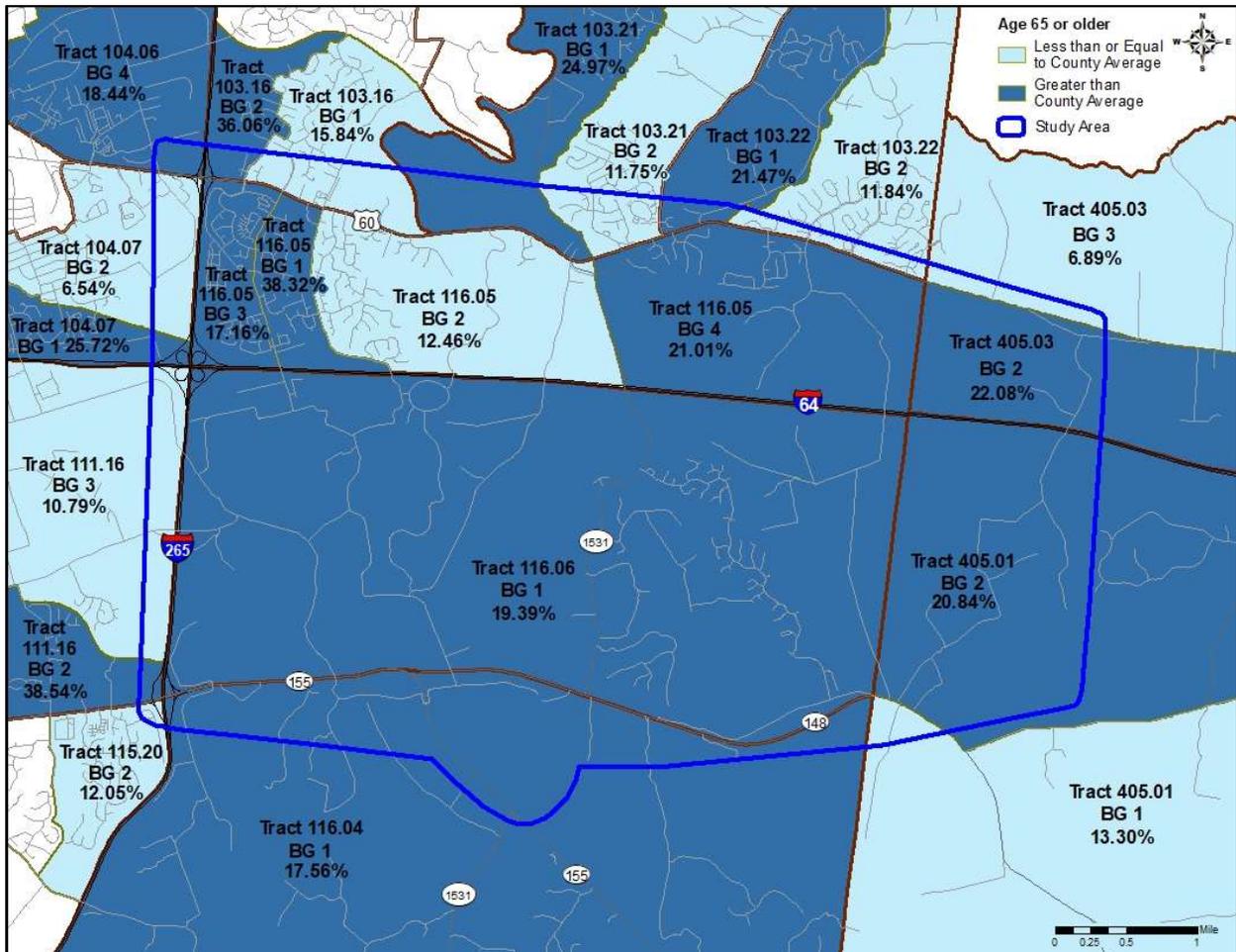


Figure 7. Elderly Populations

Table 3. Population by Age

Geography	Population	Age <18	Age 18-64	Age 65+
Kentucky	4,494,141	22.74%	60.91%	16.35%
Jefferson County	780,449	22.24%	61.60%	16.16%
Census Tract 103.16	6,792	21.85%	62.79%	15.36%
Block Group 1	3,637	23.81%	60.35%	15.84%
Block Group 2	721	12.90%	51.04%	36.06%
Census Tract 103.21	5,068	28.67%	53.85%	17.48%
Block Group 1	2,199	28.01%	47.02%	24.97%
Block Group 2	2,869	29.17%	59.08%	11.75%
Census Tract 103.22	2,921	27.66%	58.17%	14.17%
Block Group 1	708	23.45%	55.08%	21.47%
Block Group 2	2,213	29.01%	59.15%	11.84%
Census Tract 104.06	6,271	28.75%	57.15%	14.10%
Block Group 4	1,762	13.22%	68.33%	18.44%
Census Tract 104.07	3,943	25.03%	61.53%	13.44%
Block Group 1	1,419	14.66%	59.62%	25.72%
Block Group 2	2,524	30.86%	62.60%	6.54%
Census Tract 111.16	3,834	24.20%	55.82%	19.98%
Block Group 2	1,113	12.13%	49.33%	38.54%
Block Group 3	1,585	30.28%	58.93%	10.79%
Census Tract 115.20	4,634	25.42%	58.85%	15.73%
Block Group 2	2,074	24.78%	63.16%	12.05%
Census Tract 116.04	2,308	19.63%	58.02%	22.36%
Block Group 1	1,190	28.49%	53.95%	17.56%
Census Tract 116.05	7,551	20.25%	59.85%	19.90%
Block Group 1	1,117	19.43%	42.26%	38.32%
Block Group 2	1,967	16.22%	71.33%	12.46%
Block Group 3	2,820	17.87%	64.96%	17.16%
Block Group 4	1,647	29.69%	49.30%	21.01%
Census Tract 116.06	1,578	21.86%	58.75%	19.39%
Block Group 1	1,578	21.86%	58.75%	19.39%
Shelby County	47,523	22.70%	61.31%	15.98%
Census Tract 405.01	3,062	20.84%	63.52%	15.64%
Block Group 1	2,112	23.20%	63.49%	13.30%
Block Group 2	950	15.58%	63.58%	20.84%
Census Tract 405.03	3,825	22.14%	64.58%	13.28%
Block Group 2	1,286	16.87%	61.04%	22.08%

Source: 2021 ACS 5-Year Estimates Table B01001

9. Population by Disability Status

Almost 14% of the Jefferson County population has a disability and just over 13% in Shelby County, below the average rate for the state. Using the county as the reference threshold, **Table 4** compares this information available in the study area. Census Tract 111.16 has a higher percentage of persons with a disability than Jefferson County and Census Tract 405.03 has a higher percentage of persons with a disability than Shelby County. **Figure 8** maps these results. It should be noted that disability statistics are not available at the block group level.

