

# Transportation Improvement Study

## City of Searcy



White County

November 2008



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Prepared by:  
Planning and Research Division  
Arkansas State Highway and Transportation Department

In Cooperation with:  
City of Searcy  
Searcy Regional Chamber of Commerce  
Federal Highway Administration

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# TABLE OF CONTENTS

<b>Section</b>	<b>Page</b>
<b>I. Introduction</b>	
Study Authorization.....	1
Overview.....	1
Land Use.....	3
Existing Highways.....	3
Recent, Current and Planned Highway Improvements.....	4
Traffic Volumes.....	4
Safety Analysis.....	5
<b>II. Proposed North Searcy Connection</b>	
Purpose and Need.....	7
• Local Roads.....	7
Site Topography.....	9
Descriptions of Alternatives.....	9
• Alternative 1.....	12
• Construction Alternatives.....	12
<u>Western Section</u> .....	13
• Alternative 2.....	13
• Alternative 3.....	13
• Alternative 4.....	14
• Alternative 5.....	14
• Alternative 6.....	15
• Alternative 7.....	15
• Alternative 8.....	15
<u>Eastern Section</u> .....	16
• Alternative 2.....	16
• Alternative 3.....	16
Traffic Demand.....	17
Potential Environmental Impacts.....	19
• Western Section.....	19
• Eastern Section.....	19
Findings.....	20

**TABLE OF CONTENTS--continued**

<b>Section</b>	<b>Page</b>
<b>III. Proposed Access Improvements – Highway 67 Frontage Road/Brantley Road</b>	
Purpose and Need .....	21
• Local Roads.....	21
Descriptions of Alternatives .....	22
• Alternative 1.....	22
• Alternative 2.....	22
Traffic Demand .....	24
Potential Environmental Impacts.....	25
Findings .....	25
<b>IV. Summary and Conclusions</b>	
Major Findings .....	27

## FIGURES

	<b>Page</b>
Figure 1 – Current Construction Alternatives--Highway 13 Extension .....	2
Figure 2 – Analysis Areas .....	3
Figure 3 – Existing and Projected Traffic .....	5
Figure 4 – Project Location--Proposed North Searcy Connection.....	7
Figure 5 – Collins Road .....	8
Figure 6 – Intersection of North Bypass Road and North Main Street .....	9
Figure 7 – Topography--Proposed North Searcy Connection Analysis Area .....	10
Figure 8 – Project Segments .....	11
Figure 9 – Construction Alternatives--Western Section - Proposed North Searcy Connection	
• Figure 9a – Alternatives 2 and 3 .....	13
• Figure 9b – Alternatives 4 and 5 .....	14
• Figure 9c – Alternatives 6, 7 and 8.....	15
Figure 10 – Construction Alternatives-- Eastern Section - Proposed North Searcy Connection.....	16
Figure 11 – Estimated Project Traffic-- Western Section - Proposed North Searcy Connection.....	18
Figure 12 – Estimated Project Traffic-- Eastern Section - Proposed North Searcy Connection.....	18
Figure 13 – Project Location--Highway 67 Frontage Road/Brantley Road.....	21
Figure 14 – Brantley Road .....	22
Figure 15 – Proposed Improvements--Highway 67 Frontage Road/Brantley Road .	23
Figure 16 – Commercial/Industrial Sites .....	24

## TABLES

	<b>Page</b>
Table 1 – Crash Analysis Summary.....	6
Table 2 – Alternatives .....	12
Table 3 – Estimated Length and Cost--Proposed North Searcy Connection Construction Alternatives.....	17

# Section I

## Introduction

### **Study Authorization**

This report was prepared under the authority of Arkansas Highway Commission Minute Order 2005-013. The Minute Order authorized a study of several roadway facilities that could possibly reduce traffic flow problems and improve access. Possible improvements are:

1. A southwestern connection from Highway 36 West to Highway 13 (Highway 13 Extension);
2. A northern connection to link Highways 36 West, 16 and 67;
3. A connection between Highway 16 and North Main Street with improvements to North Main Street; and
4. Improvements to the Highway 67 Frontage Road/Brantley Road to better serve an existing commercial/industrial site and a nearby site that might be available for future industrial development.

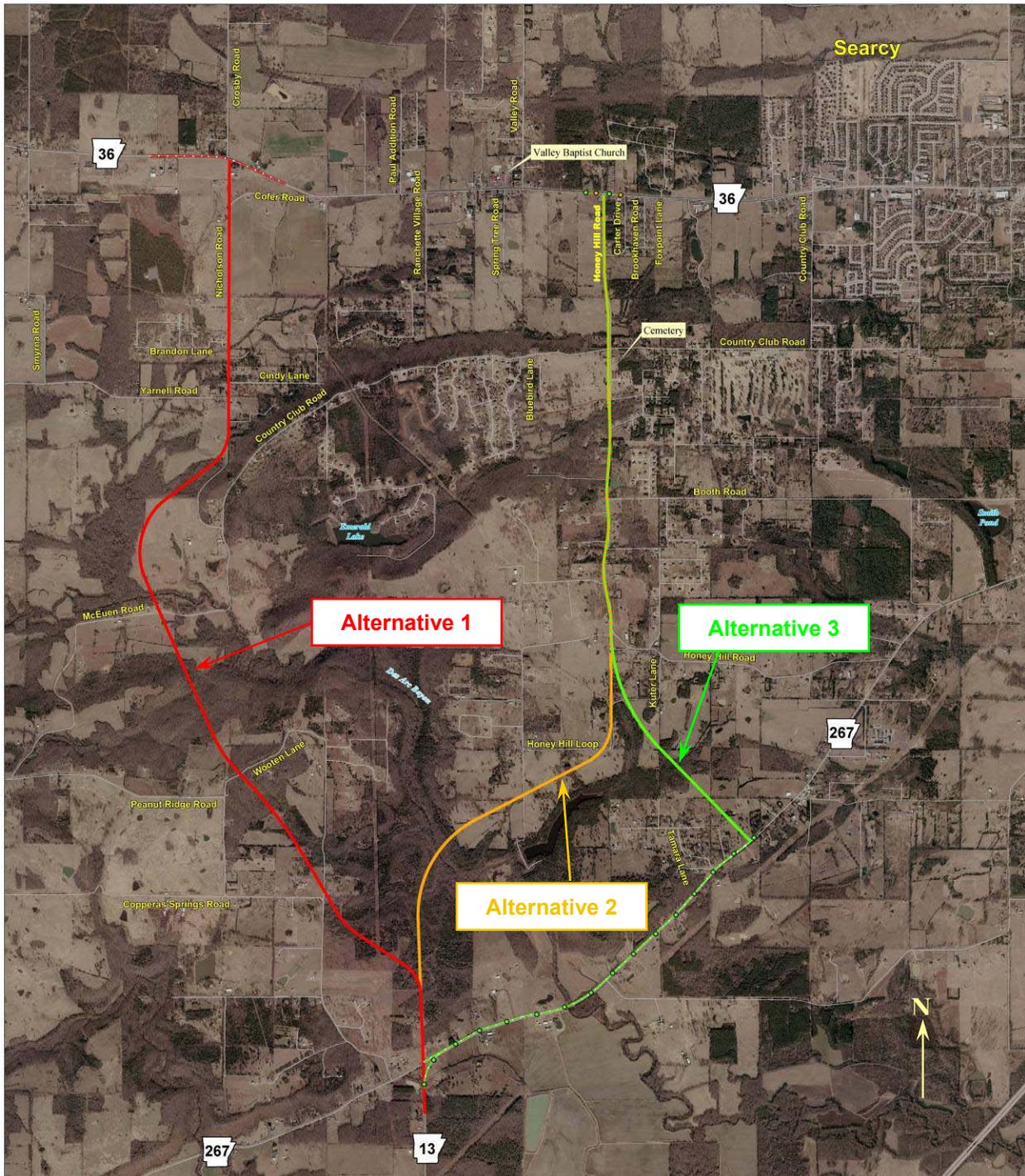
A study, the Highway 13 Extension Study (July 2005), analyzed the southwestern connection. Three possible corridors were developed and determined to be feasible. A project to extend Highway 13 has been programmed as Job 050189. Environmental handling has begun and Figure 1 shows the current construction alternatives under consideration for Job 050189.

In June 2008, Searcy area officials revised their original request. The Main Street Connection was eliminated from further evaluation and an additional alternative for the northern connection to link Highways 36 West, 16 and 67 was added. This study addresses the remaining proposed improvements (Figure 2).

