

## Appendix J

### Socioeconomic Study by KIPDA

# KY 1932 / Chenoweth Lane Corridor Study

US 60 (Shelbyville Road)  
to US 42 (Brownsboro Road)



## Socioeconomic Study

Jefferson County, Kentucky

# **KY 1932 / Chenoweth Lane Corridor Study**

**US 60 (Shelbyville Road)  
to US 42 (Brownsboro Road)**

## **Socioeconomic Study**

**Jefferson County, Kentucky**

December 2015

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## INTRODUCTION

This socioeconomic study documents the identification of potential Environmental Justice populations and other potential affected populations within the defined KY 1932/Chenoweth Lane study area corridor from US 60 (Shelbyville Road) to US 42 (Brownsboro Road) in Jefferson County, Kentucky (Figure 1). This report has been prepared by the Kentuckiana Regional Planning and Development Agency in support of a Kentucky Transportation Cabinet corridor study.

## PURPOSE

The purpose of this study is to:

- assist the Kentucky Transportation Cabinet in carrying out its mission “To provide a safe, efficient, environmentally sound and fiscally responsible transportation system that delivers economic opportunity and enhances the quality of life in Kentucky;”
- fulfill applicable federal commitments to Environmental Justice populations and other identified populations; and
- further the goals and objectives and cooperative nature of the metropolitan transportation planning process.

The report is focused on identifying, through demographic analysis, the extent to which potential Environmental Justice populations and other potential affected groups reside in or near the study area corridor.

## BACKGROUND

Environmental Justice is based primarily on the principles of Title VI of the *Civil Rights Act of 1964*, wherein each Federal agency is required to ensure that no person on the grounds of race, color, or national origin, is excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving federal financial assistance. In the context of transportation planning, Environmental Justice broadly refers to the goal of identifying and avoiding disproportionate adverse impacts on minority and low-income individuals and communities. For the purposes of this document, Environmental Justice has been addressed through the following:

- ***Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*** (February 11, 1994)

The order reads, in part: “*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.*”

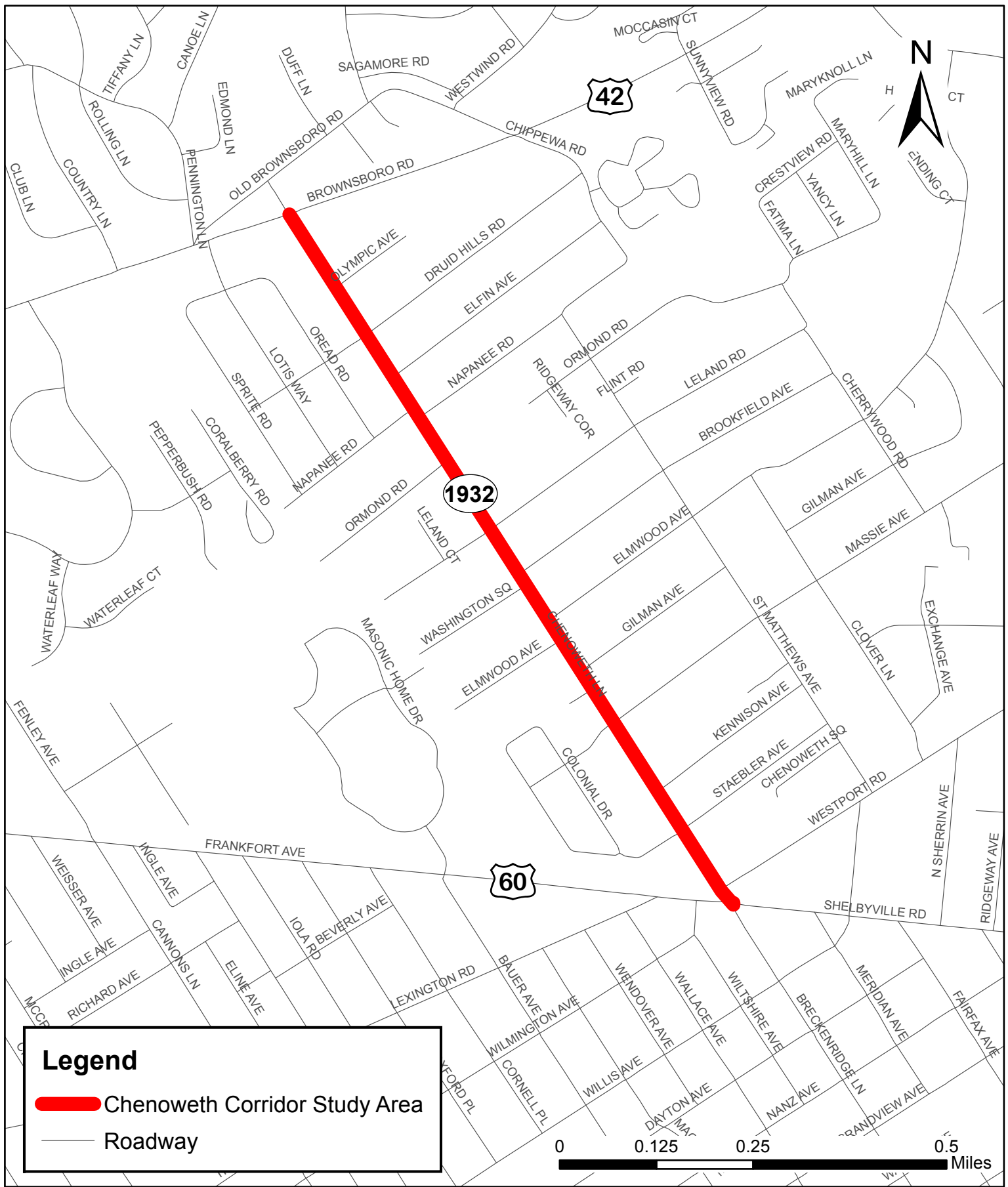


Figure 1

## STUDY AREA CORRIDOR

KY 1932/CHENOWETH LANE  
 CORRIDOR STUDY  
 US 60 (SHELBYVILLE RD) TO US 42 (BROWNSBORO RD)



- **U.S. Department of Transportation Order 5610.2:** *Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (April 15, 1997—superseded by USDOT Order 5601.2(a))

The order reads, in part: “*Planning and programming activities that have the potential to have a disproportionately high and adverse effect on human health or the environment shall include explicit consideration of the effects on minority populations and low-income populations.*”

- **Federal Highway Administration Order 6640.23:** *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (December 2, 1998—cancelled by FHWA Order 6640.23A)

The order reads, in part: “*...it is FHWA’s continuing policy to identify and prevent discriminatory effects by actively administering its programs, policies and activities to ensure that social impacts to communities and people are recognized early and continually throughout the transportation decision making process—from early planning through implementation.*”

- **U.S. Department of Transportation Order 5610.2(a):** *Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (May 2, 2012)

The order cancels USDOT Order 5610.2, but is, for the most part, a reaffirmation of the original order. The definitions of Minority populations have been adjusted to comply with Office of Management and Budget (OMB) race and ethnicity classification standards. The order also clarifies the distinction between a Title VI analysis and an environmental justice analysis conducted as part of a NEPA review.

- **Federal Highway Administration Order 6640.23A:** *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (June 14, 2012)

The order cancels FHWA Order 6640.23, but is, for the most part, a reaffirmation of the original order. The governing authorities have been updated to include Executive Order 12898, DOT Order 5610.2(a), Title VI of the Civil Rights Act of 1964, Title 23 USC Section 109(h), NEPA, Title 49 CFR Part 21.9(b), 23 CFR 200.9(b)(4), and the Uniform Relocation Assistance and Real Property Acquisition Act of 1970. The definitions of Minority populations have also been adjusted to comply with Office of Management and Budget (OMB) race and ethnicity classification standards.

- **Civil Rights Act of 1964, Title VI (42 USC § 2000d et seq):**

Title VI 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.

This report attempts to apply current state of the practice procedures and data to provide the information needed to “... *ensure that the interests and well-being of minority populations and low-income populations are considered and addressed during the transportation decision-making process.*”

Additional groups included in this socioeconomic study are older persons, persons with disabilities, zero vehicle households, and persons with limited English proficiency. While the above Environmental Justice orders and Title VI of the Civil Rights Act do not directly address these additional populations, they are included in this analysis per guidance issued by the Kentucky Transportation Cabinet Division of Planning and the Kentucky Transportation Cabinet Division of Environmental Analysis, and as a matter of good planning practice. These other groups are addressed through the following:

- ***Age Discrimination Act of 1975 (42 USC § 6101):***

This act affirms that 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 (29 USC §794 et seq):***

The act states that no qualified handicapped person shall, solely by reason of his handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity that receives or benefits from federal financial assistance.

