

**GRAVES COUNTY ITEM 1-8100.00**

KY 121 FROM 400' SOUTH OF HARRIS LANE TO THE KY 945 INTERSECTION

**ENVIRONMENTAL JUSTICE REVIEW**

**August 1, 2003**

**Prepared for**

Kentucky Transportation Cabinet (KYTC) – Division of Planning

Kentucky Transportation Cabinet (KYTC) – District 1



**Prepared by**

Purchase Area Development District



## TABLE OF CONTENTS

1.0 INTRODUCTION .....	1
2.0 WHAT IS ENVIRONMENTAL JUSTICE? .....	1
2.1 Definitions .....	1
3.0 METHODOLOGY .....	3
4.0 CENSUS DATA ANALYSIS .....	3
4.1 Minority Population Analysis .....	4
4.2 Low-Income Population Analysis.....	11
4.3 Population by Age .....	12
5.0 CONCLUSION.....	15

**TABLE OF TABLES**

Table 4.1: 2000 Census Data by Race at Block Group Level .....4

Table 4.2: Minority Population Analysis Ranges .....9

Table 4.3: 2000 Census Data by Race for Blocks in Block Group 4, Census Tract 201.....9

Table 4.4: 2000 Census Data by Race for Blocks in Block Group 3, Census Tract 207.....9

Table 4.5: 2000 Census Data by Race at Block Group Level (Comparison Area) .....11

Table 4.6: 1999 Census Data for Poverty Levels .....12

Table 4.7: 1999 Census Data for Poverty Levels (Comparison Area) .....12

Table 4.8: 2000 Census Data for Age 62+.....12

Table 4.9: Elderly Population (62+) Analysis Ranges .....13

Table 4.10: 2000 Census Data for Age 62+ in Block Group 3, Census Tract 207.....13

Table 4.11: 2000 Census Data for Age 62+ in Block Group 4, Census Tract 201.....13

Table 4.12: 2000 Census Data for Age 62+ (Comparison Area).....13

**TABLE OF FIGURES**

Figure 1.1: Project Area.....2

Figure 4.1: Census Tract 201 Block Group 4 .....5

Figure 4.2: Census Tract 207 Block Group 3 .....6

Figure 4.3 Census Blocks Bordering Project.....7

Figure 4.4: Comparison Area.....8

Figure 4.5: Location of Minority Blocks .....10

Figure 4.6: Location of Elderly Population Blocks .....14

## 1.0 INTRODUCTION

This document is an assessment of the community characteristics for the KY 121 Project Area (Figure 1.1) in Graves County. The data used in this report has been compiled from a number of sources including the U.S. Census Bureau Census 2000, Kentucky Transportation Cabinet Division of Planning, local officials, and field observations of the project area. 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<sup>1</sup>, to ensure equal environmental protection to all groups potentially impacted by this project.

This report outlines Census 2000 statistics for the KY 121 Project Area using tables and maps. Statistics are provided on minority, low-income, and elderly populations for the project area, nation, state, region, block group and where available the census block level.

## 2.0 WHAT IS ENVIRONMENTAL JUSTICE?

The U.S. EPA Office of Environmental Justice (EJ) defines EJ as:

“The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including racial, ethnic, or socio-economic group 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.”

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.

### 2.1 Definitions

USDOT Order 5610.2 on EJ, issued in the April 15, 1997 Federal Register defines what constitutes low income and minority populations.

- 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

---

<sup>1</sup> Executive Order 12898 signed on February 11, 1994 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...”