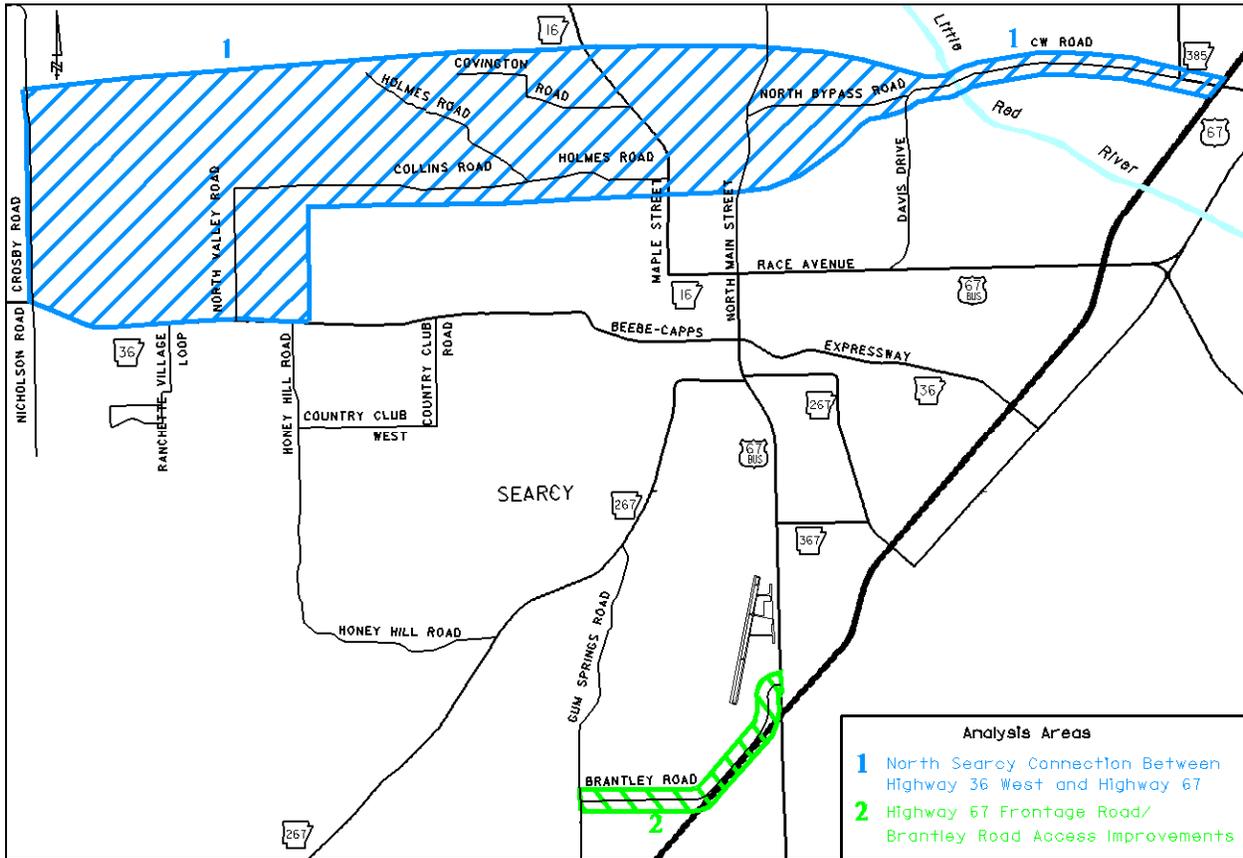
### **Overview**

Searcy is located in White County on Highway 67 approximately 50 miles northeast of Little Rock. It serves a large area in central Arkansas as a regional provider of educational, medical and commercial services. The City is home to Harding University and the Arkansas State University – Searcy Campus as well as a major medical facility, the White County Medical Center. In addition, Searcy's multi-level economy consists of agriculture, retail and industrial businesses, which provide a stable financial base for the area. Major employers include distribution centers, an ice cream company, and manufacturers of stainless steel sinks, fluid power valves and hose fittings. The City's strong economic base is illustrated by the 57 businesses in the area that employ over 50 employees each. Based on the 1990 and 2000 Census results, the population of White County has increased almost 23%, from 54,676 to 67,165. During the same period, the population of Searcy increased from 15,180 to 18,928, an increase of nearly 25%. The statewide population growth for the same ten-year period was under 14%.

**Figure 1**  
**Current Construction Alternatives**  
**Highway 13 Extension – Job 050189**



**Figure 2  
Analysis Areas**



**Land Use**

Land use in White County is primarily agricultural, with nearly 60% of the County’s acreage in farms. Most of the commercial and health care facilities are located in Searcy along Highways 67, 67B, 36, and 16, with areas zoned for industrial use located to the south and southeast of the Central Business District (CBD). Most of the residential, school, and park areas are located to the north or west of the CBD.

**Existing Highways**

Highway 67 is a principal arterial route through Searcy and is constructed to Interstate System standards from Interstate 40 in North Little Rock to Newport.

Highway 67B is a principal arterial that consists of four travel lanes, with curbs, between Highway 67 near the southern city limits and Highway 36. Between Highways 36 and 16, the cross-section is two travel lanes with a two-way, left turn lane. In the Searcy downtown area, Highway 67B (Race Avenue) has been widened from Highway 16 to Davis Drive to allow two lanes with a continuous, two-way, left turn lane. East of Davis Drive, the roadway has four travel lanes with a continuous, two-way, left turn lane.

Highway 36, also known as the Beebe-Capps Expressway, is the main east/west route through Searcy. Within Searcy, it is classified as a minor arterial route. Beginning west of Searcy near the Ranchette Village Loop, Highway 36 has four travel lanes and a continuous, two-way, left turn lane. This configuration continues through Searcy.

Highway 16 is a minor arterial route within the city limits. Regionally, it connects Searcy to the Greers Ferry/Heber Springs area. Highway 16 is a four-lane facility from Covington Road near the northern city limits to Race Avenue, where the road becomes two lanes through the CBD.

### **Recent, Current and Planned Highway Improvements**

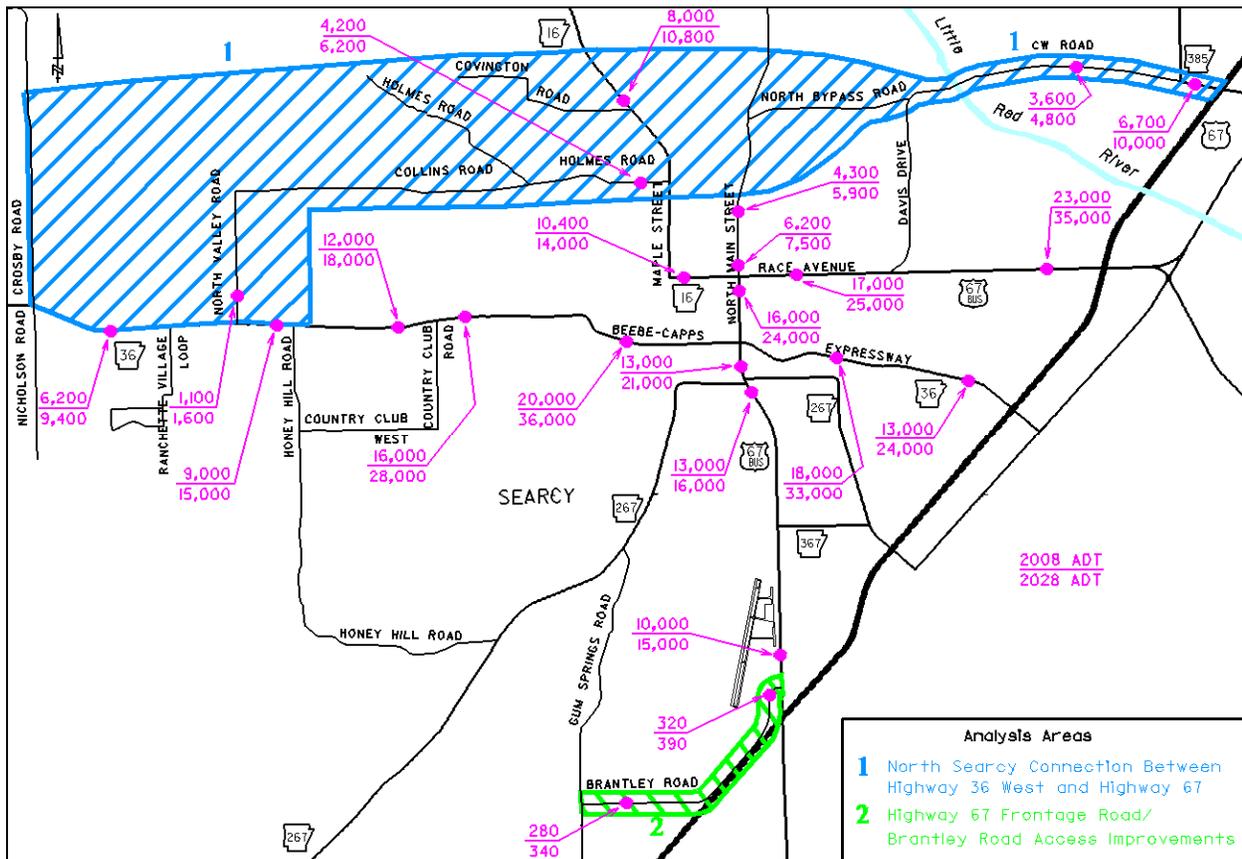
- Widening 1.85 miles of Highway 267 east of Highway 67B to include a continuous, two-way, left turn lane – completed in August 2002.
- Widening 1.47 miles of Highway 16 (Maple Street) from two to four travel lanes between Covington Road and Race Avenue in Searcy – completed in March 2004.
- Widening 1.11 miles of Highway 67B to four travel lanes with a continuous, two-way, left turn lane between Davis Drive and Willow Street in Searcy – completed in June 2004.
- Widening 1.94 miles of Highway 36 west of Country Club Road to four travel lanes with a continuous, two-way, left turn lane – completed in October 2005.
- Widening 0.73 mile of Highway 67B between Main Street and Cross Street to provide a continuous, two-way, left turn lane – estimated completion in November 2008.
- Reconstruction of Highway 16 for a distance of approximately 0.78 mile from Covington Road north – under construction.
- Construction of an extension for Highway 13 between Highways 267 and 36 West – scheduled to be let in 2011.

### **Traffic Volumes**

Estimated current and forecast (2008/2028) average daily traffic (ADT) volumes are shown on Figure 3. The highest traffic volumes are found on Highways 67B (Race Avenue and Main Street) and 36 (Beebe-Capps Expressway).

Between Highway 67 and North Main Street, current traffic volumes on Highway 67B (Race Avenue) range from 17,000 to 23,000 vehicles per day (vpd) and reflect the traffic generated by the dense commercial development along the highway. Highway 36 is the City's primary east/west route providing access to commercial sites on the east and residential areas on the west. Over 12,000 vehicles travel on Highway 36 daily between the west city limits and Highway 67. On Highway 67B (Main Street), traffic volumes range from 10,000 vpd near Highway 67 to 16,000 vpd near Race Avenue. These volumes also may be attributed to commercial areas along the highway.

**Figure 3  
Existing and Projected Traffic**



**Safety Analysis**

A safety analysis was conducted for several highways related to the proposed travel improvements being considered in this study. The relative safety of a route can be evaluated by comparing the crash rate (the number of crashes per million vehicle miles traveled) of the route to a statewide average crash rate for similar routes. Crash data for 2005, 2006 and 2007 (the three most recent years for which data is available) were analyzed to determine crash rates for various highway segments in the Searcy area.