- ***Americans with Disabilities Act of 1990 (42 USC §12131 et seq):***

The Americans with Disabilities Act (ADA) declares that 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 13166: Improving Access to Services for Persons With Limited English Proficiency*** (August 11, 2000)

The Limited English Proficiency (LEP) order directs federal agencies to evaluate services provided and implement a system that ensures LEP persons are able to meaningfully access the services provided consistent with, and without unduly burdening, the fundamental mission of each federal agency.



## RESOURCES/REFERENCES

In addition to the orders and acts listed above, the following resources have been consulted for information and guidance in conducting this study:

- *Methodology for Assessing Underserved Populations Including Environmental Justice, Title VI, Age, and Disability Considerations in Conjunction with KYTC Planning Studies* – Kentucky Transportation Cabinet Division of Planning, September 2014
- *KYTC Guidance for Environmental Justice Analysis* – Kentucky Transportation Cabinet Division of Environmental Analysis, September 2014
- *Community Assessment and Outreach Program for the Louisville (KY-IN) Metropolitan Planning Area for Title VI/Environmental Justice and Other Communities of Concern* – Kentuckiana Regional Planning and Development Agency, July 2006
- *Environmental Justice/Title VI Plan* – Kentuckiana Regional Planning and Development Agency, October 2004
- *Effective Methods for Environmental Justice Assessment* – National Cooperative Highway Research Program (NCHRP) Report 532, September 2004
- *Technical Methods to Support Analysis of Environmental Justice Issues* – NCHRP Project 8-36 (11), April 2002
- *Community Impact Assessment: A Quick Reference for Transportation*, FHWA, September 1996
- *Webinar Series on Environmental Justice: Guidance for Conducting Community Impact Assessments* – USDOT, December 6, 2012
- US Census Bureau, 2009-2013 American Community Survey (ACS)

## TERMINOLOGY

This assessment makes use of several terms, some of which may be unique to the Environmental Justice process. Their definitions may similarly have specific application limited to these procedures. For example, according to the United States Department of Transportation and the Federal Highway Administration, the following terms and definitions shall be used:

**Minority Persons** include persons whose race can be identified as any one or more of the following categories:

- *Black*—persons having origins in any of the black racial groups of Africa;
- *Asian-American*—persons having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent;
- *American Indian and Alaskan Native*—persons having origins in any of the original people of North America, South America (including Central America), and who maintain cultural identification through tribal affiliation or community recognition; and
- *Native Hawaiian and Other Pacific Islander*—persons having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

Minority populations also include persons of any race or combination of races who identify their ethnicity, culture, or origin as *Hispanic or Latino*. Hispanics are persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin.

**Minority Population** means any readily identifiable group of minority persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed USDOT or FHWA program, policy, or activity.

**Persons with Low-Income** include persons whose median household income is at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines (Table 1).

**TABLE 1**  
**2014 HHS Poverty Guidelines**

Persons in Family	48 Contiguous States and DC	Alaska	Hawaii
1	\$11,670	\$14,580	\$13,420
2	15,730	19,660	18,090
3	19,790	24,740	22,760
4	23,850	29,820	27,430
5	27,910	34,900	32,100
6	31,970	39,980	36,770
7	36,030	45,060	41,440
8	40,090	50,140	46,110
For each additional person, add	4,060	5,080	4,670

Source: *Federal Register*, Vol. 79, No. 14, January 22, 2014, pp. 3593-3594

Table 1 depicts the 2014 version of the *poverty guidelines* issued annually in the *Federal Register* by the U.S. Department of Health and Human Services. The guidelines are used for administrative purposes, such as determining financial eligibility for certain federal programs, and are a simplification of Census Bureau *poverty thresholds* (Table 2). As with the guidelines, the thresholds are updated each year, but are used for statistical purposes such as estimating the number of persons in poverty.

**TABLE 2**  
**Poverty Thresholds for 2013, by Size of Family and Number of Related Children Under 18 Years**

Size of Family Unit	Weighted Average Thresholds	Related Children Under 18 Years								
		None	One	Two	Three	Four	Five	Six	Seven	Eight or More
One person (unrelated individual)	\$11,888									
Under 65 years	\$12,119	\$12,119								
65 years and over	\$11,173	\$11,173								
Two persons	\$15,142									
Householder under 65 years	\$15,679	\$15,600	\$16,057							
Householder 65 years and over	\$14,095	\$14,081	\$15,996							
Three persons	\$18,552	\$18,222	\$18,751	\$18,769						
Four persons	\$23,834	\$24,028	\$24,421	\$23,624	\$23,707					
Five persons	\$28,265	\$28,977	\$29,398	\$28,498	\$27,801	\$27,376				
Six persons	\$31,925	\$33,329	\$33,461	\$32,771	\$32,110	\$31,128	\$30,545			
Seven persons	\$36,384	\$38,349	\$38,588	\$37,763	\$37,187	\$36,115	\$34,865	\$33,493		
Eight persons	\$40,484	\$42,890	\$43,269	\$42,490	\$41,807	\$40,839	\$39,610	\$38,331	\$38,006	
Nine or more persons	\$48,065	\$51,594	\$51,844	\$51,154	\$50,575	\$49,625	\$48,317	\$47,134	\$46,842	\$45,037

Source: U.S. Census Bureau

The U.S. Department of Health and Human Services and the Census Bureau follow different labeling practices for their respective poverty measures. The poverty guidelines are designated by the year in which they are issued, but reflect price changes through the previous calendar year; so, for example, 2014 guidelines would be applied to 2013 income to determine eligibility for programs, including Head Start, Food Stamps, or the Low-Income Home Energy Assistance Program. Conversely, the poverty thresholds are named for the year of data collection; 2013 thresholds are used to determine poverty status for 2013 populations. Regardless of the disparate naming conventions, the 2014 guidelines from HHS and the 2013 thresholds from the Census Bureau cover approximately the same year of income, 2013.

The 2014 HHS income guidelines and 2013 Census income thresholds are included here as examples of how the two measures of poverty compare to each other for a single year of data. The poverty data in this profile report, however, is based on 2009-2013 ACS data, and includes five years of accumulated census sample responses. As such, the poverty status of each respondent is determined using the poverty thresholds and poverty factor for the applicable month and year of response (see Appendix for methodology, thresholds, and factors).

According to the HHS, “Neither the Census Bureau nor the U.S. Department of Health and Human Services prepare tabulations of the number of people below the HHS poverty guidelines... The best approximation for the number of people below the HHS poverty guidelines in a particular area would be the number of persons below the Census Bureau poverty thresholds in that area.” Therefore, the Census Bureau poverty thresholds are used for identification and analysis of potential low-income populations in this report.

**Low-Income Population** means any readily identifiable group of persons with low-income who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed USDOT or FHWA program, policy or activity.

**Adverse Effects** are the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness or death; air, noise, and water pollution and soil contamination; destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion or separation of minority or low-income individuals within a given community or from the broader community; and the denial of, reduction in, or significant delay in the receipt of, benefits of USDOT or FHWA programs, policies, or activities.

**Disproportionately High and Adverse Effect on Minority and Low-Income Populations** means an adverse effect that:

- is predominately borne by a minority population and/or a low-income population; or
- 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.

**Programs, Policies, and/or Activities** mean all projects, programs, policies, and activities that affect human health or the environment, and which are undertaken, funded (in whole or in part), or approved by USDOT or FHWA. These include, but are not limited to, permits, licenses, and financial assistance provided by USDOT or FHWA. Interrelated projects within a system may be considered to be a single project, program, policy, or activity.

**Regulations and Guidance** means regulations, programs, policies, guidance, and procedures promulgated, issued, or approved by USDOT or FHWA.

Other terminology used in this study includes the following:

**Older Persons**, for purposes of this report, include persons age 65 and older as of the month and year of their interview or response to the American Community Survey. Basic Medicare eligibility for persons without disabilities begins at age 65, and this age also forms the lower threshold for many definitions of older/senior populations.