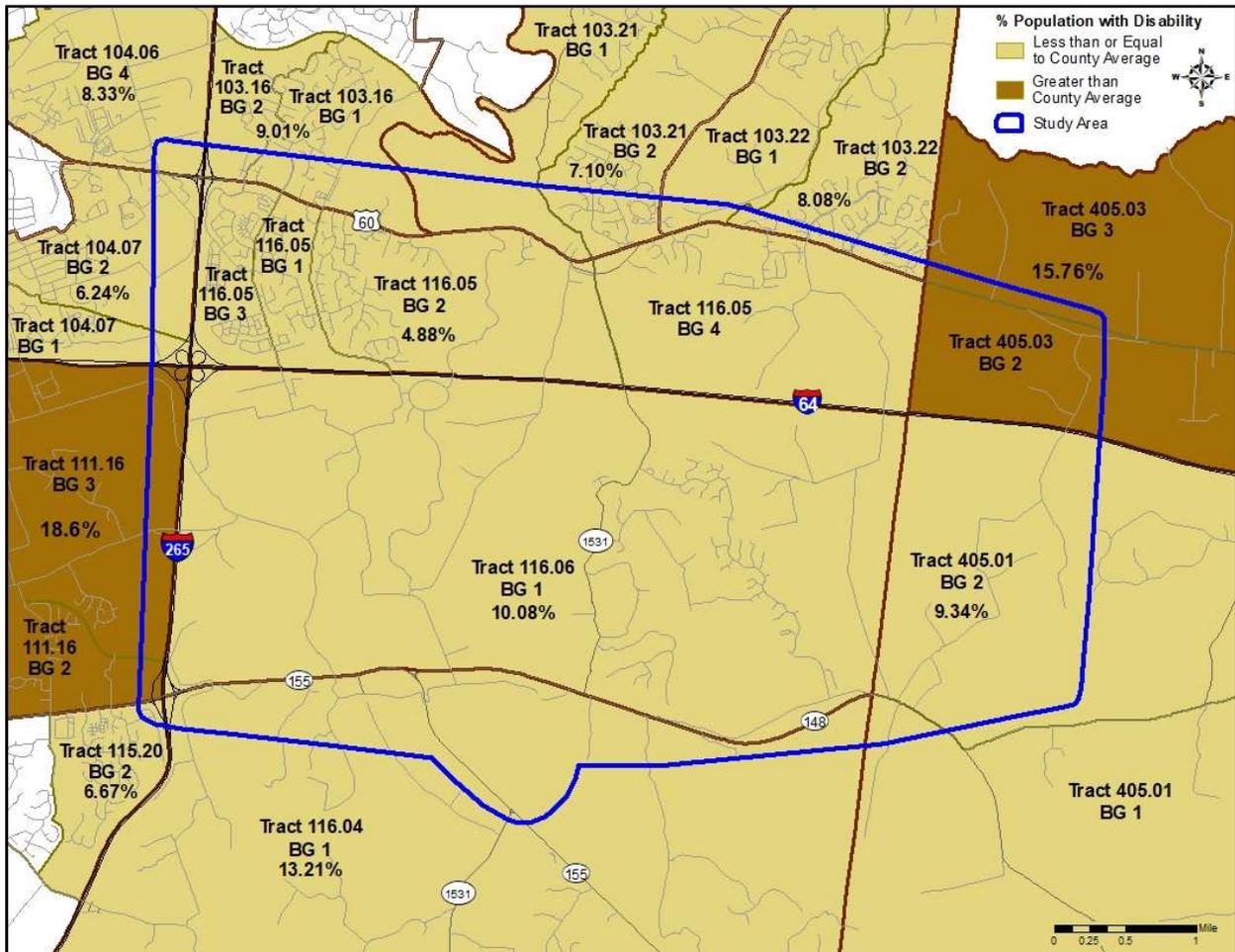


Figure 8. Persons by Disability

Table 4. Population by Disability

Geography	Population	% Disability
Kentucky	4,494,141	17.40%
Jefferson County	780,449	13.90%
Census Tract 103.16	6,792	9.01%
Census Tract 103.21	5,068	7.10%
Census Tract 103.22	2,921	8.08%
Census Tract 104.06	6,271	8.33%
Census Tract 104.07	3,943	6.24%
Census Tract 111.16	3,834	18.60%
Census Tract 115.20	4,634	6.67%
Census Tract 116.04	2,308	13.21%
Census Tract 116.05	7,551	4.88%
Census Tract 116.06	1,578	10.08%
Shelby County	47,523	13.07%
Census Tract 405.01	3,062	9.34%
Census Tract 405.03	3,825	15.76%

Source: 2021 ACS 5-Year Estimates Table C18120

10. Population by English Proficiency

The total limited English-speaking population in Jefferson County is 3.05% and is 2.59% in Shelby County, which is much higher than the state. The county level serves as the reference threshold. **Table 5** shows that Census Tract 405.03 Block Group 2 in Shelby County, highlighted in red, slightly exceeds this threshold in at 2.61%. This 2.61% represents an estimated eleven persons speaking Spanish. Results are mapped in **Figure 9**, showing CT405.03 BG2 is located north of I-64.