Table 1 summarizes the results of the analysis. Widening of Highway 36 West between Ranchette Village Loop and Country Club Road was completed in 2005 and, since the data is not comparable for the entire analysis period, only data since completion of the roadway improvement is shown. Crash rates that exceed statewide average rates are highlighted. As shown in the table, crash rates for the two segments that are two-lane facilities, Highway 16 (Race Avenue) between Maple Street and Highway 67B and Highway 67B between Highway 36 and Davis Drive, are above the statewide average rates for all three years. Crash rates for Highway 67B (Race Avenue) from Davis Drive to Highway 67 also are above the statewide average rates, reflecting the traffic volume and roadside development for the segment which attracts a large number of turning movements.

Angled or rear-end collisions were the most common types of crashes. Such collisions are indicators of congestion along the roadway, with stop-and-go conditions and frequent turning maneuvers. The leading contributing factors for crashes on all study segments were “Following Too Close” and “Failure to Yield” which also reflect roadway congestion.

**Table 1  
Crash Analysis Summary**

Hwy	Segment	Type of Roadway (Length)	Year	Weighted ADT	Crashes Per Year	Crash Rates (per mvm)	Statewide Average Crash Rates (per mvm)
16	From North City Limits to Race Avenue	Urban four-lane, undivided (1.33 miles)	2005	9,700	20	4.25	6.43
			2006	9,800	15	3.15	5.98
			2007	10,200	18	3.64	5.65
	From Maple Street to Highway 67B	Urban two-lane, undivided (0.52 miles)	2005	10,100	28	14.61	3.84
			2006	10,200	33	17.05	3.44
			2007	10,400	38	19.25	3.43
36	From Ranchette Village Loop to Country Club Road	Rural four-lane, undivided with a center turn lane (2.04 miles)	2005	9,600	*	*	*
			2006	9,700	8	1.11	1.26
			2007	10,800	11	1.37	1.21
	From Country Club Road to Highway 67B	Urban four-lane, undivided with a center turn lane (2.27 miles)	2005	16,200	55	4.10	6.43
			2006	17,200	72	5.05	5.98
			2007	18,300	83	5.47	5.65
	From Highway 67B to Highway 67	Urban four-lane, undivided part with a center turn lane (1.99 miles)	2005	13,900	20	1.98	6.43
			2006	15,100	28	2.55	5.98
			2007	16,800	29	2.38	5.65
67B	From Highway 67 to Highway 36	Urban four-lane, undivided (2.60 miles)	2005	10,200	45	4.65	6.43
			2006	10,600	39	3.88	5.98
			2007	10,500	41	4.11	5.65
	From Highway 36 to Davis Drive	Urban two-lane, undivided with a center turn lane (1.52 miles)	2005	14,800	104	12.67	3.84
			2006	15,800	100	11.41	3.44
			2007	15,400	99	11.59	3.43
	From Davis Drive to Highway 67	Urban four-lane, undivided with a center turn lane (1.67 miles)	2005	20,700	153	12.13	6.43
			2006	22,900	140	10.03	5.98
			2007	21,900	144	10.19	5.65

Orange shading indicates crash rates higher than the statewide average for similar facilities. Crash rates are measured in crashes per million vehicle miles (mvm) traveled.

\* Construction to widen highway completed in 2005.

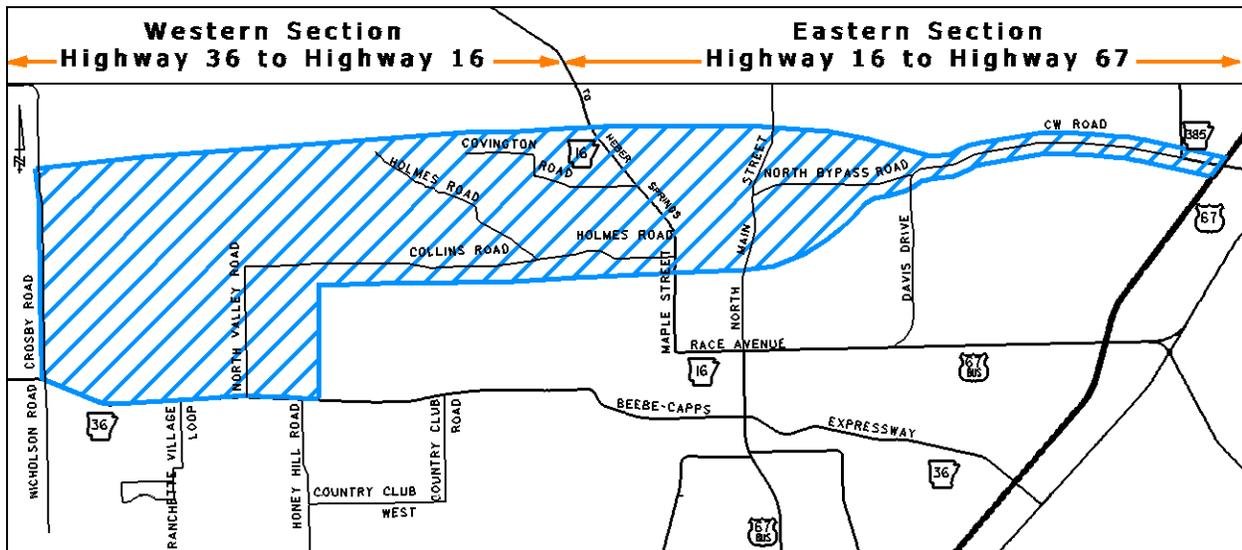
**Note:** Statewide average crash rate for a two-lane or a four-lane, undivided roadway uses crash data matched with the roadway inventory as having two or four through lanes of traffic whether a center turn lane is present or not present.

## Section II Proposed North Searcy Connection

### Purpose and Need

The purpose of the proposed North Searcy Connection is to provide a route for traffic moving between Highways 36 West, 16 and 67. A northern route could serve traffic traveling to the Heber Springs/Greers Ferry Lake area, a leading vacation destination. Traffic bound for this area includes recreational vehicles and vehicles towing campers and boats which can affect the flow of traffic on local city streets such as Race Avenue (Highways 16 and 67B). The presence of large vehicles on any roadway tends to reduce traffic operation. The route could also serve developing residential areas on both ends of the study corridor and other anticipated future development in north Searcy. The need to link the areas was identified in Searcy's 1994 Master Street Plan. Figure 4 shows the study area for the project. For analysis purposes, the proposed North Searcy Connection will be evaluated as two separate sections. The Western Section covers the area from Highway 36 West to Highway 16 and the Eastern Section is the area between Highways 16 and 67.

**Figure 4**  
**Project Location**  
**Proposed North Searcy Connection**



### **Local Roads**

Portions of Crosby, Nicholson, North Valley, Honey Hill, Collins, Holmes and Covington Roads form the general alignment for the Western Section of the proposed North Searcy Connection corridor between Highways 36 West and 16. Crosby and Nicholson Roads are located approximately two miles west of Searcy. Crosby Road is a rural collector route that extends north from Highway 36 West and generally aligns with Nicholson Road which lies south of Highway 36 West. Nicholson Road is classified as a local road.

North Valley, Collins and Holmes Roads, located north of Highway 36 West, connect Highways 36 West and 16. North Valley Road, a north/south route, is bordered by residential development. Collins Road, a narrow gravel road that is primarily rural in nature (Figure 5), links North Valley and Holmes Roads. Pavement for Holmes Road, an east/west, collector road, ranges from about 18 feet wide near Collins Road to approximately 22 feet wide near Highway 16. A mix of homes and small businesses are located on the eastern end of Holmes Road.

**Figure 5**  
**Collins Road**



Honey Hill Road, a rural collector route located near the western city limits for Searcy, lies south of Highway 36 West and turns east to connect to Highway 267 south of town.

Covington Road is a local road that follows Backbone Ridge on the west side of Highway 16 near the northern city limits of Searcy. The road, approximately 1.4 miles long, ends at a closed gate and is primarily rural in character with scattered residences. The first 0.4 mile of the road is paved with a width of about 20 feet and no shoulders; the remainder is gravel and dirt.

Two roads, North Bypass and CW, lie within the Eastern Section of the proposed North Searcy Connection. North Bypass Road is an east/west, minor arterial route from North Main Street to Davis Drive. This two-lane road has a pavement width of approximately 20 feet. The City's wastewater treatment plant is located in the southwest quadrant of the North Bypass Road/Davis Drive intersection. CW Road is an east/west, rural major collector route that continues from North Bypass Road/Davis Drive to Highway 67 at Exit 48. Highway 385 runs over a short section of CW Road just west of Highway 67. This two-lane road has a pavement width of approximately 22 feet and gravel shoulders between Davis Drive and Highway 67. Numerous residences are scattered throughout the corridor. Two bridges, one that

crosses the Little Red River and the other over Rocky Branch, are located along the corridor.

### **Site Topography**

Backbone Ridge lies to the north of North Bypass, Holmes and Collins Roads. The area is characterized by folded ridges, rolling hills and intermediate valleys that could affect alignment of the proposed route. Figure 6 shows typical terrain features of Backbone Ridge (rocky outcrops and wooded areas). Figure 7 shows the topography of the proposed North Searcy Connection corridor.

