

Executive Summary  
Preliminary Toll Feasibility Assessment

For

INNOVATIVE FINANCING PROGRAM  
FOR TOLL HIGHWAYS IN ARKANSAS





## Wilbur Smith Associates

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November 15, 2002

Mr. Steve Teague, P.E.  
Assistant to the Director for Program Management  
Arkansas State Highway and Transportation Department  
P.O. Box 2261  
Little Rock, AR 72203

Dear Mr. Teague:

The project team headed by Wilbur Smith Associates (WSA), which includes HNTB Corporation (HNTB), Garver Engineering (GE) and Salomon Smith Barney (SSB), is pleased to submit this Executive Summary Report summarizing the various financing strategies associated with the Innovative Financing Program for tolled highways in Arkansas. This Executive Summary provides a financial feasibility assessment for each facility under the five (5) stages which comprised the Innovative Financing Program process. These five stages included the following:

- Congressionally Designated High Priority Corridors;
- Major Corridor Projects;
- Segmentation Projects;
- Initial System Financing; and
- Refined System Financing.

Detailed technical memoranda were provided under separate cover to The Arkansas State Highway and Transportation Department (AHTD) presenting a comprehensive analysis for each facility under the first three stages of the Innovative Financing Program process. These technical memoranda include the Congressionally Designated High Priority Corridors Technical Memorandum (TM) dated January 31, 2001, Major Corridor Projects TM dated May 31, 2001 and the Segmentation Projects TM dated December 7, 2001. Additional details beyond the information provided within this Executive Summary are available in the TMs. These TM's provide a detailed traffic and toll revenue analysis, estimates of capital and operational/maintenance costs and a financial feasibility assessment for each facility.

Albany NY, Anaheim CA, Atlanta GA, Austin TX, Baltimore MD, Bangkok Thailand, Burlington VT, Charleston SC, Charleston WV, Chicago IL, Cincinnati OH, Cleveland OH, Columbia SC, Columbus OH, Dallas TX, Dubai UAE, Falls Church VA, Greenville SC, Harrisburg PA, Hong Kong, Hot Springs AR, Houston TX, Iselin NJ, Jacksonville FL, Kansas City MO, Knoxville TN, Lansing MI, Lexington KY, Lisle IL, London UK, Milwaukee WI, Mumbai India, Myrtle Beach SC, New Haven CT, Orlando FL, Philadelphia PA, Pittsburgh PA, Portland ME, Poughkeepsie NY, Raleigh NC, Richmond VA, Riyadh Saudi Arabia, Salt Lake City UT, San Diego CA, San Francisco CA, St. Paul MN, Savannah GA, Tallahassee FL, Tampa FL, Tempe AZ, Trenton NJ, Washington DC

## THE STUDY TEAM

For this study, WSA served as the prime consultant having overall responsibility for the successful completion of all aspects of the work. A leader in toll industry and transportation finance studies, WSA has performed 450 such projects over the last five years. Of these assignments, over half focused on Traffic and Revenue, Feasibility Studies, and Transportation Planning and Analysis. WSA serves a majority of toll agencies throughout the United States and has provided traffic, revenue, operations, and other toll-related services for projects in over 30 states.

The Firm is nationally recognized within the financial community by virtue of its solid record of accomplishment in traffic and toll revenue studies, a record built through 50 years of hard work and concerted efforts which have culminated in the issuance of over \$53 billion in toll facility bonds worldwide.

As Traffic-Revenue Consultant to a majority of the operating toll facilities, and as consultant to many transportation planning agencies across the country and overseas, WSA brings a wealth of background experience regarding traffic and toll revenue estimates for highway systems.

Salomon Smith Barney (SSB), Citigroup's investment banking arm, is one of the largest investment banks in the United States, having equity capital of approximately \$6.02 billion as of June 30, 2000. The Public Finance Department, with 135 Public Finance professionals is a major public finance force in virtually every regional market and has one of the largest networks of regional public finance offices of any securities firm.

