## What is meant by purpose and need?

A project's ***need*** is a detailed explanation of the specific transportation problems or deficiencies that exist or that are expected to exist in the future. A project's ***purpose*** defines the goals and objectives that should be included as part of a successful solution to the problem. The purpose and need are the foundation for all the project studies and are used to identify the range of alternatives (solutions to the transportation problem) that best address the purpose and need of the project.

The purpose and need is a living document until the Draft Environmental Impact Statement is drafted, and therefore, can be changed or modified as needed as new information is gathered. The local officials, agencies, public, and other stakeholders will have an opportunity to provide comments on the purpose and need throughout the National Environmental Policy Act (NEPA) process.

This chapter will describe the social and environmental conditions in the study area, why transportation improvements are needed, and the purpose of this project

## What are the logical termini and study area limits?

### Logical Termini

Logical termini identify rational end points for a transportation improvement project[1]. The logical termini for the proposed project are the Hwy. 412/Hwy. 67 interchange at Walnut Ridge, Arkansas, and the Arkansas-Missouri State line. The length of the project is approximately 43 miles.

The southern terminus was selected because Hwy. 67 has been constructed to interstate standards from Interstate 40 (I-40) north to the Hwy. 412/Hwy. 67 interchange in Walnut Ridge.

In consideration of the north terminus, a political boundary such as a state line is not necessarily a good choice, but in this case it is appropriate as it serves as a viable location for future coordination between the Arkansas Department of Transportation (ARDOT) and the Missouri Department of Transportation (MoDOT). MoDOT completed a Final Environmental Impact Statement for Hwy. 67 from just south of St. Louis, Missouri to just south of Neelyville, Missouri, approximately two miles north of the Arkansas-Missouri State line. The southern terminus of the MoDOT study was identified because it avoids forcing a specific northern terminus

[1] *FHWA Environmental Review Toolkit – NEPA Implementation https://www.environment.fhwa.dot.gov/legislation/nepa/guidance_project_termini.aspx*

for ARDOT's portion of Hwy. 67. The two-mile gap north of the state line allowed MoDOT to wait to align their final section of Hwy. 67 with the ARDOT terminus. A Memorandum of Understanding (MOU) was signed by ARDOT and MoDOT in 1998 for the two states to cooperate on the northern terminus of Hwy. 67[2] in Arkansas.

The logical termini, as described above, provide rational end points for this project, provide enough length for a comprehensive review of the project's needs and environmental impacts, and will not preclude staged construction of independent sections as funding becomes available.

## Study Area

The study area was developed based on the 2015 ARDOT planning study that examined several new location corridors that met the needs identified in the study while minimizing impacts to the natural and social environments. The study area extends from Walnut Ridge, Arkansas to the Missouri State line within Clay, Greene, Lawrence, and Randolph Counties in northeast Arkansas. The study area is approximately 40 miles in length and 10 miles wide at it broadest point (see **Figure 1**).

## What is the study area like today?

The study area includes the larger cities of Walnut Ridge, Pocahontas, and Corning. Other smaller cities and towns located in the study area include College City, Manson, O'Kean, Delaplaine, Peach Orchard, Knobel, Biggers, Reyno, and Datto, Arkansas. Population estimates for the study area's four counties and selected municipalities are presented in **Table 1**.