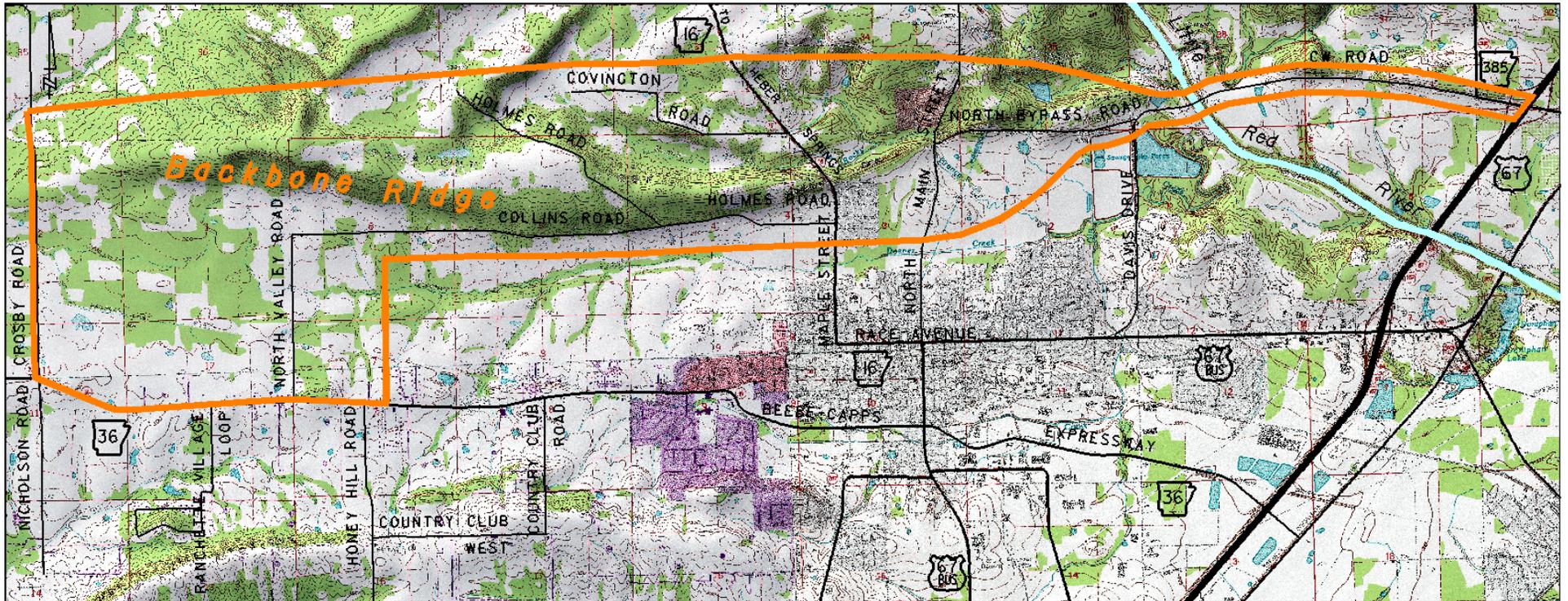
**Figure 6**  
**Intersection of North Bypass Road and North Main Street**  
**(Looking Northwest)**



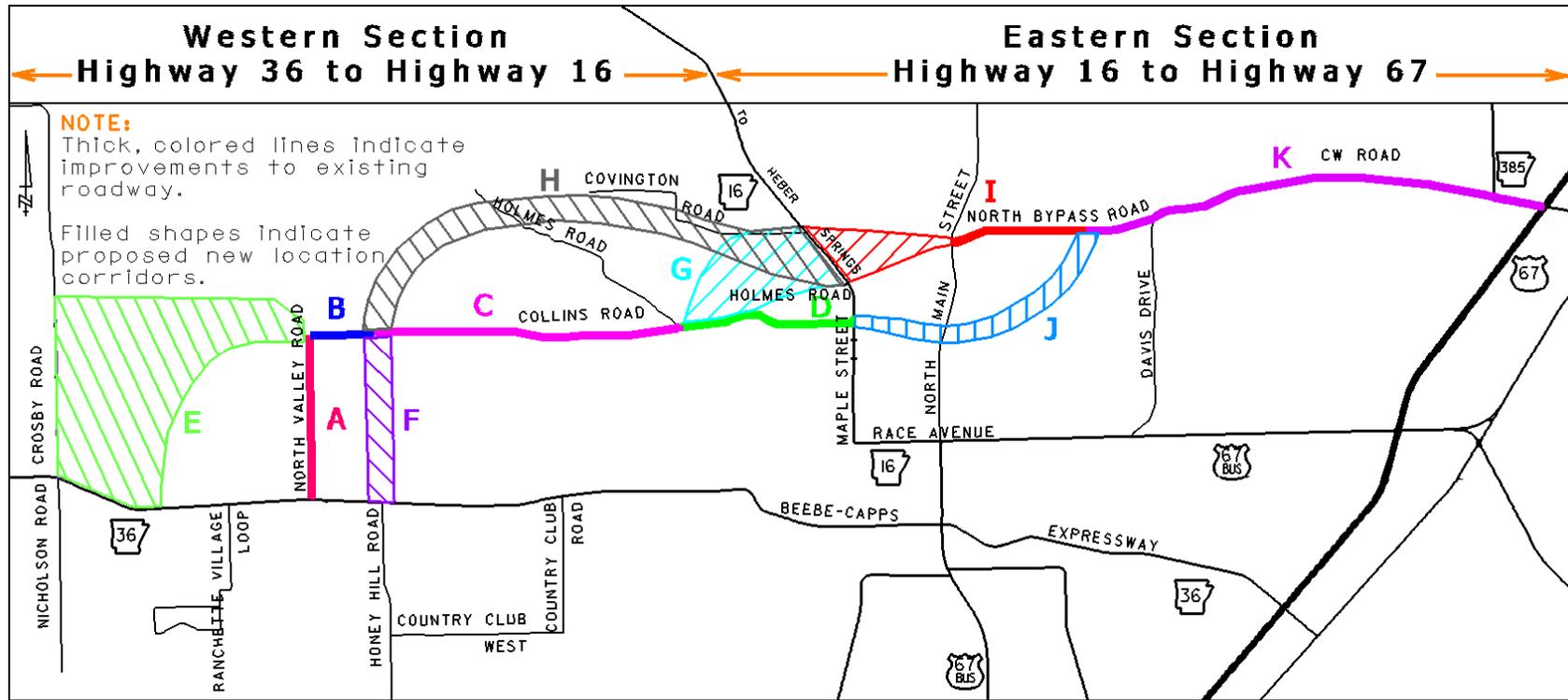
### **Descriptions of Alternatives**

For analysis purposes, the proposed North Searcy Connection route has been divided into two sections. The Western Section is the area between Highway 36 West and Highway 16; the Eastern Section includes the area between Highways 16 and 67. Each section has been subdivided into segments which are combined to identify construction alternatives. Project segments are shown with descriptions in Figure 8.

Figure 7  
Topography  
Proposed North Searcy Connection Analysis Area



**Figure 8  
Project Segments**



**Segment\* Descriptions**

**Western Section**

* Road Name	From	To
<b>A</b> North Valley Road	Highway 36 West	Collins Road
<b>B</b> Collins Road	North Valley Road	Segment F
<b>C</b> Collins Road	Segment F	Holmes Road
<b>D</b> Holmes Road	Collins Road	Highway 16
<b>E</b> New Location	Highway 36 West (Nicholson Road area)	Collins Road
<b>F</b> New Location	Highway 36 West (Honey Hill Road area)	Collins Road
<b>G</b> New Location	Holmes Road (Collins Road area)	Highway 16 (Segment I area)
<b>H</b> New Location	Collins Road (Segment F area)	Highway 16 (Segment I area)

**Eastern Section**

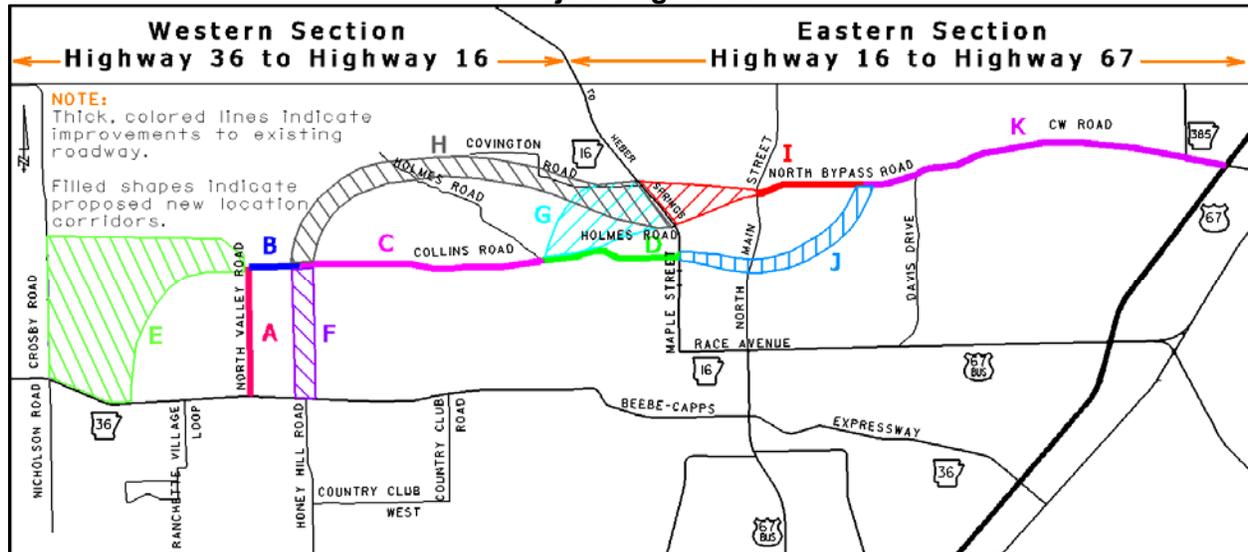
* Road Name	From	To
<b>I</b>	New Location	Highway 16
	North Bypass Road	North Main Street
<b>J</b>	New Location	Highway 16
<b>K</b>	North Bypass Road	West of Davis Drive
	CW Road	Davis Drive
	Highway 385	Highway 385 North

Alternatives for the proposed North Searcy Connection are listed in Table 2 (using the segments shown in Figure 8). The Western Section has 8 separate alternatives, while the Eastern Section has three alternatives identified. Alternative 1 for each Section (Western or Eastern) is the No Build alternative. The remaining alternatives represent construction options. Letters used in the descriptions are the segments shown and described in Figure 8 (map is repeated for reference purposes after Table 2).