**Persons with Disabilities**, for purposes of this study, include the population age 16 to 64 for which the presence of any of the 6 following conditions was disclosed as of the month and year of their interview or response to the American Community Survey:

- serious hearing limitations
- serious vision limitations
- serious limitations in cognitive functioning
- serious ambulatory limitations
- serious self-care limitations
- serious independent living limitations

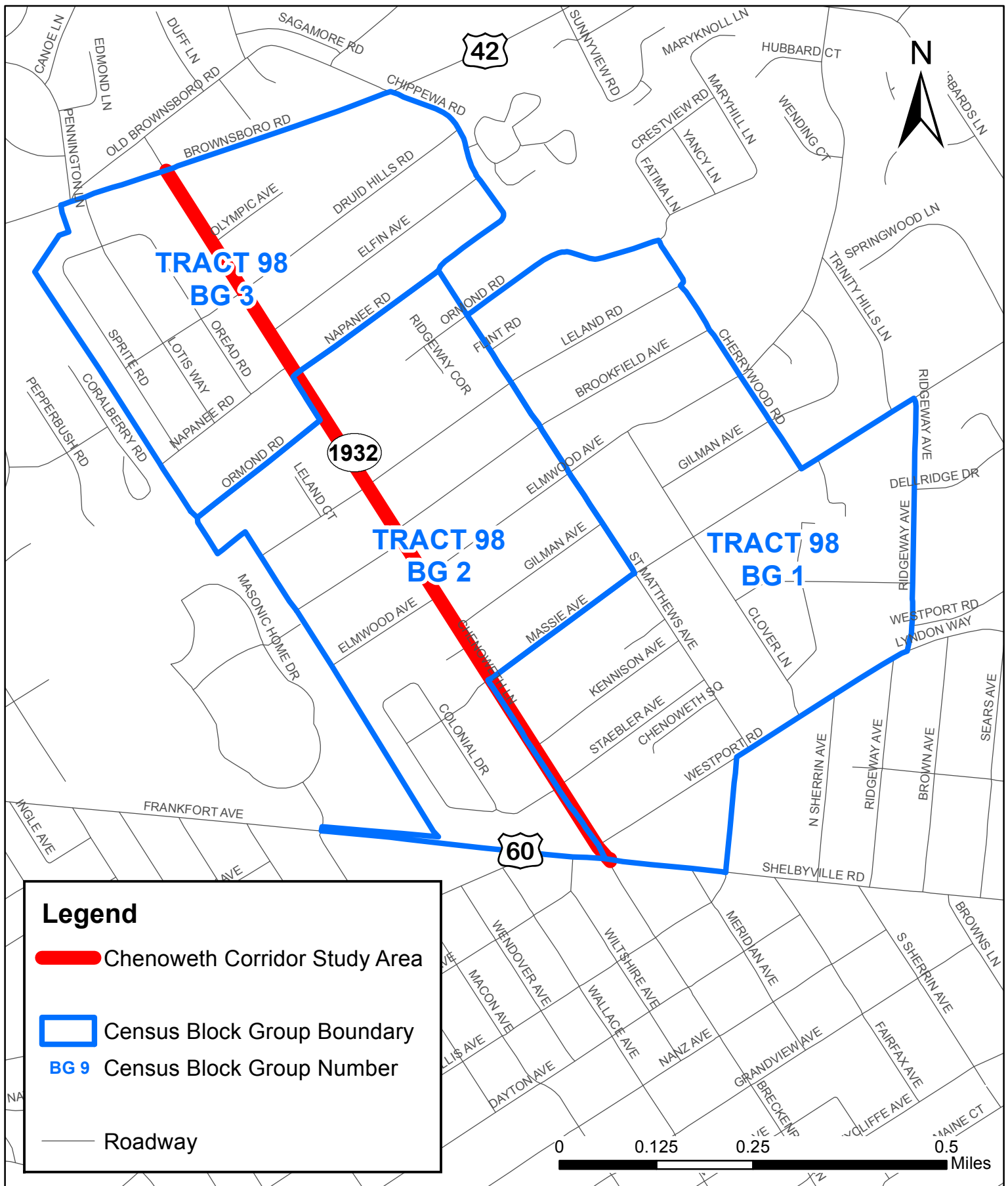
**Zero Vehicle Households** are occupied housing units with zero vehicles available as of the month and year of their interview or response to the ACS.

**Persons with Limited English Proficiency (LEP)** are generally considered to be persons who reported speaking a language other than English and indicated their English-speaking ability to be something other than “Very Well” at the time of their interview or response to the American Community Survey. Responses of LEP populations may include speaking English “Well”, “Not Well”, or “Not at All”.

**Census Block Groups** are small statistical divisions of census tracts that are used to present statistical data and control census block numbering. While block groups generally contain between 600 and 3,000 people, with an optimum size of 1,500 people, their spatial size can vary widely depending on the density of settlement. Figure 2 shows the currently defined census block groups in and around the study area.

**Margin of Error (MOE)** is the difference between an estimate and its upper or lower confidence bounds. Confidence bounds can be created by adding the margin of error to the estimate (for the upper bound) and subtracting the margin of error from the estimate (for the lower bound). All published American Community Survey margins of error are based on a 90-percent confidence level.

**Coefficient of Variation (CV)** is the ratio of the standard of error (square root of the variance) to the value being estimated, usually expressed in terms of a percentage (also known as the relative standard deviation). The lower the CV, the higher the relative reliability of the estimate.



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## **ANALYSIS METHODOLOGY**

The procedures involved in conducting the socioeconomic study for the KY 1932/Chenoweth Lane corridor centered on the identification of potential Environmental Justice populations and other potential affected populations. Data from the 2009-2013 American Community Survey was used to develop demographic profile tables and maps of the potential locations of the groups of concern.

Profile tables were developed for each population of interest and for several geographic levels in and immediately adjacent to the study area. Tables showing the total number of persons by minority status, low-income status, older persons, persons with disabilities, zero vehicle households, and persons with limited English proficiency were created for several geographic areas, including the United States, Kentucky, and Jefferson County, as well as applicable census block groups.

The tables were assembled using census data. The 2009-2013 ACS data was obtained from short form questionnaires administered over a 5-year period to an annual sample of about 3.5 million households—the data is available down to the block group level for selected variables. Margins of error are provided with all ACS estimates to provide guidance on data reliability and sampling error. Ninety percent confidence intervals define a range expected to contain the true value of an estimate.

Profile maps were produced for each population variable at the block group level. ESRI ArcMap software was used to combine the census data described above with the appropriate census block group boundary to map potential locations of the populations of interest.

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.