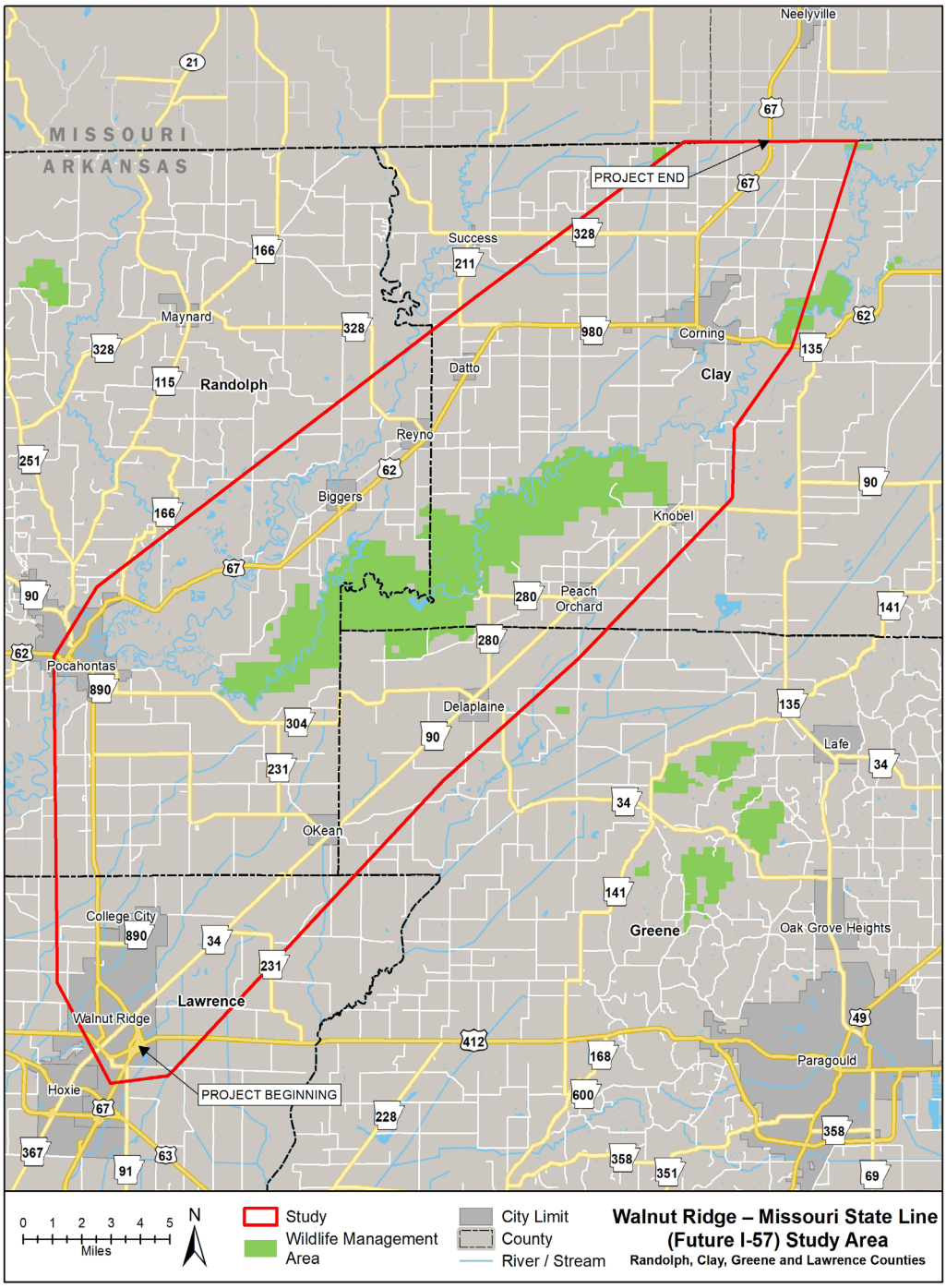
**Table 1: Population Estimates**

| County | County Population | City (within County) | City Population |
|---|---|---|---|
| Clay | 15,190 | Corning | 3,205 |
| Greene | 44,197 | | |
| Lawrence | 16,777 | Walnut Ridge | 5,146 |
| Randolph | 17,514 | Pocahontas | 6,459 |

*Source: U.S. Census Bureau 2013-2017 American Community Survey, Table B01003 – Total Population.*

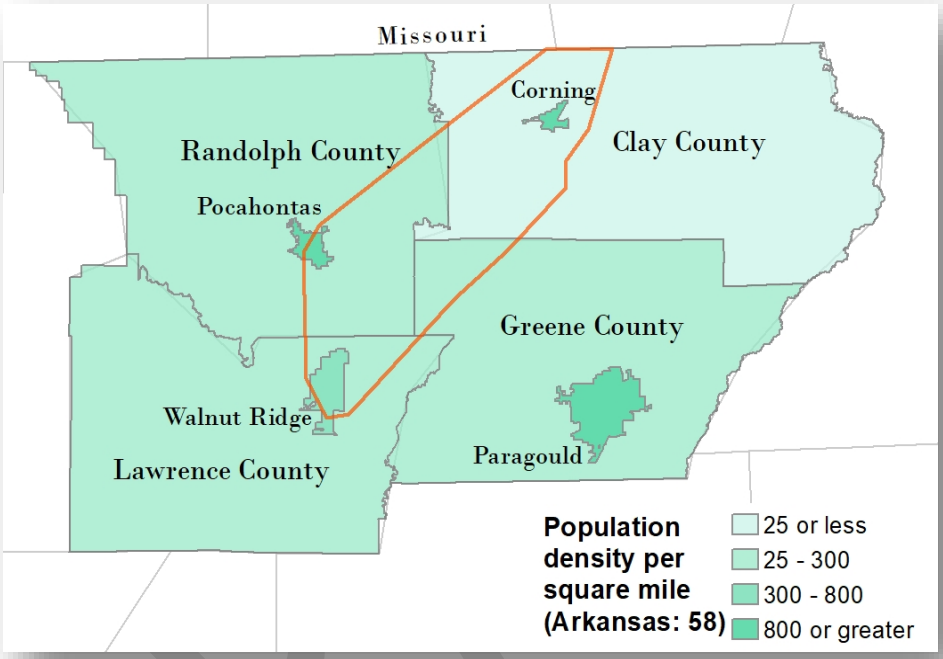
[2] *MOU between ARDOT and MoDOT, found in MoDOT FEIS for Hwy. 67 - Appendix A*

## Figure 1: Study Area



The study area is generally rural with population densities ranging between 25-300 people per square mile (**Figure 2**).

**Figure 2: Population Density**




Most of the population in the study area is white with no less than 94% whites for any of the four study area counties (see **Table 2**). Hispanics and Latinos make up 2.2% of the population and Black individuals make up 0.9% of the population for each of the study area counties combined. The median age is older than the state average of 37.7 years for all counties. with the oldest median age being Clay County at 44.0 years. As shown in **Table 3**[3], of those over the age of 25, with the exception of Greene County (3.1%), the study area has a greater number of people with less than a 9th grade education than the state average (3.0%). Additionally, the study area has fewer people with a four-year degree than the state average (see Table 3).

