

# Section 1: Introduction

## 1.1 PROJECT BACKGROUND AND SCOPE

The City of Russellville and Pope County established a multi-jurisdictional intermodal facilities authority in Arkansas pursuant to the authority of the Intermodal Authority Act, Act 690 of 1997. The purpose of the River Valley Regional Intermodal Facilities Authority (Authority) was to promote economic development and job creation in the Arkansas River Valley (ARV) by serving existing industry and providing services necessary to attract new business and industry to the area. The specific mechanism the Authority proposes to use to promote economic development is to construct and operate a multi-modal transportation complex in the ARV.

The ARV consists of six counties in central Arkansas: Conway, Johnson, Logan, Perry, Pope, and Yell. The proposed intermodal facilities would be located in the river valley with access to the McClellan-Kerr Arkansas River Navigation System (MKARNS) via a slackwater harbor on the Arkansas River with dockside loading and unloading capabilities. This would provide a connection to the Tulsa Port of Catoosa in eastern Oklahoma via the Arkansas and Verdigris Rivers and would provide a connection to the Mississippi River, thus allowing ready access to the U.S. inland waterway system. The USACE prepared an Environmental Assessment (EA) in 2001 for the slack water harbor that resulted in a finding of no significant impacts (FONSI). However the scope of the slack water harbor EA did not include the proposed intermodal facilities. In 2002, an EA was written for the intermodal facilities. However, it was determined that this intermodal facilities EA could not be a stand alone document and required a broader scope that included the slack water harbor, infrastructure and all other necessary components needed for the intermodal facilities.

Access to the national railway grid would be provided through the Class I Union Pacific Railroad (UPRR) and/or through the Class III short line Dardanelle Russellville Railroad (DRRR). The intermodal facilities project would also include local roadway access to Interstate 40 (I-40). Additional services at the intermodal facilities would include on-site rail/truck transfers, truck/water transfers, rail/water transfers, freight tracking, a foreign trade sub-zone, warehousing, distribution, consolidation, just-in-time inventory services, and material storage capabilities.

There are currently three public ports/terminals along the Arkansas portion of the MKARNS located in Pine Bluff, Little Rock, and Fort Smith. There are no public use facilities within 30 miles of the study area; however, there are three private docks including the following: Pine Bluff Sand & Gravel, the Port of Dardanelle; and Oakley Port.

The Federal Highway Administration (FHWA), in a joint venture with the Arkansas State Highway and Transportation Department (AHTD) and the Authority, is preparing an Environmental Impact Statement (EIS) for this project. The National Environmental Policy Act (NEPA) process is being applied to this project to study the potential transportation improvements in the region as well as the potential impacts to social, environmental, and economic resources.

# Section 2: Purpose and Need

## 2.1 INTRODUCTION

The Authority proposes to construct and operate a multimodal transportation complex in the ARV. Established in 1999, the Authority is a legal public entity that was created through joint efforts of the City of Russellville and Pope County under the Regional Intermodal Facilities Act, Title 14, Chapter 143 of Arkansas Code of 1987 Annotated. The proposed intermodal facilities would provide access to the MKARNS via a slackwater harbor on the Arkansas River, a connection to the Mississippi River system and the United States (U.S.) inland waterway system, access to the National Interstate Highway System via a local road connection, and access to the national railway grid. Figure 2.1 shows the location of the project area. Figure 2.2 shows a closer perspective of the same area.

Figure 2.1. Map of the River Valley Intermodal Facilities general project area location.

