

**APPENDIX C:
ENVIRONMENTAL JUSTICE REVIEW**

US 51 STUDY IN BARDWELL

DRAFT WORKING PAPER

ENVIRONMENTAL JUSTICE REVIEW

Prepared for

Kentucky Transportation Cabinet (KYTC) – Division of Planning

Kentucky Transportation Cabinet (KYTC) – District 1



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TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	WHAT IS ENVIRONMENTAL JUSTICE	1
3.0	METHODOLOGY	2
4.0	CENSUS DATA	2
4.1	Minority Population Analysis	3
4.2	Low-Income Population Analysis	6
4.3	Population by Age.....	9
5.0	CONCLUSIONS	11

TABLE OF TABLES

Table 4.1: 2000 Census Data by Race at Block Group Level	5
Table 4.2: 2000 Census Data by Race for Blocks in Block Group 1	5
Table 4.3: 1999 Census Data for Poverty Levels	6
Table 4.4: 2000 Census Data for Age 62+	9
Table 4.5: 2000 Census Data for Age 62+ by Blocks for Block Group 1	10
Table 4.6: 2000 Census Data for Age 62+ by Blocks for Block Group 2	11

TABLE OF FIGURES

Figure 4.1: Census Tract 9602 and Block Groups 1 and 2 in Carlisle County.....	4
Figure 4.2: Location of Minority Blocks in Bardwell	7
Figure 4.3: Location of Minority Blocks in Study Area Surrounding Bardwell	8
Figure 4.4: Location of Concentrated Elderly Population Blocks in Bardwell	12
Figure 4.5: Location of Concentrated Elderly Population Blocks in Study Area Surrounding Bardwell	13

1.0 INTRODUCTION

This report presents a review of community characteristics for the US 51 Project Area in the town of Bardwell (Carlisle County). The data used in the report comes from the U.S. Census Bureau, local officials meetings, stakeholder interviews, and field observations. The information and results are intended to assist the Kentucky Transportation Cabinet in making informed and prudent transportation decisions in the study area, especially with regard to the requirements of *Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (signed on February 11, 1994). Executive Order 12898 states:

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

The report outlines the portions of the community that may be considered minority or low-income population areas. It also highlights concentrations of elderly residents.

2.0 WHAT IS ENVIRONMENTAL JUSTICE

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

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

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

The U.S. DOT order defines minority as:

1. Black (a person having origins in any of the black racial groups of Africa);
2. Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
3. Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or

4. American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).

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

A disproportionately high and adverse effect on a minority or low-income population means an adverse effect that:

1. is predominately borne by a minority population and/or a low-income population, or
2. will be suffered by the minority population and/or low-income population and is appreciable 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.

An Environmental Justice community is therefore an identified minority or low-income population or concentration as defined above. These populations or concentrations are identified in this report as census areas exceeding a specified threshold level as outlined in the analysis section below.

Elderly populations (age 62 or above in this analysis) are not specifically recognized under the definition of an Environmental Justice community. However, the U.S. DOT specifically encourages the early examination of potential populations of the elderly, children, disabled, and other populations protected by Title VI of the Civil Rights Act of 1964 and related nondiscrimination statutes.

3.0 METHODOLOGY

Data for this study was collected from four primary sources: U.S. Census Data, meetings with local leaders, map and aerial photo reviews, and field observations. The U.S. Census Data used in the report includes:

- Census 2000 Population by Race and Hispanic Origin
- 1999 Poverty Status by Age for Census Block Groups
- Census 2000 Population by Age

The data was compiled with maps and tables to present a detailed description of the community conditions for the Bardwell project area in Carlisle County.

4.0 CENSUS DATA ANALYSIS

U.S. Census data is arranged according to geographic unit. For this study, data is presented at the national, state, county, town, census tract, block group, and census

block levels. According to the U.S. Census Bureau, the definitions of census tracts, block groups, and census blocks are as follows:

- **Census Tract** – “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. Census tracts generally contain between 1,000 and 8,000 people. Census tract boundaries are delineated with the intention of being stable over many decades, so they generally follow relatively permanent visible features. However, they may 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 census tract. A BG consists of all tabulation blocks whose numbers begin with the same digit in a census tract. BGs generally contain between 300 and 3,000 people, with an optimum size of 1,500 people.”
- **Census Block** (or referred to as simply block) – “An area bounded on all sides by visible and/or nonvisible features shown on a map prepared by the Census Bureau. A block is the smallest geographic entity for which the Census Bureau tabulates decennial census data.”