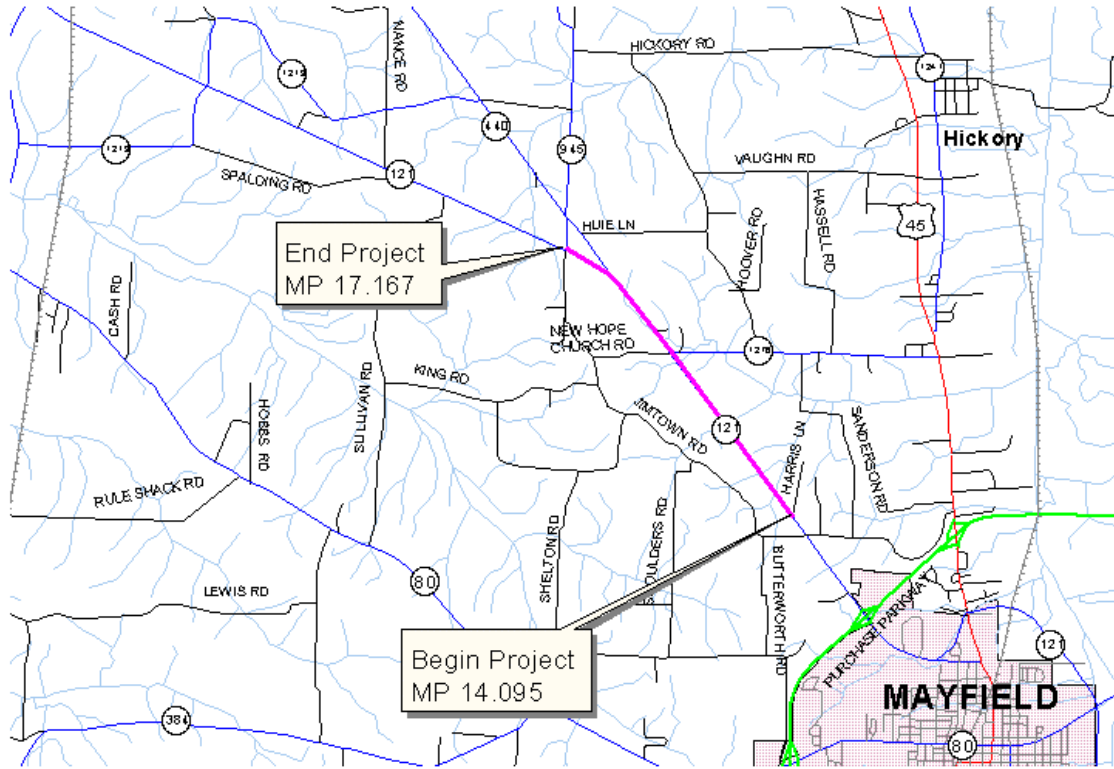


# Graves County

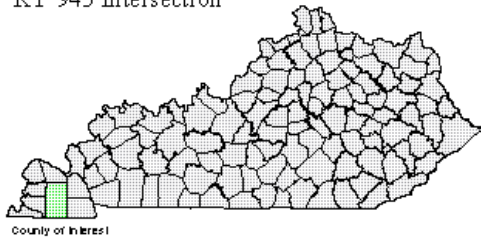
## Item No. 1-8100.00



Figure 1.1: Project Area



**Project Area**  
 Graves County  
 Item No. 1-8100.00  
 KY 121 From 400' South  
 of Harris Lane to the  
 KY 945 Intersection



- Legend**
- Project Area
  - Purchase Parkway
  - State Routes
  - US Highways
  - Local Roads
  - Railroad
  - Streams
  - Corporate Boundary



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.

EO 12898 and USOT Order 5610.2 do not address consideration of the elderly population. However, the U.S. DOT encourages the study of these populations in EJ discussions and in accordance with EJ, Title VI of the Civil Rights Act of 1964 and the Kentucky Transportation Cabinet’s advocacy of inclusive public involvement and equal treatment of all persons this study includes statistics for persons age 62+ that are within the project and comparison areas.<sup>2</sup>

### **3.0 METHODOLOGY**

For this study data was collected by using the method outlined by the KYTC document, “Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies”.

The primary sources of data were the US Census Bureau Census 2000, local leaders, and field observations. Statistics were compiled to present a detailed analysis of the community conditions for the KY 121 Project Area in Graves County. Comparison areas are also included in the analysis.

### **4.0 CENSUS DATA ANALYSIS**

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

- Census Tract (CT) – “A small, relatively permanent statistical subdivision of a county or statistically equivalent entity, delineated for data presentation purposes by a local group of census data users or the geographic staff of a regional census center in accordance with Census Bureau guidelines. CTs generally contain between 1,000 and 8,000 people. CT boundaries are delineated with the intention of being stable over many decades, so they generally follow relatively permanent visible features. They may also follow governmental unit boundaries and other invisible features in some instances; the boundary of a state or county is always a census tract boundary.”
- Block Group (BG) - “A statistical subdivision of a CT. A BG consists of all tabulation blocks whose numbers begin with the same digit in a CT. BGs generally contain between 300 and 3,000 people, with an optimum size of 1,500 people.”

---

<sup>2</sup> Ohio Transportation EJ Guidance  
August, 2002

- 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 project and comparison area analysis include the percentages for minorities, low-income and elderly population levels for the census tract block group (when available census block level is used), Graves County, Purchase Area Development District, the Commonwealth of Kentucky and the United States.

Graves County is composed of nine census tracts. The project area lies in CT 201 and CT 207. BG 4 of CT 201 and BG 3 of CT 207 are examined in this study because they border the project area. These locations are shown in Figures 4.1 and 4.2. BG 4 CT 201 contains 38 CBs and BG 3 CT 207 contains 34 CBs. The selected block groups each contained four CBs that bordered the project area and can be seen in Figure 4.3. The eight CBs selected for analysis in this study are 4005, 4006, 4008, 4009 and 3018, 3019, 3020, 3021.

The comparison block group areas (shown in Figure 4.4) BG 1 CT 206 and BG 1 CT 209 were chosen for their close proximity to the project area. BG 1 CT 206 is located on KY 80 west of the corporate limits of Mayfield and to the area south of the KY 121 project area. BG 1 CT 209 is located on KY 121 S east of the corporate limits of Mayfield and approximately six road miles south of the KY 121-project area.

#### 4.1 Minority Population Analysis

Graves County has a lower minority percentage (7.9%) than the national (30.9%), state (9.4%), and regional percentages (9.5%) as shown in Table 4.1. However, to determine if there are identifiable minority populations in the project area, the two BGs bordering the project were studied. BG 4 and BG 3 have minority percentages (2.0% and 5.7% respectively) well below the national average and slightly lower than the state, region, and county average as shown in Table 4.1.

**Table 4.1 2000 Census Data by Race at Block Group Level**

	United States	Kentucky	Purchase ADD	Graves County	Block Group 4 Tract 201	Block Group 3 Tract 207
Total Population	281,421,906	4,041,769	193,495	37,028	1,074	745
White alone	194,514,140	3,610,112	175,186	34,085	1,052	702
Black or Africa American alone	33,707,230	291,735	12,663	1,519	22	43
Hispanic or Latino	35,238,481	56,414	2213	867	0	0
American Indian and Alaska Native alone	2,091,206	8,424	346	64	0	0
Asian alone	10,067,813	28,697	932	133	0	0
Native Hawaiian and Other Pacific Islander alone	342,743	947	0	0	0	0
Some other race alone	447,552	3,303	79	17	0	0
Two or more races	5,012,741	42,137	2076	343	0	0
Total Minority Population	86,907,856	431,657	18,309	2943	22	43
% Minority Population	30.9	9.4	9.5	7.9	2.0	5.7

Source: US Census Bureau, Census 2000

There appears to be no “readily identifiable” groups of minority persons living within the project area if the USDOT definition of minority populations is applied. However, race data is available at the CB level, and was studied for any small concentrations of minorities within the project area. A method developed by the Ohio