## **SOCIOECONOMIC PROFILES**

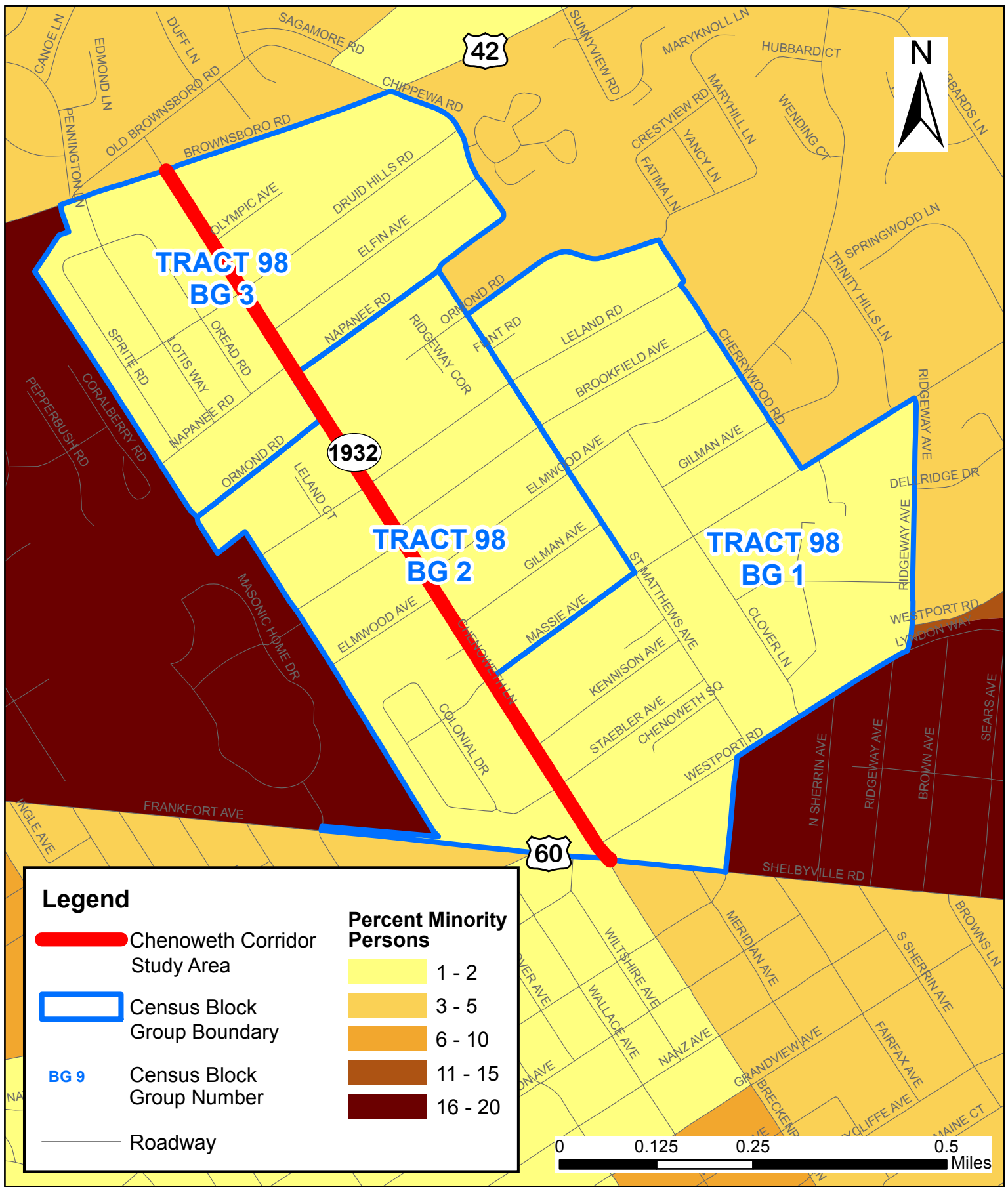
This section provides an examination of the demographic characteristics of potential Environmental Justice populations and other selected groups within and surrounding the study area corridor. These profiles provide a basis for identifying the number and, where appropriate, the geographic location of potential Environmental Justice populations and other affected communities.

## **MINORITY PERSONS**

The KY 1932/Chenoweth Lane study area corridor is contained within three census block groups of Census Tract 98—Block Groups 1, 2, and 3. Geographic analysis of the 2009-2013 ACS data shows the corridor to have consistently low potential densities of minority persons, as defined by Executive Order 12898 on Environmental Justice, throughout (Figure 3). Further, these potential densities tend to be lower than those of the surrounding area block groups.

According to the 2009-2013 ACS data, more than one-third (37%) of Americans are minority persons (Table 3). In Kentucky, this percentage is much lower—almost 14%; while Jefferson County’s minority rate, at 30%, is closer to that of the United States. At the census block group level, in and along the study corridor, percentages of persons considered to be minorities range from 0.6% in Tract 98 Block Group 2 to 1.6% in Tract 98 Block Group 3—much lower than that of the United States, Kentucky, and Jefferson County.

Margin of error information is provided for the ACS minority person estimates. Analysis of the coefficients of variation calculated from the MOEs suggests higher reliability of the estimates for the United States, State, and County. Estimates for the study area corridor block groups, however, indicate lower reliability and should be used with caution.



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Data Source: 2009-2013 ACS, Table B03002

Data Note: American Community Survey (ACS) data are estimates based on a survey sample. Reliability of ACS data can vary widely—especially for smaller geographic levels; therefore, Margins of Error (MOEs) from the applicable source data tables should be consulted to assess the dependability of the data.

Figure 3

## PERCENT MINORITY PERSONS BY CENSUS BLOCK GROUP--2009-2013

KY 1932/CHENOWETH LANE  
CORRIDOR STUDY  
US 60 (SHELBYVILLE RD) TO US 42 (BROWNSBORO RD)

**TABLE 3**  
**Minority Persons—2009-2013**  
**KY 1932 / Chenoweth Lane Socioeconomic Study**  
**US 60 (Shelbyville Road) to US 42 (Brownsboro Rd)**

Area		Total Persons	MOE	Minority Persons		
				Total	MOE	% Total Persons
United States		311,536,594	N/A	114,486,176	+/- 116,598	36.75
Kentucky		4,361,333	N/A	608,141	+/- 4,729	13.94
Jefferson County		746,580	N/A	222,007	+/- 2,566	29.74
Census Areas Intersecting and Surrounding the Study Area	Tract 98 Block Group 1	851	+/- 131	11	+/- 41	1.29
	Tract 98 Block Group 2	1,010	+/- 122	6	+/- 37	0.59
	Tract 98 Block Group 3	646	+/- 78	10	+/- 34	1.55

Note: Only selected Block Groups are represented.

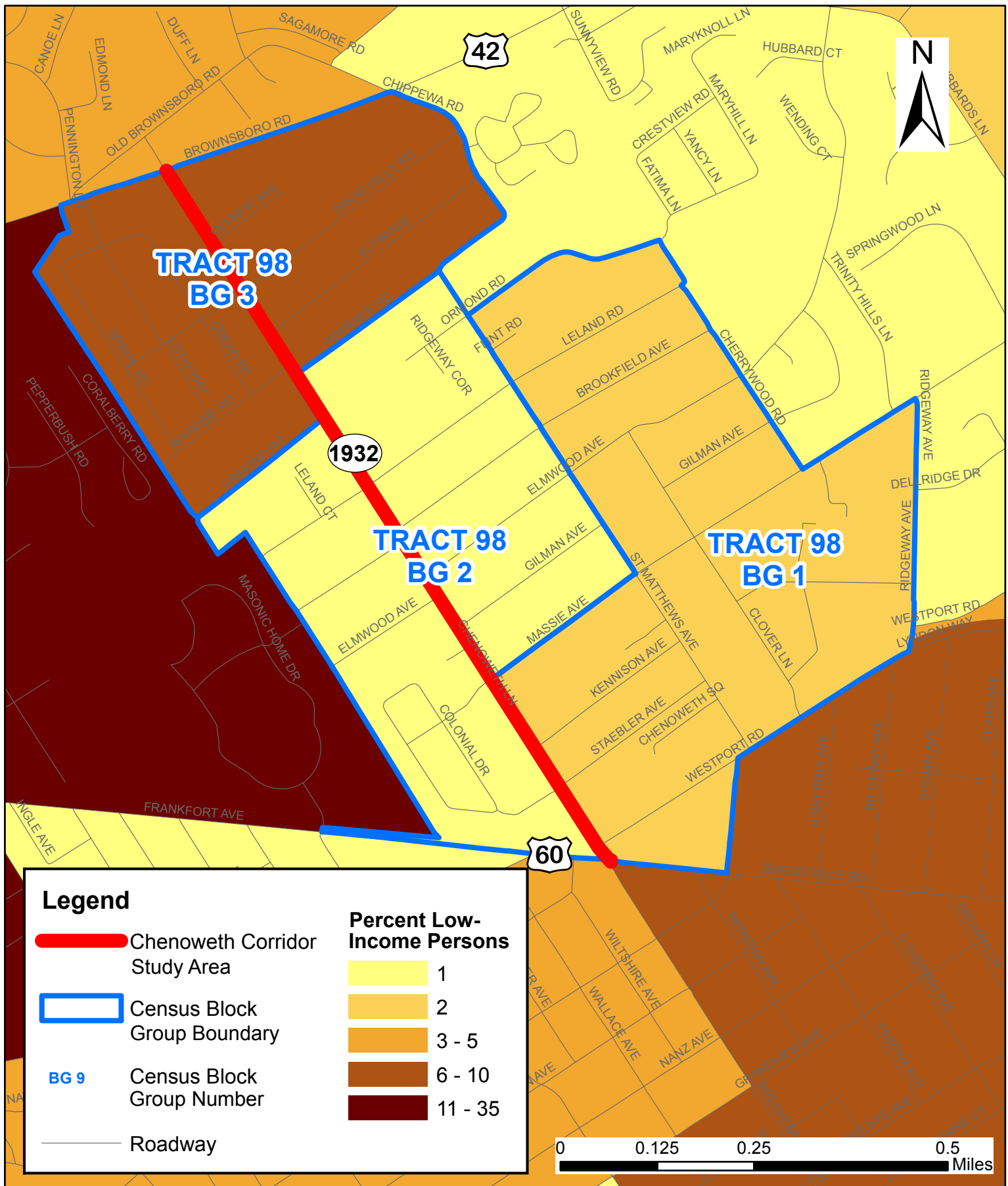
Data Source: 2009-2013 American Community Survey, Table B03002

## **PERSONS WITH LOW INCOME**

Geographic analysis of the 2009-2013 ACS data shows the corridor to have low potential densities of persons with low-income, as defined by Executive Order 12898 on Environmental Justice, throughout (Figure 4). The densities vary somewhat throughout the corridor, with the highest percentage in Tract 98 Block Group 3 (6%) at the Brownsboro Road end of the corridor. Although somewhat varied, the corridor block group densities tend to be largely consistent with those of the surrounding area block groups.