SSB has provided numerous innovative financing approaches for its clients; managing 73 negotiated issues totaling \$17.4 billion in tax-exempt transportation revenue bonds. SSB is the leading investment banking firm with significant experience in leveraging federal funds and working with the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Federal Rail Administration (FRA), and Transportation Infrastructure and Innovation Act (TIFIA). Of the 21 leveraging fund transactions that have been completed leveraging Federal transportation funds, SSB has senior managed 13 transactions and co-senior managed 3 transactions. SSB has also submitted 4 TIFIA applications for the first 2 TIFIA application rounds in 1999 and 2000. TIFIA experience over the past year has included: one transaction financed for Tren Urbano, two transactions currently being financed for the conversion of the GPO to the new Pennsylvania Station in New York and SR 125 in California, and one TIFIA application pending approval for the Texas Turnpike Authority (TTA). SSB was the first investment-banking firm to accomplish these transactions leveraging FHWA, FTA, FRA or TIFIA funding:

- First loan under Section 129: TxDOT, December 1995 Texas Turnpike Authority;
- First Transit "Garvee" GAN: March 1999 New Jersey Transit Authority;
- First SIB Loan: TxDOT, June 1996 Laredo Bridge Authority; and
- First TIFIA Financing: Tren Urbano Puerto Rico Highway Authority.

HNTB Corporation with firmwide staff of nearly 2,500 is a national leader in consulting for the transportation and toll industry, and has assisted WSA with the identification of appropriate improvements and the estimating of construction costs for the various corridors. HNTB is widely recognized as one of the leading toll facility-consulting firms in the country, providing engineering consultant services to toll authorities nationally and globally.

Headquartered in Kansas City, Missouri, since 1914, HNTB Corporation has experience on more than 18,000 projects worldwide. Many of the firm's projects have won local, regional and/or national awards for excellence in design.

Garver Engineers is a Little Rock, Arkansas based consulting firm founded in 1919 and has extensive regional experience in the State of Arkansas, assisting the study team with costing elements for the individual projects and serving as the important local liaison. The firm's founder, served as an extension of the staff of the State Highway Department in Arkansas. His role as the first bridge engineer for the Department has grown into a significant base of experience in transportation engineering. Garver Engineers provides the team with significant experience in the development of both bridges and roadways in Arkansas.

## STUDY OBJECTIVE

The study objectives associated with the Innovative Financing Program initially examined 13 improvement corridors throughout the State of Arkansas. These included five (5) under the Congressionally Designated High Priority Corridors analysis and eight (8) under the Major Corridor Projects analysis as shown below.

### CONGRESSIONALLY DESIGNATED HIGH PRIORITY CORRIDORS

- Proposed Highway 71 Improvement Corridor;
- Proposed Highway 412 Improvement Corridor;
- Proposed Highway 63 Improvement Corridor;
- Proposed I-69 Improvement Corridor; and
- Proposed I-530 Extension Improvement Corridor.

### MAJOR CORRIDOR PROJECTS

- Proposed Highway 49;
- Proposed Highway 65 North;
- Proposed Highway 65/82;
- Proposed Highway 67;
- Proposed Highway 79;
- Proposed Highway 167;
- Proposed North Belt; and
- Proposed Hot Springs Bypass.

Subsequent to the completed study analyses of the above Projects, various segments of the above projects were identified and designated for further analyses. These included the following:

#### SEGMENTATION PROJECTS

- Proposed Highway 71 Corridor
  - Bella Vista Bypass;
  - Interstate 40 to DeQueen;
  - Interstate 40 to Interstate 30;
  - Witcherville to Ashdown;
  - Fort Smith Bypass; and
  - Interstate 30 to Louisiana State Line.
  
- Proposed Highway 412 Corridor
  - Springdale Bypass;
  - Springdale Bypass West; and
  - Mountain Home to Walnut Ridge.
  
- Proposed Mississippi River Crossings
  - Proposed Highway 49;
  - Proposed Highway 79;
  - Proposed Highway 82; and
  - Proposed Great River Bridge (I-69).
  
- Proposed Alternative Projects
  - Proposed North Belt – U.S. 67/167 to I-40 West;
  - Proposed Highway 65N – U.S. 412 to Missouri State Line;
  - Proposed Highway 67 – Newport to Hoxie; and
  - Proposed I-530 Extension – Pine Bluff to U.S. 278.

The above project configurations were evaluated on a stand-alone basis without any phasing or variation in opening dates. The High Priority and Major Corridor projects were evaluated under a open and closed barrier system of toll collection. The Segmentation Projects were examined under a closed-barrier toll collection system only.

Subsequent to segmentation analysis six (6) projects were identified for further analysis under an Initial System Financing scenario. (Base Case Projects). These base case projects were identified due to their ability to support financial feasibility on a stand-alone basis or their high potential to do so. Presented in Tables ES-1 through ES-3 is a brief toll assessment summary of each proposed project.

