

ENVIRONMENTAL ASSESSMENT ADDENDUM

AHTD Job Number 061190
FAP Number HPP2-3745(1)
I-40 Interchange (Maumelle)(F)
Pulaski County

Submitted Pursuant to 42 U.S.C. 4332(2)(C)
By the
U.S. Department of Transportation
Federal Highway Administration
Arkansas State Highway and Transportation Department

November 2014

12/3/2014
Date of Approval



Randal Looney
Environmental Specialist
Federal Highway Administration

TABLE OF CONTENTS

PROJECT DESCRIPTION AND HISTORY	1
PROJECT PURPOSE AND NEED.....	4
<i>Project Purpose</i>	4
<i>Project Need</i>	4
<i>Existing Conditions</i>	5
<i>Traffic Operations & Level of Service</i>	8
<i>Safety Analysis</i>	12
<i>Proposed Improvements and Programmed Projects</i>	14
DESCRIPTION AND IMPACTS OF REVISED ALTERNATIVE 4	15

PROJECT DESCRIPTION AND HISTORY

The City of Maumelle, in cooperation with the Arkansas State Highway and Transportation Department (AHTD) and the Federal Highway Administration (FHWA), is proposing a new interchange on Interstate 40 (I-40) to provide an additional access point to Maumelle. The project area is about a mile long and is located within the urban limits of the City of Maumelle in Pulaski County. Maumelle is currently served by two full service interstate interchanges: the I-40/Highway 365 interchange to the north and the I-430/Highway 100 (Maumelle Blvd.) interchange to the south. The proposed improvement includes addition of a third interstate access point from the City of Maumelle and improvement of the local street network to provide a direct connection between Highway 100 and I-40. I-40 through the study area runs in a southeasterly direction connecting Maumelle to the metropolitan areas of North Little Rock and Little Rock. **Figure 1** illustrates the project location and proposed interchange alternatives.

Three alternatives were developed for the proposed interchange and evaluated in an Environmental Assessment (EA) completed in August 2011 and presented at a Location Public hearing in December 2012. Alternative 1 is a diamond interchange located approximately three miles north of the I-40/I-430 interchange at the existing Marche Road overpass, and includes construction of a new four-lane divided roadway extending southwest from the interchange crossing the Union Pacific Railroad and White Oak Bayou before connecting to the end of existing Carnahan Drive. Alternative 2 is a diamond interchange located approximately 1.5 miles north of the I-40/I-430 interchange near the former I-40 rest area, and includes a new four-lane divided roadway between I-40 and the existing Carnahan Drive. From the interchange, Alternative 2 extends westward toward existing Counts Massie Road, crossing the White Oak Bayou, and then turns to the north and northwest, again crossing White Oak Bayou before connecting to existing Carnahan Drive and continuing westerly to Highway 100. Alternative 3 consists of a diamond interchange located approximately 1.5 miles north of the I-40/I-430 interchange near the former I-40 rest area, (the same interchange location as Alternative 2). From the interchange, Alternative 3 includes a new four-lane divided roadway extending west across White Oak Bayou connecting to

the end of existing Counts Massie Road. Alternative 3 continues westward along Counts Massie Road and then southward to Highway 100. All three of the proposed alternatives require a five-lane bridge over I-40.

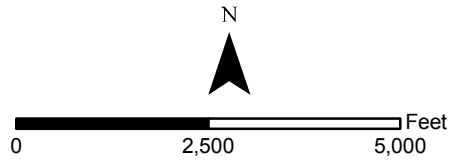
After the completion of the EA, the residents of Maumelle approved a Capital Improvement Bond Initiative that funded the extension of Counts Massie Road and its improvement to a Class III Principal Arterial Roadway (with 11-foot wide lanes and 5-foot wide shoulders). This created an opportunity for a fourth alternative to be developed that would fulfill the purpose and need of the project, while minimizing noise and wetland impacts. The proposed Alternative 4 follows the interchange design and path of Alternative 3 closely and connects to Highway 100 at Counts Massie Road. The difference between Alternatives 3 and 4 is the project terminus. Alternative 4 will terminate at the end station of the city-proposed Counts Massie Road extension. Alternative 4 will require a five-lane bridge over I-40 to adequately serve existing and future traffic demands, and will include a four-lane divided roadway extending west and connecting to the existing street network as shown in Figure 1.

Any social, economic and environmental impacts for the proposed Alternative 4 will be similar to that of Alternative 3. These impacts were discussed in detail in the original EA. This addendum provides a recap of the project's purpose and need and describes the impacts of Alternative 4 in detail.