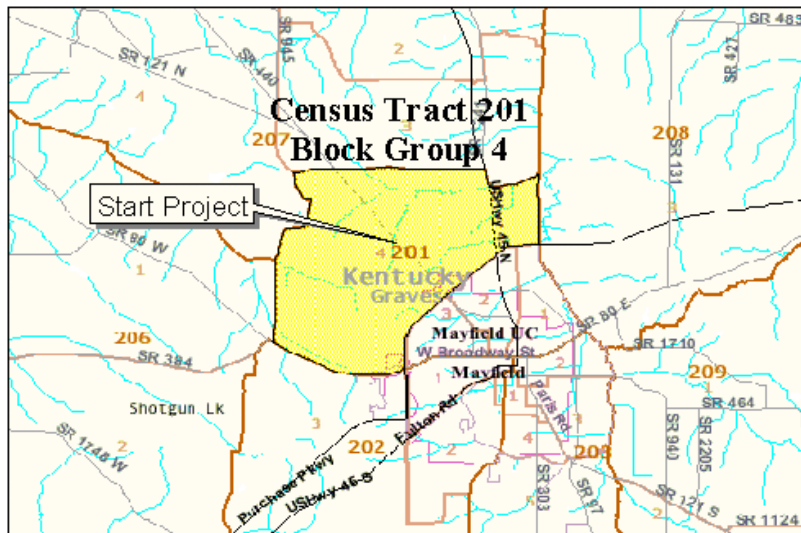
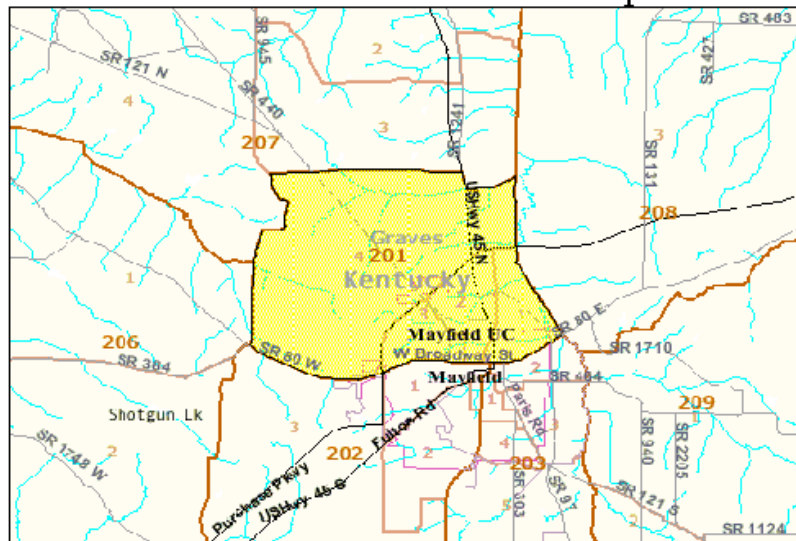
# Graves County

## Item No. 1-8100.00

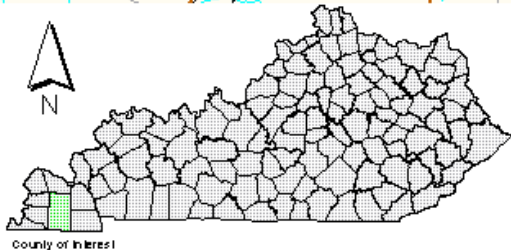


Figure 4.1: Census Tract 201 & Block Group 4

Location of  
Census Tract 201  
in Graves County



Census Tract 201  
Block Group 4  
in Project Area







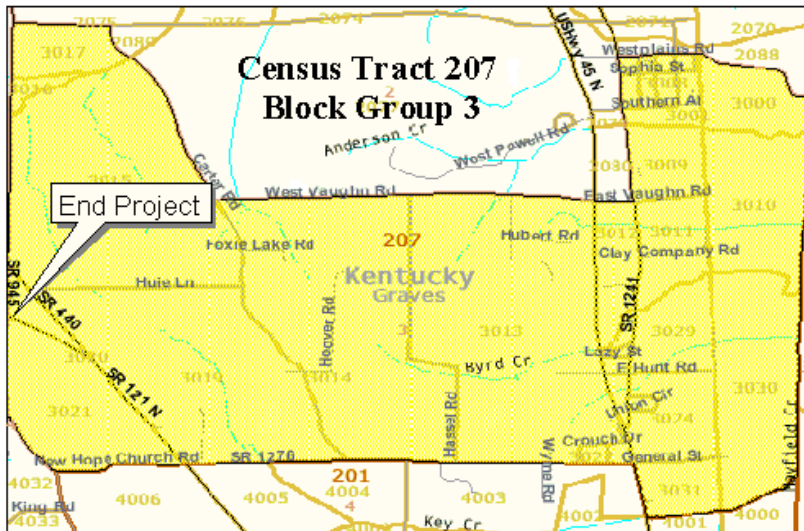
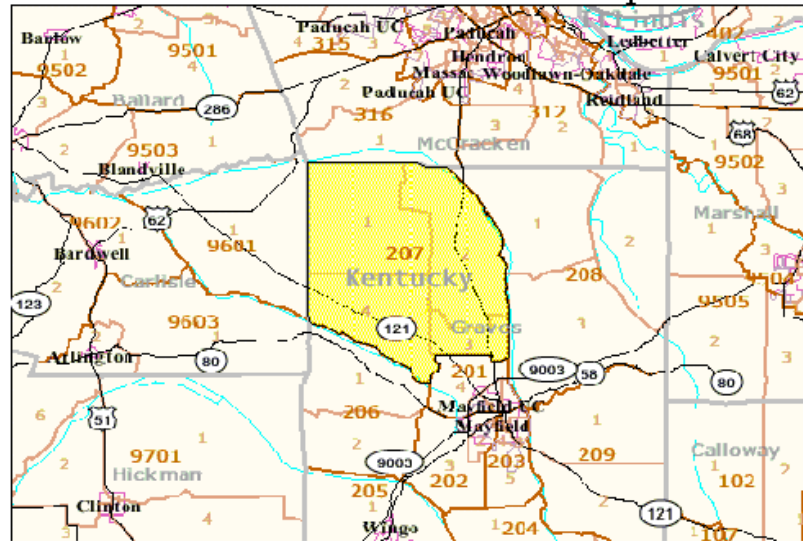
# Graves County