Table ES-1  
Toll Assessment Summary  
High Priority Corridors, Major Corridors and Segmentation Projects

Route	Project Distance	Through Trip Per Mile Rate				Total Average Daily Transactions				Total Gross Toll Revenue (1)			
		Passenger Cars		Commercial Vehicles		2005		2025		2005		2025	
		2005	2025	2005	2025	Closed Barrier	Open Barrier (2)	Closed Barrier	Open Barrier (2)	Closed Barrier	Open Barrier (2)	Closed Barrier	Open Barrier (2)
<b>High Priority Corridors</b>													
Highway 71 - Missouri to Louisiana	293.9	\$0.041	\$0.071	\$0.092	\$0.163	73,100	47,800	126,600	80,800	\$49,461,000	\$41,623,800	\$140,869,000	\$123,515,200
Highway 412 - Oklahoma to Missouri	268.9	0.052	0.091	0.117	0.208	53,500	28,900	99,710	53,550	31,272,288	25,052,688	102,461,796	81,603,506
Highway 63 - I-55 to Jonesboro	46.4	0.043	0.087	0.109	0.196	41,700	37,200	63,690	56,320	8,911,749	8,112,855	26,055,233	23,897,280
I-69I-530 Ext. - Mississippi to Louisiana	171.5	0.039	0.058	0.087	0.136	29,900	27,600	39,520	37,130	13,541,500	12,880,850	28,900,518	27,689,265
<b>Major Corridors</b>													
Highway 49	184.0	0.052	0.091	0.118	0.209	11,100	6,300	20,430	12,170	3,501,947	2,572,566	11,990,706	9,272,779
Highway 65N	96.5	0.054	0.100	0.123	0.223	20,100	10,800	38,760	20,910	11,870,256	8,228,925	42,408,225	29,383,778
Highway 65/82	89.4	0.056	0.101	0.123	0.224	21,200	9,900	40,680	19,200	8,217,975	5,600,925	28,488,615	19,622,400
Highway 67	83.8	0.054	0.098	0.125	0.224	25,100	11,500	47,990	22,040	11,063,150	7,975,250	38,066,033	27,753,870
Highway 79	122.9	0.057	0.106	0.130	0.236	11,700	5,700	22,630	11,320	6,037,328	4,343,044	21,499,385	15,907,430
Highway 167	104.3	0.048	0.086	0.105	0.192	17,600	8,800	33,650	16,930	6,872,950	4,978,600	23,720,803	17,302,460
North Belt - I-40 East to I-40 West	16.8	0.089	0.149	0.208	0.327	58,600	38,600	106,300	74,000	17,819,300	13,384,550	55,452,625	41,865,500
Hot Springs Bypass	7.9	0.063	0.127	0.158	0.285	7,600	3,500	14,540	6,840	1,239,175	734,563	4,450,399	2,777,468
<b>Segmentation Projects</b>													
Highway 71													
Bella Vista Bypass	18.8	0.053	0.093	0.120	0.213	29,600	N/A	53,900	N/A	9,952,300	N/A	30,655,000	N/A
I-40 to DeQueen	122.0	0.049	0.086	0.111	0.197	31,200	N/A	50,100	N/A	23,071,700	N/A	62,383,000	N/A
I-40 to I-30	171.1	0.047	0.082	0.105	0.187	40,800	N/A	64,300	N/A	31,159,200	N/A	82,803,000	N/A
Wicherville to Ashdown	121.0	0.045	0.081	0.103	0.184	30,000	N/A	47,200	N/A	18,477,700	N/A	49,611,000	N/A
Fort Smith Bypass	19.7	0.051	0.089	0.114	0.203	16,600	N/A	27,300	N/A	6,524,400	N/A	17,822,000	N/A
I-30 to Louisiana State Line	29.0	0.069	0.121	0.155	0.276	7,300	N/A	14,200	N/A	3,709,400	N/A	12,227,000	N/A
Highway 412													
Springdale Bypass	16.5	0.061	0.121	0.152	0.273	13,700	N/A	26,030	N/A	2,925,931	N/A	10,102,561	N/A
Springdale Bypass West	8.0	0.063	0.125	0.156	0.281	3,600	N/A	6,840	N/A	804,825	N/A	2,793,071	N/A
Mountain Home to Walnut Ridge	97.0	0.044	0.077	0.103	0.178	9,400	N/A	17,390	N/A	5,328,088	N/A	17,280,971	N/A
<b>River Crossings (3)</b>													
Highway 49 - Mississippi River	5.8	2.00	3.50	4.50	8.00	6,700	N/A	12,540	N/A	5,808,063	N/A	19,109,393	N/A
Highway 79 - Mississippi River	15.2	2.00	3.50	4.50	8.00	500	N/A	950	N/A	433,438	N/A	1,447,681	N/A
Highway 62 - Mississippi River	3.2	2.00	3.50	4.50	8.00	6,000	N/A	11,400	N/A	5,475,000	N/A	18,308,400	N/A
I-69 - Mississippi River	23.3	2.00	3.50	4.50	8.00	1,900	N/A	3,100	N/A	1,733,750	N/A	4,978,600	N/A
<b>Alternative Segments</b>													
North Belt - Highway 67/167 to I-40 West	12.6	0.060	0.099	0.139	0.218	36,100	N/A	59,900	N/A	10,280,225	N/A	29,639,825	N/A
Highway 65N - Highway 412 to Missouri State Line	15.0	0.050	0.083	0.117	0.183	5,100	N/A	9,690	N/A	1,675,350	N/A	5,216,854	N/A
Highway 67 - Newport to Hoxie	40.6	0.049	0.086	0.111	0.197	16,600	N/A	31,540	N/A	4,931,150	N/A	16,623,195	N/A
I-530 Extension - Pine Bluff to Highway 278	42.6	0.035	0.070	0.082	0.164	5,600	N/A	7,900	N/A	1,741,506	N/A	4,886,894	N/A