Path: S:\GIS\Projects\4070816000_Maumelle\Maps\Option4\20141110\Option4.mxd



- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- City Boundary





Leidos Engineering, LLC
1701 Centerview, Suite 207
Little Rock, AR 72211
501.228.4410

Figure Title	Project Location & Proposed Interchange Alternatives		
Document Title	I-40 Interchange Maumelle Environmental Assessment		
Client	City of Maumelle		
Location	Pulaski County, Arkansas		

Date	11/11/2014
Scale	As Shown
Designed By	GW
Approved By	AM
Drawn By	GW

Project Number	4070816000
Figure Number	1

PROJECT PURPOSE AND NEED

The project area includes two Interstate System routes: I-40 and I-430, and two state highway routes - Highway 100 and Highway 365. Maumelle is primarily served by Highway 100, a four-lane divided north-south primary arterial with multiple signalized intersections and exclusive left and right turn storage lanes. Along the Highway 100 corridor, between I-430 and I-40/Highway 365, insufficient roadway capacity affects the traffic operations and free-flow conditions, resulting in serious traffic queuing and stop-and-go conditions during the peak periods. The existing Maumelle Master Street Plan, along with the previously completed studies, acknowledges the need for a third access serving the City of Maumelle.

Project Purpose

The purposes of the proposed project are to:

- Improve vehicular access to rapidly growing areas of Maumelle and North Little Rock that are currently underserved
- Relieve congestion along Highway 100 in Maumelle and North Little Rock
- Relieve congestion at the I-40/Highway 365 and the I-430/Highway 100 interchanges
- Improve public safety by providing an additional access point into and out of the Cities of Maumelle and North Little Rock for emergency services, including access to residential areas along Short Marche Road

Project Need

Maumelle is located in Pulaski County, bordering the north shore of the Arkansas River northwest of Little Rock and west of North Little Rock. During the 10-year period between 1990 and 2000, the population increased from 6,714 to 10,557, nearly 57%, based on the U.S. Census data. In the 10-year period of 2000 to 2010, the population increased to 17,163, an increase of 63%. Maumelle's land use plan indicates significant sized parcel areas that are presently undeveloped, but zoned for future commercial, industrial, and residential development. These areas, when developed, will generate and attract additional traffic to the area between Highway 100 and I-40. The 2030 Long

Range Transportation Plan for Central Arkansas identifies Maumelle as one of the fastest growing areas of new residential development.

As with many other geographical areas experiencing high growth, demand on the transportation system also increases. **Figure 2** displays the traffic volumes occurring in 2010 and the predicted traffic volumes for 2030 at selected locations. On the north end of Highway 100, the traffic volume approaching I-40 is predicted to increase by 38% and on the south end approaching I-430; the traffic volume is predicted to increase by 30%. Since the city straddles Highway 100 with its only accesses to the interstate system located to the north and south, and its growth occurring to the east and west, the congestion will become more severe on Highway 100. The ongoing developments also result in the creation of a large area with underserved traffic and insufficient access to the interstate. All traffic must use the two existing interchanges at Highways 365 and Highway 100.

Existing Conditions

Existing major routes within the project area are highlighted below. Commuters traveling along Highway 100 routinely experience unstable or breakdown in traffic flow, primarily eastbound in the morning and westbound in the evening peak periods. Existing I-40 along the Highway 365 interchange experiences congestion in the eastbound direction during the morning peak hour, and in the westbound direction during the evening peak hour. Traffic using the I-40/I-430 interchange to access the metropolitan areas of North Little Rock and Little Rock also experience congestion with the existing peak hour traffic operating at unacceptable levels. Mobility is also adversely affected as the number of large trucks in the traffic stream increases. About 4% of the vehicles on Highway 100 are large trucks. This volume ranges from about 700 daily trucks on Highway 100 south of Murphy Drive to about 1,600 daily trucks on Highway 100 in the Counts Massie Road area. These trucks further add to the congestion due to their size and vehicle characteristics of slow acceleration and slow turning speeds.