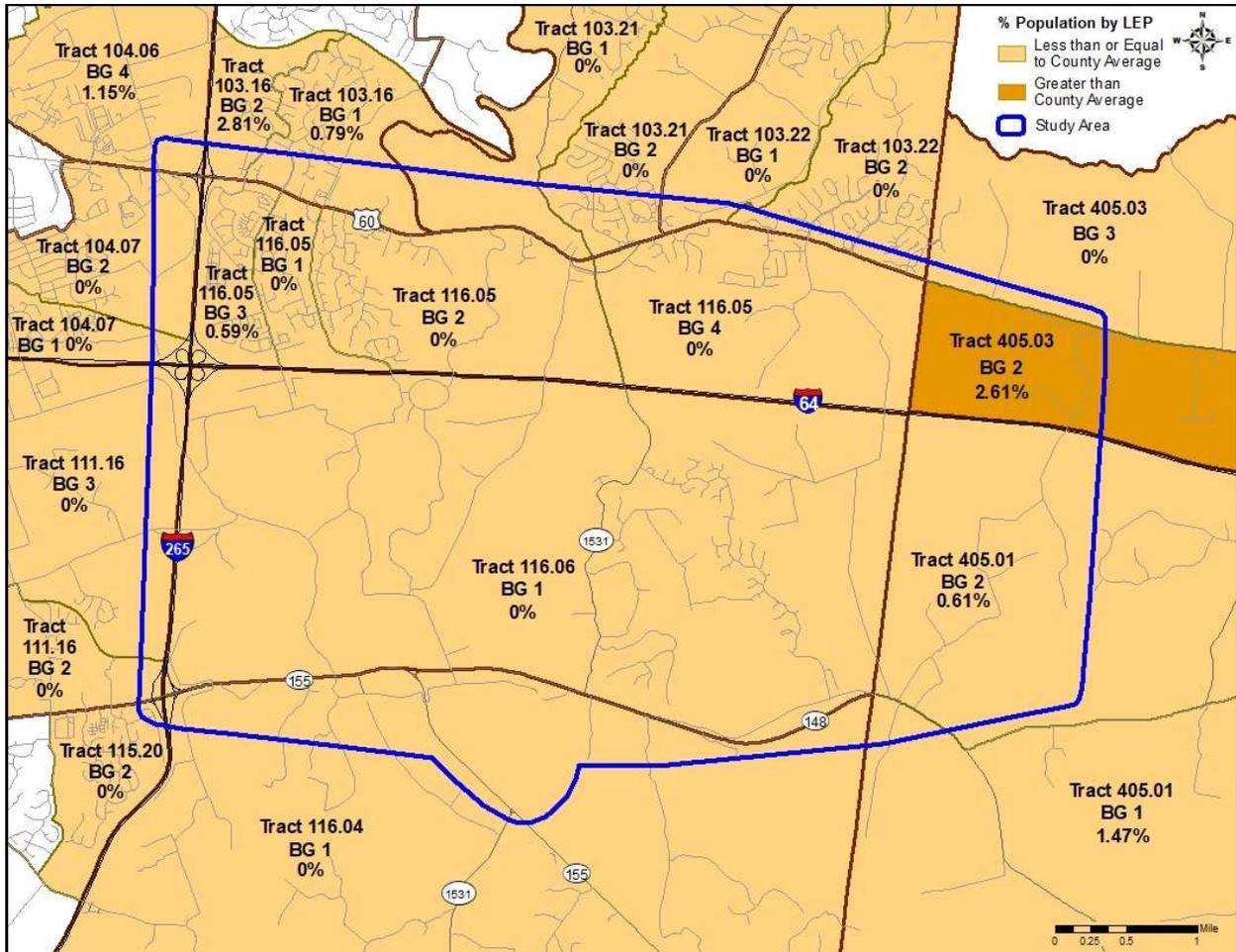


Figure 9. Limited English-Speaking Persons

Table 5. Population by Limited English Proficiency (LEP)

Geography	LEP	
	Persons	LEP %
Kentucky	24,306	1.39%
Jefferson County	9,869	3.05%
Census Tract 103.16	18	0.81%
Block Group 1	9	0.79%
Block Group 2	9	2.81%
Census Tract 103.21	0	0.00%
Block Group 1	0	0.00%
Block Group 2	0	0.00%
Census Tract 103.22	0	0.00%
Block Group 1	0	0.00%
Block Group 2	0	0.00%
Census Tract 104.06	11	0.45%
Block Group 4	11	1.15%
Census Tract 104.07	0	0.00%
Block Group 1	0	0.00%
Block Group 2	0	0.00%
Census Tract 111.16	0	0.00%
Block Group 2	0	0.00%
Block Group 3	0	0.00%
Census Tract 115.20	39	2.32%
Block Group 2	0	0.00%
Census Tract 116.04	0	0.00%
Block Group 1	0	0.00%
Census Tract 116.05	8	0.26%
Block Group 1	0	0.00%
Block Group 2	0	0.00%
Block Group 3	8	0.59%
Block Group 4	0	0.00%
Census Tract 116.06	0	0.00%
Block Group 1	0	0.00%
Shelby County	441	2.59%
Census Tract 405.01	13	1.21%
Block Group 1	11	1.47%
Block Group 2	2	0.61%
Census Tract 405.03	57	4.13%
Block Group 2	11	2.61%
Block Group 3	0	0.00%

Source: 2021 ACS 5-Year Estimates Table 16002

11. Conclusion

Four of the five categories reviewed have one statistical geographic area exceeding the county threshold as highlighted in **Figure 10** and **Table 6**. In the study area, Census Tract 405.03 Block Group 2 in Shelby County has characteristics that should be considered during future phases of project development. CT 405.03 BG 2 is bounded by the Jefferson/Shelby County line, US 60 and the city of Simpsonville.