**Table 2  
Alternatives**

Western Section		Eastern Section	
Alternative	Description	Alternative	Description
1	No Build	1	No Build
2	ABCD	2	IK
3	ABCG	3	JK
4	EBCD		
5	EBCG		
6	FCD		
7	FCG		
8	FH		

**Project Segments**



**Alternative 1 – No Build**

With the No Build alternative, no improvements are made to existing highways and no new highways are built. By taking no action, there are no adverse impacts such as land use changes, relocations or environmental disruptions caused by roadway construction. This alternative would result in no capacity or travel time improvements.

**Construction Alternatives**

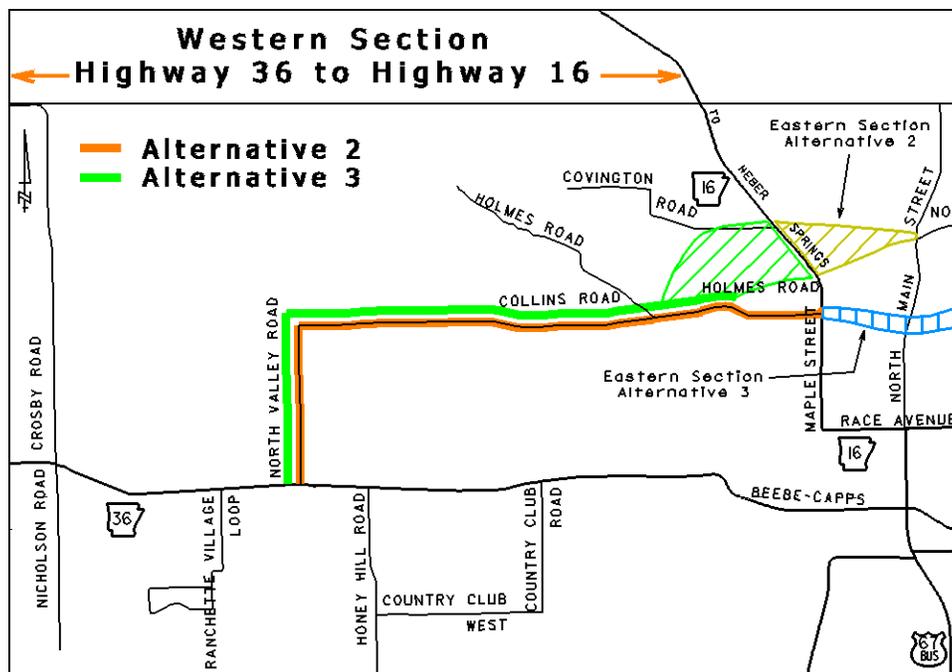
Proposed construction alternatives involve both new alignment and improvements to existing roadways. In all cases, the existing roadway (North Valley, Collins, Holmes, North Bypass or CW Roads or Highway 385) would be widened to two 12-foot travel

lanes with either 8-foot shoulders (typical width of right-of-way ranging from 100 to 150 feet) or curb and gutter with sidewalks (typical width of right-of-way ranging from 75 to 125 feet). New locations would be constructed to the same cross-section.

Each of the sections (Western and Eastern) is presented and evaluated separately. Consideration as to how the Western and Eastern Sections would connect should be made for overall roadway network efficiency. Figures 9a to 9c depict how the Western Section alternatives could link to the Eastern Section alternatives.

- **Western Section – Proposed North Searcy Connection**

**Figure 9a  
Construction Alternatives 2 and 3  
Western Section – Proposed North Searcy Connection**



**Note:** Alternative 1, the No-Build Alternative, is not shown.

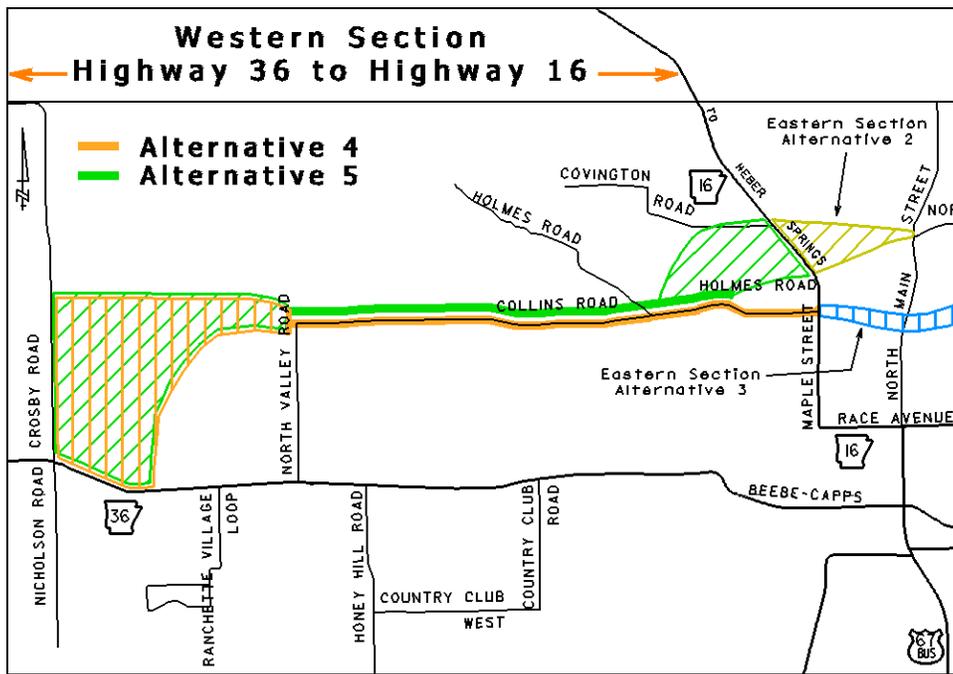
***Alternative 2, Western Section***

Starting at Highway 36 West, this alternative uses the existing alignment for North Valley, Collins and Holmes Roads to Highway 16.

***Alternative 3, Western Section***

Starting at Highway 36 West, this alternative uses the existing alignment for North Valley, Collins and Holmes Roads to a point on Holmes Road where it extends northeast on new location to Highway 16 near the terminating point for the Eastern Section Alternative 2.

**Figure 9b**  
**Construction Alternatives 4 and 5**  
**Western Section – Proposed North Searcy Connection**



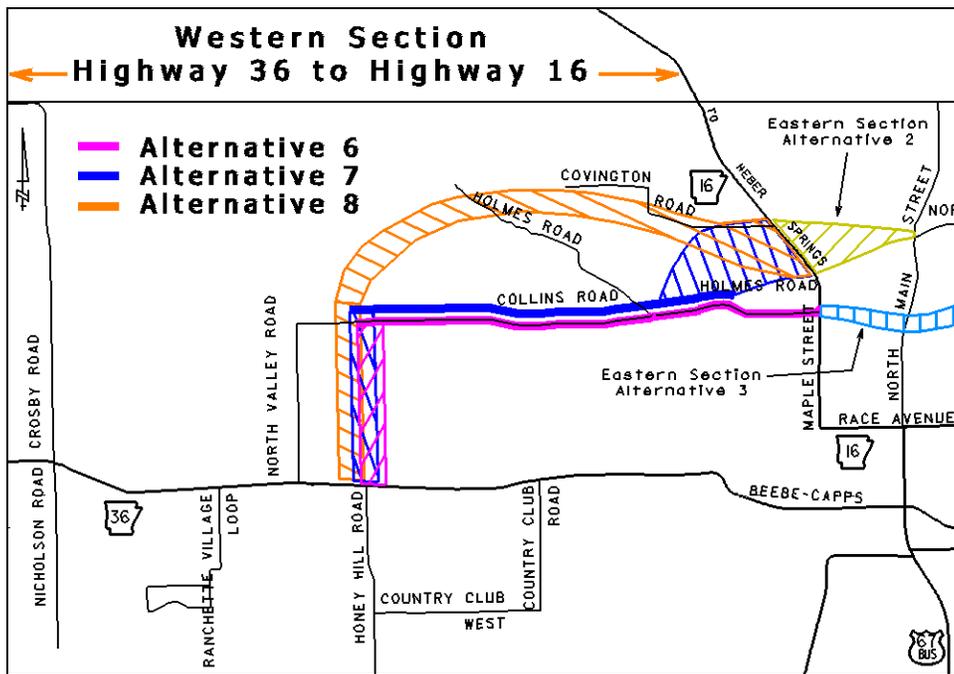
***Alternative 4, Western Section***

Starting at Highway 36 West in the vicinity of Crosby/Nicholson Roads, this alternative uses new location to connect to Collins Road. This alternative then follows the existing alignment for Collins and Holmes Roads to Highway 16.

***Alternative 5, Western Section***

Starting at Highway 36 West in the vicinity of Crosby/Nicholson Roads, this alternative uses new location to connect to Collins Road. This alternative then follows the existing alignment for Collins and Holmes Roads to a point on Holmes Road where it turns northeast on new location to extend to Highway 16 near the terminating point for the Eastern Section Alternative 2.

**Figure 9c**  
**Construction Alternatives 6, 7 and 8**  
**Western Section – Proposed North Searcy Connection**



***Alternative 6, Western Section***

Starting at Highway 36 West near Honey Hill Road, this alternative extends north on new location to Collins Road. It then follows the existing alignment for Collins and Holmes Roads to Highway 16.