## Item No. 1-8100.00

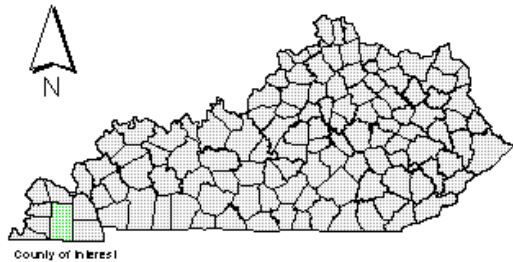


Figure 4.2: Census Tract 207 & Block Group 3

Location of  
Census Tract 207  
in Graves County



Census Tract 207  
Block Group 3  
in Project Area



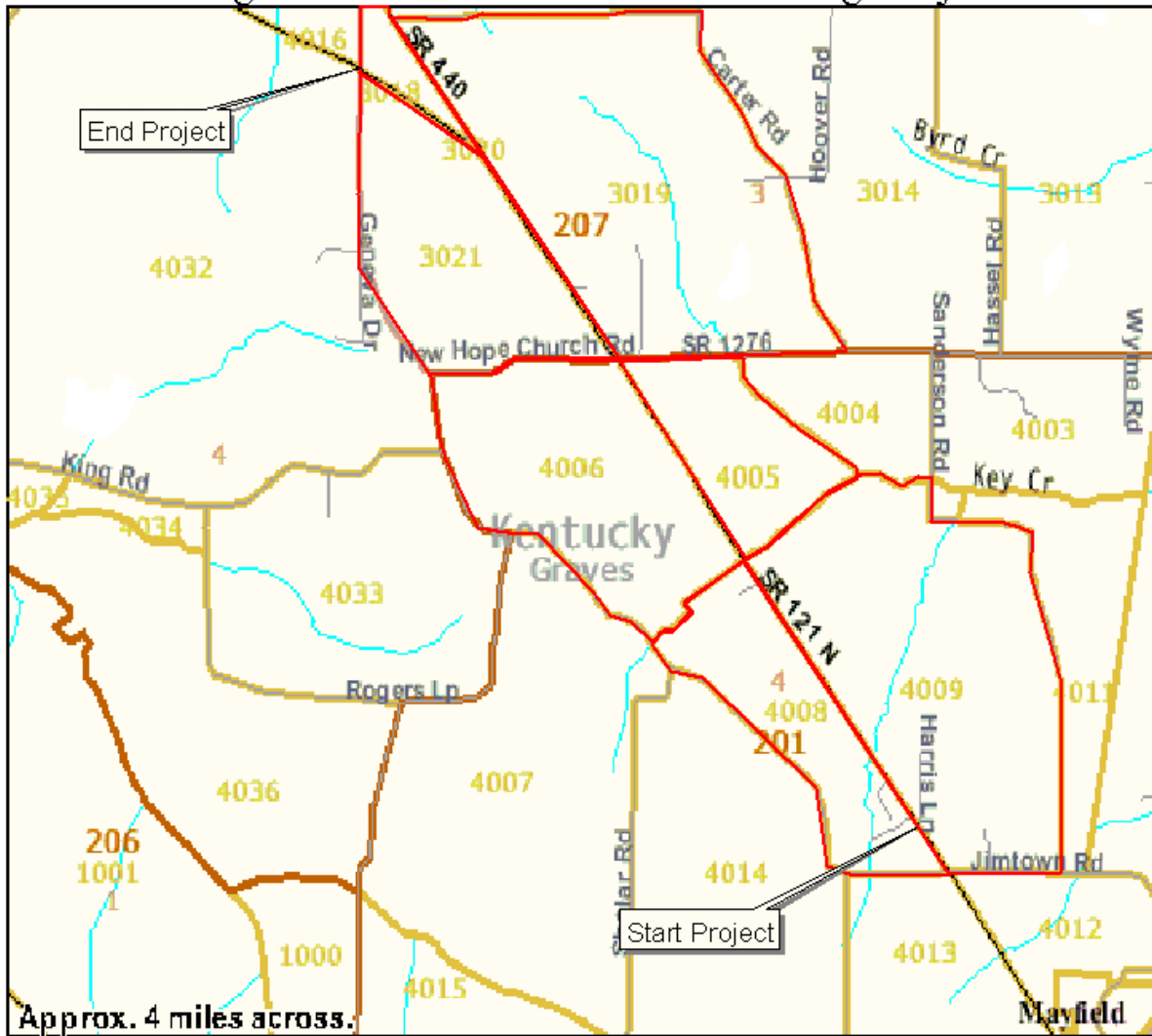


# Graves County

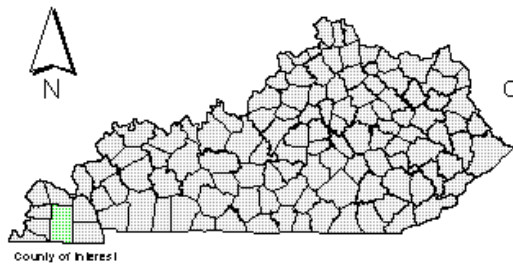
## Item No. 1-8100.00



Figure 4.3: Census Blocks Bordering Project



Approx. 4 miles across.