The study area lies primarily within census tract 9602, but also includes a very small portion of census tract 9603. The small portion of tract 9603 is insignificant and omitted from the data sets provided in this report. The location of tract 9602 is shown in Figure 4.1 along with the two blocks groups that comprise tract 9602. Data is presented for these two block groups along with data for the town, county, state, and nation for comparison.

4.1 Minority Population Analysis

Carlisle County has a low minority population percentage (2.3%) compared to both the state (10.7%) and national (30.9%) averages as shown in Table 4.1. The town of Bardwell has a slightly higher minority population percentage (5.4%), but it is still half of the statewide percentage. However, to determine if there is an identifiable minority population in the study area, the two block groups making up census tract 9602 were examined.

Block Group 1 has a slightly higher minority percentage (6.3%) compared to the county and town averages, but is well below the statewide average as shown in Table 4.1. The minority percentage in Block Group 2 (1.6%) is lower than both the town and county averages.

Figure 4.1: Census Tract 9602 and Block Groups 1 and 2 in Carlisle County

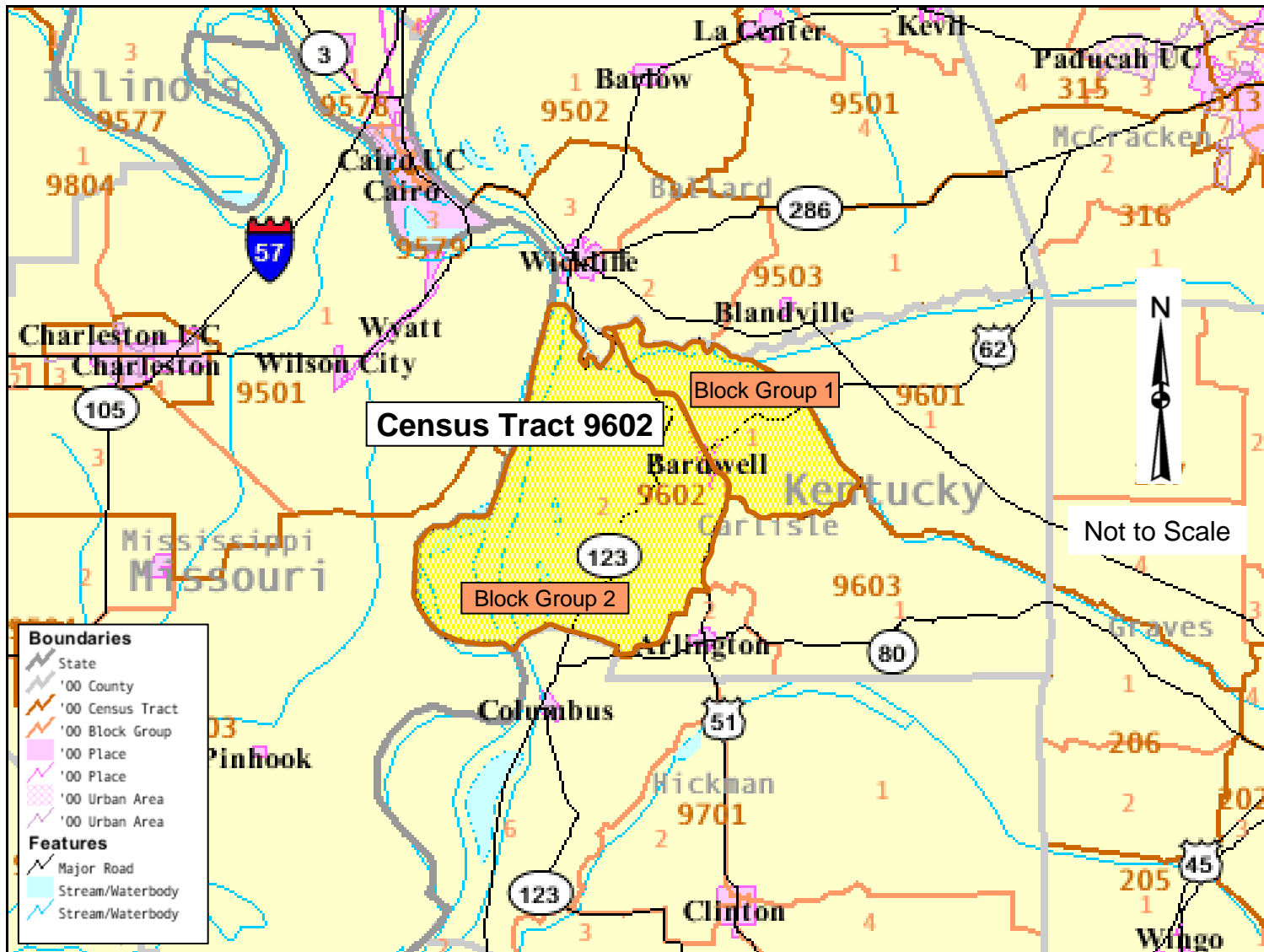


Table 4.1: 2000 Census Data by Race at Block Group Level

	United States	Kentucky	Carlisle County	Bardwell	Block Group 1	Block Group 2
Total Population	281,421,906	4,041,769	5,351	799	891	1,085
White alone	194,552,774	3,608,013	5,204	756	835	1,068
Black or African American alone	33,947,837	293,639	51	24	22	4
Hispanic or Latino	35,305,818	59,939	44	14	18	9
American Indian and Alaska Native alone	2,068,883	7,939	20	5	3	2
Asian alone	10,123,169	29,368	4	0	2	0
Native Hawaiian and Other Pacific Islander alone	353,509	1,275	0	0	0	0
Some other race alone	467,770	3,846	0	0	0	0
Two or more races	4,602,146	37,750	28	0	11	2
Total Minority Population	86,869,132	433,756	147	43	56	17
Percent Minority Population	30.9	10.7	2.3	5.4	6.3	1.6

Source: U.S. Census Bureau, Census 2000

Based on the U.S. DOT definition of minority populations it appears that there is no “readily identifiable” group of minority persons living within the study area. However, race data is available at the block level, and was examined for any small concentrations of minorities within each block group. A method developed by the Ohio Department of Transportation (ODOT)¹ to identify target populations of minorities or low-income residents is applied in this report.