- a) I-40 is a four-lane, divided freeway. The AHTD has recognized the need to widen I-40, as documented in the Arkansas State Highway Needs Study.¹ The AHTD is conducting a corridor study of I-40 between North Little Rock and Conway to clarify specific needs and associated environmental impacts. Widening of I-40 to six lanes between Conway and I-430 in North Little Rock has begun and already completed in portions of Conway.
- b) I-430 is a six-lane, divided freeway for most of its length; however, it narrows to four lanes as it approaches the I-40/I-430 system interchange. The AHTD is currently modifying this interchange by adding capacity to the I-40 connecting ramps. Directional ramps are being planned in the future to accommodate a connection to the future North Belt Freeway that will continue the western beltway to the northeast around North Little Rock. The Metroplan Board has removed the North Belt Freeway from the Central Arkansas Regional Transportation Study's Long Range Metropolitan Transportation Plan after confirmation from the AHTD that there is not a commitment to fund construction of this project by 2030. However, project development efforts continue with design considerations for a North Belt Freeway connection to the I-40/I-430 Interchange.
- c) Highway 100 is a four-lane, divided highway with a limited access control plan administered by the AHTD and the cities. There are several signalized intersections along its entire seven-mile length.
- d) Highway 365 is a four-lane, undivided roadway with turning lanes.
- e) All other routes are two lanes.

¹ 2006-Arkansas State Highway Needs Study and Highway Improvement Plan, Updated 2007