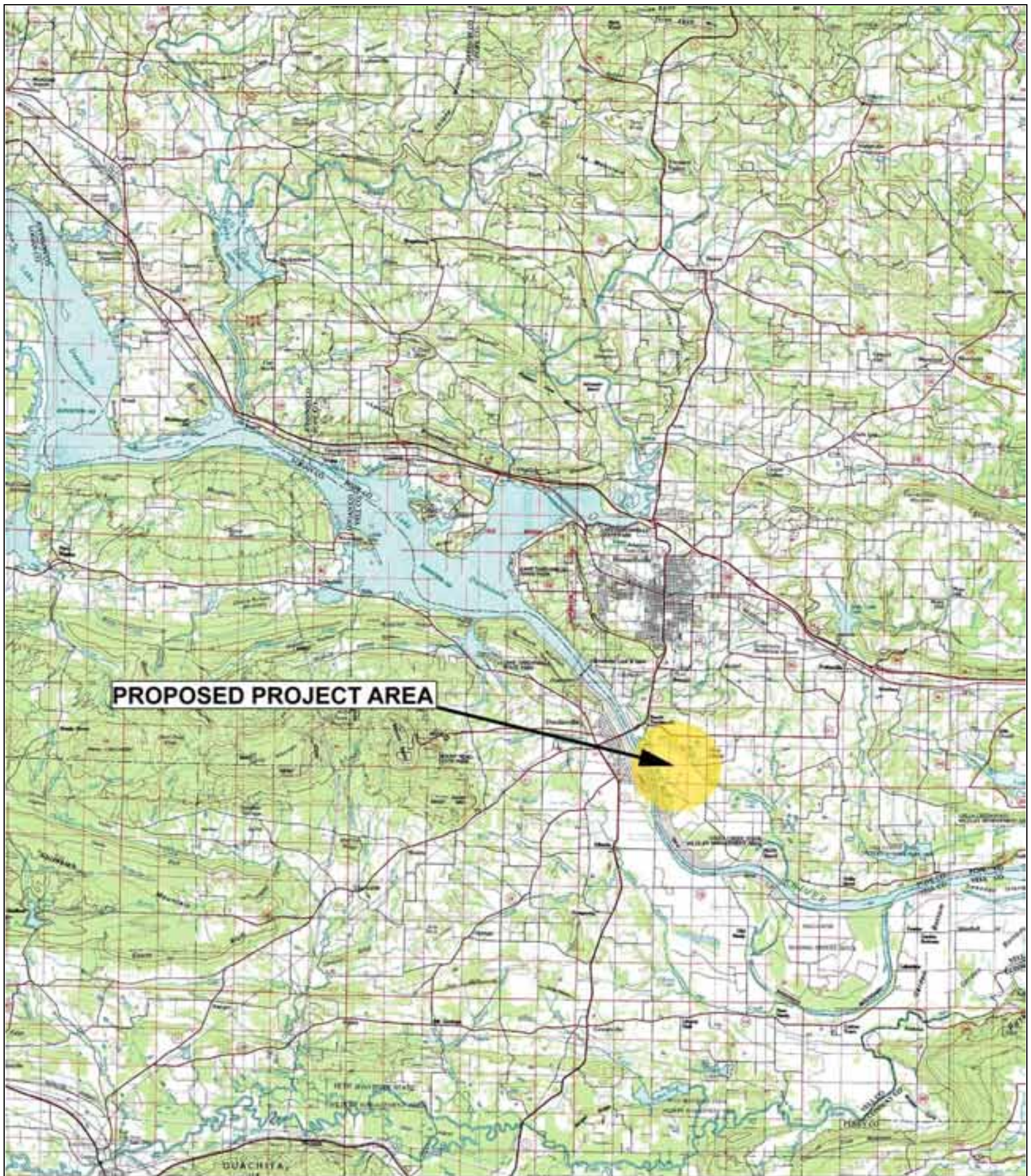


Figure 2.1

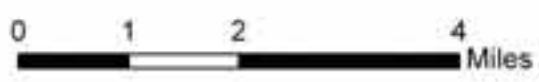
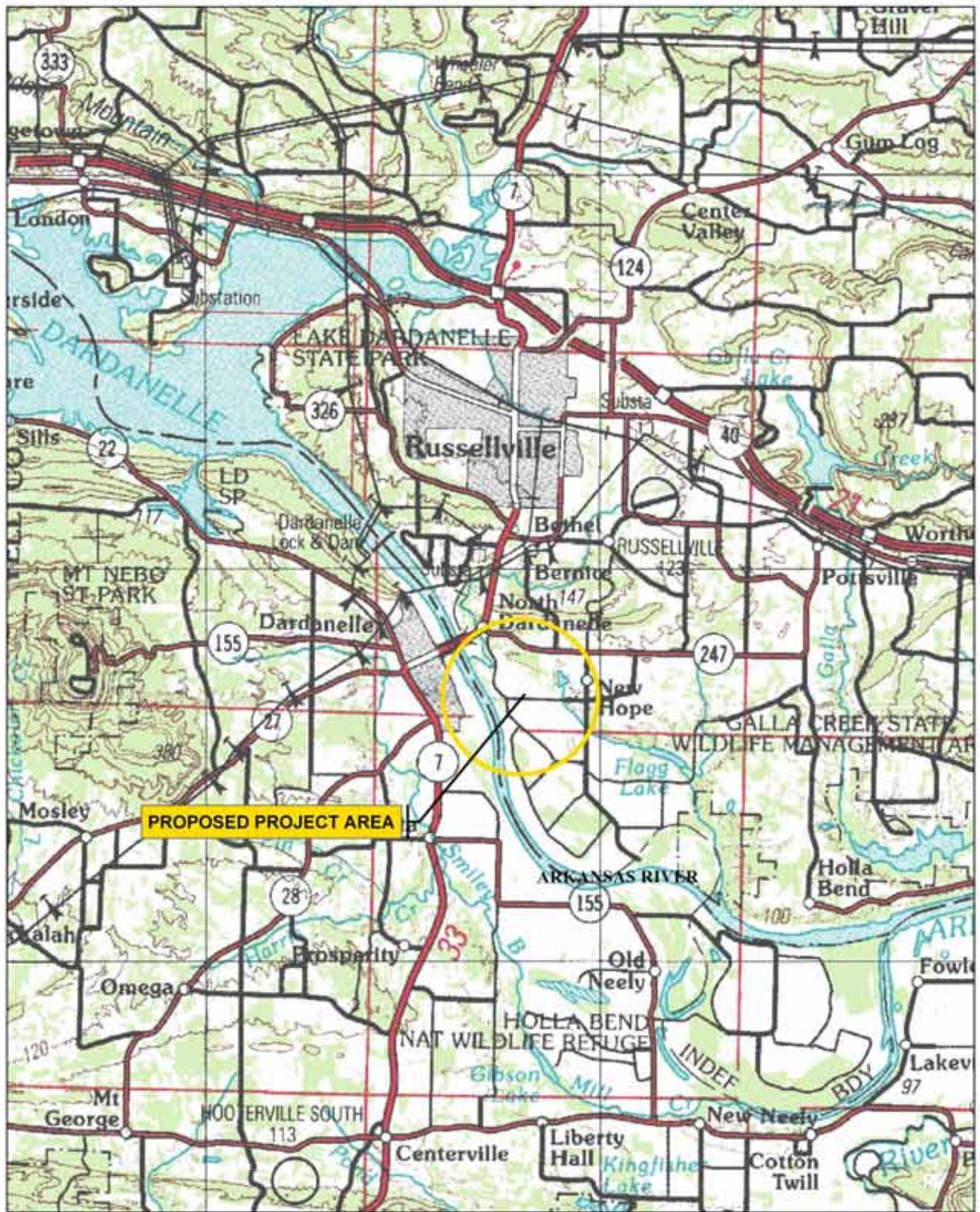
General Project Location Map

River Valley Intermodal Facilities  
Environmental Impact Statement

Prepared by:

**PARSONS**

Figure 2.2. Map of the River Valley Intermodal Facilities project area.



**Figure 2.2**  
**Project Vicinity Map**  
**River Valley Intermodal Facilities**  
**Environmental Impact Statement**

Prepared by:  
**PARSONS**

## **2.2 PURPOSE OF THE PROPOSED ACTION**

The Authority seeks to establish intermodal facilities to promote economic development, transportation capacity/competitiveness, and job creation in the ARV.

The proposed \$10 million facilities would include approximately 800 acres and would create distinct competitive advantages in terms of economic growth and development with respect to businesses in adjacent regions that rely on single-mode transportation facilities. Advantages would be created through transportation efficiencies (lower costs) and greater flexibility (intermodal choices not available in nearby locations). Secondary benefits to the region may include reduced highway congestion, improved air quality, and fewer accidents. This would be achieved through connectivity with the waterway and rail transportation systems and consequent reduction in reliance on the truck/highway mode as the sole mean of transportation.

This region is well suited for the establishment of an intermodal facility because it exhibits a strong regional manufacturing orientation, with a higher percentage of the workforce in manufacturing jobs than the national average, strong regional educational facilities, and a history of public support for economic development. Arkansas Tech University, the University of Arkansas (Morrilton), and the Vo-Tech School located at Russellville High School are all examples of the strong educational institutions located in this region.

## **2.3 NEED FOR THE PROPOSED ACTION**

The freight goods data collected in 1999 by the AHTD established that total inbound freight into the ARV region amounted to 2.07 million tons, and the total outbound movement was 3.29 million tons. Truck shipments accounted for approximately 56 percent of the inbound freight; rail shipments made up 39 percent of that total; and about 4 percent were shipped by water. The outbound freight movements were divided as follows: 78 percent via truck, 13 percent by rail, and the remaining 9 percent was shipped by water. The proposed multi-modal facilities would provide improved and expanded transportation opportunities, capacity, and competitiveness in the region that would allow and encourage increased integration into the national and international transportation networks.

From 1990 to 2003, total population in the six-county region increased 24,450, a rate of nearly 19 percent for the period, or 1.6 percent per year. Population change in the Arkansas River Valley is addressed in Table 2.1. The smallest county in the region, Perry, recorded the largest percent increase (31.3), bringing the population to nearly 10,500, an increase of nearly 2,500 people. Johnson County recorded the second largest percent increase (29.5), bringing its population to nearly 23,600. The largest and most urbanized county in the ARV, Pope County, had the highest increase in absolute numbers (9,300 people). The population of the ARV region grew at a faster rate during the 1990-2000 decade than the State as a whole, recording an increase of 17.7 percent versus 13.7 percent Statewide, an indication of considerable economic potential. Four of the six counties in the ARV (Johnson, Perry, Pope, and Yell) ranked in the top 25 U.S. counties in terms of population increase. Of those four, Johnson and Perry Counties ranked in the top ten U.S. counties in that decade in terms of population growth rates.