***Alternative 7, Western Section***

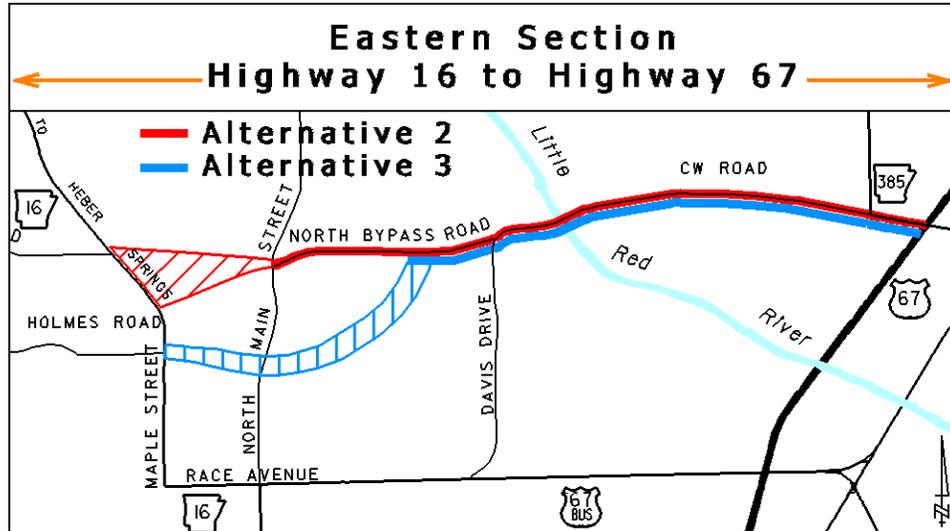
Starting at Highway 36 West near Honey Hill Road, this alternative extends north on new location to Collins Road. It then follows the existing alignment for Collins and Holmes Roads to a point on Holmes Road where it turns northeast on new location to Highway 16 near the terminating point for the Eastern Section Alternative 2.

***Alternative 8, Western Section***

Starting at Highway 36 West near Honey Hill Road, this alternative extends north on new location to Collins Road. It continues on new location north of Collins Road turning east to connect to Highway 16 near the terminating point for the Eastern Section Alternative 2.

- **Eastern Section – Proposed North Searcy Connection**

**Figure 10**  
**Construction Alternatives**  
**Eastern Section – Proposed North Searcy Connection**



**Note:** Alternative 1, the No-Build Alternative, is not shown.

**Alternative 2, Eastern Section**

This alternative begins at Highway 16 and follows new location to North Main Street. At North Main Street, this alternative runs eastbound on the existing alignment of North Bypass Road, CW Road and Highway 385 to Highway 67 at Exit 48.

**Alternative 3, Eastern Section**

This alternative begins at Highway 16 and follows new location to North Main Street, then proceeds northeast on new location to North Bypass Road at a point west of Davis Drive. At North Bypass Road, this alternative continues eastward on existing alignment for North Bypass Road, CW Road and Highway 385 to Highway 67 at Exit 48.

Cost and mileage estimates for the construction alternatives are presented in Table 3. The estimated cost to construct the Western Section ranges from \$17.7 to \$26.7 million, depending on the route selected. The estimated cost to build the Eastern Section is between \$16.8 and \$17.3 million. Overall, the estimated cost to build the proposed North Searcy Connection (Eastern and West Sections) could range from \$35.0 million to \$43.5 million. All cost estimates include the cost for construction, preliminary engineering (PE), construction engineering (CENG), right-of-way (ROW) and utility relocation in 2008 dollars.

**Table 3**  
**Estimated Length and Cost**  
**Proposed North Searcy Connection Construction Alternatives**

<b>Alternative</b>	<b>Segments (see Figure 8)</b>	<b>Length (miles)</b>	<b>Roadway Cross-section*</b>	<b>ROW Width Needed* (Feet)</b>	<b>Estimated 2008 Cost (\$ Million)</b>
<b>Western Section</b>					
Alternative 2	A-B-C-D	4.20	(2) 12' lanes	75-150	\$19.3
Alternative 3	A-B-C-G	4.36	(2) 12' lanes	75-150	\$20.2
Alternative 4	E-B-C-D	5.51	(2) 12' lanes	75-150	\$25.7
Alternative 5	E-B-C-G	5.67	(2) 12' lanes	75-150	\$26.7
Alternative 6	F-C-D	3.80	(2) 12' lanes	75-150	\$17.7
Alternative 7	F-C-G	3.96	(2) 12' lanes	75-150	\$18.6
Alternative 8	F-H	4.03	(2) 12' lanes	75-150	\$18.6
<b>Eastern Section</b>					
Alternative 2	I-K	4.33	(2) 12' lanes	75-150	\$16.8
Alternative 3	J-K	4.41	(2) 12' lanes	75-150	\$17.3

\*Exact cross-section not determined at this time. Typical right-of-way widths range from 75-125' for curb and gutter section with sidewalks and 100-150' for section with 8-foot open shoulders.

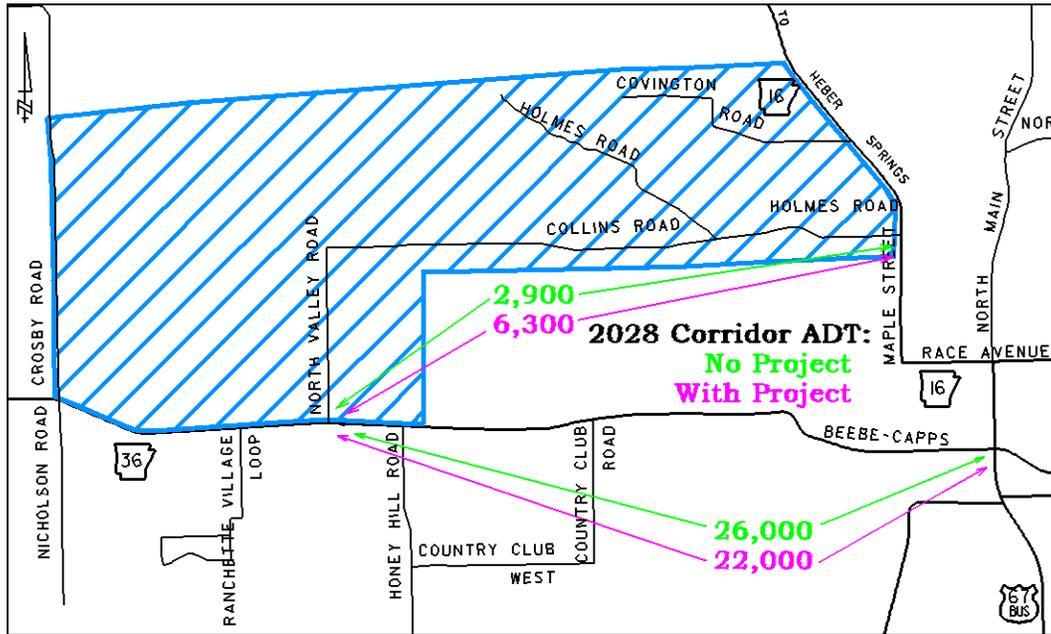
### **Traffic Demand**

Estimated traffic demand for the proposed North Searcy Connection was based on current (2008) traffic volumes, historical trends and a comparison to traffic volumes for similar facilities. An estimated traffic shift, based on a quick-response technique<sup>1</sup> that evaluates traffic flow for two or more parallel facilities in a proposed corridor, was used to consider possible traffic changes between the existing roadways and the proposed new route. The technique takes into account speed and travel time changes to compare travel desires that could result in traffic changes within the corridor. This method provides estimates based on corridors instead of specific locations. Estimates will need to be refined as any alternative proceeds to the environmental and design phases.

An analysis for the Western Section of the proposed Connection extending from Highway 36 West to Highway 16 was prepared using Highway 36 West as the comparable corridor facility. Figure 11 shows possible traffic demand.

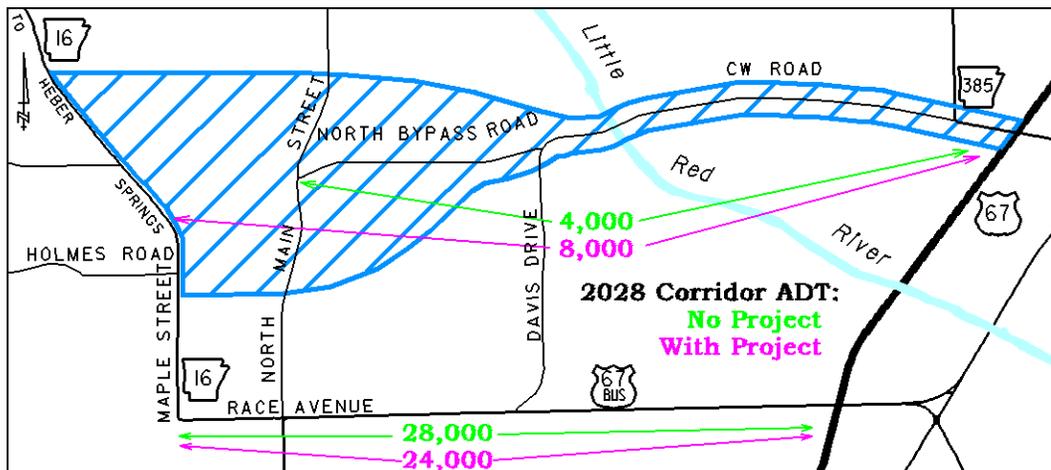
<sup>1</sup> National Cooperative Highway Research Program (NCHRP) – Report 187, Quick-Response Urban Travel Estimation Techniques and Transferable Parameters

**Figure 11**  
**Estimated Project Traffic – Western Section - Proposed North Searcy Connection**



The analysis of the Eastern Section between Highways 16 (Maple Street) and 67 considered the impact the new construction could have on Race Avenue and was applied to each of the two construction alternatives. The analysis showed that, with the proposed improvements, approximately 8,000 vpd could be anticipated on the new corridor by 2028. At the same time, the weighted ADT for Race Avenue between Highways 16 (Maple Street) and 67 could be reduced from 28,000 in 2028 to approximately 24,000 vpd. Figure 12 shows the possible traffic demand that could result from the construction of the Eastern Section.