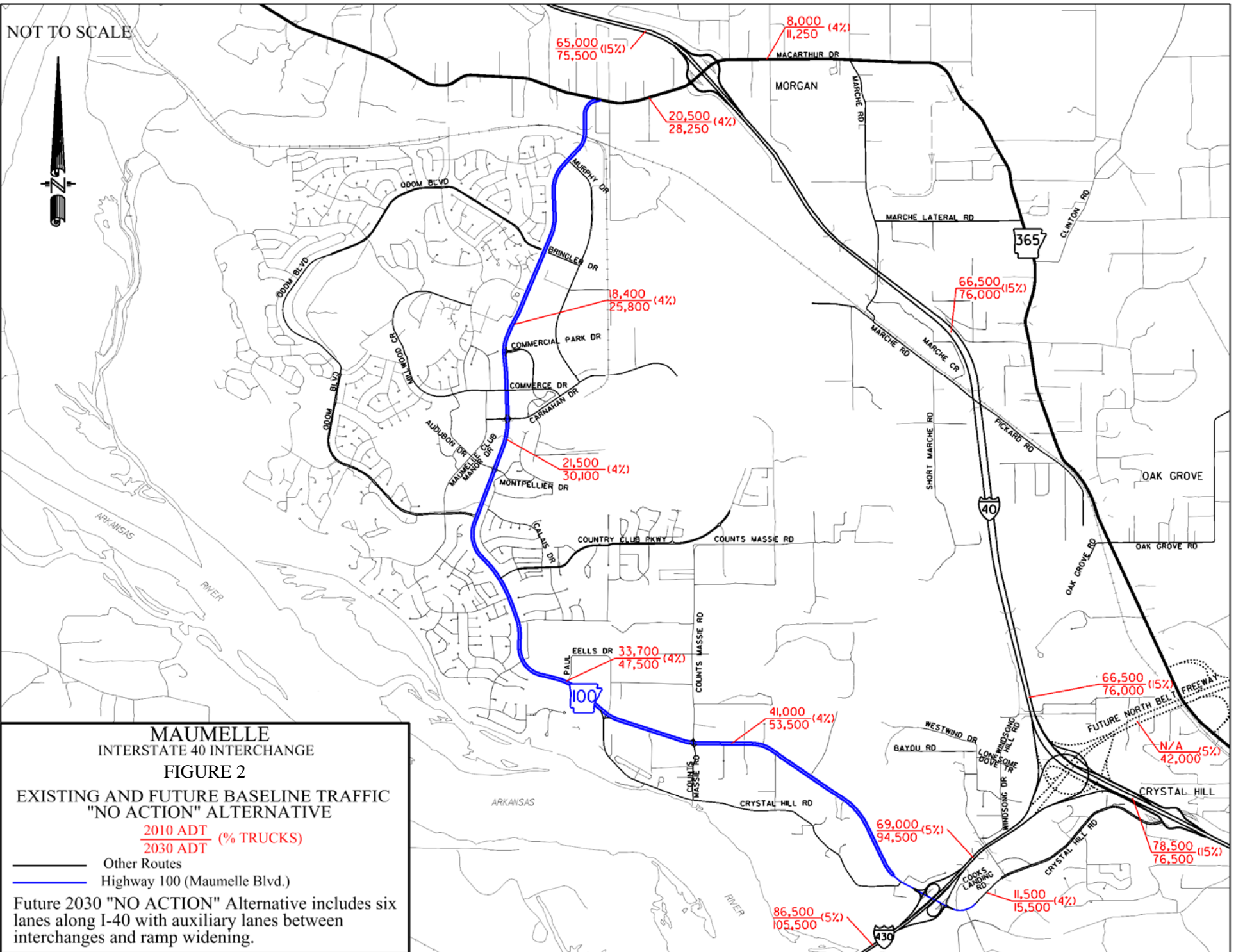
NOT TO SCALE



**MAUMELLE
INTERSTATE 40 INTERCHANGE
FIGURE 2
EXISTING AND FUTURE BASELINE TRAFFIC
"NO ACTION" ALTERNATIVE**

	2010 ADT	2030 ADT	(% TRUCKS)
Other Routes			
Highway 100 (Maumelle Blvd.)			

Future 2030 "NO ACTION" Alternative includes six lanes along I-40 with auxiliary lanes between interchanges and ramp widening.



Traffic Operations & Level of Service

An industry-wide approach to assess a facility's operational condition is to determine Level of Service (LOS), defined as a qualitative measure describing operational conditions in terms of factors such as speed, freedom to maneuver, traffic interruptions, comfort, convenience, and delay. Six levels are defined and are given letter designations from "A" to "F," with a LOS "A" representing the best highway operation level and a LOS "F" representing the worst. Ideally, it is preferred for the LOS for highways to be LOS D or better in urban areas. The below **Table 1** shows existing and future traffic volumes and free-flow LOS at key locations, illustrating that traffic volumes are forecast to increase during the next twenty years, while LOS is forecast to deteriorate.

Table 1: Traffic Volumes and LOS in the Project Study Area				
Location	Traffic Volume (ADT)		Level of Service (LOS)	
	2010	2030	2010	2030
Highway 365 west of I-40	20,500	28,250	A	B
Highway 100 near north Odom Boulevard intersection	18,400	25,800	C	D
Highway 100 south of Carnahan Drive	21,500	30,100	C	D
Highway 100 at Paul Eells Drive	33,700	47,500	D	F
Highway 100 east of Counts Massie Road	41,000	53,500	E	F
Highway 365 south of I-40	20,500	28,250	A	B
Highway 365 north of I-40	8,000	11,250	C	D
I-40 west of Highway 365	65,000	75,500	D*	E*
I-40 east of Highway 365	66,500	76,000	D*	E*
Highway 100 west of I-430	41,000	53,500	E	F

Table 1: Traffic Volumes and LOS in the Project Study Area (cont'd)				
Location	Bi-Directional Traffic Volume (ADT)		Level of Service (LOS)	
	2010	2030	2010	2030
Highway 100 east of I-430	11,500	15,500	A	B
I-430 north of Highway 100	69,000	94,500	***	***
I-430 south of Highway 100	86,500	105,500	***	***

*Results reflect free-flow conditions only and in real life are not applicable to the shown letter grade. Results based on existing peak hour traffic flow conditions and planning level analysis indicate breakdown/forced flow conditions with the actual LOS deteriorating to unacceptable levels LOS E/F.

*** Based on HCM planning level analysis concepts and existing peak hour traffic flow conditions, the LOS deteriorates to unacceptable levels beyond a letter grade application. Intersection and roadway capacities have either been reached or exceeded and traffic operates at LOS E/F.

Along the Highway 100 corridor between I-430 and I-40/Highway 365, insufficient roadway capacity affects the traffic operations and free-flow conditions causing serious traffic queuing and stop-and-go conditions, especially in the section between Millwood Circle and I-430. While AHTD coordinates and monitors the traffic signals continuously to meet varying peak hour traffic demands, queuing still occurs. The LOS that drivers actually experience is more likely to be LOS “E” or “F” due to the heavy traffic demand that exceeds intersection capacities.

Highway 365, north of I-40, is a two-lane section and operates at a level of service worse than that of the section south of I-40, which is a four-lane section with a center two-way left turn lane. Existing I-40 is a four-lane freeway section experiencing congestion in the eastbound direction during the morning peak period and in the westbound direction during the evening peak period.

North of the I-430/Highway 100 interchange, I-430 tapers from a six-lane to a four-lane freeway section as it approaches I-40, where I-430 currently ends. The northbound lane drop causes drivers to merge into the right two lanes and then maneuver into the lane of choice to exit west on I-40 toward the City of Conway or east on I-40 toward downtown North Little Rock, resulting in a recurring bottleneck. Both of these directional ramps are one lane and have insufficient capacity to handle the peak period

traffic demand. More vehicles arrive at the ramps than can efficiently enter I-40 during the peak period resulting in severe traffic queues. The queuing extends back to mainline I-430 and further southbound past the Highway 100 interchange.