- Census Blocks Bordering Project
- Census Tract 201 Block Group 4
  - Block 4005
  - Block 4006
  - Block 4008
  - Block 4009
- Census Tract 207 Block Group 3
  - Block 3018
  - Block 3019
  - Block 3020
  - Block 3021



# Graves County

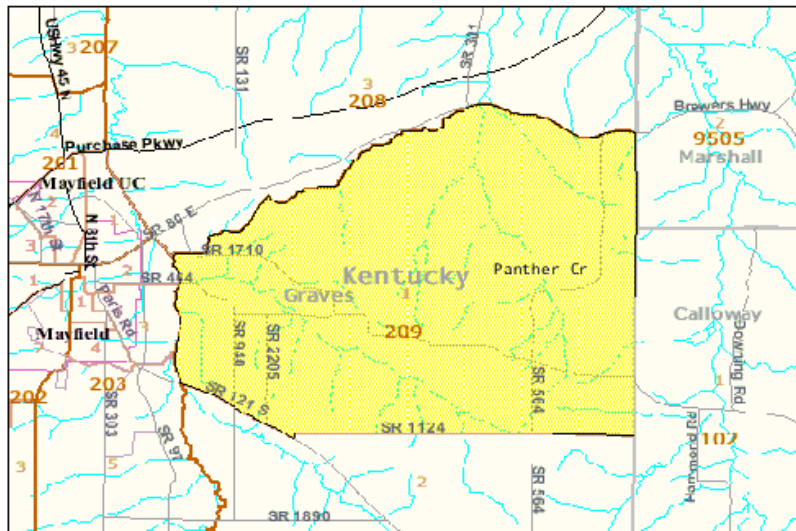
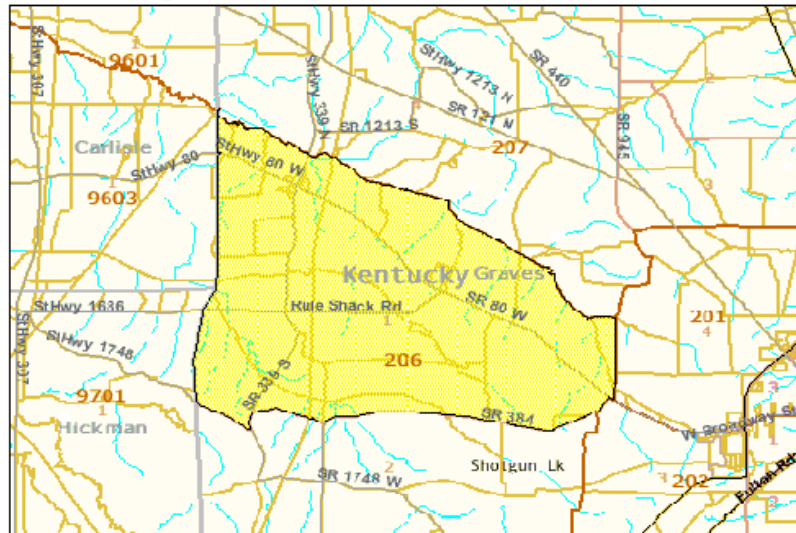
## Item No. 1-8100.00



Figure 4.4: Comparison Area

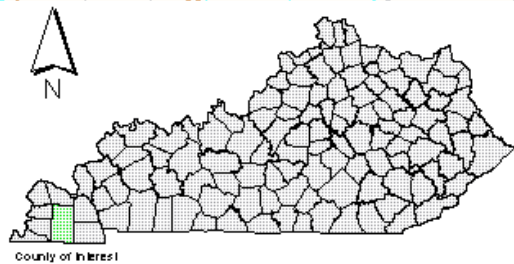
Census Tract 206  
Block Group 1

Located on KY 80  
West of Mayfield and  
South of Project Area



Census Tract 209  
Block Group 1

Located on KY 121 South  
East of Mayfield



Block Groups in Comparison Area

Department of Transportation (ODOT)<sup>3</sup> to identify target populations of minorities or low-income residents is applied in this study.

The first step in identifying if a target minority population exists is to determine the regional or state percentage of the minority population. In this case the regional percentage (9.5%) is used since it is higher than the state percentage (9.4%). The regional percentage will be used as a reference point for defining minority target areas, using a range of 25 percent above and 25 percent below that point (this is demonstrated in Table 4.2).

**Table 4.2: Minority Population Analysis Ranges**

<u>Analysis Range</u>	<u>Percent Minority</u>
Significantly Above Threshold	> 11.9%
Just Above Threshold	9.5% - 11.9%
<b>Reference Threshold (Regional Percentage)</b>	<b>9.5%</b>
Just Below Threshold	7.1% - 9.5%
Significantly Below Threshold	< 7.1%

Areas with minority percentages significantly above the reference threshold (>11.9%) are included as part of the local minority community. The next step is to plot the minority locations on a map to identify the boundaries of any minority communities. Areas that have percentages just above the reference threshold (between the reference threshold and twenty-five percent above the reference threshold) may or may not be considered part of the target population depending on the number of residents, location, percentage, and size of the area.

The CBs within the project area are examined in Tables 4.3 and 4.4. CB 4005 has a percentage (15.4%) significantly above the reference threshold. CB 4005 is highlighted in Figure 4.5. The remaining CBs in the project area had no minority percentages between the threshold values of 9.5% and 11.9%.

**Table 4.3: 2000 Census Data by Race for Blocks in Block Group 4, Census Tract 201**

	Purchase ADD	Block 4005	Block 4006	Block 4008	Block 4009
Total Population	193,495	26	74	51	96
Total Minority Population	18,309	4	0	0	8
% Minority Population	9.5	15.4	0.0	0.0	8.3

Source: US Census Bureau, Census 2000

**Table 4.4: 2000 Census Data by Race for Blocks in Block Group 3, Census Tract 207**

	Purchase ADD	Block 3018	Block 3019	Block 3020	Block 3021
Total Population	193,495	15	157	0	34
Total Minority Population	18,309	0	11	0	1
% Minority Population	9.5	0.0	7.0	0.0	2.9

Source: US Census Bureau, Census 2000

<sup>3</sup> Ohio Transportation EJ Guidance, Ohio Department of Transportation, August 2002, Pages 10-11.