(1) Annual toll revenue estimates do not reflect "ramp-up" in the opening year of 2005.  
 (2) Only the High Priority and Major Corridor projects were analyzed under an open barrier toll collection system.  
 (3) Per mile toll rates are not applicable for bridges. Proposed tolls are shown in the table for the river crossings.



**Table ES-2  
Net Toll Revenue Summary  
High Priority Corridors, Major Corridors and Segmentation Projects  
4-Lane Configuration and Closed Barrier System  
(thousands)**

Route	Capital Costs	Total Gross Toll Revenue (1)		Maintenance and Operation Costs		Reserve Maintenance Fund Deposits		Total Net Toll Revenue	
		2005	2025	2005	2025	2005	2025	2005	2025
<b>High Priority Corridors</b>									
Highway 71 - Missouri to Louisiana	\$2,152,916	\$34,623	\$140,869	\$30,015	\$59,724	\$4,090	\$4,090	\$518	\$77,055
Highway 412 - Oklahoma to Missouri	2,452,002	21,891	102,462	27,612	54,941	4,660	4,660	(10,381)	42,861
Highway 63 - I-55 to Jonesboro	109,096	8,744	26,055	5,807	11,556	210	210	2,727	14,289
I-69/I-530 Ext. - Mississippi to Louisiana	1,722,669	13,185	28,901	17,411	34,645	3,270	3,270	(7,496)	(9,014)
<b>Major Corridors</b>									
Highway 49	803,585	2,451	11,991	7,085	14,103	1,530	1,530	(6,164)	(3,642)
Highway 65N	1,070,098	8,309	42,406	10,075	20,051	2,060	2,060	(3,826)	20,295
Highway 65/82	1,091,660	5,753	26,489	11,399	22,681	2,070	2,070	(7,716)	3,738
Highway 67	500,293	7,744	38,066	9,439	18,780	940	940	(2,635)	18,346
Highway 79	1,474,203	4,226	21,499	14,174	28,201	2,800	2,800	(12,748)	(9,502)
Highway 167	958,884	4,811	23,721	11,471	22,827	1,820	1,820	(8,480)	(926)
North Belt - I-40 East to I-40 West	207,757	12,474	55,453	2,557	5,088	400	400	9,517	49,965
Hot Springs Bypass	100,676	867	4,450	1,153	2,294	190	190	(476)	1,966
<b>Segmentation Projects</b>									
<b>Highway 71</b>									
Bella Vista Bypass	173,084	6,967	30,655	2,723	5,416	290	290	3,954	24,949
I-40 to DeQueen	1,239,586	16,150	62,383	13,103	26,072	2,100	2,100	947	34,211
I-40 to I-30	1,640,163	21,894	82,803	17,837	35,487	2,780	2,780	1,277	44,536
Witcherville to Ashdown	1,186,849	12,934	49,611	12,688	25,247	2,010	2,010	(1,764)	22,354
Fort Smith Bypass	256,432	4,567	17,822	2,131	4,244	440	440	1,996	13,138
I-30 to Louisiana State Line	257,245	2,597	12,227	3,235	6,435	440	440	(1,078)	5,352
<b>Highway 412</b>									
Springdale Bypass	230,132	2,048	10,103	1,866	3,712	390	390	(208)	6,001
Springdale Bypass West	127,457	563	2,793	829	1,649	220	220	(486)	924
Mountain Home to Walnut Ridge	918,052	3,730	17,281	9,201	18,308	1,570	1,570	(7,041)	(2,597)
<b>River Crossings</b>									
Highway 49 - Mississippi River	348,017	4,066	19,109	815	1,625	600	600	2,651	16,884
Highway 79 - Mississippi River	472,116	303	1,448	1,592	3,169	810	810	(2,099)	(2,531)
Highway 82 - Mississippi River	280,369	3,833	18,308	598	1,193	480	480	2,755	16,635
I-69 - Mississippi River	449,981	1,643	4,979	2,263	4,503	770	770	(1,390)	(294)
<b>Alternative Segments</b>									
North Belt - Highway 67/167 to I-40 West	203,960	7,196	29,640	1,875	3,732	350	350	4,971	25,558
Highway 65N - Highway 412 to Missouri State Line	116,749	1,173	5,217	1,575	3,132	200	200	(602)	1,885
Highway 67 - Newport to Hoxie	223,741	3,452	16,623	4,695	9,341	380	380	(1,623)	6,902
I-530 Extension - Pine Bluff to Highway 278	391,538	1,643	4,887	4,528	9,013	670	670	(3,555)	(4,796)