According to the 2009-2013 American Community Survey, 15% of persons in the Nation are considered to be low-income, with incomes below poverty level (Table 4). Kentucky and Jefferson County exhibit poverty levels slightly higher than that of the United States trend. Kentucky's poverty rate is 19%, while Jefferson County's percentage is almost 17%. Block group-level low-income percentages in the study area range from a low of 0.2% in Tract 98 Block Group 2 to a high of almost 6% in Tract 98 Block Group 3—all much lower than that of the United States, Kentucky, and Jefferson County.

Margin of error information is provided for the ACS poverty estimates. Analysis of the coefficients of variation calculated from the MOEs suggests higher reliability of the estimates for the Nation, State, and County. Estimates for the study area corridor block groups, however, indicate lower reliability and should be used with caution.



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Data Source: 2009-2013 ACS, Table B17021

Data Note: American Community Survey (ACS) data are estimates based on a survey sample. Reliability of ACS data can vary widely—especially for smaller geographic levels; therefore, Margins of Error (MOEs) from the applicable source data tables should be consulted to assess the dependability of the data.

Figure 4

## PERCENT PERSONS WITH LOW-INCOME BY CENSUS BLOCK GROUP--2009-2013

KY 1932/CHENOWETH LANE  
CORRIDOR STUDY

US 60 (SHELBYVILLE RD) TO US 42 (BROWNSBORO RD)



**TABLE 4**  
**Persons with Low-Income—2009-2013**  
**KY 1932 / Chenoweth Lane Socioeconomic Study**  
**US 60 (Shelbyville Road) to US 42 (Brownsboro Rd)**

Area		Total Persons for Whom Poverty Status is Determined	MOE	Persons with Low-Income (Income Below Poverty Level in the Last 12 Months)		
				Total	MOE	% Total Persons
United States		303,692,076	+/- 13,865	46,663,433	+/- 279,630	15.37
Kentucky		4,230,912	+/- 1,181	796,202	+/- 10,490	18.82
Jefferson County		731,881	+/- 990	122,492	+/- 3,701	16.74
Census Areas Intersecting and Surrounding the Study Area	Tract 98 Block Group 1	851	+/- 131	20	+/- 19	2.35
	Tract 98 Block Group 2	1,010	+/- 122	2	+/- 3	0.20
	Tract 98 Block Group 3	639	+/- 73	37	+/- 20	5.79

Note: Only selected Block Groups are represented.

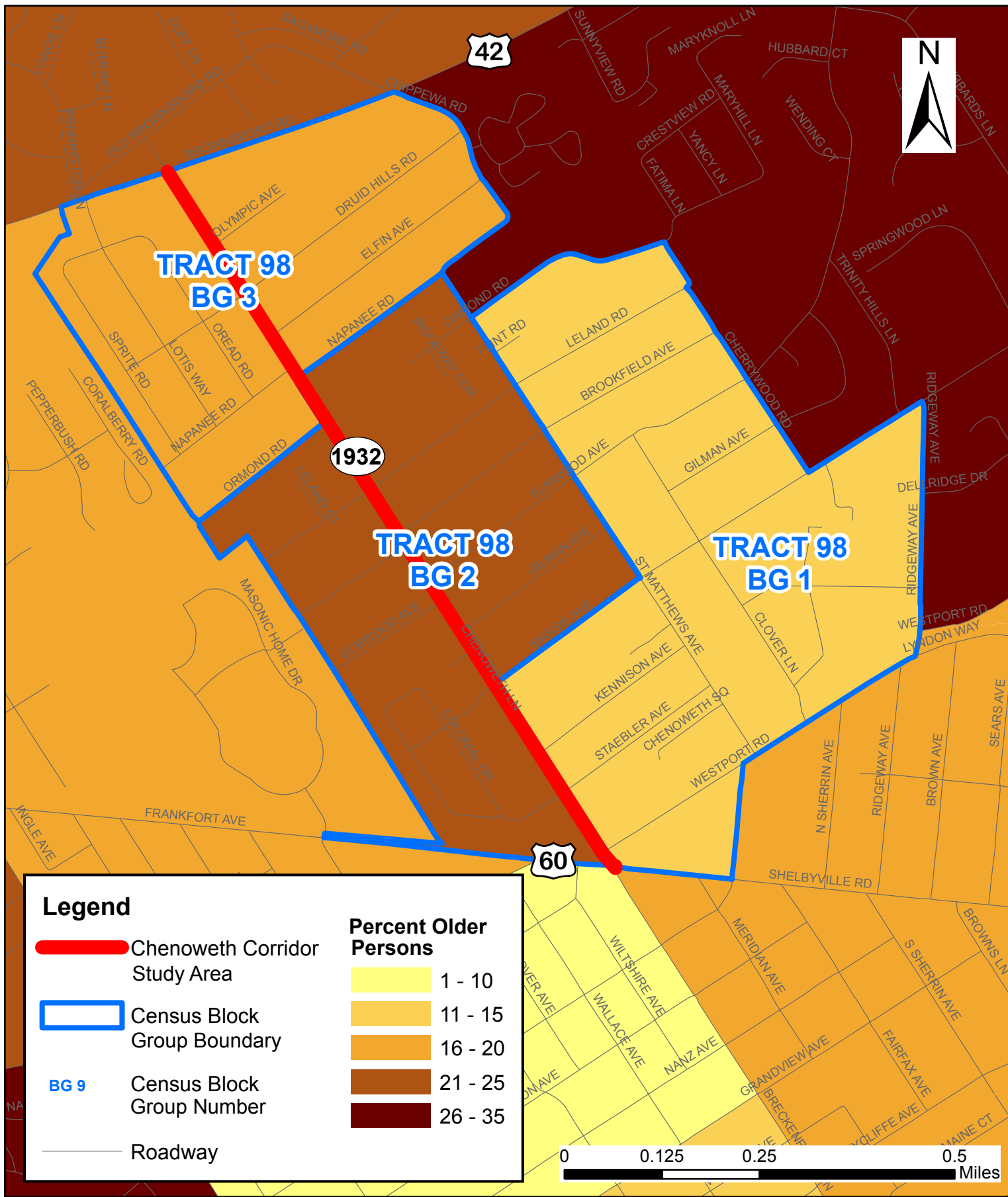
Data Source: 2009-2013 American Community Survey, Table B17021

## **OLDER PERSONS**

Geographic analysis of the 2009-2013 ACS data for persons age 65 and above reveals the highest potential densities of older residents in the study area to be located in the mid-section of the KY 1932/Chenoweth Lane corridor in Tract 98 Block Group 2 (23%) (Figure 5). Although somewhat varied, the corridor block group densities tend to be largely consistent with those of the surrounding area block groups.

Older persons, age 65 and older, are approximately 13% of the 2009-2013 ACS population of the United States (Table 5). Kentucky and Jefferson County have slightly higher populations—with just under 14% each. At the block group level, older persons comprise between 13% and 23% of resident estimates in Tract 98 Block Groups 1 and 2, respectively. Tract 98 Block Groups 2 and 3 both have densities higher than those of the Nation, State, and County, while Tract 98 Block Group 1 has a density similar to that of the larger geographies.

Margin of error information is provided for the ACS minority person estimates. Analysis of the coefficients of variation calculated from the MOEs suggests higher reliability of the estimates for the United States, Kentucky, Jefferson County, and for Tract 98 Block Groups 2 and 3 in the study area. The estimate for Tract 98 Block Group 1 is considered to be a medium reliability estimate.