South of the I-430/Highway 100 interchange, existing I-430 is a six-lane, full access controlled freeway operating at congested conditions during the morning peak period. A large amount of traffic enters I-430 from Highway 100 in the morning peak period. The entrance ramp from Highway 100 to southbound I-430 is one lane. The existing congestion primarily affects the outside lane of I-430 with vehicles trying to exit at the interchange immediately south of the I-430/Highway 100 interchange thus impacting the Highway 100 entrance ramp merge area. The gaps between vehicles in the outside lane are insufficient to allow the entering traffic to merge efficiently. The lack of gaps causes stop and go traffic in the merge area on the entrance ramp that results in traffic queues backing onto Highway 100 affecting the arterial operations. Southbound I-430 south of Highway 100 degrades in operations to LOS “E” or “F” during the morning peak period.

Because the widening of I-40 is a near-term improvement, and because levels of service without widening for the long term will result in breakdown/forced flow conditions, the future year forecast traffic volumes and levels of service were determined with I-40 as six lanes and the North Belt Freeway constructed. An additional traffic analysis conducted by AHTD and discussed in the project EA exclusively studies the impacts on the project study area traffic operations with and without the North Belt Freeway constructed. This provides the best scenario to compare the impacts of the proposed additional Maumelle interchange to the overall system. The below **Table 2** indicates the LOS at several locations on I-40 under the existing and future conditions.

Table 2: I-40 Traffic Volumes and LOS						
Location	Directional Traffic Volume (ADT)			Level of Service ³		
	2010 4 Lanes	2030 ¹ 4 Lanes	2030 ² 6 Lanes	2010 4 Lanes	2030 ¹ 4 Lanes	2030 ² 6 Lanes
Eastbound between Mayflower and Morgan	33,000	38,500	48,000	D	E	D
Eastbound between Highway 365 and I-430	33,500	38,500	48,500	D	E	D
Eastbound between I-430 and Crystal Hill Road	42,000	39,000	40,500	E	E	C
Westbound between Crystal Hill Road and I-430	37,500	38,500	40,000	E	E	C
Westbound between I-430 and Highway 365	33,000	37,500	47,500	D	E	D
Westbound between Morgan and Mayflower	32,000	37,000	47,250	D	E	D

¹ The 2030 traffic volumes and LOS for a four lane I-40 freeway system were determined with the assumption that North Belt Freeway is completed and in place.

² The 2030 traffic volumes and LOS for a six lane I-40 freeway system were determined with the assumption that North Belt Freeway is completed and in place.

³ LOS Analysis was conducted using the then available version of the Highway Capacity Software (HCS+) freeway module. Project design hour traffic volumes were determined using a 10% K-Factor. Results indicated only for the design hour traffic demand under free flow conditions. However, existing peak period observations indicate breakdown flow conditions with actual levels of service being LOS E/F.

Safety Analysis

An additional interchange will improve public safety in three ways: (1) reduce the response time to fire and medical emergencies, (2) provide enhanced access to and within the community during times of natural or manmade disasters, and (3) reduce the potential for vehicular collisions by reducing congestion.

The relative safety of a facility can be determined by comparing the crash rate (i.e., number of crashes per million vehicle miles traveled) of the facility to a statewide crash rate for similar facilities. The AHTD provided crash data for the below route segments:

- I-40 between the Highway 365 and I-430 interchanges
- I-430 between Highway 100 and I-40
- Highway 100 between Highway 365 and I-430
- Highway 365 between Highway 100 and I-40

The five-year crash data for the years 2006, 2007, 2008, 2009 and 2010 were summarized and are listed in **Tables 3 and 4**.

Table 3: Crash Severity along I-40, I-430, Highway 100 and Highway 365

Study Area Roadway	I-40 EB Rural	I-40 WB Rural	I-40 EB Urban	I-40 WB Urban	I-430 NB	I-430 SB	Hwy 100	Crystal Hill	Hwy 365
<i>Section</i>	<i>W. of Hwy 365 to E. of Crystal Hill</i>	<i>E. of Crystal Hill to W. of Hwy 365</i>	<i>W. of Hwy 365 to E. of Crystal Hill</i>	<i>E. of Crystal Hill to W. of Hwy 365</i>	<i>From Arkansas River to I-40/I430</i>	<i>From Arkansas River to I-40/I430</i>	<i>From Hwy 365 to I-430</i>	<i>From I-430 east to I-40</i>	<i>From Hwy 100 to Smalling Rd</i>
Log miles	139.00 to 144.60	144.60 to 141.50	144.75 to 148.00	149.50 to 144.70	12.83 to 10.00	12.83 to 10.00	0.00 to 6.86	6.87 to 8.72	3.92 to 5.12
Property Damage Only Crashes	140	69	91	161	175	95	564	75	103
Non-Fatal Injury Crashes	59	37	51	84	56	38	226	16	49
Fatal Crashes	2	1	0	1	1	2	3	0	0
Total	201	107	142	246	232	135	793	91	152