[3] - Source: U.S. Census Bureau, American Community Survey: 2012-2016. Processed by Demographic Research, Arkansas Economic Development Institute, College of Business Administration, UALR

**Table 2: Demographic Data**

| Geography* | Total Population | Median Age | White alone | Black or African American alone | Hispanic or Latino (of any race) |
|---|---|---|---|---|---|
| **CITY** | | | | | |
| Corning | 3,177 | 46.9 | 3,107 (97.8%) | 0 (0.0%) | 70 (2.2%) |
| Paragould | 27,521 | 36.1 | 26,170 (95.1%) | 359 (1.3%) | 858 (3.1%) |
| Pocahontas | 6,470 | 38.9 | 6,224 (96.2%) | 143 (2.2%) | 113 (1.7%) |
| Walnut Ridge | 4,723 | 38.5 | 4,572 (96.8%) | 57 (1.2%) | 18 (0.4%) |
| **COUNTY** | | | | | |
| Greene | 43,745 | 38.2 | 41,969 (95.9%) | 411 (0.9%) | 1,144 (2.6%) |
| Randolph | 17,584 | 42.9 | 16,981 (96.6%) | 184 (1.0%) | 312 (1.8%) |
| Lawrence | 16,915 | 41.8 | 16,436 (97.2%) | 122 (0.7%) | 209 (1.2%) |
| Clay | 15,202 | 44.0 | 14,632 (96.3%) | 76 (0.5%) | 275 (1.8%) |
| | | | | | |
| Counties Listed Above | 93,446 | 41.7 | 90,018 (96.3%) | 793 (0.8%) | 1,940 (2.1%) |
| State of Arkansas | 2,968,472 | 37.7 | 2,307,136 (77.7%) | 460,638 (15.5%) | 207,049 (7.0%) |

** U.S. Census Bureau, American Community Survey: 2012-2016. Processed by Demographic Research, Arkansas Economic Development Institute, College of Business Administration, UALR*

**Table 3: Education Data**

| Geography* | Population 25 years and over | Educational Attainment (25 years and over) Number of people (% of population over 25) | | |
|---|---|---|---|---|
| | | 4-year Degree | High School Equivalent | Less than 9th Grade |
| **CITY** | | | | |
| Corning | 2,288 | 99 (4.3%) | 1,109 (48.5%) | 251 (11.0%) |
| Pocahontas | 4,366 | 450 (10.3%) | 1,588 (36.4%) | 320 (7.3%) |
| Walnut Ridge | 3,114 | 327 (10.5%) | 1,242 (39.9%) | 307 (9.9%) |
| **COUNTY** | | | | |
| Greene | 29,009 | 3,262 (11.2%) | 12,468 (43.0%) | 1,354 (4.7%) |
| Randolph | 12,276 | 1,059 (8.6%) | 4,707 (38.3%) | 807 (6.6%) |
| Lawrence | 11,438 | 969 (8.5%) | 4,707 (41.2%) | 926 (8.1%) |
| Clay | 10,812 | 775 (7.2%) | 4,586 (42.4%) | 1,053 (9.7%) |
| | | | | |
| Counties Listed Above | 63,535 | 6,065 (9.5%) | 26,468 (41.7%) | 4,140 (6.5%) |
| Arkansas | 1,973,591 | 273,557 (13.9%) | 683,886 (34.7%) | 106,297 (5.4%) |

** U.S. Census Bureau, American Community Survey: 2012-2016. Processed by Demographic Research, Arkansas Economic Development Institute, College of Business Administration, UALR*

## Economic Information

Manufacturing, retail, educational services, healthcare, and social assistance generally employ the greatest number of residents within the study area. Agriculture and transportation are also prominent industries in terms of the employment numbers. **Figure 3**[3] shows the major breakout of employment for the four counties.

Median household incomes in the study area range from a low of $32,404 in Clay County to a high of $49,195 in Greene County, general household income ranges are presented in **Figure 4**[3].

**Figure 3: Employment for All Study Area Counties Combined**

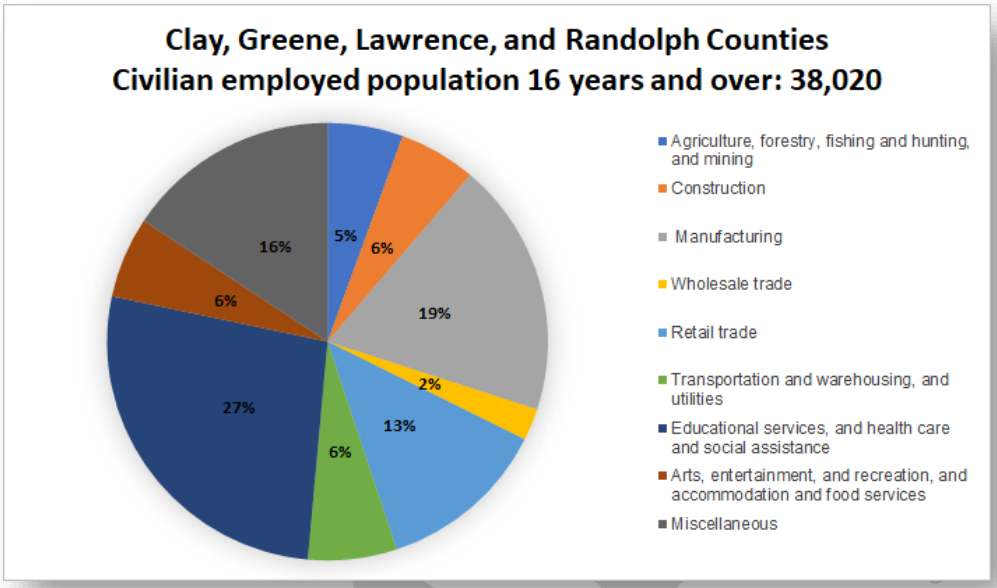
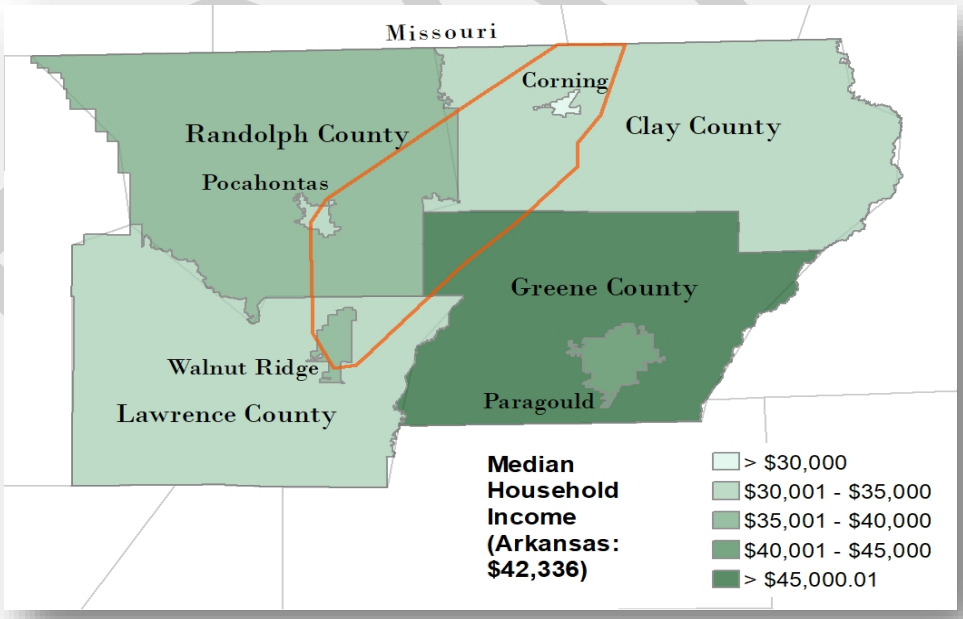