County	1990	2003	% Change	Largest City	Population
Conway	19,151	20,485	+7.0	Morrilton	6,550
Johnson	18,221	23,592	+29.5	Clarksville	7,719
Logan	20,557	22,808	+10.9	Booneville	4,117
Perry	7,969	10,461	+31.3	Perryville	1,458
Pope	45,883	55,185	+20.3	Russellville	23,682
Yell	17,759	21,459	+20.8	Dardanelle	4,228
<b>Total</b>	<b>129,540</b>	<b>153,990</b>	<b>+18.9 AVG</b>		

Source: U.S. Bureau of the Census, 2000, and estimates for 2003

The total labor force in the ARV in 2002 was 71,125, which marked a 2.75 percent growth over 2000. Labor force and employment issues in the ARV are addressed in Table 2.2. Pope County accounted for nearly 40 percent of the regional labor force total. Perry County recorded the smallest labor force population, which would be expected considering that it is also the smallest in terms of total population.

Total employment in the six-county region in 2002 was 67,475, of which 13,822 were in the manufacturing sector, accounting for 20.5 percent of the total labor force. However, according to data provided by the Arkansas Employment Security Department (AESD), a decrease of nearly 800 jobs occurred since 2000. Both Yell and Johnson Counties reported more than 30 percent of their labor forces employed in manufacturing, which is likely a reflection of a concentration of poultry processing facilities in those areas. It is important to note that there was a negative 5.4 percent change in non-farm employment from 2000 to 2001, a result of several plant closings in the ARV region.

In 2002 the manufacturing sector represented 20.5 percent of the total employment in the six-county region. That ratio can be compared favorably to about 15 percent for the U.S. (1998) and 18.8 percent for the State (2003). If the population of the region continues to grow at anticipated rates, nearly 250 new jobs will have to be generated annually to maintain the existing relationship between population and employment.

County	Labor Force	Employment	Non-Farm	Non-Farm Change 2000-2001 (%)	Manufacturing	% Man. Employees
Conway	9,800	9,200	7,125	-3.3	1,172	12.7
Johnson	11,100	10,625	8,525	-1.9	3,200	30.1
Logan	9,500	8,950	6,150	-4.0	1,900	21.2
Perry	3,800	3,500	1,225	+2.6	75	2.1
Pope	27,050	25,700	24,525	+2.3	4,325	16.8
Yell	9,875	9,500	7,150	-1.1	3,150	33.2
<b>Total</b>	<b>71,125</b>	<b>67,475</b>	<b>54,700</b>	<b>-5.4</b>	<b>13,822</b>	<b>20.5</b>

Source: AESD, 1995-2002 Civilian Labor Force Data  
[http://www.arkansas.gov/esd/LaborMarketInfo/BLS/StatsAnnualAvgs/A\\_lmclfm-r.htm](http://www.arkansas.gov/esd/LaborMarketInfo/BLS/StatsAnnualAvgs/A_lmclfm-r.htm)

A comparison of ARV counties to the State in terms of average weekly earnings and as a percent of the State average is provided in Table 2.3. None of the average weekly earnings in any of the counties equals or exceeds the State average of \$533. Pope County, with 96.2 percent of the State average comes the closest, with Conway County not far behind at 90.2 percent. Yell County reports the lowest average with respect to the State at 75.2 percent. The ARV six-county average weekly earnings of \$443 is only 83 percent of the State average, indicating a wage depression that constitutes a regional rather than individual county economic weakness that needs to be addressed systematically rather than on a piecemeal or county-by-county basis.

<b>County</b>	<b>Earnings</b>	<b>% of State Average</b>
Conway	\$481	90.2
Johnson	\$425	79.9
Logan	\$423	79.4
Perry	\$414	77.7
Pope	\$515	96.2
Yell	\$401	75.2
<b>Regional Average</b>	<b>\$443</b>	<b>83.1</b>

Source: AESD, 1995-2002 Civilian Labor Force Data: Table ^: County Summary Employment and Earnings; found online at: <http://www.state.ar.us/esd/LaborMarketInfo/BLS/CoveredEmpEarnings/>

In general, unemployment rates in the ARV (see Table 2.4) are below the State average of 5.6 percent. Only Perry County, at 6.0 percent, exceeds that rate. As a region, the ARV average is 4.3 percent, or more than a full point lower, than the State average, as reported in November 2004 by the AESD. The relationship between the region's depressed earnings and the unemployment rate become evident when Tables 2.3 and 2.4 are viewed together. Although Table 2.4 shows that the ARV region has less unemployment than the State as a whole, Table 2.3 demonstrates that on average those jobs are paying approximately 17 percent less than the State weekly average. Consequently, even though the area's employment picture is relatively positive, the low wages that can be earned in those jobs are stifling economic growth and productivity. Development of the intermodal facilities would directly improve that situation through promoting access to higher wage jobs and increasing the region's competitiveness and transportation connectivity.

<b>County</b>	<b>Unemployment</b>	<b>Rate</b>
Conway	450	4.6
Johnson	400	3.4
Logan	400	4.2
Perry	250	6.0
Pope	1,125	4.0
Yell	350	3.4
<b>Average</b>	<b>496</b>	<b>4.3</b>

At present, the ARV region does not have an integrated economy. Specifically, the region lacks the ability to offer business enterprises transportation and shipping choices and flexible transshipment facilities that combine various transportation modes that promote cost efficiencies. Existing major business enterprises in the region that would benefit from such

transportation integration include food processing, fabricated metals, and forests products. The commercial and financial activities that would be directly involved in this economic integration brought about by the intermodal facilities include the following:

- Fleet Services
  - Towboat Services
  - Fleet Assembly/Disassembly
  - Fleeting Supplies
  - Wharfage and Fees
  - Wharfage Demurrage
- Stevedoring Activities
  - Loading/Unloading
  - Shipping/Handling
  - Packaging
  - Inventory Control
  - Special Handling
- Foreign Trade Zone
- Warehousing/Storage and Distribution Services
  - Indoor
    - Refrigerated
    - Non-refrigerated
  - Outdoor
  - Combined indoor/outdoor
- Single-Mode Transportation Services (waterway, rail, motor vehicle)
- Intermodal Transfers and Other Services
  - Barge and rail
  - Barge and truck
  - Rail and Truck
  - Crane Services

Other typical bulk commodities shipped via the inland waterway and the national rail system include chemical fertilizers, farm products, sand, gravel and rock, iron and steel, petroleum products, wheat, and soybeans.

Currently, the ARV region is not able to provide the range of transportation and shipping choices, infrastructure, and support facilities that would attract businesses that want to improve their bottom lines by selecting from a combination of various shipping modes in a “one-stop shopping” type of opportunity for inbound and outbound freight. The planned project will enhance the potential for more rapid expansion of existing core business sectors in the region and is highly likely to attract firms from a wide variety of industrial and commercial enterprises with similar and related transportation needs.

The entire regional (six-county) economy would be improved through industrial capacity building, providing wider employment opportunities for the regional labor force, increased wages, and increased supplier effects and individual consumption activities. Direct benefits would include additional employment and associated wages as well as corporate profitability associated with increased commercial activities, specialized shipping services, more competitive warehousing, cold storage facilities, packaging, cross-matched products and by-products, and transportation cost efficiencies. Indirect, spillover effects include the establishment of new markets, attraction of new business establishments, diversification of the work force, and various economic multiplier effects that would spread through the entire regional economy. Sectors of the economy that would be affected by these indirect benefits include real estate, land values, personal services, and regional retail activities. Through minimization of the costs of doing business, the combined direct and indirect benefits of implementing the intermodal facilities would make the region much more competitive in the national and global economies.

The regional advantages provided by the intermodal facilities would provide additional capacity to meet the infrastructure and location requirements of businesses seeking to relocate and maximize their transportation and shipping efficiencies.