**Figure 12**  
**Estimated Project Traffic – Eastern Section - Proposed North Searcy Connection**



### **Potential Environmental Impacts**

Cursory environmental reviews were conducted for the proposed North Searcy Connection corridor. The findings are:

#### ***Western Section – Highway 36 West to Highway 16***

- There are major concentrations of residences in the vicinity of North Valley Road. Residences are scattered around the area between Crosby and North Valley Roads. A small residential community is located north of the Highway 36 West/Honey Hill Road intersection.
- One historic structure is located on the eastern terminus near the Holmes Road/Highway 16 intersection. Also in this area, there is an apartment complex, a manufactured home park and a business.
- A possible historic structure is located near the Crosby Road/Highway 36 West intersection. Several eligible structures are located north of Collins and Holmes Roads.
- An old quarry is situated north of North Valley Road.
- In the area between Crosby and North Valley Roads, there is a high-voltage power line that runs roughly north and south and an old railroad bed that runs east to west.
- Other utilities within the project area include two antenna masts located north of Collins Road and west of Holmes Road.
- Possible wetlands are located in the area between Crosby and North Valley Roads. No other known wetlands have been indicated.
- Habitat for a very rare (for Arkansas) species of frog, the Northern Crawfish Frog, has been identified in the area west of Highway 16.
- No hazardous waste sites or potential impacts to a public water supply were noted.

#### ***Eastern Section – Highway 16 to Highway 67 (Exit 48 – Highway 385 to Judsonia)***

- Numerous residences are scattered throughout the corridor. Two large subdivisions are located near the corridor's western terminus and one subdivision with mostly manufactured homes is located on the eastern terminus. There are properties within the corridor that are on the Register of Historic Places or that have been identified at the State Historic Preservation office.
- A number of businesses are located throughout the corridor.
- A sewage treatment plant is located southwest of the Little Red River. Near the plant, a buried aqueduct (from the filtration plant) bisects the study corridor. An old quarry site is located northwest of the sewage treatment plant.
- Deener Creek runs through the midsection of the study area.
- A bike trail follows the north side of Deener Creek.
- Knox Cemetery is located south of North Bypass Road, near the buried aqueduct.
- Two bridges are located along the corridor, one that crosses the Little Red River and the other, over Rocky Branch.
- There are no known wetland soils within this corridor; however, a possibility exists that wetlands may be discovered east of the Little Red River bridge.

- Possible habitat for the rare frog species, the Northern Crawfish Frog, has been indicated to exist in the area east of Highway 16.
- A closed landfill, located west of Main Street and north of Rocky Branch (north of the intersection with North Bypass Road), has a high potential for hazardous wastes.
- No other potential impacts to a public water supply were discovered or hazardous waste sites identified.

### **Findings**

This study assessed a possible route in the north part of Searcy that would connect Highway 36 West to Highways 16 and 67. Several alternative routes were evaluated; potential users include through and local traffic. There are possible environmental and construction impediments such as residences within the study corridor, homes on the National Register of Historical Places, potential wetland areas, possible habitat for a rare frog, a closed landfill, a sewage treatment plant with a nearby buried aqueduct, a cemetery, Deener Creek, a bike trail that follows the creek and high ridges located on the northern edge of the study area. Additional studies will be needed to determine the extent that possible environmental and construction impacts exist.

Both Sections of the proposed North Searcy Connection (Western Section extending from Highway 36 West to Highway 16 and Eastern Section extending from Highway 16 to Highway 67) could be viable routes to serve local traffic and to divert significant volumes from congested existing routes.

### Section III

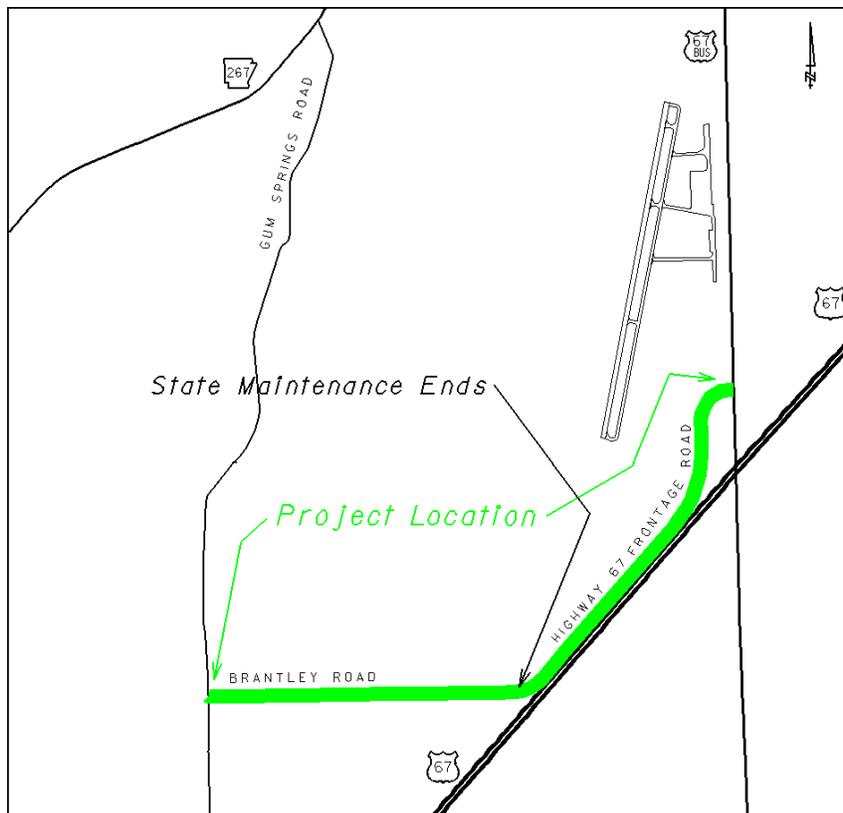
## Proposed Access Improvements

### Highway 67 Frontage Road/Brantley Road

#### Purpose and Need

The Searcy Industrial Development Corporation owns 84 acres that are available for commercial or industrial development on Brantley Road. An additional 180 acres could be available in the near future. Local officials have proposed that the Highway 67 Frontage Road and Brantley Road be improved to allow better access to these sites, especially for truck traffic. Adequate truck access to industries is a critical component of the transportation system, facilitating production activities and distribution of finished products. Poor roadway access can cause freight delivery delays and higher transit costs. The proposed project location is shown on Figure 13.

**Figure 13**  
**Project Location**  
**Highway 67 Frontage Road/Brantley Road**



#### **Local Roads**

The Highway 67 Frontage Road (Brantley Road) is located on the west side of Highway 67 near Exit 42. State maintenance is provided for approximately one mile, to just beyond the turn to the west, where the road becomes a city street. Brantley Road

is a narrow, two-lane, low volume road that would require reconstruction to effectively serve additional traffic. Adjacent land use is mainly rural with scattered residences. The White County Health Department is located near the intersection of the Highway 67 Frontage Road and Highway 67B. The Searcy Municipal Airport is located to the west and north of the proposed project. Located on the north side of Brantley Road is an 84-acre commercial/industrial site (Figure 14) which is currently vacant. The City has an option to purchase an additional 180 acres near the intersection of Brantley and Gum Springs Roads for possible future industrial development.

**Figure 14  
Brantley Road**



### **Descriptions of Alternatives**

Two alternatives were considered: Alternative 1, the No Build Alternative, and Alternative 2 which involves improvements to the existing alignment of the Highway 67 Frontage Road and Brantley Road to allow better access for planned commercial and industrial development. Re-alignment of Highway 67B at the Highway 67 Frontage Road intersection may be necessary to allow for turn lanes.

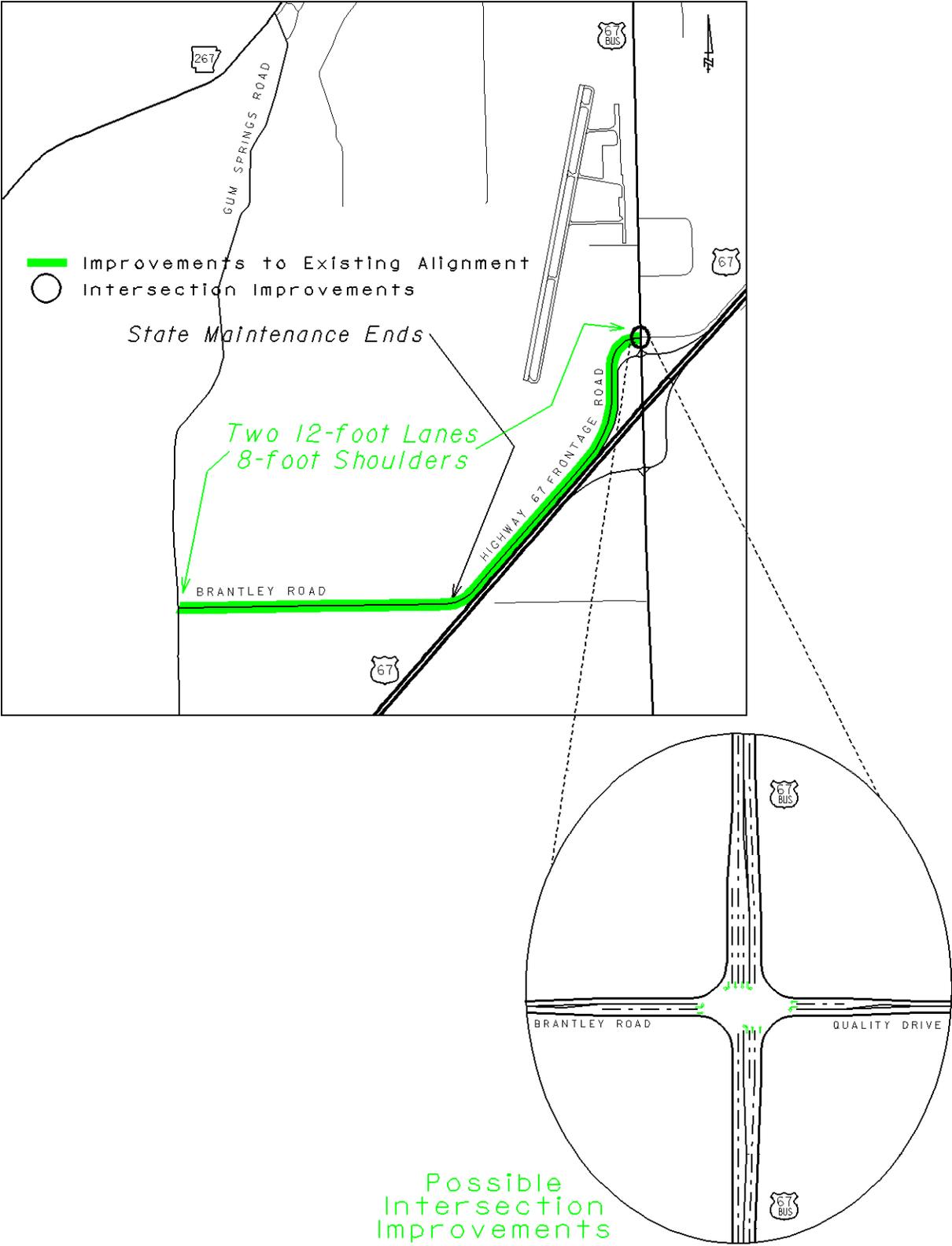
#### ***Alternative 1 – No Build***

Alternative 1 is the No Build alternative where no improvements are made to the roadway. By taking no action, there will be no adverse impacts such as land use changes, relocations and environmental disruptions.