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Data Source: 2009-2013 ACS, Table B01001

Data Note: American Community Survey (ACS) data are estimates based on a survey sample. Reliability of ACS data can vary widely—especially for smaller geographic levels; therefore, Margins of Error (MOEs) from the applicable source data tables should be consulted to assess the dependability of the data.

Figure 5

## PERCENT OLDER PERSONS BY CENSUS BLOCK GROUP--2009-2013

KY 1932/CHENOWETH LANE  
CORRIDOR STUDY  
US 60 (SHELBYVILLE RD) TO US 42 (BROWNSBORO RD)

**TABLE 5**  
**Older Persons—2009-2013**  
**KY 1932 / Chenoweth Lane Socioeconomic Study**  
**US 60 (Shelbyville Road) to US 42 (Brownsboro Rd)**

Area		Total Persons	MOE	Older Persons (Age 65+)		
				Total	MOE	% Total Persons
United States		311,536,594	N/A	41,851,042	+/- 34,884	13.43
Kentucky		4,361,333	N/A	597,875	+/- 3,503	13.71
Jefferson County		746,580	N/A	101,659	+/- 1,470	13.62
Census Areas Intersecting and Surrounding the Study Area	Tract 98 Block Group 1	851	+/- 131	112	+/- 49	13.16
	Tract 98 Block Group 2	1,010	+/- 122	231	+/- 56	22.87
	Tract 98 Block Group 3	646	+/- 78	104	+/- 23	16.10

Note: Only selected Block Groups are represented.

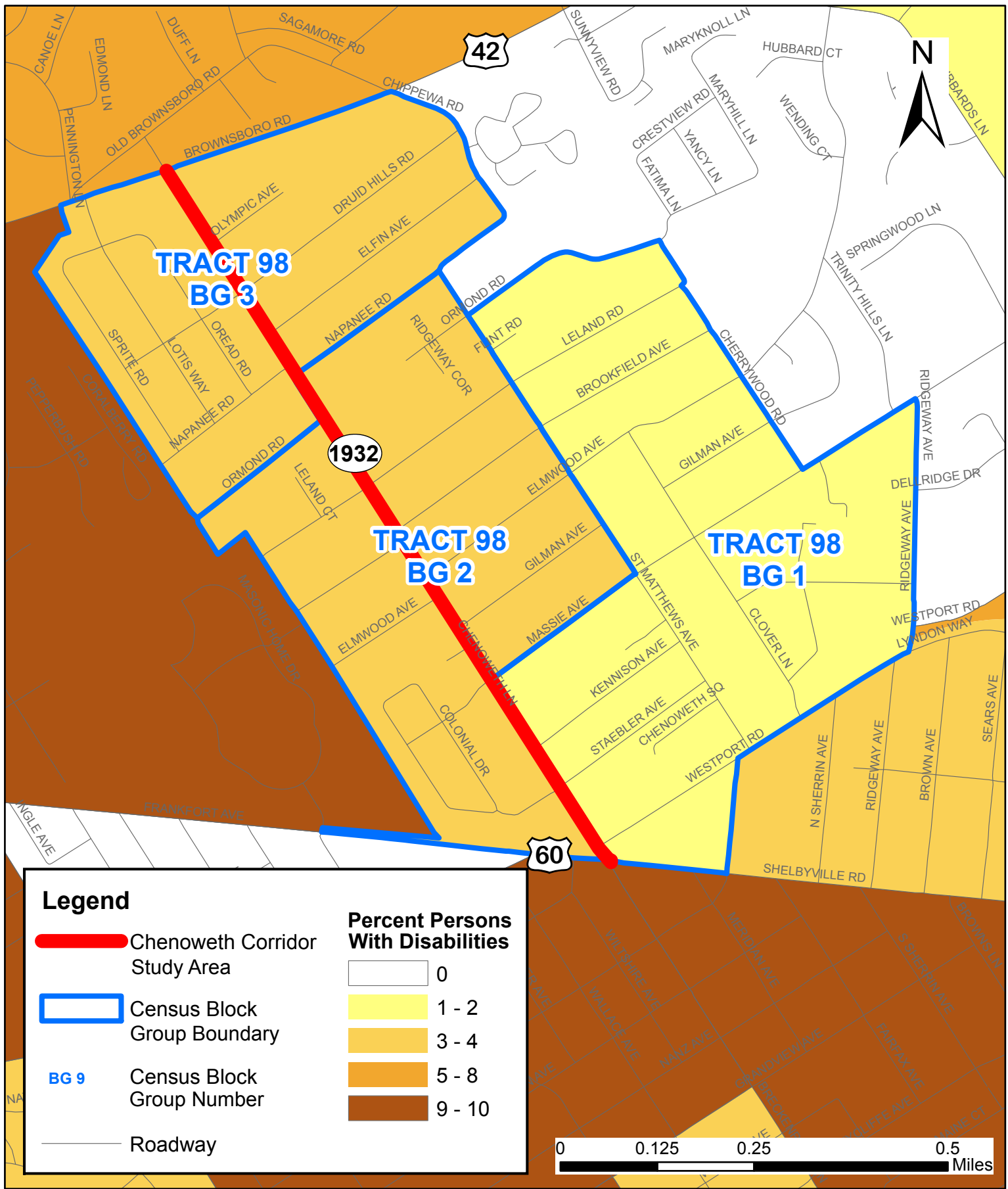
Data Source: 2009-2013 American Community Survey, Table B01001

## **PERSONS WITH DISABILITIES**

A geographic analysis of 2009-2013 ACS disability data shows the corridor to have consistently low potential densities of persons with disabilities (Figure 6). The densities vary somewhat throughout the corridor, with the highest percentage at the Brownsboro Road end of the corridor in Tract 98 Block Group 3 (4%).

According to the ACS, persons with disabilities comprise 10% of the civilian noninstitutionalized population aged 16 to 64 in the United States (Table 6). This rate is higher, 15%, for Kentucky, and closer to 13% for Jefferson County. Persons with disabilities represent between 2% (Tract 98 Block Group 1) and 4% (Tract 98 Block Group 3) of study area resident estimates at the block group-level.

Coefficients of variation based on ACS margins of error indicate a high reliability of disability estimates for the United States, Kentucky, and Jefferson County. Estimates for the study area corridor block groups, however, indicate lower reliability and should be used with caution.



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Data Source: 2009-2013 ACS, Table C23023

Data Note: American Community Survey (ACS) data are estimates based on a survey sample. Reliability of ACS data can vary widely—especially for smaller geographic levels; therefore, Margins of Error (MOEs) from the applicable source data tables should be consulted to assess the dependability of the data.

Figure 6

## PERCENT PERSONS WITH DISABILITIES BY CENSUS BLOCK GROUP--2009-2013

KY 1932/CHENOWETH LANE  
CORRIDOR STUDY  
US 60 (SHELBYVILLE RD) TO US 42 (BROWNSBORO RD)



**TABLE 6**  
**Persons with Disabilities—2009-2013**  
**KY 1932 / Chenoweth Lane Socioeconomic Study**  
**US 60 (Shelbyville Road) to US 42 (Brownsboro Rd)**

Area		Total Persons Age 16 to 64	MOE	Persons with Disabilities (One or More Disabilities in the Past 12 Months for Persons Age 16-64 Years)		
				Total	MOE	% Total Persons
United States		204,340,912	+/- 13,941	20,739,646	+/- 40,741	10.15
Kentucky		2,856,232	+/- 1,739	439,369	+/- 4,194	15.38
Jefferson County		491,479	+/- 453	63,293	+/- 1,431	12.88
Census Areas Intersecting and Surrounding the Study Area	Tract 98 Block Group 1	564	+/- 89	14	+/- 13	2.48
	Tract 98 Block Group 2	671	+/- 110	20	+/- 19	2.98
	Tract 98 Block Group 3	441	+/- 60	17	+/- 9	3.85

Note: Only selected Block Groups are represented.