The first step for determining a target population of minorities is to determine the regional or statewide average percentage of the minority population. In this case the statewide average of 10.7 percent is used since the county average is very low. The next step is to use this number as the reference threshold population percentage for defining a minority target area. Using 10.7 percent as the threshold percentage, the blocks from Block Group 1 that have higher percentages of minorities are listed in Table 4.2. Examination of the data for Block Group 2 revealed there are no blocks within the study area with a percentage of minorities greater than the threshold percentage.

Table 4.2: 2000 Census Data by Race for Blocks in Block Group 1

	Kentucky	Block 1019	Block 1025	Block 1039	Block 1049	Block 1055	Block 1067	Block 1068
Total Population	4,041,769	9	1	33	39	23	10	5
Total Minority Population	433,756	4	1	9	10	3	5	4
Percent Minority Population	10.7	44.4	100.0	27.3	25.6	13.0	50.0	80.0

Source: U.S. Census Bureau, Census 2000

The final step is to plot the locations of minorities on a map to identify the boundaries of any minority communities. Areas with percentages of minorities between the reference

¹ Ohio Transportation EJ Guidance, Ohio Department of Transportation, August 2002, Pages 10-11.

threshold and twenty-five percent above may or may not be considered part of the target population depending on the relative significance of the area compared to the other minority areas. Typically, any population percentages twenty-five percent above the threshold value are considered part of the target population. In this case, twenty-five percent above the reference threshold is 13.4 percent. As shown in Table 4.2, only one block has a percentage between 10.7 and 13.4 percent (Block 1055). This block is mapped to determine its relationship to the other blocks with higher percentages of minorities. Figures 4.2 and 4.3 illustrate the location of the blocks listed in Table 4.2 relative to the study area.

According to Figure 4.2, there is no significant concentration of minorities within Bardwell. There is a small group located adjacent to US 51 represented by blocks 1049, 1055, 1067, and 1068. However, the population of minorities for this total area is only 22. Throughout the study area surrounding Bardwell, there is only one block (1025) that has a percentage of minorities greater than 10.7 percent. Based on this data, there is not a sufficient minority population or concentration in the study area for an Environmental Justice community.

4.2 Low-Income Population Analysis

Listed in Table 4.3 is data for poverty levels by geographic unit. Both Block Groups 1 and 2 (20.1 and 18.3 percent) are slightly higher than the county average of 13.1 percent, the state average of 15.8 percent, and the national average of 12.4 percent. However, they are lower than the town average of 24.3 percent.