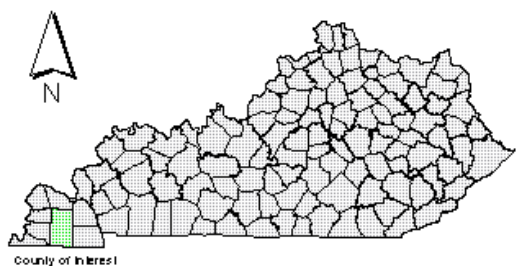
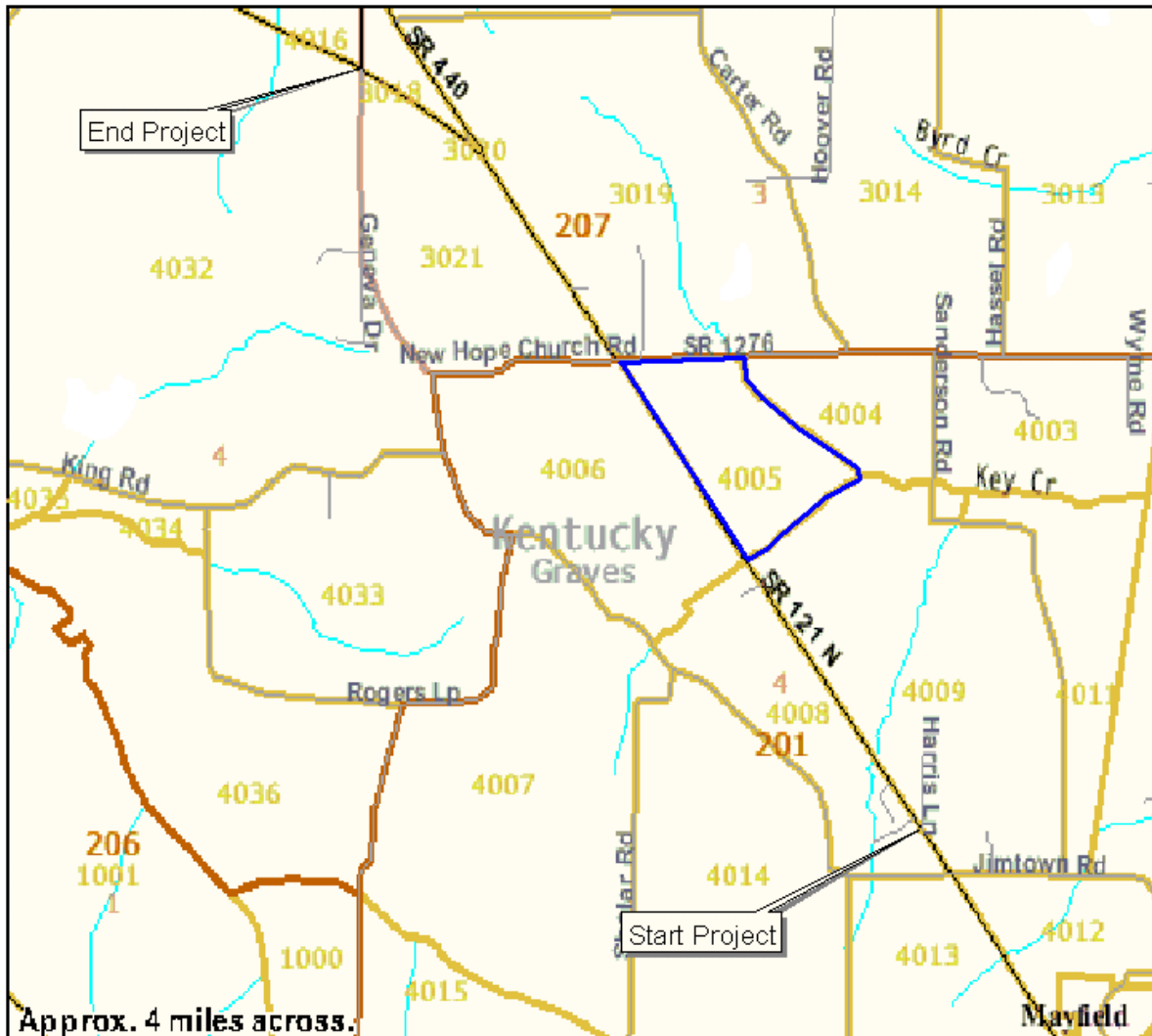


# Graves County

## Item No. 1-8100.00



Figure 4.5: Location of Minority Blocks



Location of Minority Blocks  
Block 4005 = 15.4%

THIS DOCUMENT WAS PREPARED BY COOPERATION WITH THE KENTUCKY TRANSPORTATION CABINET

The Kentucky Transportation Cabinet methodology states to compare demographics for the county, state, nation and other nearby CTs and BGs. BG 1 CT 206 and BG 1 CT 209 are used as comparison data to the BGs in the project area. The comparison BG data is shown in Table 4.5.

**Table 4.5 2000 Census Data by Race at Block Group Level (Comparison Area)**

	Project Area			Comp. Area			
	Kentucky	Purchase ADD	Graves County	Block Group 4 Tract 201	Block Group 3 Tract 207	Block Group 1 Tract 206	Block Group 1 Tract 209
Total Population	4,041,769	193,495	37,028	1,074	745	1,365	1,608
White alone	3,610,112	175,186	34,085	1,052	702	1,365	1,593
Black or Africa American alone	291,735	12,663	1,519	22	43	0	8
Hispanic or Latino	56,414	2213	867	0	0	0	0
American Indian and Alaska Native alone	8,424	346	64	0	0	0	0
Asian alone	28,697	932	133	0	0	0	0
Native Hawaiian and Other Pacific Islander alone	947	0	0	0	0	0	0
Some other race alone	3,303	79	17	0	0	0	0
Two or more races	42,137	2076	343	0	0	0	7
Total Minority Population	431,657	18,309	2943	22	43	0	15
% Minority Population	9.4	9.5	7.9	2.0	5.7	0.0	0.9

Source: US Census Bureau, Census 2000

According to the previous Tables and Figures there is no significant concentration of minorities within the project area. Although CB 4005 has a higher percentage minority population than the reference threshold, the size, total population (26) and total minority population (4) should be considered in project planning. Based on this data, there is not a sufficient minority population or concentration in the project area for an environmental justice community.