# Section 3: Alternatives

## **3.1 PROJECT AREA AND POTENTIAL ALTERNATIVE LOCATIONS**

### **3.1.1 Introduction**

This EIS is being prepared by the FHWA in a joint venture with the AHTD, the U.S. Army Corps of Engineers (USACE) and the Authority. The NEPA process is being applied to this project to study the potential impacts to social, environmental, and economic resources associated with the potential transportation improvements in the region.

There are currently three public ports/terminals along the Arkansas portion of the MKARNS located in Pine Bluff, Little Rock, and Fort Smith. There are no public use facilities within 30 miles of the study area, however there are three private docks within 30 miles of the study area including the following: Pine Bluff Sand & Gravel, the Port of Dardanelle; and Oakley Port.

### **3.1.2 General Location**

The ARV project area consists of six counties in central Arkansas: Conway, Johnson, Logan, Perry, Pope, and Yell. The proposed intermodal facilities would be located in the ARV region. Figure 2.1 in the previous section contains a map of the general project area. Within the six-county ARV region, the geographic limits of the proposed project alternatives would be from Highway 109 just west of Clarksville to Highway 9 near Morrilton.

## **3.2 ALTERNATIVES ANALYSIS**

### **3.2.1 Alternative Screening Criteria**

A full range of reasonable alternatives was considered during the development of the River Valley Intermodal Facilities EIS. Screening criteria were developed to help identify potentially viable and reasonable alternatives to consider in the EIS. Table 3.1 lists the main screening criteria and rationale that were utilized to determine the viability of the various alternatives developed for this project. In order for an alternative to be considered viable, all of the first three criteria had to be met. In other words, an alternative had to support the purpose and need, it had to provide reasonable intermodal facility access, and the site had to be suitable for development. The remaining screening criteria (Criteria 4-12) were equally weighted. In other words, screening criterion # 4 was given equal consideration as criterion #12. If multiple

alternatives occurred in the same general location (same river access point), some otherwise viable alternatives were dropped. The rationale behind eliminating certain otherwise viable alternatives was that it was anticipated that the intermodal facilities could be established at the same general location under other proposed alternatives with fewer environmental, social, and cultural impacts based on the current known land uses within the area.

1*	The alternative must support the purpose and need for the project (i.e., intermodal facilities to promote economic development and job creation).
2*	The alternative must provide reasonable intermodal facility access (i.e., proximate highway, rail, and river access).
3*	The alternative location must be suitable for the development of ancillary facilities, such as on-site transfer areas, temporary storage areas, warehousing, and industrial development.
4	The minimum size for the alternative should be at least 700 acres and the optimum size would be >800 acres. This is based upon the an estimate of 200 acres for the slackwater harbor, 200 acres for the truck transfer/off-loading area, 200 acres for the railroad facilities, and 200 acres for the ancillary facilities and industrial development.
5	The alternative layout should be continuous to allow the various modes of transportation to be juxtaposed (i.e., all of the modes must fit on one site along with the ancillary facilities).
6	The alternative should minimize impacts to the human environment.
7	The alternative should minimize impacts to natural ecosystems/habitats.
8	The alternative should minimize impacts to floodplains.
9	The alternative should minimize impacts to cultural and historical resources.
10	The alternative should be proximal to existing populations in order to supply a suitable workforce and proximal to existing utilities and infrastructure to reduce development costs.
11	The alternative should be proximal to existing industry to provide direct benefits at the completion of the project.
12	Primary site access costs via rail and highway should not exceed 50 percent of the entire Phase I construction budget (~\$6,698,700).
* Criteria must be met in order for an alternative to be considered viable.	

### 3.2.2 Analysis of Potential Alternatives

A total of nine alternative locations for placement of the intermodal facilities were identified within the geographic limits of the six-county ARV region during January through April 2005. No additional sites were identified during the agency scoping meeting. One of the nine sites was identified following comments at the March 15, 2005 Public Informational Meeting.

The distance to existing railroad lines on the south side of the Arkansas River was greater than 8 miles, and it was not considered feasible to construct a railroad bridge across the Arkansas River. A bridge would not be feasible based upon anticipated environmental impacts and extreme costs. Therefore, no sites south of the Arkansas River were considered viable. Several other sites were not considered viable due to the steep terrain near the river that would inhibit access to the Arkansas River or would not be practicable for the development of rail facilities or other ancillary facilities. In addition, no airport facility is a part of this project.

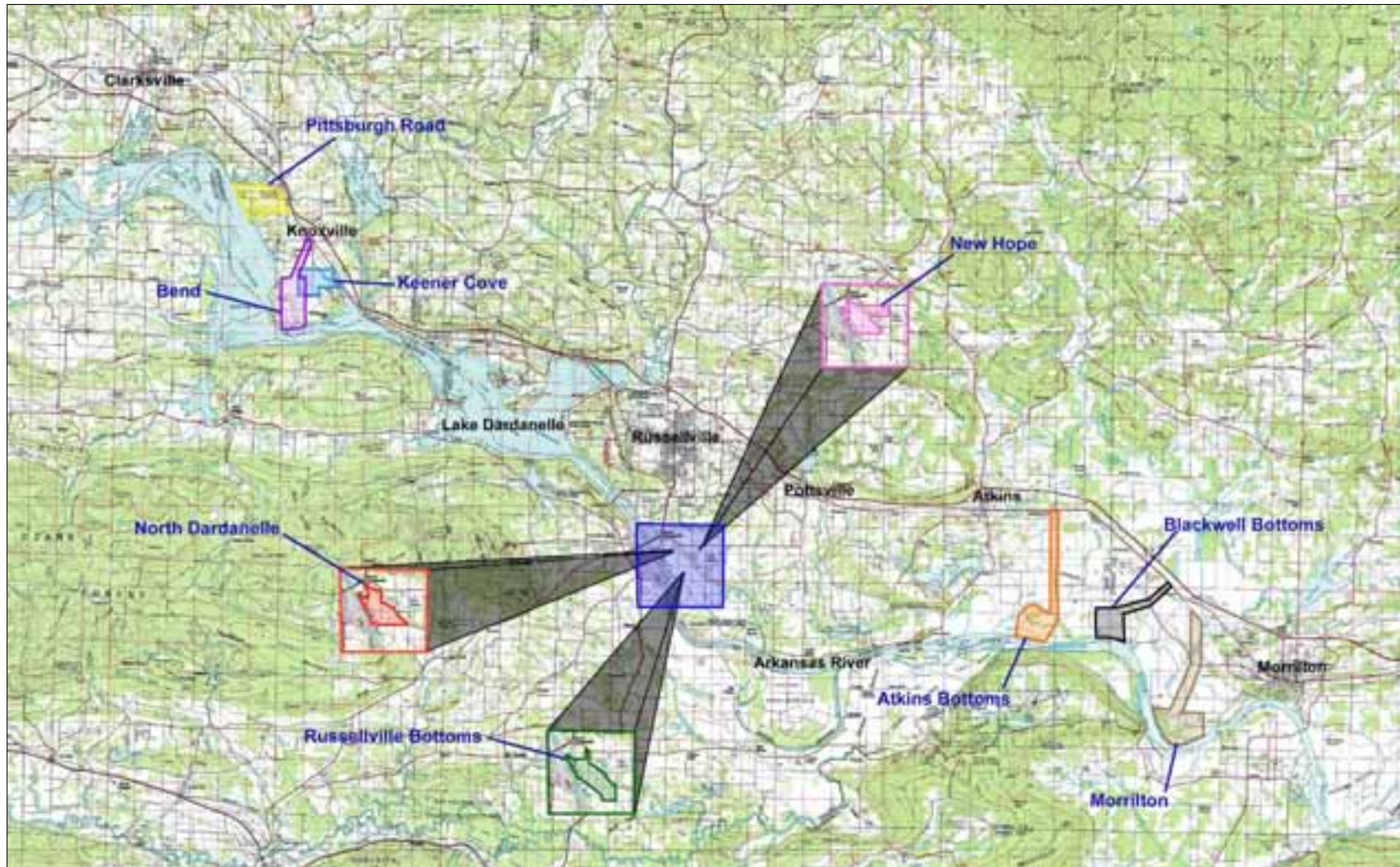
Sites that would require dredging an extensive canal over land from the navigable channel of the river were not considered viable. Although it would be possible to dredge a canal to connect such sites to the river, the potential for increased environmental impacts, additional construction and maintenance costs, and safety and operational problems of a long narrow canal make it undesirable and unfeasible. Increased environmental impacts of constructing a long canal may include impacts to wetlands by disrupting hydrology, increased soil disturbance and erosion potential, and loss of wildlife habitat mainly associated with loss of wetlands.