Using the ODOT method described in the previous section, the reference threshold set for this analysis of income data is the county average of 13.1 percent. Both block groups would be considered part of the target population for a low-income community because they have percentages of low-income residents higher than the threshold value. Data at the block level is not available; therefore, it is not feasible to determine where populations of low-income residents live in the block groups. As a result, the available data indicates that there could be concentrations of low-income residents in Bardwell, but without more conclusive data, it is not possible to determine the locations of these populations.

Table 4.3: 1999 Census Data for Poverty Levels

	United States	Kentucky	Carlisle County	Bardwell	Block Group 1	Block Group 2
Total Population	273,882,232	3,927,047	5,269	799	878	1,078
Population Below Poverty Level	33,899,812	621,096	691	194	176	197
% Population Below Poverty Level	12.4	15.8	13.1	24.3	20.1	18.3

Source: U.S. Census Bureau, Census 2000

Figure 4.2: Location of Minority Blocks in Bardwell

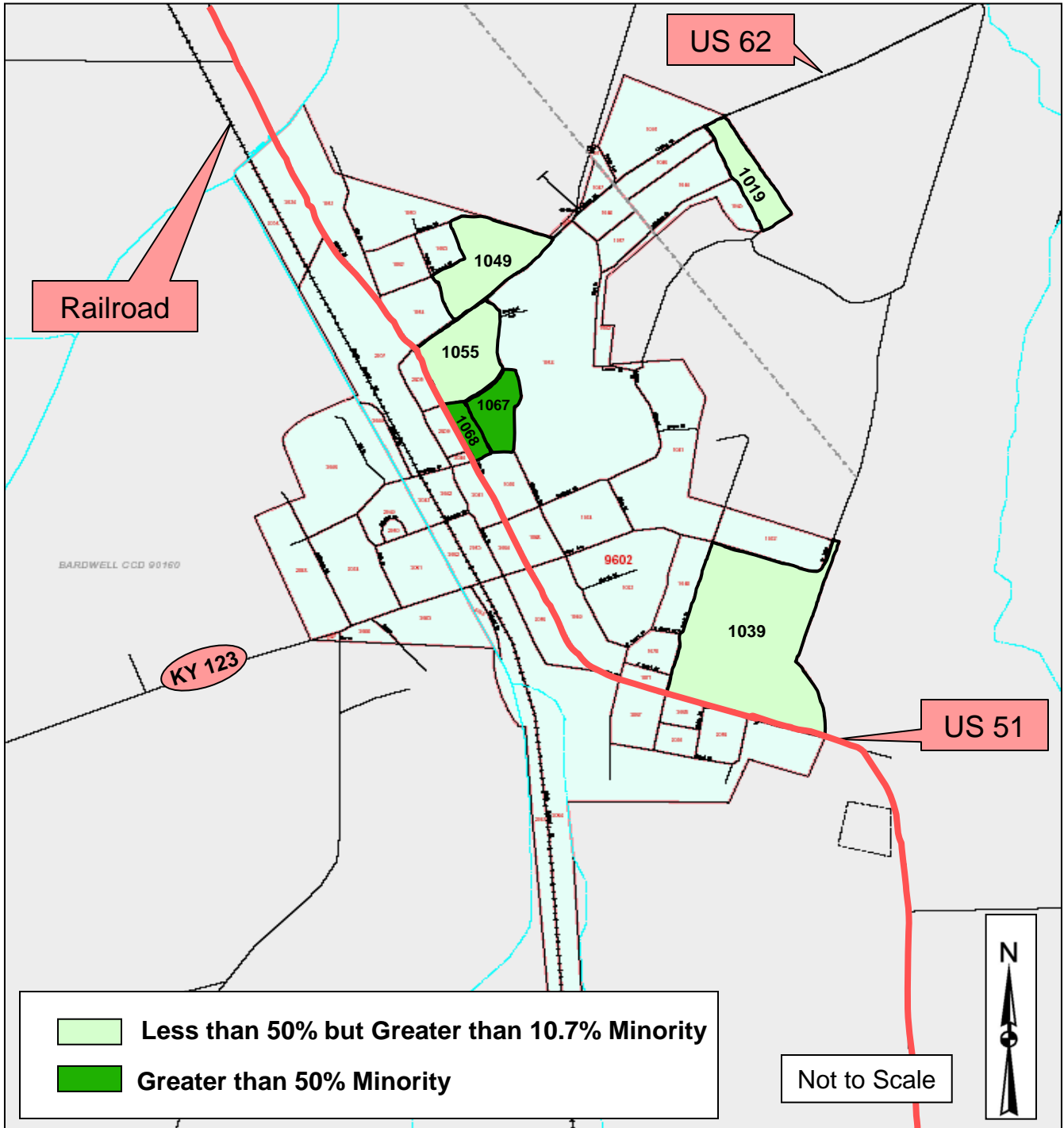
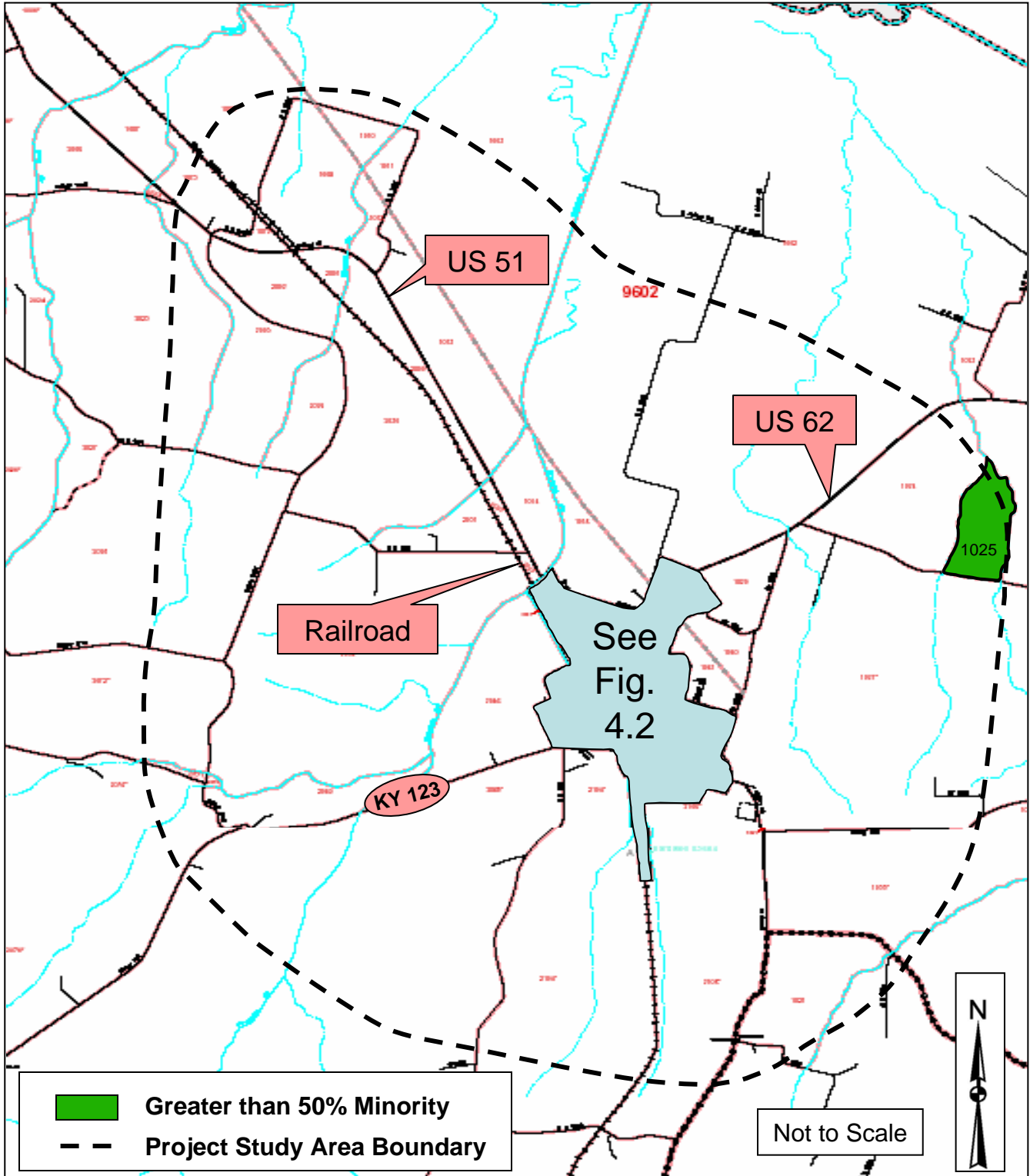


Figure 4.3: Location of Minority Blocks in Study Area Surrounding Bardwell



4.3 Population by Age

Data for the project study area based on age is shown in Table 4.4. At the block group level, both Block Groups 1 and 2 have a higher percentage of residents over the age of 62 compared to the state and nation. However, only Block Group 1 has a higher percentage of the elderly (26.5) compared to the county average of 21.1 percent. Block Group 1 also has a similar percentage of elderly residents (26.5 percent) compared to the town of Bardwell (26.3 percent).