#### 4.2 Low-Income Population Analysis

Low-Income populations were studied in the project area using the same methodology as described in the previous section. Poverty levels are examined using the census geographic units, however, income data is not available at the CB level so the BG level is used to determine low-income population communities. Listed in Table 4.6 is the census data for poverty levels in the project area.

There is a higher percentage of the county population (16.4%) that lives below the poverty level than in the region (15.0%) or in the state (15.8%). The county percentage of 16.4% will be used as the reference point because it is the higher percentage. Since data at the CB level is not available it is not feasible to determine where populations of low-income persons live within the BGs. Based on the data available at the BG level if 16.4% is the threshold then none of the BGs in the project area would be considered low-income populations.

**Table 4.6 1999 Census Data for Poverty Levels**

	United States	Kentucky	Purchase ADD	Graves County	Block Group 4 Tract 201	Block Group 3 Tract 207
Total Population	273,882,232	3,927,047	186,722	36,161	956	745
Population Below Poverty Level	33,889,812	621,096	27,972	5,921	48	90
% Population Below Poverty Level	12.4	15.8	15.0	16.4	5.0	12.1

Source: US Census Bureau, Census 2000

Table 4.7 includes listings of income levels for the comparison area (BG 1 CT 206 & BG 1 CT 209). The comparison area has one BG that is slightly lower than the county average. This comparison most likely demonstrates the similarities in poverty levels throughout the county.

**Table 4.7 1999 Census Data for Poverty Levels (Comparison Area)**

	Kentucky	Purchase ADD	Graves County	Project Area		Comp. Area	
				Block Group 4 Tract 201	Block Group 3 Tract 207	Block Group 1 Tract 206	Block Group 1 Tract 209
Total Population	3,927,047	186,722	36,161	956	745	1,365	1,592
Population Below Poverty Level	621,096	27,972	5,921	48	90	221	115
% Population Below Poverty Level	15.8	15.0	16.4	5.0	12.1	16.2	7.2

Source: US Census Bureau, Census 2000

### 4.3 Population by Age

Table 4.8 shows the data for population by age in the project area. Both BGs in the project area have higher percentage of residents 62+ compared to the state and nation. BG 4 CT 201 has a higher percentage (19.0%) than the county (18.8%) but slightly less percentage than the region (19.2%). BG 3 CT 207 has a slightly lower percentage (17.3%) than both the region and the county.

**Table 4.8 2000 Census Data for Age 62+**

	United States	Kentucky	Purchase ADD	Graves County	Block Group 4 Tract 201	Block Group 3 Tract 207
Total Population	281,421,906	4,041,769	193,495	37,028	1,074	745
# Persons Age 62+	41,251,503	601,361	36,93	6971	204	129
% Persons Age 62+	14.7	14.9	19.2	18.8	19.0	17.3

Source: US Census Bureau, Census 2000

Because of the BG percentages being higher than the state and similar to the region and county CB data was obtained to determine if population concentrations for Age 62+ are present in the project area. Using the ODOT threshold methodology, the county percentage (18.8%) will be the reference point for determining population concentrations. The county percentage, while lower than the region percentage, is used because it is only slightly lower than the region and is more representative of the project area. Analysis ranges are outlined in Table 4.9.

**Table 4.9: Elderly Population (62+) Analysis Ranges**

<u>Analysis Range</u>	<u>Percent Minority</u>
Significantly Above Threshold	> 23.5%
Just Above Threshold	18.8% - 23.5%
<b>Reference Threshold (County Percentage)</b>	<b>18.8%</b>
Just Below Threshold	14.1% - 18.8%
Significantly Below Threshold	< 14.1%

There are four CBs in the project area that are above the 18.8% threshold: 3021 (23.5%), 4005 (19.2%), 4006 (18.9%) and 4009 (24.0%). These areas are highlighted in Figure 4.6.

Areas that have percentages just above the reference threshold (between the reference threshold and twenty-five percent above the reference threshold) may or may not be considered part of the target population depending on the number of residents, location, percentage, and size of the area. The CBs are not highly populated with elderly residents in relation to total population as shown in Tables 4.10 and 4.11. Although there may be a high percentage of elderly residents 62+ there is not necessarily a concentrated population but these areas should be noted in future project planning and design.

**Table 4.10: 2000 Census Data for Age 62+ in Block Group 3, Census Tract 207**

	Graves County	Block 3018	Block 3019	Block 3020	Block 3021
Total Population	37,028	15	157	0	34
#Persons Age 62+	6971	0	22	0	8
% Persons Age 62+	18.8	0.0	14.0	0.0	23.5

Source: US Census Bureau, Census 2000

**Table 4.11: 2000 Census Data for Age 62+ in Block Group 4, Census Tract 201**

	Graves County	Block 4005	Block 4006	Block 4008	Block 4009
Total Population	37,028	26	74	51	96
#Persons Age 62+	2943	5	14	6	23
% Persons Age 62+	7.9	19.2	18.9	11.8	24.0

Source: US Census Bureau, Census 2000

Table 4.12 includes listings of Age 62+ levels for the comparison area (BG 1 CT 206 & BG 1 CT 209). The comparison area has percentages very similar to the project area. This comparison most likely demonstrates the similarities in census data for age 62+ throughout the county.