**Figure 4: Median Household Income**

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*[4] - Source: U.S. Census Bureau, American Community Survey: 2012-2016. Processed by Demographic Research, Arkansas Economic Development Institute, College of Business Administration, UALR*

Clay County and the City of Corning have the lowest median household incomes and have the highest number of households living below the poverty level (**Figure 5**)[3]. Most of the study area has higher poverty levels than the rest of the state.

The unemployment rate is lower than the rest of the state in Randolph and Clay counties, while Greene and Lawrence counties have a slightly higher rate than the state average (**Figure 6**)[3].

**Figure 5: Household Population Below Poverty Level**

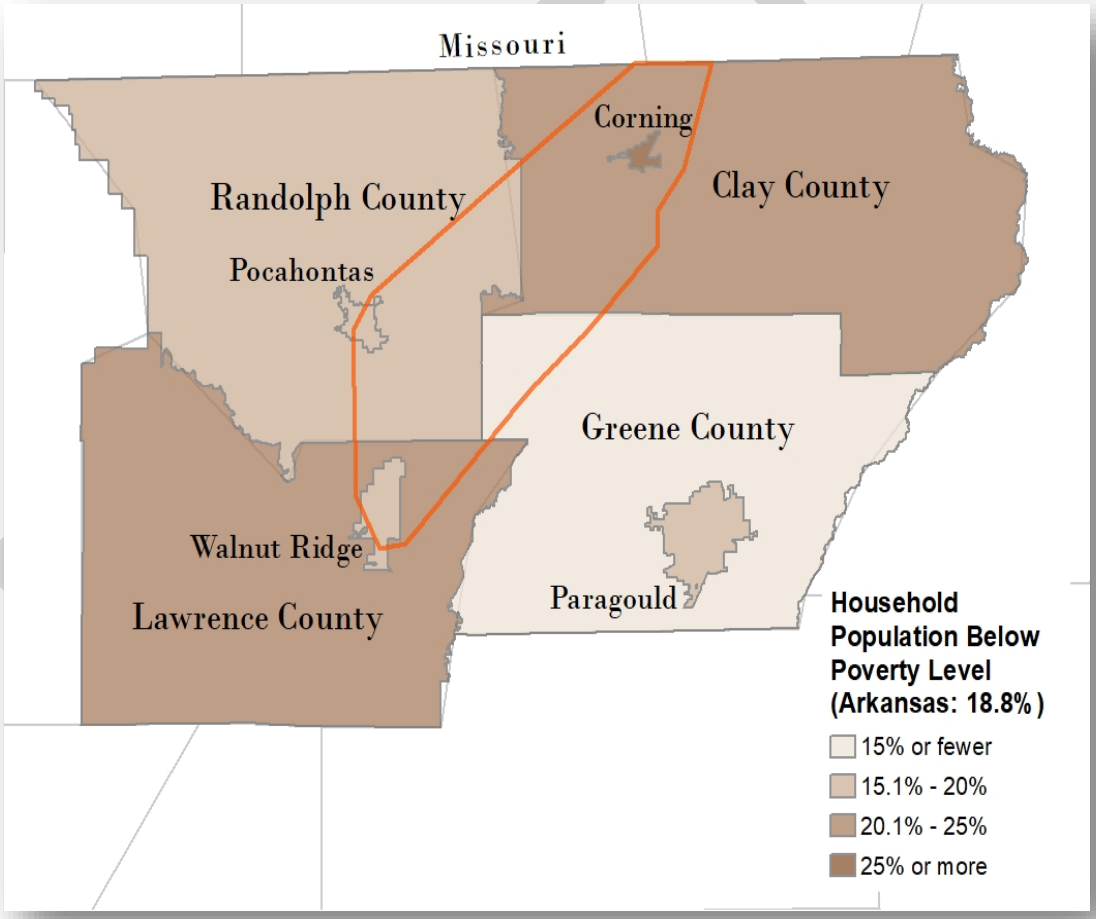
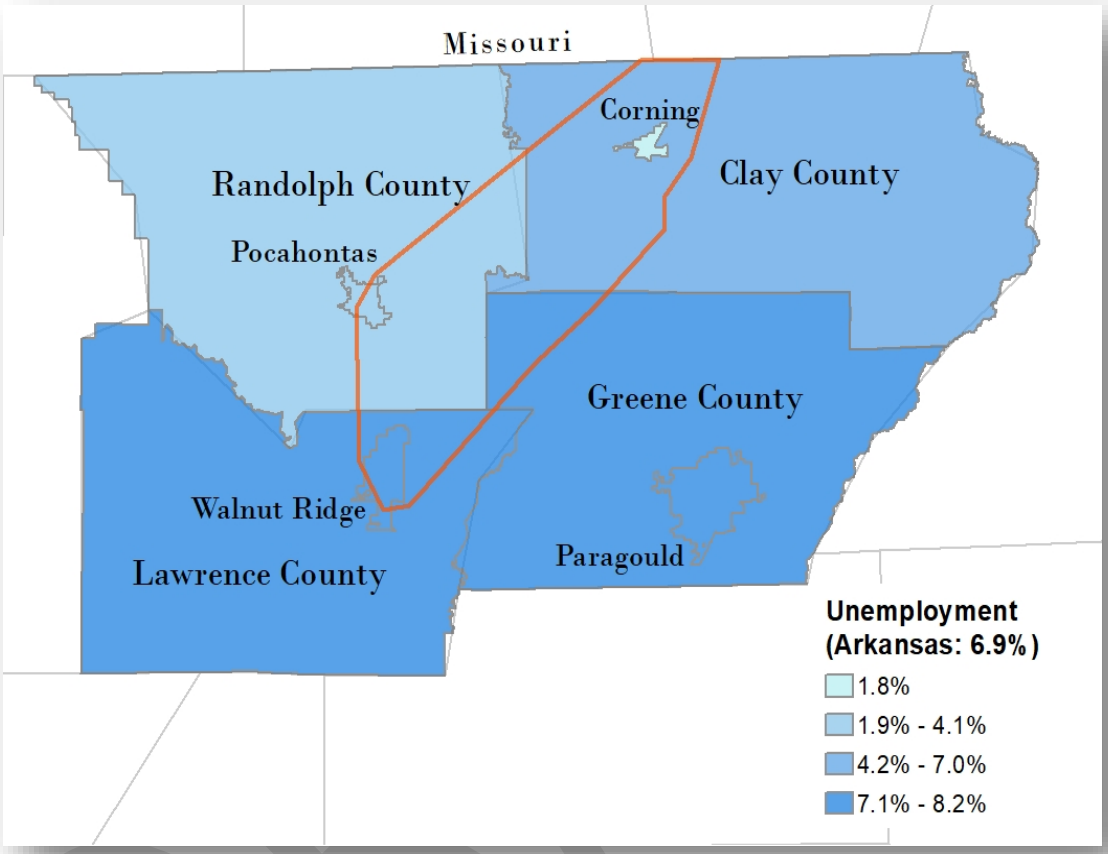