The following alternatives for the proposed action, listed from upstream to downstream, were considered for inclusion in the EIS in the Alternatives Analysis Report. The alternatives include the following:

- Pittsburgh Road (Yellow);
- Bend (Purple);
- Keener Cove (Blue) (identified during the public involvement process);
- New Hope (Pink);
- North Dardanelle (Red);
- Russellville Bottoms (Green);
- Atkins Bottoms (Orange);
- Blackwell Bottoms (Black); and
- Morrilton Bottoms (Brown).

Figure 3.1 shows the general location of each of the original alternatives considered for inclusion in the EIS. The alternative sites were investigated in January through April 2005.

Figure 3.1. Overview map of alternative locations considered for inclusion in the River Valley Intermodal Facilities EIS.



### **3.2.3 Discussion of Alternatives Considered But Determined Not Viable**

#### **3.2.3.1 Pittsburgh Road (Yellow) Alternative**

The Pittsburgh Road (Yellow) Alternative site is located near Arkansas River Mile (ARM) 226 along the left descending bank of the river just south of Cabin Creek and west of Knoxville Junction, Arkansas. This site consists of relatively steep to rolling terrain, much of which is currently forested.

This site would not readily support the purpose and need of this project mainly due to its location being relatively far from existing industrial areas. Existing infrastructure such as primary highways, railroads, and utilities are located proximal to this location. The estimated cost to construct the primary access road and railroad on the site would be less than 50% of the Phase I budget. However, the site would not support reasonable intermodal access due to the rolling terrain on the site. This site would require considerable grading and earthwork in order to construct the slackwater harbor and allow railroad access and staging areas to be fully developed. It is likely that bedrock would have to be excavated from the small embayment in order to gain the suitable size and depth necessary for barge traffic. In addition, the navigable channel of the river at this location is relatively far-removed from the left descending riverbank, which would make it difficult to maintain access to the site for barges. It would be anticipated that expensive and frequent maintenance dredging would be required to maintain a navigable channel to the site.

A large amount of forested habitat would need to be cleared resulting in adverse environmental impacts to forest-nesting neotropical migratory birds and other animals and plants. At least three small streams would be potentially impacted by construction at this site. This site would have low potential for impacts to the human environment and floodplains and a moderate potential for impacts to cultural and historical resources.

This site does not meet any of the three primary criteria to be considered a viable alternative. Therefore, the Pittsburgh Road (Yellow) Alternative will not be carried forward in the EIS.

#### **3.2.3.2 Bend (Purple) Alternative**

The Bend (Purple) Alternative site is located near ARM 220 along the north shore of the river south of Bend and Knoxville, Arkansas. This site consists of an area of slightly rolling terrain, much of which is currently pasture.

This site would support most of the listed criteria to be considered a viable alternative, except that it is located relatively distant from existing industry and infrastructure, making it a less useful location for intermodal facilities at this time. The site would likely support the purpose and need of the project in the future, but would not likely provide existing industry with immediate benefits, as would other alternatives. The site would not provide reasonable intermodal access for railroad and highway access due to its distance from existing alignments. The existing road network would not support heavy truck traffic. The site would be suitable for ancillary facilities due to the gently rolling terrain. However, it is likely that bedrock would have to be excavated from the small embayment in order to gain the suitable size and depths necessary for barge traffic. A relatively long railroad connector line and roadways would need to be developed to provide access to

the existing railroad and highways located north of the site. This would cause the cost of the primary access road and railroad to exceed 50 percent of the Phase I budget. The navigable channel is located closer to the left descending riverbank at this location relative to the Pittsburgh Road Alternative. However, occasional maintenance dredging would be required to maintain a channel for barge movement to and from the site.

Only a minor amount of forested land would need to be cleared at this location. At least two small streams would be impacted by construction at this location. One of these streams flows toward the Lake Dardanelle State Fish Hatchery located downstream of the potential development area of this site. This site has the potential to adversely impact some recreational opportunities on Lake Dardanelle. This site would have low potential for impacts to the human environment and floodplains and moderate potential for impacts to cultural and historical resources.

This site only meets one of the three main criteria required to be considered a viable alternative. Therefore, the Bend (Purple) Alternative will not be carried forward in the EIS.

### **3.2.3.3 Keener Cove (Blue) Alternative**

The Keener Cove (Blue) Alternative site is located near ARM 217.5 along the north shore of the river south of Knoxville, Arkansas. This site consists of an embayment bordered by the UPRR to the east and a large hill (Clubb Hill) to the west. Clubb Hill rises to approximately 200 feet above the normal elevation of Lake Dardanelle, which would prohibit development. The area north and northwest of the embayment consists of slightly rolling terrain, much of which is currently pasture or part of the City of Knoxville. The area east of the embayment and the railroad is bisected by Highway 64 and slopes up approximately 60-80 feet to I-40. The area between Highway 64 and Interstate 40 would not be conducive to development due to the sloping terrain. In addition, traffic on Highway 64 and the rail line would also have to be maintained, which would create a barrier between the potential harbor and the ancillary facilities.

This site would support many of the listed criteria to be considered a viable alternative, except that it is located relatively distant from existing industry and infrastructure. The site would likely support the purpose and need of the project in the future, but would not likely provide existing industry with immediate benefits. The site would provide reasonable intermodal access for railroad and highway access due to its proximal location to existing alignments. However, the distance to the existing navigation channel would be approximately 1.47 miles (7,800 feet). The existing road network would not support heavy truck traffic. A relatively short railroad connector line and roadway would need to be developed to provide access to the existing rail and highways located north and east of the site. The site would be suitable for ancillary facilities due to the gently rolling terrain.

It is likely that bedrock would have to be excavated from the north end of the Keener Cove embayment in order to gain the suitable size and depths necessary for barge traffic. Since the navigation channel in Lake Dardanelle is approximately 1.47 miles from the potential harbor site, an entrance channel would need to be excavated from the navigation channel to the harbor site in the northern end of Keener Cove. According to FHS Maps™ and observations made during the field survey, the depths in Keener Cove

are highly variable with depths near the mouth of the cove ranging from 3 feet to nearly 18 feet in the old creek channel. It is estimated that the average depth of Keener Cove is approximately 2-6 feet. The entrance channel would be a trapezoidal channel approximately 15-17 foot-deep by 80-100-feet-wide at the base, which would require a considerable amount of dredging from Lake Dardanelle. In addition, occasional maintenance dredging would be required to maintain a channel for barge movement to and from the harbor site.