Table 4: Crash Rate along I-40 and Highway 100

Study Area Roadway	I-40 EB Rural	I-40 WB Rural	I-40 EB Urban	I-40 WB Urban	Hwy 100
<i>Section</i>	<i>W. of Hwy 365 to E. of Crystal Hill</i>	<i>E. of Crystal Hill to W. of Hwy 365</i>	<i>W. of Hwy 365 to E. of Crystal Hill</i>	<i>E. of Crystal Hill to W. of Hwy 365</i>	<i>From Hwy 365 to I-430</i>
Log miles	139.00 to 144.60	144.60 to 141.50	144.75 to 148.00	149.50 to 144.70	0.00 to 6.86
Actual Crash Rate	0.59	0.57	0.58	0.76	2.14
Five-year statewide average, same type facility (per million vehicle miles)	0.5	0.5	0.926	0.926	2.084

Based on the above crash data summary and results, it can be noted that,

- The crash rate for the rural portions of I-40 is about 15% higher than the statewide crash rate for similar facilities, while the crash rate for the urban portions of I-40 is lower than the statewide average.
- The crash rate for Highway 100 is slightly higher than the statewide average for similar facilities.

A crash modification factor analysis conducted for the I-40 study area sections indicated that the addition of a third access interchange will lower the total number of crashes with a highly likely reduction in rear end, angle, and sideswipe types of crashes along Highway 100. As traffic is diverted to the new interchange, traffic volumes at the existing interchanges would decrease resulting in a decrease in congestion, lane changing maneuvers, and other turning movements.

Proposed Improvements and Programmed Projects

The study area for the proposed third access encompasses the I-40/Highway 365 interchange to the west, the I-40/I-430 interchange to the east and the I-430/Highway 100 interchange to the south. The proposed I-40/Maumelle Interchange will add the following improvements to the existing I-40 corridor,

- Auxiliary lanes east of the proposed interchange to complete a fourth lane between the I-40/Maumelle Interchange and the I-40/I-430 Interchange
- A two-lane off-ramp from I-40 westbound to the proposed Maumelle Interchange
- An one-lane on-ramp from the proposed Maumelle Interchange to eastbound I-40

In addition to the proposed improvements, the following corridor and interchange improvements have also been planned and programmed by AHTD and FHWA along the subject study area,

- I-40 widening from four-lanes to six-lanes from Conway to North Little Rock
- A two-lane on-ramp from I-430 northbound to I-40 westbound
- A two-lane off-ramp from I-40 eastbound to I-430 southbound