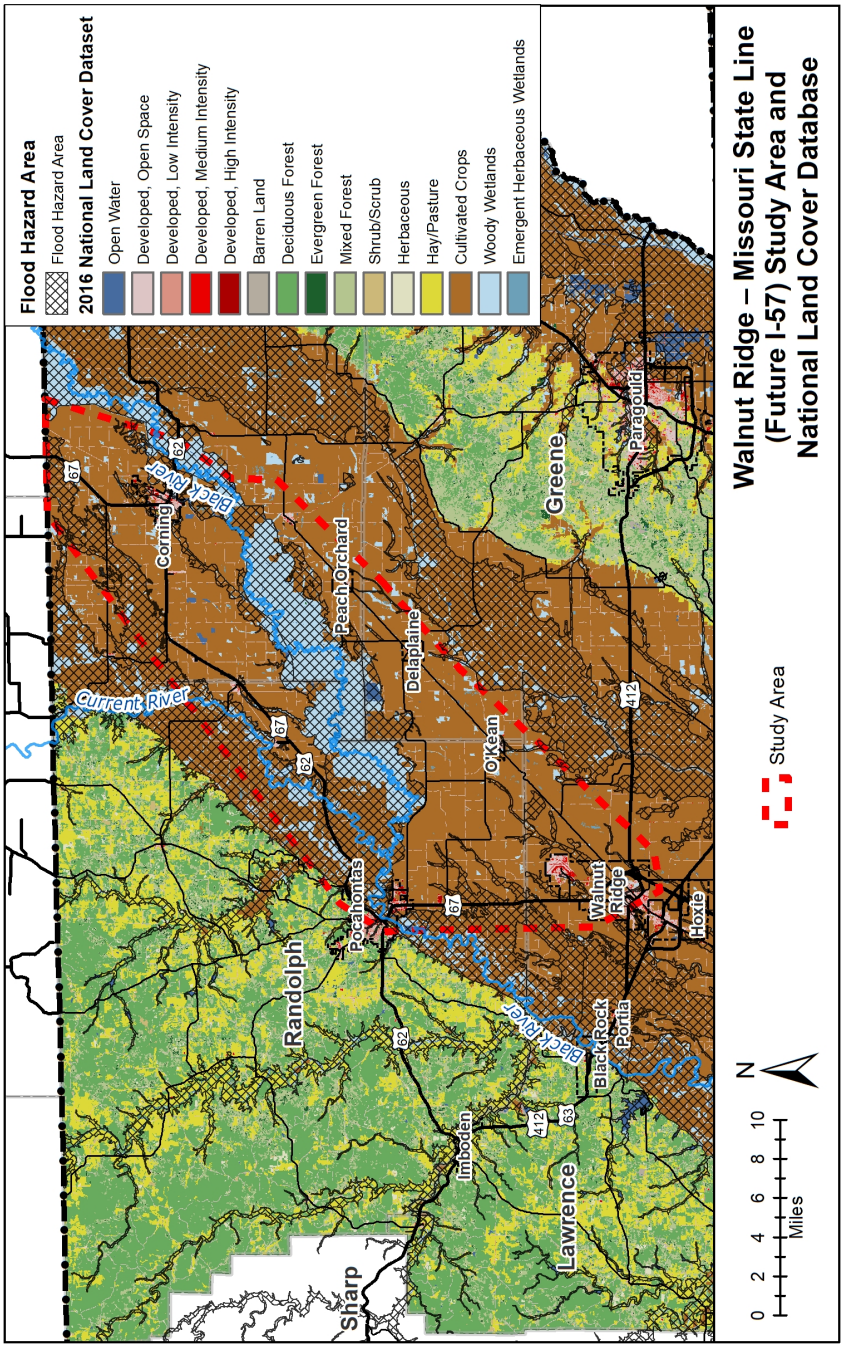
**Figure 6: Unemployment**




## Land Use and Environmental Features

Cultivated crops are the dominant land use in the study area as shown in **Figure 7**. The Dave Donaldson Black River Wildlife Management Area (WMA), the Black and Current Rivers, and substantial floodplains and wetlands are the major environmental features in the study area. As shown in Figure 1, the Dave Donaldson Black River WMA lies directly in the middle of the study area. The WMA is approximately 25,000 acres in size and supports important bottomland hardwoods and substantial recreational opportunities.

## Figure 7: Land Use



## Northeast Arkansas Road Network

Within the study area, there are four primary highways that provide for regional transportation and connect the study area to the rest of the state and beyond: Hwys. 62, 63, 412, and 67 (**Figure 8**). Hwy. 412 is the only continuous principal arterial parallel to, and north of, I-40 in Arkansas. Hwy. 412 extends from New Mexico to Tennesse and connects I-49 to Hwy. 67 in northeast Arkansas. As a Congressionally-designated High Priority Corridor, Hwy. 412 is part of a strategic network of highways that support national economy, defense, and mobility.