Table 4.4: 2000 Census Data for Age 62+

	United States	Kentucky	Carlisle County	Bardwell	Block Group 1	Block Group 2
Total Population	281,421,906	4,041,769	5,351	799	891	1,085
# Persons 62 Years and Older	41,256,029	601,762	1,128	210	236	217
% Persons 62 Years and Older	14.7	14.9	21.1	26.3	26.5	20.0

Source: U.S. Census Bureau, Census 2000

Using the ODOT method, the threshold value is the county value of 21.1 percent. Only Block Group 1 is higher than the threshold value, but Block Group 2 will still be examined to determine if there are any blocks within the block group that exceed the threshold.

To determine if there are any population concentrations of residents age 62 or older in either block group, additional data for the block level was obtained. Using 21.1 percent as the threshold percentage, the blocks from Block Groups 1 and 2 that have percentages higher than the threshold are listed in Tables 4.5 and 4.6.

To identify the boundaries of any elderly communities within the study area, the blocks listed in Tables 4.5 and 4.6 are mapped in Figures 4.4 and 4.5. Blocks with percentages of the elderly between the reference threshold value of 21.1 percent and twenty-five percent above the threshold value (26.4 percent) may or may not be considered part of the target population depending on the relative significance of the block compared to the other elderly areas. Typically any population percentages twenty-five percent above the threshold value are considered part of the target population.

As shown in Figures 4.4 and 4.5, there are many blocks scattered throughout the study area with a percentage of elderly residents higher than the threshold value of 21.1 percent. There is no particular concentration of the blocks; therefore there is no specific community of elderly residents. However, a concern that is identified by this analysis is that the frequency of blocks with an elderly percentage greater than 21.1 percent indicates that there are a significant number of elderly residents in Bardwell and the surrounding area. This high concentration of the elderly throughout the study area should be taken into account in the project planning and any future design.

Table 4.5: 2000 Census Data for Age 62+ by Blocks for Block Group 1

	Total Population	# Persons 62 Years and Older	% Persons 62 Years and Older
Carlisle County	5,351	1128	21.1
Block 1002	38	8	21.1
Block 1015	8	4	50.0
Block 1018	1	1	100.0
Block 1019	9	3	33.3
Block 1021	36	13	36.1
Block 1024	9	3	33.3
Block 1025	1	1	100.0
Block 1036	6	2	33.3
Block 1038	7	3	42.9
Block 1039	33	7	21.2
Block 1040	5	3	60.0
Block 1042	23	8	34.8
Block 1043	21	10	47.6
Block 1044	19	8	42.1
Block 1045	10	6	60.0
Block 1046	12	5	41.7
Block 1051	7	3	42.9
Block 1052	13	3	23.1
Block 1053	17	7	41.2
Block 1056	56	22	39.3
Block 1060	13	4	30.8
Block 1064	26	16	61.5
Block 1066	12	12	100.0
Block 1067	10	4	40.0
Block 1069	31	8	25.8

Source: U.S. Census Bureau, Census 2000

Table 4.6: 2000 Census Data for Age 62+ by Blocks for Block Group 2

	Total Population	# Persons 62 Years and Older	% Persons 62 Years and Older
Carlisle County	5,351	1,128	21.1
Block 2001	13	9	69.2
Block 2003	14	4	28.6
Block 2024	2	2	100.0
Block 2026	12	3	25.0
Block 2030	19	6	31.6
Block 2046	4	2	50.0
Block 2051	15	5	33.3
Block 2054	3	1	33.3
Block 2055	16	7	43.8
Block 2058	4	2	50.0
Block 2059	15	4	26.7
Block 2060	6	2	33.3
Block 2062	8	2	25.0
Block 2063	13	4	30.8
Block 2065	14	4	28.6
Block 2066	2	1	50.0
Block 2068	84	18	21.4
Block 2076	56	18	32.1

Source: U.S. Census Bureau, Census 2000

5.0 CONCLUSIONS

Based on race and income data obtained from the U.S. Census Bureau and input from the community of Bardwell, there is no defined Environmental Justice community within the project study area. Analysis of the age distribution in the study area indicates that there is no specific concentration of residents 62 years or older, but there is a high distribution of elderly residents in the study area.