DESCRIPTION AND IMPACTS OF REVISED ALTERNATIVE 4

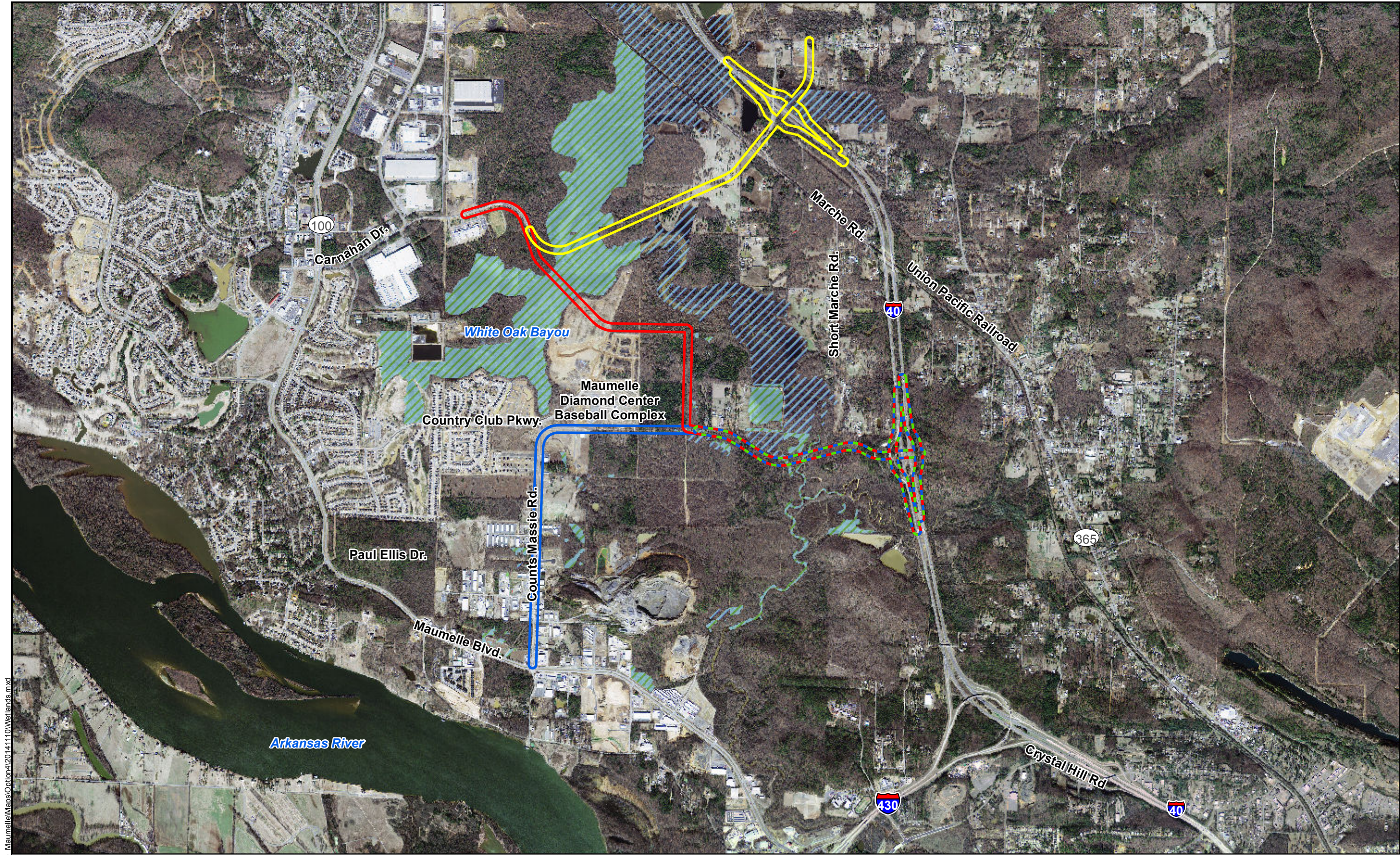
Based on review of environmental constraints, public comments received in December 2012 and other agency coordination, it was determined that the primary areas of concern for potential impacts from the proposed project were as follows:

- White Oak Bayou and its associated wetlands and flood plains
- Documented archeological sites and potential archeological sites
- Noise impacts and mitigation
- Access and impacts to residential neighborhoods

An in-depth evaluation of the wetlands across the White Oak Bayou in the project area indicated wetland impacts ranging anywhere from 3 to 9 acres for the proposed Alternatives 1, 2 and 3.

The revised Alternative 4 was developed in response to the City of Maumelle's Counts Massie Road improvement project and to minimize noise and wetland impacts. Alternative 4 follows the interchange design and path of Alternative 3 and connects to Highway 100 at Counts Massie Road. The difference between Alternatives 3 and 4 is the project terminus. The City of Maumelle is currently in the process of improving existing Counts Massie Road to a Class III Principal Arterial Roadway (with 11-foot wide lanes and 5-foot wide shoulders). Alternative 4 will terminate at the end station of the city proposed Counts Massie Road extension. Alternative 4 will require a five lane bridge over I-40 to adequately serve existing and future traffic demands, and will include a four-lane divided roadway extending west and connecting to the existing street network. **Figure 3** illustrates the wetland impacts for the proposed alternatives. **Table 5** outlines the traffic operational parameters of the proposed Alternative 4 in comparison to the other EA alternatives.