This site would have a high potential for impacts to the human environment due to the extensive amount of residential and business displacements necessary to obtain suitably-sized facilities. It is estimated that there would be over 30 residential displacements in and near the south side of Knoxville. Only a minor amount of forested land would need to be cleared at this location. Two small streams and a relatively large wetland area near the north end of Keener Cove would be impacted by construction at this location. This site would adversely impact recreational opportunities on Lake Dardanelle for fishermen and boaters using Keener Cove, and the USACE access point at the base of Clubb Hill would be lost. This site would have a low potential to impact floodplains and moderate potential for impacts to cultural/historical resources.

This site only meets one of the three main criteria required to be considered a viable alternative. There would be substantial impacts to the local residents due to displacement, and there would be potential Environmental Justice issues for low income residents. There would be substantial impacts to the natural environment from the extensive dredging required to create the facilities. Therefore, the Keener Cove (Blue) Alternative will not be carried forward in the EIS.

#### **3.2.3.4 New Hope (Pink) Alternative**

The New Hope (Pink) Alternative is located near ARM 203 along the left descending bank of the river and extends along Highway 247 to near the New Hope community. This site consists of a combination of relatively flat bottomland in the floodplain of the Arkansas River and extends into relatively steep to rolling terrain at the site's northeastern end. A portion of the site would need to be protected by a new levee system.

This site would meet the purpose and need of this project and provide reasonable intermodal access and suitable development areas. Existing infrastructure such as primary highways, railroads, and utilities are located proximal to this location. The navigable channel is located close to the north shore at this location providing easy barge access to the site. Due to the rolling terrain in the eastern portion of the site, this alternative does not lend itself to the development of ancillary facilities, such as warehousing or industrial development, especially when compared to the other alternatives within the vicinity.

The northeastern portion of the site at New Hope contains existing developed residential and business areas along Highway 247. To accommodate the intermodal facilities, there would be many residential and business displacements, and therefore, this alternative would have substantial impacts to the human environment.

Although a minor amount of forested land would need to be cleared on this site, a relatively large amount of grading and land leveling would be required in the northeastern portion of the site, which would drastically alter current topography and physical setting. In addition, at least three streams, several ponds, and wetlands would be impacted at this site. This site would have moderate potential for impacts to cultural and historical resources.

The relatively costly impacts to the existing human environment would make this alternative less desirable compared to other alternatives that occur in the same general location. The other two alternatives that occur in the same general location would accomplish the same thing, but at a lower overall construction cost and have fewer social impacts. Therefore, even though the New Hope Alternative meets the three main screening criteria and most of the other criteria to be considered a viable alternative, it will not be carried forward in the EIS.

### **3.2.3.5 Atkins Bottoms (Orange) Alternative**

The Atkins Bottoms (Orange) Alternative site is located near ARM 188 along the left descending bank of the river south of Atkins, Arkansas. In order to avoid potential impacts to the Galley (Galla) Rock Historical Site, this site was positioned well to the east of Galla Rock. This site consists of primarily flat bottomland. Much of the site is located in the floodplain, which would require levee systems to be built to protect the intermodal facilities.

The site would likely support the purpose and need of the project in the future but would not likely provide existing industry with immediate benefits. This site would support several of the listed criteria to be considered a viable alternative, except that it is located relatively distant from existing industry, making it an undesirable location for intermodal facilities at this time. The site would not provide reasonable intermodal access due to it being located relatively far from existing infrastructure including both railroads and highways. A relatively long railroad connector line and highway would need to be established in order to make this site feasible. This would result in high construction costs making this alternative much more expensive than other alternatives. Existing utility infrastructure is located moderately close to this location, but not as close as in other alternatives. The navigable channel is located proximal to the left descending riverbank at this location providing relatively easy access from the river.

Some bottomland hardwood forested land would need to be cleared at this location. Several streams and wetlands would be impacted at this site. Additional stream and wetland impacts would occur along the new highway and railroad corridor that would be constructed to gain access to existing railroad and highway alignments to the north near Atkins. The high impacts to natural resources would make this alternative less environmentally sound. This site would have minimal impacts to the human environment. There is a high potential for cultural and historical resources to be present in this region based on recorded data.

The costs associated with the extensive amount of earthwork that would be necessary to construct new railroad and roadway access and high levels of impacts to natural resources, including wetlands, make this alternative expensive and infeasible. Therefore, even though the Atkins Bottoms Alternative could potentially meet two of the

three main screening criteria and several of the other criteria, it will not be carried forward in the EIS.

### **3.2.3.6 Blackwell Bottoms (Black) Alternative**

The Blackwell Bottoms (Black) Alternative site is located near ARM 183 along the left descending bank of the river south of Blackwell and Kenwood, Arkansas. Almost the entire site would be located in the floodplain, which would require additional levee systems to be built to protect the intermodal facilities.

This site would support several of the listed criteria to be considered a viable alternative, except that it is located relatively distant from existing industry, making it an undesirable location for intermodal facilities at this time. The site would likely support the purpose and need of the project in the future, but would not likely provide existing industry with immediate benefits. Existing utilities are also located relatively distant from this site. The site would not provide reasonable intermodal access due to it being located relatively far from existing infrastructure including both railroads and highways. A relatively long railroad connector line and highway would need to be established in order to make this site feasible. This would result in high construction costs and additional environmental impacts making this alternative much more expensive than other alternatives. The navigable channel is located proximal to the left descending riverbank at this location providing relatively easy access from the river.

Some bottomland hardwood forested land would need to be cleared at this location. Several streams and wetlands would be impacted at this site. Additional stream and wetland impacts would occur along the new highway and railroad corridor that would be constructed to gain access to existing railroad and highway alignments to the north near Blackwell. The high impacts to natural resources would make this alternative less environmentally sound. This site would have minimal impacts to the human environment. There is a high potential for cultural and historical resources to be present in this region based on recorded data.

The costs associated with the extensive amount of earthwork that would be necessary to construct new railroad and roadway access and high levels of impacts to natural resources, including wetlands, make this alternative expensive and infeasible. Therefore, the Blackwell Bottoms Alternative will not be carried forward in the EIS.

### **3.2.3.7 Morrilton (Brown) Alternative**

The Morrilton (Brown) Alternative site is located near ARM 180 along the left descending bank of the river southwest of Morrilton, Arkansas. The entire site would be located in the floodplain, which would require additional levee systems to be built to protect the intermodal facilities from backwater flooding from the Arkansas River and headwater flooding from Point Remove Creek.

This site would support some of the listed criteria to be considered a viable alternative, except that it is located relatively distant from existing industry, making it an undesirable location for intermodal facilities at this time. The position of Lock and Dam No. 9 prohibits positioning the site farther north. The site would likely support the purpose and need of the project in the future, but would not likely provide existing industry with immediate benefits, as would other alternatives. Existing utility infrastructure is located

moderately close to this location. The site would not provide reasonable intermodal access due to it being located relatively far from existing infrastructure including both railroads and highways. A long railroad connector line and highway would need to be established in order to make this site feasible. This would result in high construction costs and additional environmental impacts making this alternative much more expensive than other alternatives. The navigable channel is located proximal to the left descending riverbank at this location providing relatively easy access from the river. However, frequent maintenance dredging would be required, because the site is on the inside bend of the river, which is typically a depositional area.