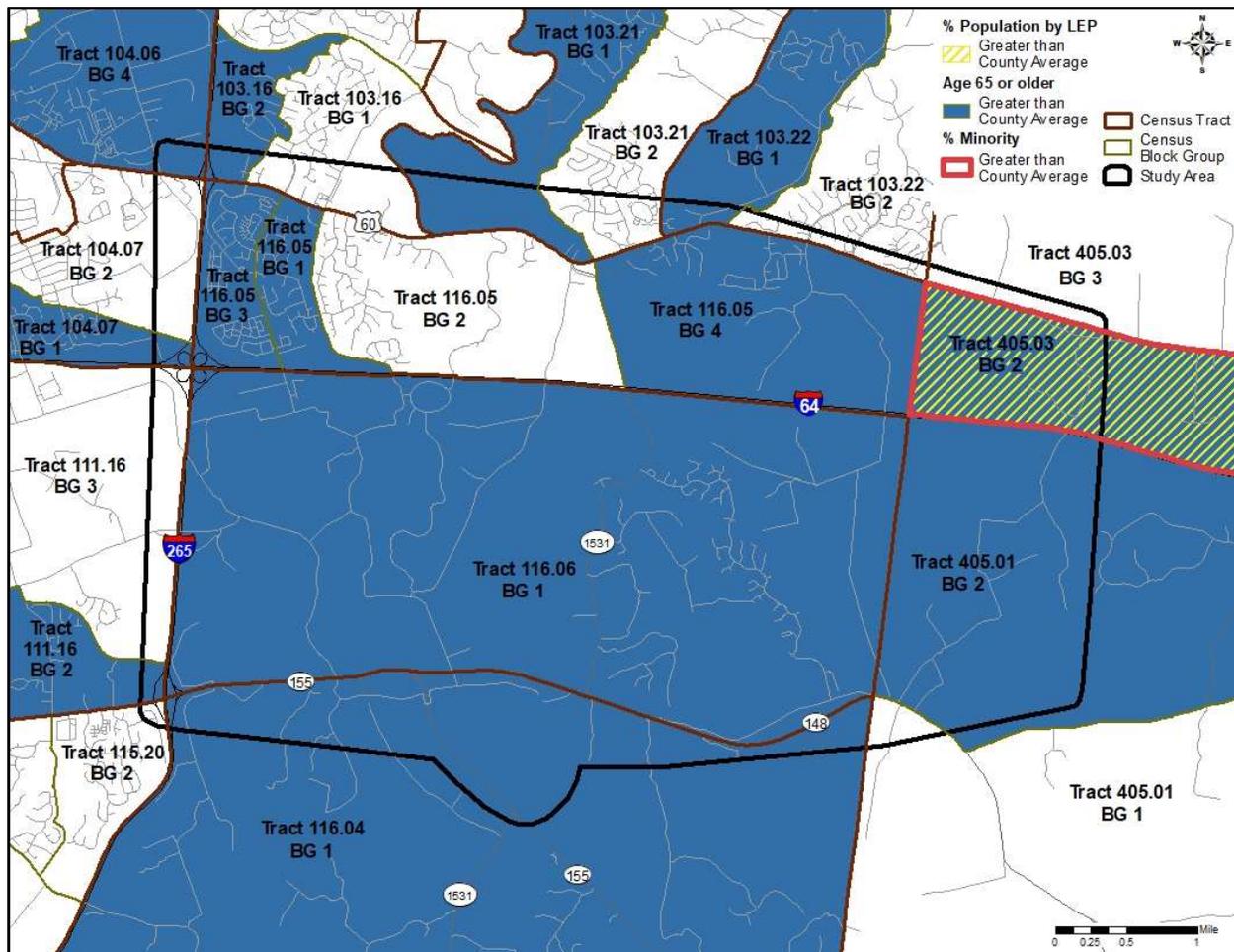


Figure 10. Summary of Socioeconomic Populations

At the planning stage, there are no proposed improvements, therefore no assumptions regarding adverse impacts or mitigation efforts can be made toward any population. This study serves only as an early identification tool of potential Environmental Justice communities. It should be noted that although the areas highlighted herein exceed the thresholds of the county reference level, there may not necessarily be a concentrated population in those locations. These areas should be noted in future project develop phases; and if necessary, a more detailed and robust analysis potentially including field visits and discussion with local officials and/or other sources of information may be necessary to identify and assess the potential for adverse and disproportionate impacts to low-income and minority populations.

Table 6. Summary of Socioeconomic Populations Data

Geography	Population	% Minority	% Below Poverty	% Age <18	% Age 18-64	% Age 65+	% Disability	LEP %
Kentucky	4,494,141	16.36%	16.27%	22.74%	60.91%	16.35%	17.40%	1.39%
Jefferson County	780,449	34.08%	13.74%	22.24%	61.60%	16.16%	13.90%	3.05%
CT 103.16	6,792	16.84%	9.68%	21.85%	62.79%	15.36%	9.01%	0.81%
BG 1	3,637	17.40%	1.63%	23.81%	60.35%	15.84%		0.79%
BG 2	721	16.92%	5.41%	12.90%	51.04%	36.06%		2.81%
CT 103.21	5,068	21.35%	2.58%	28.67%	53.85%	17.48%	7.10%	0.00%
BG 1	2,199	21.87%	5.09%	28.01%	47.02%	24.97%		0.00%
BG 2	2,869	20.95%	0.66%	29.17%	59.08%	11.75%		0.00%
CT 103.22	2,921	14.38%	2.05%	27.66%	58.17%	14.17%	8.08%	0.00%