There is a network of other minor two-lane roadways in the study area, specifically Hwys. 90, 34, 304, and 135, that provide an alternative route from Walnut Ridge to Corning passing through small communities such as O'Kean, Delaplaine, and Peach Orchard. This alternate route to Highway 67 generally follows the Union Pacific Railroad and is on the eastern edge of the study area.

## Regional Roadway Network

Currently, I-57 runs from Chicago, Illinois to Sikeston, Missouri, where it meets I-55 (**Figure 9**). The future I-57 corridor will eventually be extended west from Sikeston, Missouri along Hwy. 60 to Poplar Bluff, Missouri and then south along the Hwy. 67 corridor to North Little Rock, Arkansas, ending at I-40.

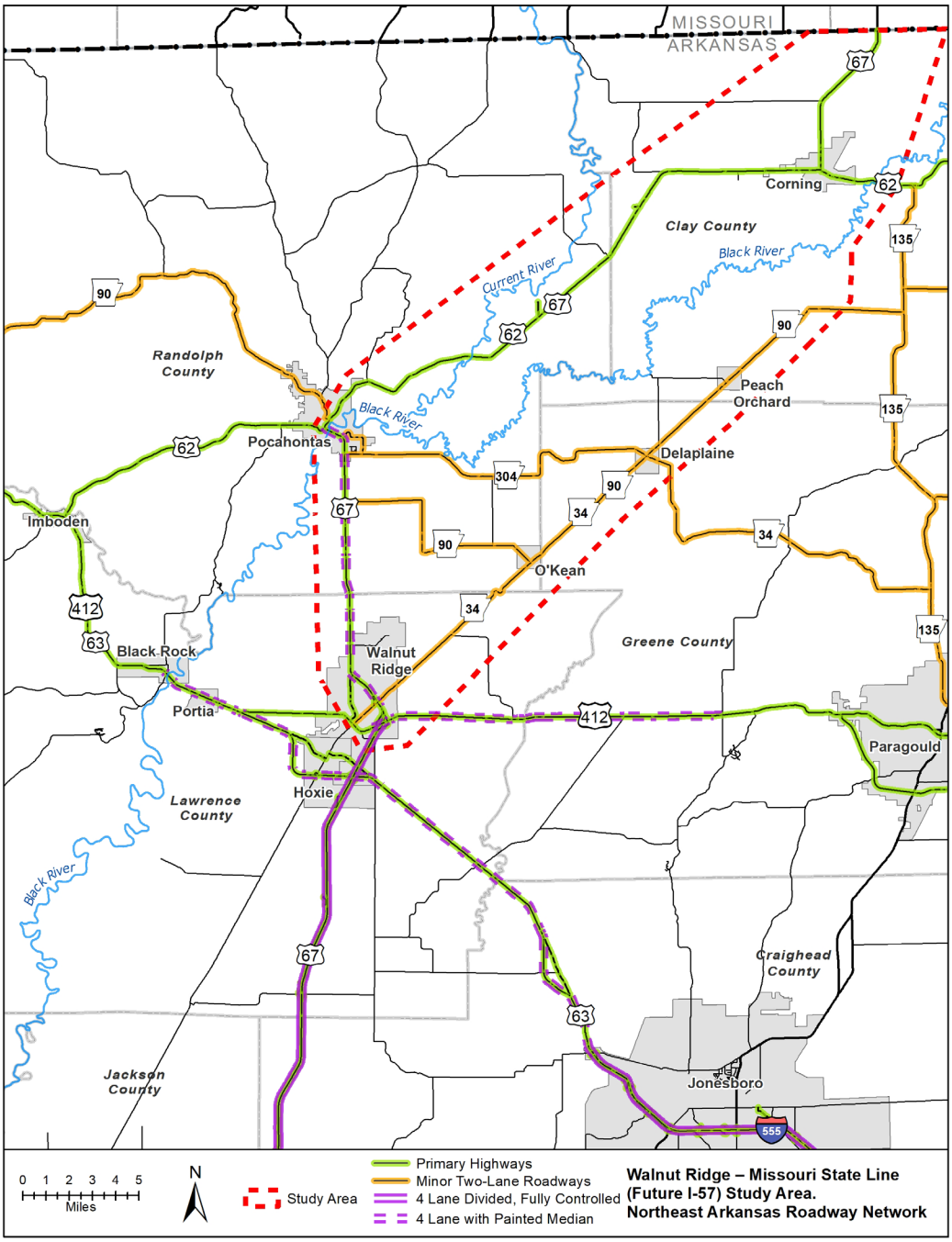
Missouri has already upgraded 62 miles of the Hwy. 60/67 corridor between Sikeston and Harviell to a four-lane highway with partial access control, with plans to convert it to a fully-controlled access interstate. An approved alignment for improvements to interstate standards from Harviell to just south of Neelyville ending about 2 miles north of the Arkansas State line (approximately 11 miles) is currently being reevaluated, and funding has already been secured for design and construction of XX miles of this route .