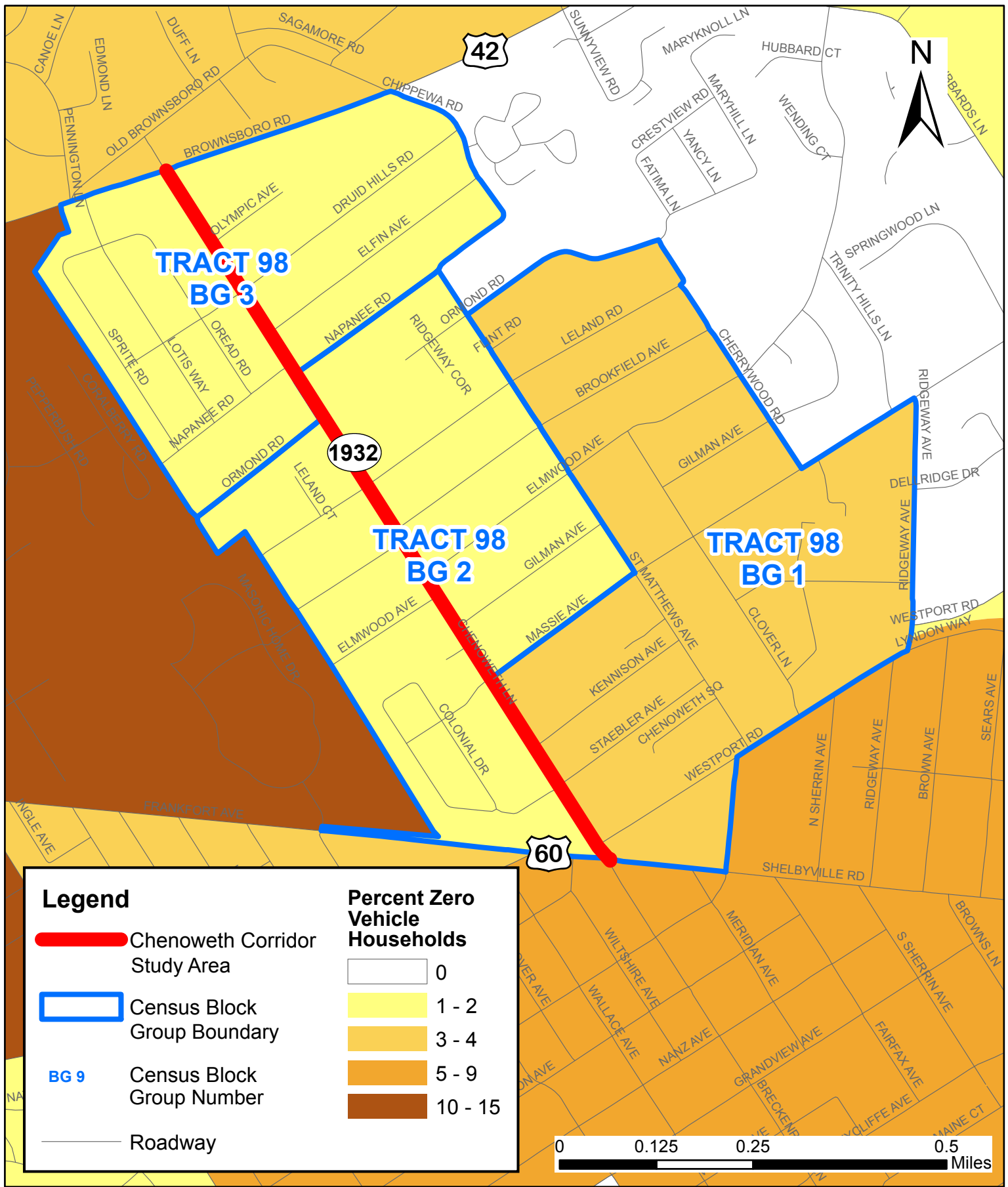
Data Source: 2009-2013 American Community Survey, Table C23023

## **ZERO VEHICLE HOUSEHOLDS**

Geographic analysis of the 2009-2013 ACS data for zero vehicle households yields consistently low potential densities throughout the corridor. The highest potential density (4%) is located in Tract 98 Block Group 1 at the Westport Road end of the corridor.

In the United States, zero vehicle households comprise 9% of total households (Table 7). Kentucky's average, 8%, is slightly less than this, while Jefferson County's average (10%) is slightly more than the national average, according to the ACS. At the block group-level, zero vehicle households represent between 2% (Tract 98 Block Group 3) and 4% (Tract 98 Block Group 1) of total household estimates—much lower than that of the United States, Kentucky, and Jefferson County.

Coefficients of variation based on ACS margins of error indicate a high reliability of disability estimates for the United States, Kentucky, and Jefferson County. Estimates for the study area corridor block groups, however, indicate lower reliability and should be used with caution.



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Data Source: 2009-2013 ACS, Table B25044

Data Note: American Community Survey (ACS) data are estimates based on a survey sample. Reliability of ACS data can vary widely—especially for smaller geographic levels; therefore, Margins of Error (MOEs) from the applicable source data tables should be consulted to assess the dependability of the data.

**TABLE 7**  
**Zero Vehicle Households—2009-2013**  
**KY 1932 / Chenoweth Lane Socioeconomic Study**  
**US 60 (Shelbyville Road) to US 42 (Brownsboro Rd)**

Area		Total Households	MOE	Zero Vehicle Households		
				Total	MOE	% Total Households
United States		115,610,216	+/- 238,223	10,483,077	+/- 28,051	9.07
Kentucky		1,694,996	+/- 5,311	131,126	+/- 2,215	7.74
Jefferson County		305,832	+/- 1,303	31,038	+/- 1,092	10.15
Census Areas Intersecting and Surrounding the Study Area	Tract 98 Block Group 1	444	+/- 61	19	+/- 17	4.28
	Tract 98 Block Group 2	531	+/- 65	12	+/- 19	2.26
	Tract 98 Block Group 3	316	+/- 35	5	+/- 12	1.58

Note: Only selected Block Groups are represented.

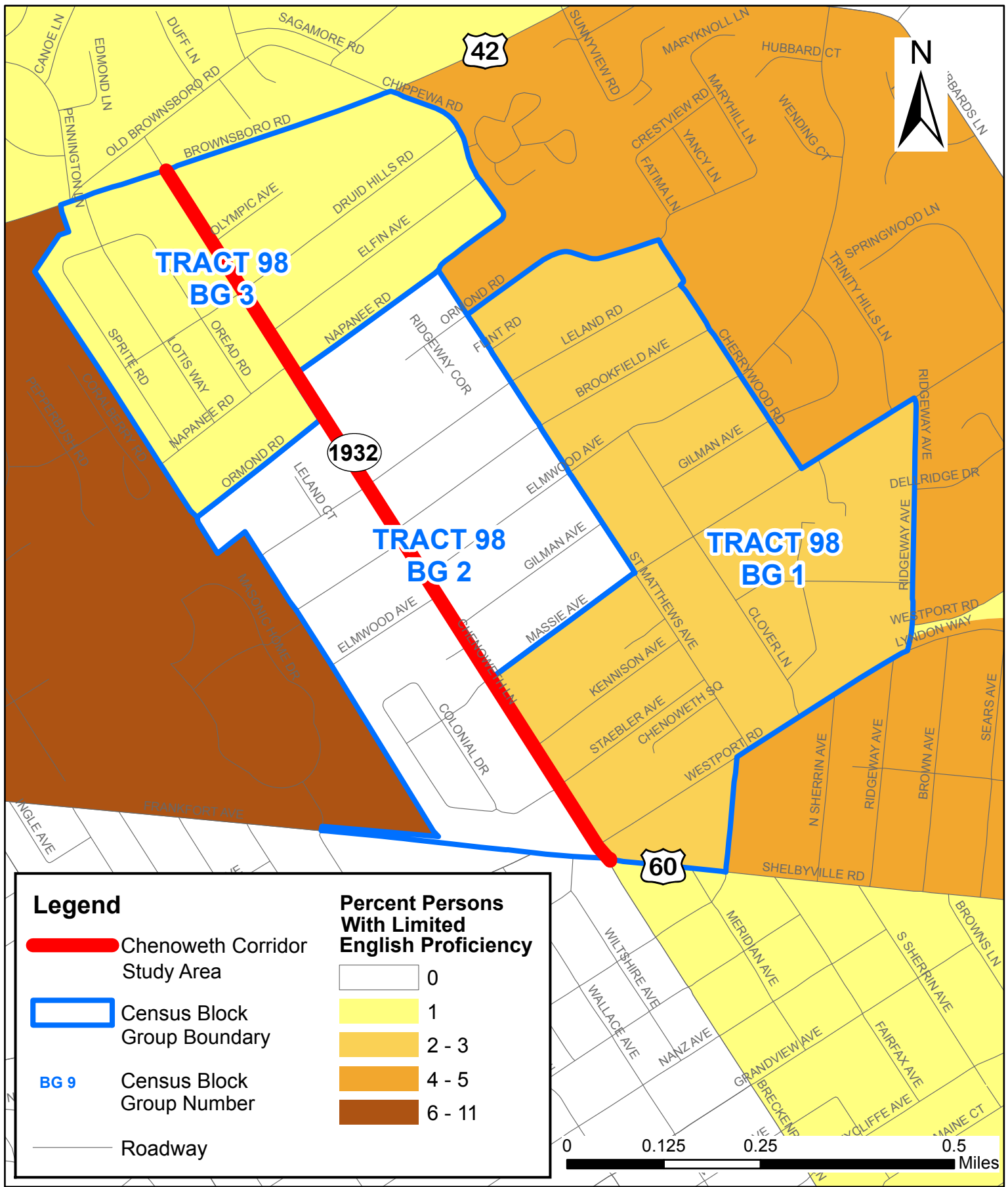
Data Source: 2009-2013 American Community Survey, Table B25044