BG 1	708	9.32%	2.40%	23.45%	55.08%	21.47%		0.00%
BG 2	2,213	16.00%	1.94%	29.01%	59.15%	11.84%		0.00%
CT 104.06	6,271	18.67%	8.21%	28.75%	57.15%	14.10%	8.33%	0.45%
BG 4	1,762	30.65%	25.48%	13.22%	68.33%	18.44%		1.15%
CT 104.07	3,943	16.71%	5.08%	25.03%	61.53%	13.44%	6.24%	0.00%
BG 1	1,419	10.36%	4.97%	14.66%	59.62%	25.72%		0.00%
BG 2	2,524	20.29%	5.14%	30.86%	62.60%	6.54%		0.00%
CT 111.16	3,834	18.23%	4.33%	24.20%	55.82%	19.98%	18.60%	0.00%
BG 2	1,113	24.26%	4.40%	12.13%	49.33%	38.54%		0.00%
BG 3	1,585	5.05%	4.48%	30.28%	58.93%	10.79%		0.00%
CT 115.20	4,634	16.72%	1.84%	25.42%	58.85%	15.73%	6.67%	2.32%
BG 2	2,074	15.04%	1.69%	24.78%	63.16%	12.05%		0.00%
CT 116.04	2,308	1.26%	0.66%	19.63%	58.02%	22.36%	13.21%	0.00%
BG 1	1,190	0.00%	0.60%	28.49%	53.95%	17.56%		0.00%
CT 116.05	7,551	14.09%	3.31%	20.25%	59.85%	19.90%	4.88%	0.26%
BG 1	1,117	8.15%	5.69%	19.43%	42.26%	38.32%		0.00%
BG 2	1,967	10.07%	1.22%	16.22%	71.33%	12.46%		0.00%
BG 3	2,820	10.25%	5.82%	17.87%	64.96%	17.16%		0.59%
BG 4	1,647	29.51%	0.00%	29.69%	49.30%	21.01%		0.00%
CT 116.06	1,578	9.76%	8.24%	21.86%	58.75%	19.39%	10.08%	0.00%
BG 1	1,578	9.76%	8.24%	21.86%	58.75%	19.39%		0.00%
Shelby County	47,523	20.72%	9.39%	22.70%	61.31%	15.98%	13.07%	2.59%
CT 405.01	3,062	11.46%	2.35%	20.84%	63.52%	15.64%	9.34%	1.21%
BG 1	2,112	11.74%	1.33%	23.20%	63.49%	13.30%		1.47%
BG 2	950	10.84%	4.63%	15.58%	63.58%	20.84%		0.61%
CT 405.03	3,825	22.88%	12.47%	22.14%	64.58%	13.28%	15.76%	4.13%
BG 2	1,286	28.93%	28.93%	16.87%	61.04%	22.08%		2.61%
BG 3	1,554	14.29%	1.87%	26.13%	66.99%	6.89%		0.00%