## Traffic Operations

The 2015 *Draft Highway 67 Improvement Study* found that congestion levels were acceptable then and would still be acceptable without improvements in 2035. For this study, the 2015 and 2035 volumes developed in the previous planning study were updated to show 2018 and 2040 volumes. Annual growth rates used to calculate the 2040 volumes were based on the previous study growth rates. Since the 2040 traffic volumes did not show a significant increase over the 2035 volumes, additional traffic analysis was not performed. The previous study indicated that most of Highway 67 in our study area operates at acceptable levels today, and similar operations are expected in 2040. The exceptions were in Pocahontas and Corning for both 2018 and projected 2040 conditions where conditions were not always acceptable. Accordingly, traffic congestion and crash rates are the worst in

Pocahontas and Corning both now and in 2040 due to the higher traffic volumes, stop light intersections, and residential and business density.

**Figure 8: Northeast Arkansas Roadway Network**



## Figure 9: Regional Roadway Network

## What studies have been completed in the past for this corridor?

A list of the important actions and reports related to the Hwy. 67 corridor in Arkansas are presented below in **Table 4**.

**Table 4: Summary of Project History for the Hwy. 67 Corridor**

| Action/Report | Date | Details |
|---|---|---|
| NE Ark Arterial Highway Study | 1975 | • Recommended that a freeway facility be studied |
| Minute Order 78-186 | 1978 | • AHC authorized the updating of the 1975 study. |
| U.S. 67 from Newport to Walnut Ridge | 1988 | • Update to the 1978 study<br>• Study led to recommendations for an improved transportation system, not just improvements to selected routes. |
| Walnut Ridge – Pocahontas (Hwy 67) EA | Aug. 1993 | • Proposed action to widen Hwy. 67 from Walnut Ridge to Pocahontas from two-lanes to a four-lane highway, transitioning into a five-lane section inside the city limits of Pocahontas. |
| U.S. 67 Corridor Study – Walnut Ridge to the Missouri State Line | Feb. 1996 | • Purpose of study to recommend a preferred alignment for a freeway-type facility from Walnut Ridge to the Missouri State line.<br>• Recommended a new-location, four-lane freeway approximately 39 miles in length. |
| Minute Order 2012-025 | March 2012 | • AHC authorized a study to re-evaluate the long-term improvement needs for the Hwy. 67 Corridor from Walnut Ridge to the Missouri State line. |
| Highway 67 Improvement Study | Aug. 2015 | • Evaluated the long-term improvement needs for the Hwy. 67 corridor from Walnut Ridge to the Missouri State line.<br>• Alternatives retained for further study included improving existing Hwy. 67 with bypasses, a central new location route, and a northern new location route. No action retained as required by NEPA. |
| H.R. 1625-Consolidated Appropriations Act of 2018 SEC. 128 | Jan. 2018 | • Section 1105(c)(89) of Public Law 102–240, as amended, is amended to read as follows: "(89) I–57 Corridor Extension as follows: In Arkansas, the corridor shall follow United States Route 67 in North Little Rock, Arkansas, from I–40 to United States Route 412, then continuing generally northeast to the State line, and in Missouri, the corridor shall continue generally north from the Arkansas State line to Poplar Bluff, Missouri, and then follow United States Route 60 to I–57." |

## Why is the project needed?

The project is needed because there is a gap in the system linkage which diminishes connectivity and mobility of the National Highway System. Additionally, there is a lack of reliable transportation infrastructure to support economic development and a need to enhance resiliency to extreme weather events along the route. Furthermore, legislation designated this route as future Interstate Route 57. The project needs and supporting information are discussed further in the following sections.