## **PERSONS WITH LIMITED ENGLISH PROFICIENCY**

Geographic analysis of the 2009-2013 ACS data for persons with limited English proficiency shows the highest potential density of such persons to be located near the Westport Road end of the study area corridor in Tract 98 Block Group 1 (Figure 8). None of the densities within the corridor, however, are above 2%.

Almost 9% of persons in the Nation, as surveyed by the 2009-2013 American Community Survey, are considered to be limited English proficient (Table 8). The corresponding rates for Kentucky and Jefferson County are much lower—2% and 4%, respectively. At the block group-level, persons with limited English proficiency comprise between 0.2% (Tract 98 Block Group 2) and 2% (Tract 98 Block Group 1) of surveyed resident estimates—all lower than the national and county rates, but similar to the Kentucky rate.

Coefficients of variation based on ACS margins of error indicate a high reliability of disability estimates for the United States, Kentucky, and Jefferson County. Estimates for the study area corridor block groups, however, indicate lower reliability and should be used with caution.



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Data Source: 2009-2013 ACS, Table B16004

Data Note: American Community Survey (ACS) data are estimates based on a survey sample. Reliability of ACS data can vary widely—especially for smaller geographic levels; therefore, Margins of Error (MOEs) from the applicable source data tables should be consulted to assess the dependability of the data.

Figure 8

**PERCENT PERSONS WITH LIMITED ENGLISH PROFICIENCY BY CENSUS BLOCK GROUP--2009-2013**

KY 1932/CHENOWETH LANE CORRIDOR STUDY

US 60 (SHELBYVILLE RD) TO US 42 (BROWNSBORO RD)



**TABLE 8**  
**Persons with Limited English Proficiency—2009-2013**  
**KY 1932 / Chenoweth Lane Socioeconomic Study**  
**US 60 (Shelbyville Road) to US 42 (Brownsboro Rd)**

Area		Total Persons Age 5+	MOE	Persons with Limited English Proficiency (Ability to Speak English Less Than Very Well)		
				Total	MOE	% Total Persons
United States		291,484,482	+/- 3,346	25,148,900	+/- 55,222	8.63
Kentucky		4,082,467	+/- 773	85,829	+/- 2,229	2.10
Jefferson County		697,718	+/- 26	26,224	+/- 1,357	3.76
Census Areas Intersecting and Surrounding the Study Area	Tract 98 Block Group 1	797	+/- 119	14	+/- 66	1.76
	Tract 98 Block Group 2	966	+/- 114	2	+/- 65	0.21
	Tract 98 Block Group 3	605	+/- 72	5	+/- 64	0.83

Note: Only selected Block Groups are represented.

Data Source: 2009-2013 American Community Survey, Table B16004

## CONCLUSION

This socioeconomic study utilized demographic data from the 2009-2013 American Community Survey to identify the locations and magnitudes of potential Environmental Justice populations and other populations. Identification of such possible areas of concern may provide a basis for more detailed and robust analyses in future phases of project development. To briefly summarize the findings:

- The highest percentage of minority persons was found at the Brownsboro Road end of the corridor. The potential average minority concentrations in the corridor were all very low and were well below those expected within the general population of the United States, Kentucky, or Jefferson County.
- Similar to the minority population findings, the highest concentration of persons with low-income resided in the block group closest to Brownsboro Road, and all of the block group-level concentrations were very low. The block group distributions of persons with low-income were all much lower than those found at the national, state, and county levels.
- The block group-level distribution of older persons was highest in the central portion of the corridor. Each of the corridor's block groups had densities of older persons at or above national, state, and county levels.
- The highest percentage of persons with disabilities was found to exist in the block group closest to Brownsboro Road. Each of the three corridor block groups had distributions lower than those of the Nation, State, and County.
- Zero vehicle households appeared in the highest density on the Westport Road end of the study area corridor. The percentage of zero vehicle households in each of the corridor block groups was lower than that of the United States, Kentucky, and Jefferson County.
- The highest concentration of persons with limited English proficiency was located in the block group nearest Westport Road. Overall, the corridor demonstrated a lower average LEP population than was found at the national, state, and county levels.

While this census-based analysis identified mostly limited potential populations of interest throughout the KY 1932/Chenoweth Lane corridor, the small sample sizes and large margins of error associated with the smaller geographies of the American Community Survey may warrant further detailed analysis in the future to verify the densities.

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# **APPENDIX**

**How Poverty is Calculated in the ACS**

**2009-2013 ACS Poverty Factors**

## HOW POVERTY IS CALCULATED IN THE ACS

(Source: U.S. Census Bureau)

Poverty statistics presented in ACS reports and tables adhere to the standards specified by the Office of Management and Budget in Statistical Policy Directive 14. The Census Bureau uses a set of dollar value thresholds that vary by family size and composition to determine who is in poverty. Further, poverty thresholds for people living alone or with nonrelatives (unrelated individuals) and two-person families vary by age (under 65 years or 65 years and older).

*Poverty thresholds* from 1978 through 2014 (current) are found here: <http://www.census.gov/hhes/www/poverty/data/threshld/index.html>

If a family's total income is less than the dollar value of the appropriate threshold, then that family and every individual in it are considered to be in poverty. Similarly, if an unrelated individual's total income is less than the appropriate threshold, then that individual is considered to be in poverty. The poverty thresholds do not vary geographically. They are updated annually to allow for changes in the cost of living (inflation factor) using the Consumer Price Index (CPI).

Poverty status was determined for all people except institutionalized people, people in military group quarters, people in college dormitories, and unrelated individuals under 15 years old. These groups were excluded from the numerator and denominator when calculating poverty rates.

Since the ACS is a continuous survey, people respond throughout the year. Because the income items specify a period covering the last 12 months, the appropriate poverty thresholds are determined by multiplying the base-year poverty thresholds (1982) by the monthly inflation factor based on the 12 monthly CPIs and the base-year CPI.

The *1982 base-year poverty thresholds* are found here: <http://www.census.gov/hhes/www/poverty/data/threshld/thresh82.html>

## 2009-2013 ACS Poverty Factors

ACS Interview Month	ACS Interview Year				
	2009	2010	2011	2012	2013
January	2.23089	2.22296	2.25942	2.33074	2.37897
February	2.23095	2.22775	2.26247	2.33630	2.38210
March	2.23138	2.23167	2.26642	2.34179	2.38598
April	2.23067	2.23592	2.27146	2.34691	2.38890
May	2.22931	2.24004	2.27741	2.35138	2.39102
June	2.22691	2.24377	2.28413	2.35470	2.39372
July	2.22421	2.24574	2.29083	2.35795	2.39719
August	2.22023	2.24803	2.29766	2.36070	2.40107
September	2.21742	2.25017	2.30477	2.36401	2.40409
October	2.21499	2.25231	2.31207	2.36791	2.40646
November	2.21465	2.25449	2.31872	2.37214	2.40839
December	2.21802	2.25663	2.32514	2.37558	2.41085

Sources: *American Community Survey and Puerto Rico Community Survey—2009 Subject Definitions*  
*American Community Survey and Puerto Rico Community Survey—2010 Subject Definitions*  
*American Community Survey and Puerto Rico Community Survey—2011 Subject Definitions*  
*American Community Survey and Puerto Rico Community Survey—2012 Subject Definitions*  
*American Community Survey and Puerto Rico Community Survey—2013 Subject Definitions*