Figure 4.4: Location of Concentrated Elderly Population Blocks in Bardwell

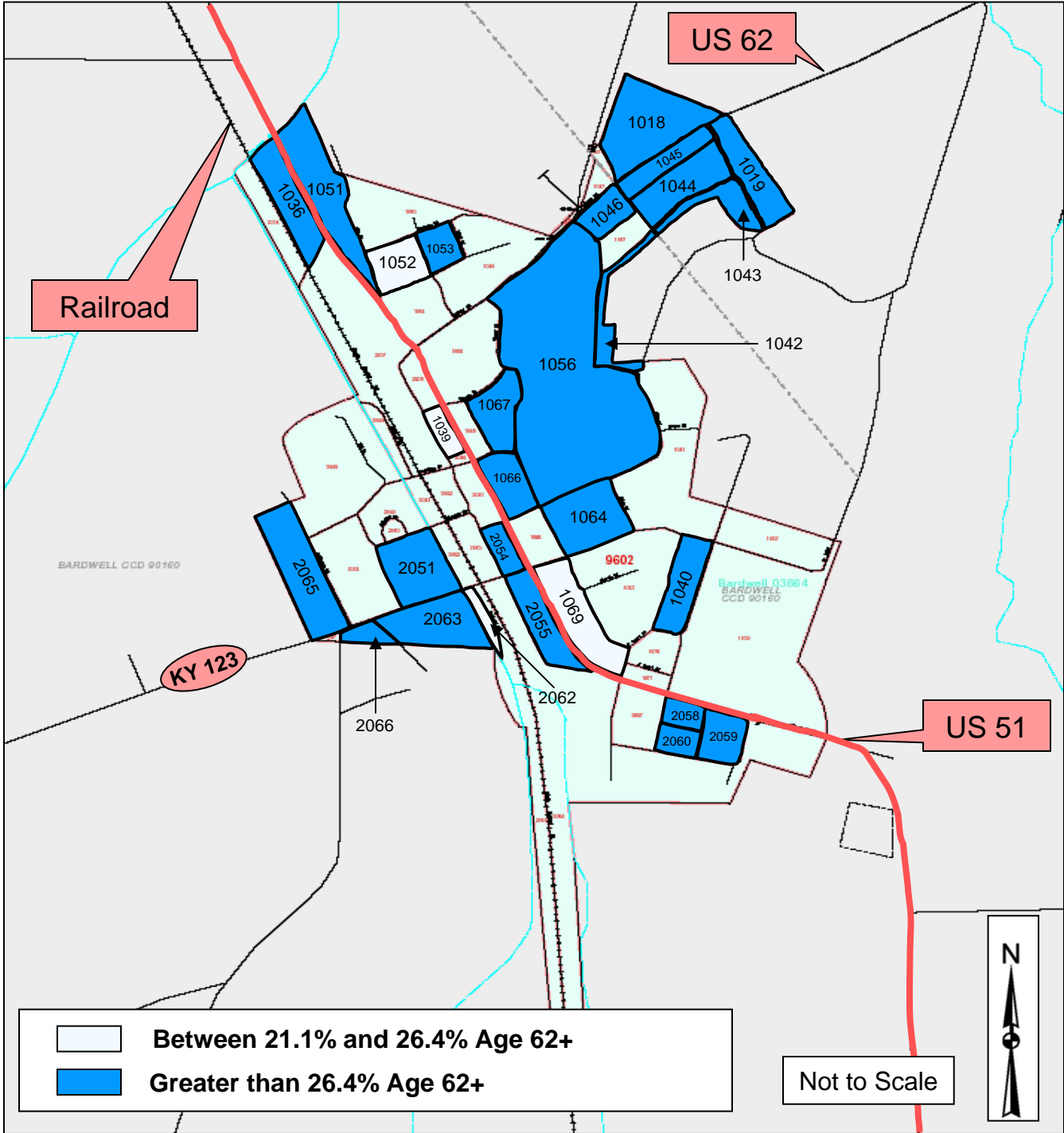


Figure 4.5: Location of Concentrated Elderly Population Blocks in Study Area Surrounding Bardwell