Appendix A

METHODOLOGY

Methodology for Assessing Underserved Populations including Environmental Justice, Title VI, Age and Disability considerations in conjunction with KYTC Planning Studies

Cover Page

Title: Insert specific study type/area Subtitle: Socioeconomic Study

Date:

Author:

Analysis

Environmental Justice (EJ) refers to the fair treatment of all people regardless of race, color, national origin or income. Specifically, agencies must demonstrate meaningful involvement with the above stated groups with respect to development, implementation and enforcement of environmental laws, regulations and policies. EJ analysis is undertaken for any study that may result in impacts on a minority and/or low-income population that has a federal nexus (funding or approval).

Additionally, KYTC works to identify potential populations of the Elderly, Disabled, Limited English Proficiency and Limited Transportation Options that may be impacted in or near the Affected Community (AC) should highway improvements take place in the future.

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

(AC) with potential EJ impacts are determined by locating populations of minority, low-income, disabled or elderly and calculating their percentage in the area relative to a reference community of comparison (COC).

Communities of comparison:

- The county percentage
- Kentucky percentage
- Block groups within reasonable proximity of the study area

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 on a yearly basis for the following, as the update schedule allows:

- Minority
- Low-income
- Elderly
- Disabled populations
- Limited English Proficiency

Sample Analysis:

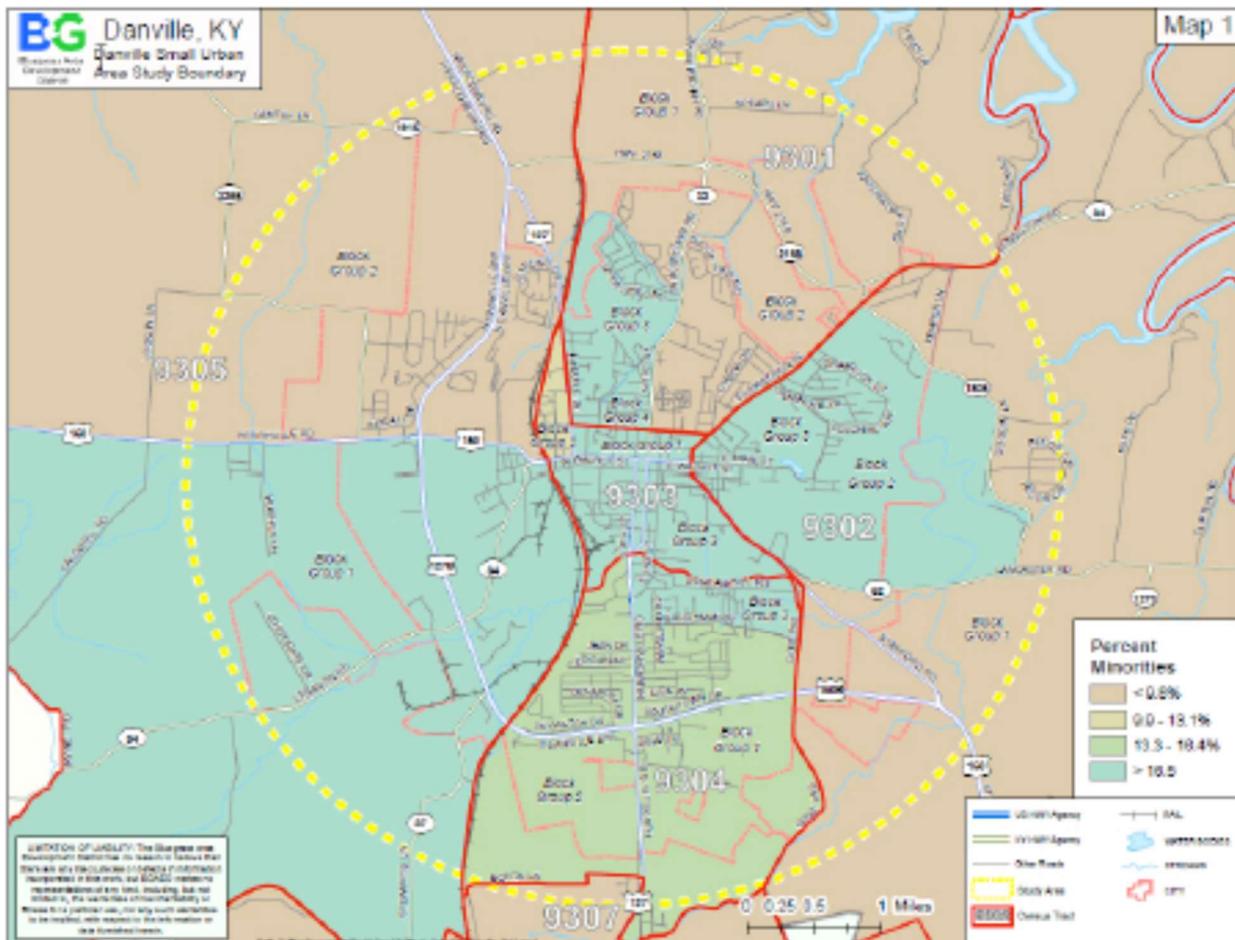
The percentage of persons living below the poverty level in Kentucky (18.60%) is significantly higher than that of the United States (14.90%). Poverty levels in Metcalfe County are slightly lower than that of the state with 16.10% of Metcalfe County residents living below the poverty level. CT 9601 has greater levels of poverty than does the county, state and U.S. with 17.90% of persons living below the poverty level. CT 9603 however has a lower level of poverty than Metcalfe County as a whole and the state, with 13.40% of residents living below the poverty.

******The following disclaimer should be included in the document in the Socioeconomic Study methodologies Section:******

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.



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.

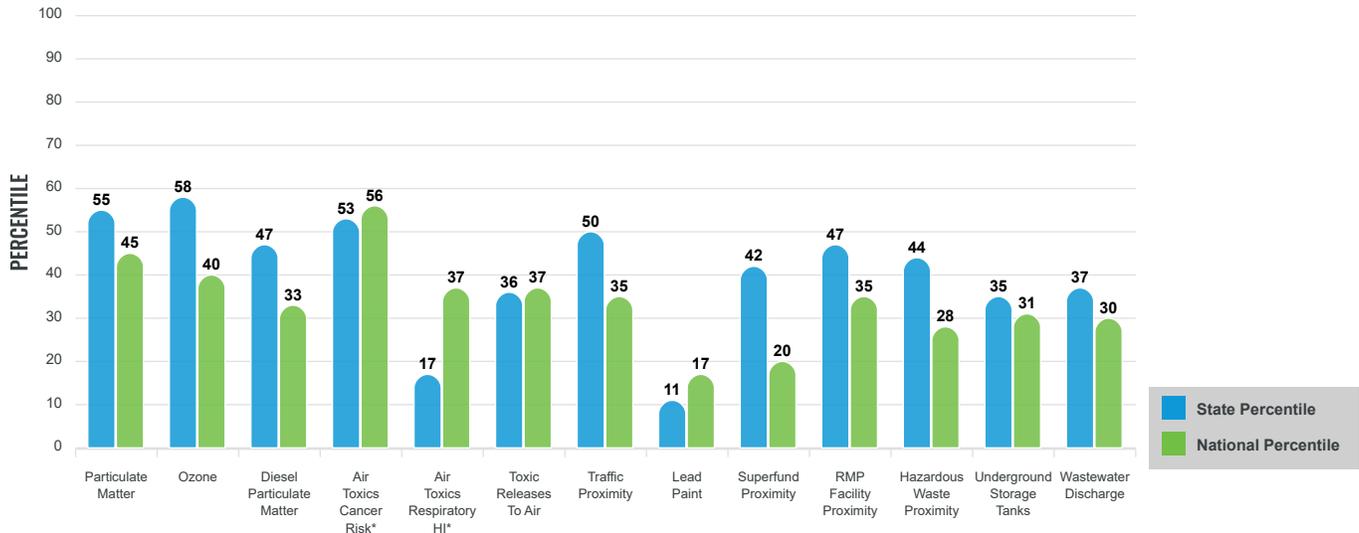
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