Some bottomland hardwood forested land would need to be cleared at this location. Several streams and wetlands would be impacted at this site. Additional stream and wetland impacts would occur along the new highway and railroad corridor that would be constructed to gain access to existing railroad and highway alignments to the north near Kenwood. The high impacts to natural resources would make this alternative less environmentally sound. This site would have minimal impacts to the human environment. There is a high potential for cultural and historical resources to be present in this region due to the presence of the Point Remove Mounds being located within or near the project site.

The costs associated with the extensive amount of earthwork that would be necessary to construct new railroad and roadway access, high potential for cultural resources in the vicinity, and high levels of impacts to natural resources, including wetlands, make this alternative expensive and infeasible. Therefore, the Morrilton Alternative will not be carried forward in the EIS.

### **3.2.4 Discussion of Alternatives Considered and Determined Viable**

#### **3.2.4.1 North Dardanelle (Red) Alternative**

The North Dardanelle (Red) Alternative is located near ARM 203 along the left descending bank of the river and extends up to Highway 247 and south into the Arkansas River floodplain. This site generally consists of relatively flat bottomland throughout. Most of this site would be within the floodplain of the Arkansas River. A levee system would be required to protect the intermodal facilities from backwater flooding from the Arkansas River and flash flooding from Whig Creek and its tributaries.

This site would meet the purpose and need of this project and provide reasonable intermodal access and suitable development areas. Existing infrastructure such as primary highways, railroads, and utilities are located proximal to this location. The navigable channel is located close to the left descending riverbank at this location providing easy barge access to the site. This site is located proximal to existing industry and would therefore provide immediate benefits to the ARV regional economy.

The northwestern portion of the site consists of streams and wetland areas associated with Whig Creek and a small tributary. This site would impact at least three streams in total and some wetlands scattered throughout the site. A minor amount of forested land would need to be cleared on this site and only minor grading and land leveling would be required. This site would have moderate potential for impacts to cultural and historical resources. To accommodate the intermodal facilities, there would be a few residential

and business displacements, which translates into this alternative having at least some impacts to the human environment.

The North Dardanelle Alternative meets the three main screening criteria and almost all of the other criteria to be considered a viable alternative. This alternative will be carried forward and fully evaluated in the EIS. Figure 3.2 shows the location and proposed layout of the Red Alternative.

#### **3.2.4.2 Russellville Bottoms (Green) Alternative**

The Russellville Bottoms (Green) Alternative is located near ARM 203 along the left descending bank of the river. A narrow access corridor extends up to Highway 247. This site generally consists of relatively flat bottomland throughout. Most of this site would be within the floodplain of the Arkansas River. A levee system would be required to protect the intermodal facilities from backwater flooding from the Arkansas River and flash flooding from Whig Creek and its tributaries.

This site would meet the purpose and need of this project and provide reasonable intermodal access and suitable development areas. Existing infrastructure such as primary highways, railroads, and utilities are located proximal to this location. The navigable channel is located close to the left descending riverbank at this location providing easy barge access to the site. This site is located proximal to existing industry and would therefore provide immediate benefits to the ARV regional economy.

This site would have fewer impacts to most of the streams and wetlands compared to other alternatives. However, at least one stream and some wetlands would still be impacted by this alternative. A minor amount of forested land would need to be cleared on this site and only minor grading and land leveling would be required. This site would have moderate potential for impacts to cultural and historical resources. To accommodate the intermodal facilities, there would be a small number of residential and business displacements, which translates into this alternative having minimal impacts to the human environment.

The Russellville Bottoms Alternative meets the three main screening criteria and most of the other criteria to be considered a viable alternative, and will therefore be carried forward and fully evaluated in the EIS. Figure 3.3 shows the location and proposed layout of the Green Alternative.

Figure 3.2. Location and conceptual layout of the Red Alternative for the River Valley Intermodal Facilities EIS.

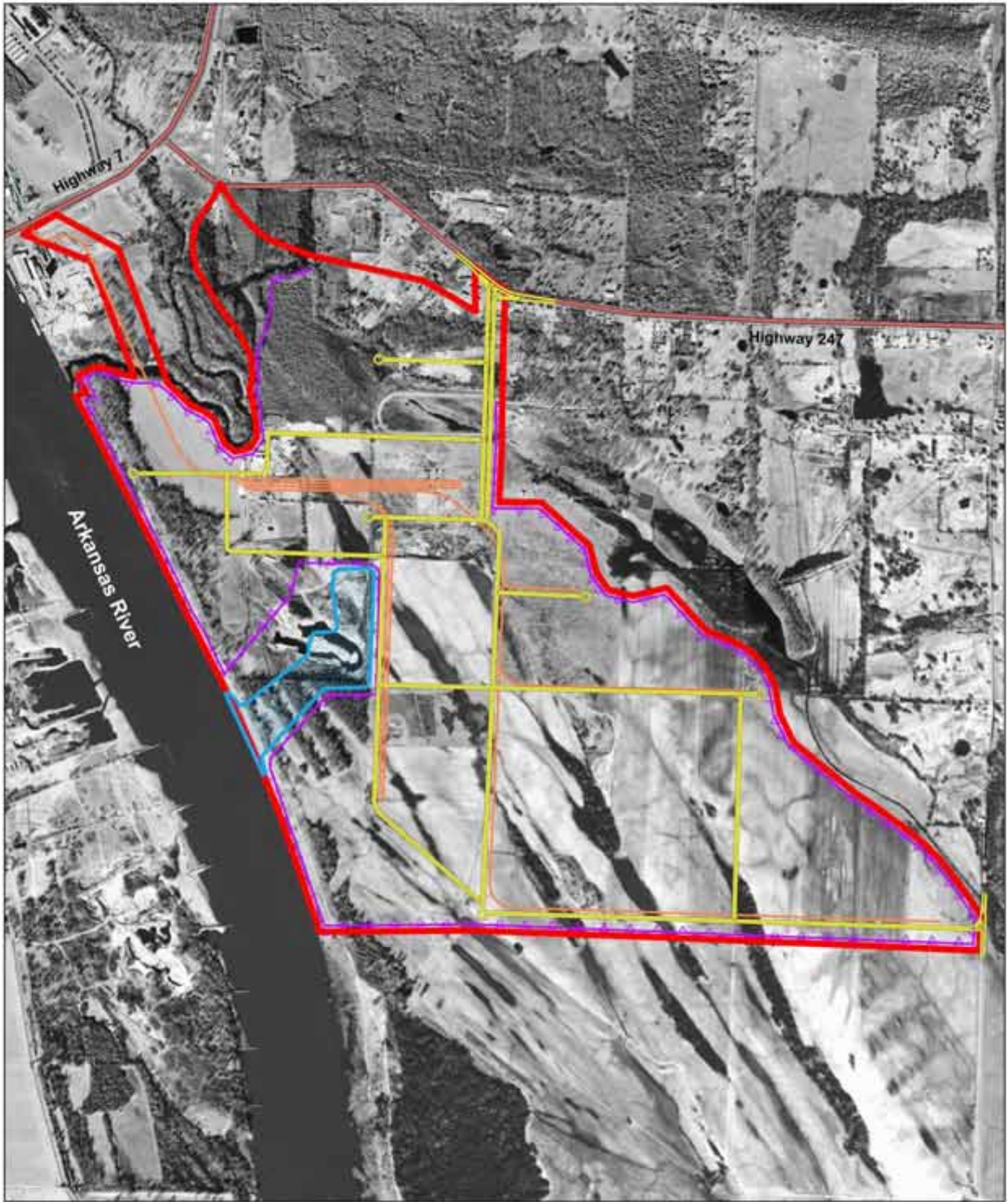


Figure 3.2

Proposed Red Alternative with  
Conceptual Site Layout

River Valley Intermodal Facilities  
Environmental Impact Statement

Prepared by:  
**PARSONS**

Figure 3.3. Location and conceptual layout of the Green Alternative for the River Valley Intermodal Facilities EIS.