**Table 4.12 2000 Census Data for Age 62+ (Comparison Area)**

	Kentucky	Purchase ADD	Graves County	Project Area		Comp. Area	
				Block Group 4 Tract 201	Block Group 3 Tract 207	Block Group 1 Tract 206	Block Group 1 Tract 209
Total Population	4,041,769	193,495	37,028	1,074	745	1,365	1,608
#Persons Age 62+	601,361	36,93	6971	204	129	292	256
% Persons Age 62+	14.9	19.2	18.8	19.0	17.3	21.4	15.9

Source: US Census Bureau, Census 2000



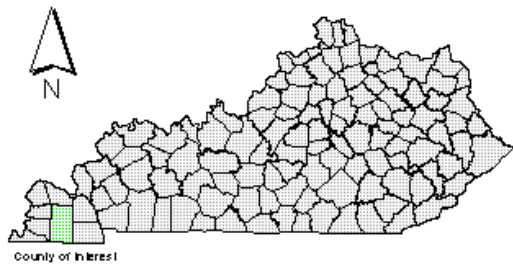
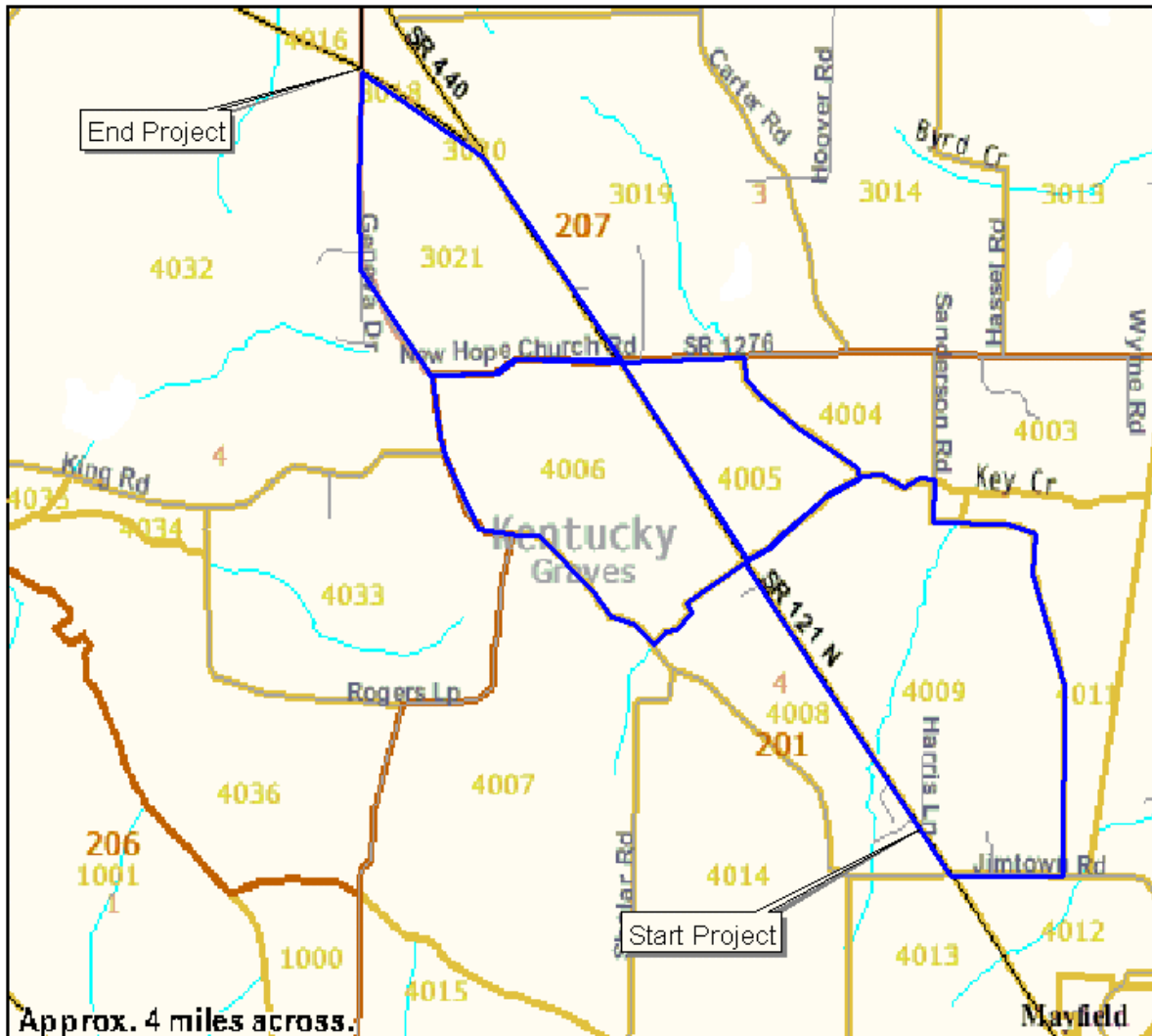


# Graves County

## Item No. 1-8100.00



Figure 4.6: Location of Elderly Population Blocks



Location of Elderly Population Blocks

Census Tract 201 Block Group 4	Census Tract 207 Block Group 3
Block 4005 = 19.2%	Block 3021 = 23.5%
Block 4006 = 18.9%	
Block 4009 = 24.0%	

THIS DOCUMENT WAS PREPARED BY COOPERATION WITH THE KENTUCKY TRANSPORTATION CABINET

## **5.0 CONCLUSION**

Based on data obtained from the U.S. Census Bureau for income and race, discussions with local officials and field observations there is no defined Environmental Justice community within the project area. Analysis of the minority population data showed one CB having a percentage higher than the reference threshold percentage. This CB should be noted during project planning and design but there is not a sufficient minority population in the project area for an environmental justice community. Age analysis of the project area indicates that there is a distribution of elderly residents in the project area but no specific concentrations of elderly residents.