#### ***Alternative 2 – Improve Highway 67 Frontage and Brantley Roads***

This alternative would include reconstruction of Brantley Road from the current end of State maintenance to Gum Springs Road, a distance of almost 0.9 mile. Improvements to the present alignment of the frontage road would also be needed for a total proposed project distance of 2.0 miles. The proposed cross-section for the improved roadway is two 12-foot traffic lanes with 8-foot shoulders. Turn lanes at the Highway 67 Frontage Road and Highway 67B intersection are suggested to enhance truck turning movements. Re-alignment on Highway 67B could be required to accommodate the turn lanes. Figure 15 shows the location of proposed improvements.

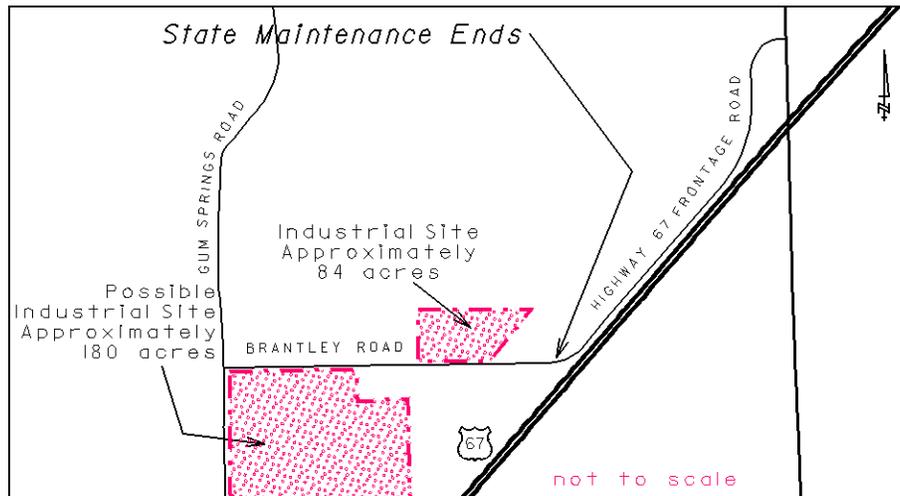
**Figure 15**  
**Proposed Improvements**  
**Highway 67 Frontage Road/Brantley Road**



## **Traffic Demand**

Current traffic on Brantley Road is estimated to remain relatively low (less than 400 vpd) even for the estimated future ADT. However, the existing 84-acre and future 180-acre sites (Figure 16) are planned for commercial and industrial development which could increase the volume of traffic using the road. The Highway 67 Frontage Road would be used to provide primary access to either site. A traffic impact study was conducted to estimate traffic volumes that could occur on the Frontage Road and Brantley Road based on the full development of both parcels of land.

**Figure 16**  
**Commercial/Industrial Sites**



To estimate vehicle trips that could be generated by fully developing both sites, a trip rate<sup>2</sup> of 31.4 vehicle trip ends per acre was used. The generated traffic was combined with forecast traffic to establish a year 2028 traffic assignment.

*Trip Rate – 31.4 vehicle trip ends per acre.* The trip rate is for a mix of commercial businesses and manufacturing with related facilities and support services. Vehicle trip ends represent the total of all trips entering plus all trips leaving. The trips include both truck and auto trips. Auto trips consist of employee trips and business support trips such as vendors and service maintenance trips. Calculation of the number of possible vehicle trips generated for the two parcels of land follows. A reduction of 20 percent of the available acreage was applied for site development activities like ROW and utilities, roads and drainage structures.

<sup>2</sup> Institute of Transportation Engineers (ITE) Trip Generation Handbook

#### Total Vehicle Trips (Typical Weekday)

- *Parcel 1 – Estimated Traffic*

31.4 trips x 67 acres (84 – 17 acres) = **2,104 total vehicle trips**

or

Inbound = 1,052 trips

Outbound = 1,052 trips

- *Parcel 2 – Estimated Traffic*

31.4 trips x 144 acres (180 – 36 acres) = **4,522 total vehicle trips**

or

Inbound = 2,261 trips

Outbound = 2,261 trips

Following completion of full build for both parcels of land, approximately 6,600 vehicle trips could occur on a typical weekday. Approximately forty percent of this volume (2,650 vehicles) is estimated to be truck trips. The truck percentage is based on vehicle classification studies conducted on the National Highway System (NHS) Intermodal Connector Routes that access similar types of land uses. When potential traffic is combined with normal traffic, approximately 7,000 vpd are estimated to use this route.

#### **Potential Environmental Impacts**

A cursory environmental review was conducted for the Highway 67 Frontage Road/ Brantley Road corridor. The results follow.

- Several residences and a business are located on the south side of Brantley Road.
- The White County Public Health Center is located in the northwest quadrant of the Highway 67B intersection.
- The Searcy Municipal Airport is located nearby but is not in the study corridor. The entry road to the airport is approximately 0.50 mile north of the study corridor with direct access to Highway 67B.
- An above ground power line is located on Brantley Road near the corridor's western terminus.
- A possible wetland exists on the north side of Brantley Road.
- There are no known hazardous waste sites or potential impacts to the public water supply.

Additional environmental evaluations will be necessary to comply with environmental regulations.

#### **Findings**

This study evaluated the need to improve the Highway 67 Frontage and Brantley Roads to serve two potential commercial/industrial sites on Brantley Road. There are potential environmental impacts in the vicinity of the proposed project. They include residences and a business on Brantley Road that might be adversely impacted, along with the White County Health Department near the intersection of Highway 67B and the Frontage Road. Also, there could be a wetland adjacent to Brantley Road. A possible construction constraint is an above ground power line located on the western terminus

of Brantley Road. Further surveys should be conducted to assess levels of environmental and construction impacts.

A traffic impact study prepared to determine possible future traffic volumes that could result from the full development of both commercial/industrial sites showed that over 6,600 vehicle trips could be generated on a typical weekday by year 2028.

Improvements to the Frontage Road and to Brantley Road could potentially provide better access to market areas and a safer route while accommodating large vehicles. Turn lanes at the intersection could reduce potential conflicts between through and turning vehicles on Highway 67B, especially for large trucks. The estimated cost for improvements is approximately \$8.9 million in 2008 dollars. Development at the two industrial sites should be monitored and, as traffic grows, consideration should be given to implementing the proposed project.

## **Section IV Summary and Conclusions**

The City of Searcy requested several studies to determine means to reduce traffic flow problems on city streets, improve indirection of travel for northbound through traffic and to enhance industrial development. These included:

- 1) A study of a southwestern connecting route between Highways 36 West and 13;
- 2) An appraisal of a northern connection that could link Highways 36 West, 16 and 67;
- 3) An evaluation of a connection on new location between Highway 16 and North Main Street, with improvements to North Main Street; and
- 4) An assessment of needed improvements for the Highway 67 Frontage Road and Brantley Road to enhance access to commercial/industrial sites.

The first proposed transportation improvement, the southwestern connection, was handled in the Highway 13 Extension Study that was completed in July 2005. A construction project is now programmed as Job 050189 and is scheduled to be let in 2011. The North Main Street Connection study was eliminated from consideration by officials with the City. The major findings for the two remaining proposed improvements follow.

### **Major Findings**

#### ***Proposed North Searcy Connection***

The purpose of the proposed North Searcy Connection is to provide a route between Highways 36 West, 16 and 67 for traffic traveling from areas west of the City (Highway 36 West) to the north (Highway 16) or to the east (Highway 67). The project has been divided into two sections, Western and Eastern, for analysis purposes. Seven construction alternatives were identified for the Western Section which covers the area between Highways 36 West and 16; two construction alternatives were identified for the Eastern Section which extends between Highways 16 and 67.

Construction of the Western Section is estimated to cost between \$17.7 and \$26.7 million in 2008 dollars, depending upon the route selected. The cost to construct the Eastern Section is estimated between \$16.8 and \$17.3 million in 2008 dollars. Projected (2028) traffic is approximately 6,000 vpd for the Western Section and 8,000 vpd for the Eastern Section. Both Sections are feasible to construct and could be viable routes for serving through and local traffic.

#### ***Proposed Highway 67 Frontage Road/Brantley Road Improvements***

Two sites on Brantley Road, with a combined area of 264 acres, could be available for commercial/industrial development. It has been proposed to improve the Highway 67 Frontage Road and Brantley Road for better access to the sites. A traffic impact study was prepared to determine possible traffic volumes that could occur with the full development of both parcels of land. The analysis revealed that over 6,600 vpd was

possible, with an estimated forty percent of the traffic consisting of trucks. The estimated cost to improve the Highway 67 Frontage Road and Brantley Road, including turn lanes at the Highway 67B/Frontage Road intersection, is about \$8.9 million in 2008 dollars. Consideration should be given to implementing the proposed project as the two sites develop and as the traffic volume increases.



**Transportation Improvement Study  
City of Searcy**



**Arkansas State Highway  
and Transportation Department**