0 0.25 0.5 1 Miles



**Figure 3.3**

**Proposed Green Alternative with  
Conceptual Site Layout**

**River Valley Intermodal Facilities  
Environmental Impact Statement**

Prepared by:  
**PARSONS**

### **3.3 SUMMARY OF ALTERNATIVES TO BE CONSIDERED IN THE EIS**

Based on the alternatives analysis, in addition to the No Action Alternative, two potential Build Alternatives are proposed to be carried forward for further study in this EIS. The three proposed alternatives to be considered include:

- No Action Alternative;
- North Dardanelle (Red) Alternative; and
- Russellville Bottoms (Green) Alternative.

The two Build Alternatives met all three of the required screening criteria to be considered viable and met most of the remaining criteria. Each of these alternatives would be considered feasible based on current information and would provide intermodal facilities that would meet the purpose and need of the proposed action. When comparing the nine alternative sites considered in the alternatives analysis, the proposed Build Alternatives were determined to have the fewest potential adverse social, environmental, and cultural impacts, while providing immediate benefits to the ARV regional economy due to their proximity to existing industry, infrastructure, and populations.

This EIS will provide a detailed analysis of all potential environmental, social, and economic impacts of these two Build Alternatives and the No Action Alternative. Details regarding the proposed layout of the intermodal facilities for each of the Build Alternatives are discussed below.

#### **3.3.1 Description of Alternatives**

##### **3.3.1.1 No Action Alternative**

The No Action Alternative will result in not pursuing development of intermodal facilities in the six-county ARV region as proposed. The No Action Alternative has no location, no cost, and no adverse impact on environmental, social, or cultural resources. However, there would not be any improvement in transportation efficiency or enhancement of the region's ability to attract new businesses due to the lack of intermodal facilities that would provide a slackwater harbor for barges, railroad service, and access to intrastate and interstate roadways.

##### **3.3.1.2 North Dardanelle (Red) Alternative**

The Red Alternative would consist of an 832-acre tract located near ARM 203 along the left descending bank of the Arkansas River extending up to Highway 247 and south into the Arkansas River floodplain. Figure 3.2 shows the general location and layout of the Red Alternative. This site generally consists of relatively flat bottomland throughout. Most of this site would be within the floodplain of the Arkansas River.

A levee system would be required to protect the intermodal facilities from overflow or backwater flooding from the Arkansas River and headwater flooding flash flooding from Whig Creek and its tributaries. The proposed levee location is shown in blue on Figure 3.2. It is assumed that all the land within the levee would be altered as the intermodal facilities develop. Whig Creek, two additional small streams, and wetlands located in the northwestern portion of the site, along with some scattered wetlands in the southern portion of the site, would be impacted by construction within the proposed levee area. In

addition, because the levee system would be located immediately adjacent to the Arkansas River, all the existing riparian forest habitat along the river within the boundary of the site would also be removed.

As part of the intermodal facilities development, a slackwater harbor would be constructed to provide access from the site to the Arkansas River via barge. The location of the proposed harbor is shown on Figure 3.2. The navigable channel is located close to the left descending riverbank at this location providing easy barge access to the site. A portion of this harbor has already been excavated by a sand and gravel company located near the proposed harbor. Additional excavation and dredging would be required as part of this project to complete the harbor and bring it to appropriate depth and size to support usage for barges.

A railroad connector line would be constructed to provide rail access to the site. The proposed connector line would enter the site from the northwest corner of the site via an extension of the existing short-line DRRR. The railroad extension would require construction of a bridge over the lower reaches of Whig Creek.

An access road connecting the intermodal facilities to Highway 247 would be constructed in the northeast corner of the site. This roadway would be a hardened surface to provide a low maintenance facility and to eliminate fugitive dust impacts typically caused by gravel or dirt roads.

A network of roadways and railroad spurs would be constructed throughout the intermodal facilities property to provide connections to potential warehouses, industries, and other future users of the facilities. Figure 3.2 shows a general depiction of how these facilities would be placed on the site. The final design of these features will be determined as the intermodal facilities develop and becomes populated with facilities.

### **3.3.1.3 Russellville Bottoms (Green) Alternative**

The Green Alternative would consist of an 882-acre tract located near ARM 203 along the left descending bank of the Arkansas River. A narrow access corridor extends up to Highway 247. Figure 3.3 shows the general location and layout of the Green Alternative. This site generally consists of relatively flat bottomland throughout. Most of this site would be within the floodplain of the Arkansas River.

A levee system would be required to protect the intermodal facilities from overflow or backwater flooding from the Arkansas River and headwater flooding flash flooding from Whig Creek and its tributaries. The proposed levee location is shown in blue on Figure 3.3. It is assumed that all the land within the levee would be altered as the intermodal facilities develop. Under the Green Alternative, Whig Creek and one other stream located near the northern boundary of the site would be slightly impacted. However, the wetlands and another small tributary, which would be impacted under the Red Alternative, would be avoided. The lower quality wetlands in the southern portion of the site would be impacted under the Green Alternative. Under the Green Alternative, the levee along the Arkansas River boundary of the site would be set back to protect the forested riparian corridor and to provide a buffer between the site and the Arkansas River. These trees would also provide a visual buffer to conceal much of the development on the site from the City of Dardanelle located directly across the river.

As part of the intermodal facilities development, a slackwater harbor would be constructed to provide access from the site to the Arkansas River via barge. The location of the proposed harbor is shown on Figure 3.3. The navigable channel is located close to the left descending riverbank at this location providing easy barge access to the site. A portion of this harbor has already been excavated by a sand and gravel company located near the proposed harbor. Additional excavation and dredging would be required as part of this project to complete the harbor and bring it to appropriate depth and size to support usage for barges.

A railroad connector line would be constructed to provide rail access to the site. The proposed connector line would enter the site from the northwest corner of the site via an extension of the existing short-line DRRR. The railroad extension would require construction of a bridge over the lower reaches of Whig Creek.

An access road connecting the intermodal facilities to Highway 247 would be constructed in the northeast corner of the site. This roadway would be a hardened surface to provide a low maintenance facility and to eliminate fugitive dust impacts typically caused by gravel or dirt roads. Highway 247 would provide the main access to and from I-40 and would also provide access to Highway 7.

A network of roadways and railroad spurs would be constructed throughout the intermodal facilities property to provide connections to potential warehouses, industries, and other future users of the facilities. Figure 3.3 shows a general depiction of how these facilities would be placed on the site. The final design of these features will be determined as the intermodal facilities develop and become populated with facilities.