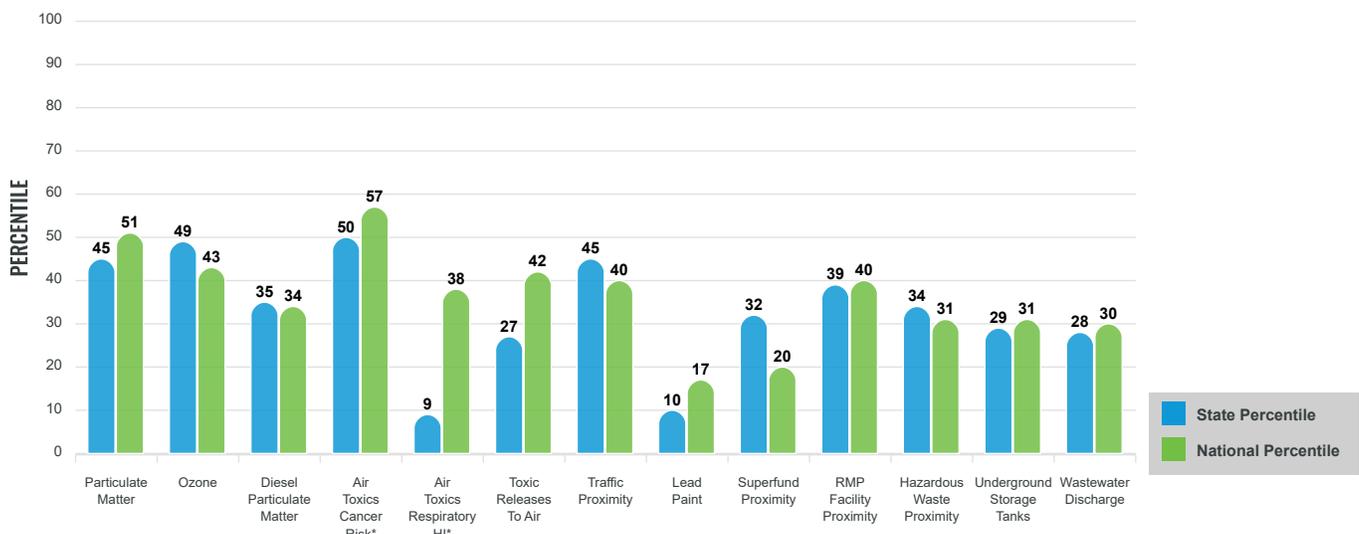
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for the User Specified Area

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m ³)	9.26	8.54	75	8.08	79
Ozone (ppb)	63.2	59.3	87	61.6	64
Diesel Particulate Matter (µg/m ³)	0.206	0.203	58	0.261	47
Air Toxics Cancer Risk* (lifetime risk per million)	29	26	0	25	5
Air Toxics Respiratory HI*	0.3	0.32	2	0.31	31
Toxic Releases to Air	1,100	7,500	48	4,600	62
Traffic Proximity (daily traffic count/distance to road)	130	78	82	210	63
Lead Paint (% Pre-1960 Housing)	0.031	0.24	15	0.3	21
Superfund Proximity (site count/km distance)	0.032	0.039	59	0.13	30
RMP Facility Proximity (facility count/km distance)	0.21	0.33	64	0.43	58
Hazardous Waste Proximity (facility count/km distance)	0.29	0.78	58	1.9	42
Underground Storage Tanks (count/km ²)	0.69	1.1	58	3.9	43
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.0027	0.48	63	22	56
SOCIOECONOMIC INDICATORS					
Demographic Index	13%	26%	18	35%	16
Supplemental Demographic Index	7%	16%	9	14%	17
People of Color	14%	16%	63	39%	29
Low Income	12%	37%	13	31%	22
Unemployment Rate	5%	6%	58	6%	58
Limited English Speaking Households	0%	1%	0	5%	0
Less Than High School Education	2%	13%	11	12%	17
Under Age 5	6%	6%	54	6%	56
Over Age 64	19%	17%	63	17%	63
Low Life Expectancy	16%	22%	5	20%	16

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	174
Air Pollution	0
Brownfields	0
Toxic Release Inventory	0

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	12

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	No
Selected location contains an EPA IRA disadvantaged community	Yes

Report for the User Specified Area

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	16%	22%	4	20%	16
Heart Disease	5.5	7.4	14	6.1	39
Asthma	9.4	11.5	2	10	33
Cancer	7	6.5	64	6.1	67
Persons with Disabilities	6.5%	18.3%	2	13.4%	10

CLIMATE INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	5%	12%	33	12%	44
Wildfire Risk	0%	3%	0	14%	0

CRITICAL SERVICE GAPS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	4%	17%	15	14%	25
Lack of Health Insurance	2%	6%	13	9%	11
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Footnotes

Report for the User Specified Area