Path: S:\GIS\Projects\4070816000_Maumelle\Maps\Option4\20141110\Wetlands.mxd



Alternative 1

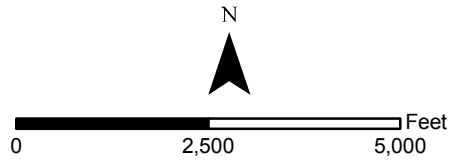
Alternative 2

Alternative 3

Alternative 4

Delineated Wetlands

Potential Wetlands





Leidos Engineering, LLC
1701 Centerview, Suite 207
Little Rock, AR 72211
501.228.4410

Figure Title	Potentially Impacted Wetlands		
Document Title	I-40 Interchange Maumelle Environmental Assessment		
Client	City of Maumelle		
Location	Pulaski County, Arkansas		

Date	11/11/2014
Scale	As Shown
Designed By	GW
Approved By	AM
Drawn By	GW

Project Number
4070816000
Figure Number
3

Table 5: Morning Peak Travel Time and Average Travel Speed Summary of the Opening Year and Future Year Traffic Volumes for Highway 100 under the "No-Action" & "Build" Alternatives

ROUTE	FROM	TO	DISTANCE (miles)	TRAVEL TIME					
				Opening Year (min)	Metroplan CMP (min)	Design Year "No-Action" (min)	Design Year "Build - Alt 2" (min)	Design Year "Build - Alt 3" (min)	Design Year "Build - Alt 4" (min)
Highway 100	Millwood Circle	Crystal Hill Rd (W)	2.40	8.0	10.0	9.0	6.0	7.0	7.0
Highway 100	Crystal Hill Rd (W)	Counts Massie	0.50	6.0	9.0	30.0	1.0	3.0	3.0
Highway 100	Counts Massie	I-430	2.20	12.0	13.0	21.0	12.0	13.0	13.0
Highway 100	Millwood Circle	I-430	5.10	26.0	31.9	60.0	19.0	23.0	23.0
ROUTE	FROM	TO	DISTANCE (miles)	AVERAGE TRAVEL SPEED					
				Opening Year (mph)	Metroplan CMP (mph)	Design Year "No-Action" (mph)	Design Year "Build - Alt 2" (mph)	Design Year "Build - Alt 3" (mph)	Design Year "Build - Alt 4" (mph)
Highway 100	Millwood Circle	Crystal Hill Rd (W)	2.40	18.0	15.0	16.0	25.0	19.0	19.0
Highway 100	Crystal Hill Rd (W)	Counts Massie	0.50	5.0	3.0	1.0	24.0	12.0	12.0
Highway 100	Counts Massie	I-430	2.20	11.0	10.0	6.0	11.0	10.0	10.0
Highway 100	Millwood Circle	I-430	5.10	13.4	11.7	10.5	18.8	14.6	14.6

The matrix outlined in **Table 6** provides a comparative summary of environmental and cost impacts for the proposed alternatives. No changes in wetlands, traffic operations and historical/archeological sites were noted between Alternatives 3 and 4.

Table 6: Alternative Comparative Matrix for Proposed I-40 Interchange, Maumelle					
Parameter Evaluated	No Action	Alternative 1*	Alternative 2	Alternative 3	Alternative 4
Wetlands	-	9.4 acres	6.48 acres	2.35 acres	1.71 acres
Floodplains	-	45 acres	10 acres	6 acres	6 acres
Section 404 Permitting	Permit issued; no additional permitting required	N/A	1 permit issued; will require an additional permit be issued	1 permit issued; will require an additional permit be issued	1 permit - already issued
Archeological Resources	-	N/A	5 recorded sites (3PU0557, 3PU0208, 3PU0563, 3PU0564, 3PU0565)	3 recorded sites (3PU0563, 3PU0564, 3PU0565)	3 recorded sites (3PU0563, 3PU0564, 3PU0565)
Hazardous Materials	-	N/A	1 UST @ Target Distribution Center	2 USTs @ National Home Center; 1 AST @ Richardson Plumbing Company	2 USTs @ National Home Center; 1 AST @ Richardson Plumbing Company
Number of Impacted Noise Receptors	-	N/A	Noise Abatement Criteria B – 38; Noise Abatement Criteria C - 7	Noise Abatement Criteria B – 7; Noise Abatement Criteria C - 34	Noise Abatement Criteria B – 2; Noise Abatement Criteria C - 1
Noise Mitigation	-	N/A	Barrier 12' high and 2,386' long; \$712K	None Required	None Required
Social Impacts	-	N/A	Supports school traffic	Supports Maumelle Diamond Baseball Complex traffic	Supports Maumelle Diamond Baseball Complex traffic
Potential Relocations	-	N/A	None	None	None
Estimated Total Construction Costs	-	\$46.6 Million	\$58.3 Million	\$40.4 Million	\$20.2 Million

* Alternative 1 was eliminated as a viable alternative for further evaluation because it only marginally met the purpose and need, had the greatest potential impacts on wetlands and floodplains (about 9.4 acres), was not a component of the Maumelle Street Plan, was not as beneficial to traffic, and had a higher construction cost due to the number of bridge crossings.