### System Linkage & Continuity

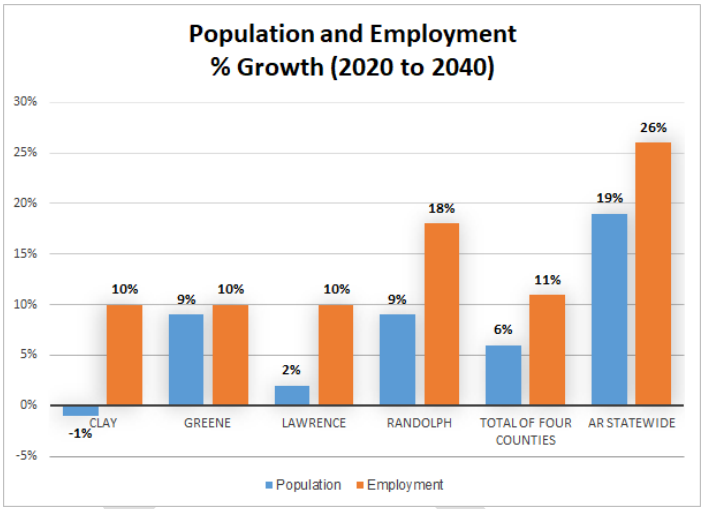
Hwy. 67 in the study area does not match the transportation system in the rest of this regional corridor (Figure 2). South of the study area, Hwy. 67 is a fully controlled interstate type facility from I-40 in North Little Rock to Walnut Ridge. North of the study area, Hwy. 67 is either built or planned to be built to a four-lane interstate type facility from the Missouri State line to Sikeston, Missouri. From Sikeston, existing I-57 heads north through Missouri and Illinois until it ends in Chicago, Illinois.

Improving this section of Hwy. 67 to interstate standards would also provide an important interstate connection between I-55 at Sikeston, MO and I-40 and I-30 in North Little Rock, AR. An improved Hwy. 67 that allows for higher speeds and greater traffic volumes, as well as a more direct route through northeast Arkansas, would enable commercial trucks carrying freight to use this route as an alternative to I-40 and I-55. This improved linkage would allow for more efficient movement of people and goods between the Great Lakes and the Gulf Coast in Louisiana and Texas, as well as within and between localized segments along the proposed corridor.

### Economic Development

As presented above, the study area populations have a lower standard of living than the rest of the state. The median age of people in these counties is older than the state average and trending higher. Census data also shows that since 1990 populations in Clay and Lawrence Counties have decreased by 24% and 6%, respectively. Randolph and Greene Counties have increased populations by 6% and 30%, respectively. For comparison, the state population has increased 22% between 1990 and 2019.

The projected population growth between 2020 and 2040 is approximately 6% for the four study area counties as compared to 19% for rest of the state[5]. Employment growth is projected to average 11% for the four study area counties as compared to the state's 26% growth[5]. These demographic characteristics can be directly correlated with reduced economic opportunities and fewer jobs creating an environment where younger people move away to find more work opportunities and higher standard of living.




According to U.S. Department of Transportation studies[6], a region's industrial and employment base is closely tied to the quality of the transportation system. High-quality, dependable transportation systems allow businesses to receive inputs to production facilities and to transport finished goods to market in an efficient manner. An efficient transportation system allows companies to lower transportation costs, which lowers production costs and enhances productivity and profits.

## Climate Resiliency

The Federal Highway Administration (FHWA) Order 5520 establishes FHWA policy on preparedness and resilience to climate change and extreme weather events. It encourages state departments of transportation to implement and evaluate risk-based and cost-effective strategies to minimize extreme weather risks and protect critical infrastructure using the best available science, technology, and information.

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[5]-*https://arstatedatacenter.youraedi.com/past-census-data/and https://arstatedatacenter.youraedi.com/demores/demoscripts/subcountyestimates2019.php*

[6]- *https://www.fhwa.dot.gov/publications/publicroads/96spring/p96sp16.cfm*

*Hwy. 67 south of Pocahontas in Randolph County in 2017.*

Over the past 12 years, the Hwy. 67 corridor has experienced several major flood events causing highway disruption. The first major flood event occurred along the Black River in 2008, submerging portions of Hwy. 67 in Pocahontas[7]. In 2011, Hwy. 67 from Pocahontas to Walnut Ridge was shut down for more than a week due to flooding. From south of Pocahontas to Corning, Hwy. 67 was closed for several days due to high water in May 2017. Additional minor flood events impacting the Hwy. 67 corridor have occurred as well, especially between Pocahontas and Corning.

In recent years, a higher percentage of precipitation in the U.S. has come in the form of intense single-day events[8]. The prevalence of extreme single-day precipitation events remained fairly steady between 1910 and the 1980s, but has risen substantially since then. Nationwide, nine of the top 10 years for extreme one-day precipitation events have occurred since 1990. The occurrence of abnormally high annual precipitation totals (as defined by the National Oceanic and Atmospheric Administration) has also increased. Increases and decreases in frequency and magnitude of river flood events generally coincide with increases and decreases in the frequency of heavy rainfall events[9]. This trend is expected to continue.

A resilient Hwy. 67 is needed to withstand such extreme weather events. By remaining open to travel, it would serve to keep valuable commerce moving through the region, give locals the ability to access jobs and commerce, facilitate emergency vehicle access, and serve as an evacuation route for lower lying areas. An improved Hwy. 67 would provide an alternate route to Interstates 40 and 55 during construction work or emergency closures on those facilities, improving not only local and regional but national mobility.

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*[7]-https://www.noaa.gov/weather*
*[8]-https://www.epa.gov/climate-indicators/weather-climate*
*[9]- http://nca2014.globalchange.gov*

### Congressional Designation

Recent Federal legislation emphasized the importance of this extension of the I-57 corridor  The Consolidated Appropriations Act of 2018 states: *"I-57 Corridor Extension as follows:  In Arkansas, the corridor shall follow United States Route 67 in North Little Rock, Arkansas, from I-40 to United States Route 412, then continuing generally northeast to the State line, and in Missouri, the corridor shall continue generally north from the Arkansas State line to Poplar Bluff, Missouri, and then follow United States Route 60 to I-57".*

## What is the purpose of the project?

The purpose of the project is to enhance connectivity and continuity of the National Highway System, provide a more resilient roadway, and provide for increased opportunity for economic development in northeast Arkansas.