(1) Gross annual toll revenue estimates have been adjusted to reflect "ramp-up" during the opening year of 2005.

**Table ES-3**  
**Net Toll Revenue Summary**  
**High Priority Corridors, Major Corridors and Segmentation Projects**  
**4-Lane Configuration and Open Barrier System (1)**  
**2-Lane Configuration and Closed Barrier System (2)**  
**(thousands)**

Route	Capital Costs	Total Gross Toll Revenue (3)		Maintenance and Operation Costs		Reserve Maintenance Fund Deposits		Total Net Toll Revenue	
		2005	2025	2005	2025	2005	2025	2005	2025
<b>High Priority Corridors (1)</b>									
Highway 71 - Missouri to Louisiana	\$2,135,929	\$29,137	\$117,339	\$26,355	\$52,442	\$4,060	\$4,060	(\$1,278)	\$60,837
Highway 412 - Oklahoma to Missouri	2,439,226	17,537	81,604	24,617	48,982	4,630	4,630	(11,710)	27,992
Highway 63 - I-55 to Jonesboro	106,029	8,026	23,898	5,142	10,232	200	200	2,684	13,466
I-69/I-530 Ext. - Mississippi to Louisiana	1,719,137	12,564	27,689	16,580	32,990	3,270	3,270	(7,286)	(8,571)
<b>Major Corridors (1)</b>									
Highway 49	797,450	1,801	9,273	5,754	11,446	1,500	1,500	(5,453)	(3,673)
Highway 65N	1,065,860	5,760	29,384	9,078	18,062	2,030	2,030	(5,348)	9,292
Highway 65/82	1,079,392	3,921	19,622	8,736	17,383	2,050	2,050	(6,865)	189
Highway 67	493,936	5,583	27,754	7,942	15,804	940	940	(3,299)	11,010
Highway 79	1,461,934	3,040	15,907	11,512	22,907	2,680	2,680	(11,152)	(9,680)
Highway 167	951,983	3,485	17,302	9,973	19,844	1,810	1,810	(8,298)	(4,352)
North Belt - I-40 East to I-40 West	205,457	9,369	41,866	2,058	4,099	390	390	6,921	37,377
Hot Springs Bypass	99,909	514	2,777	986	1,962	190	190	(662)	625
<b>Segmentation Projects (2)</b>									
Highway 71									
Bella Vista Bypass	106,668	6,967	30,655	2,442	4,860	180	180	4,345	25,615
I-40 to DeQueen	NA	NA	NA	NA	NA	NA	NA	NA	NA
I-40 to I-30	NA	NA	NA	NA	NA	NA	NA	NA	NA
Witcherville to Ashdown	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fort Smith Bypass	177,592	4,567	17,822	1,837	3,657	300	300	2,430	13,865
I-30 to Louisiana State Line	NA	NA	NA	NA	NA	NA	NA	NA	NA
Highway 412									
Springdale Bypass	143,003	2,048	10,103	1,620	3,225	250	250	178	6,628
Springdale Bypass West	76,163	563	2,793	710	1,417	130	130	(277)	1,246
Mountain Home to Walnut Ridge	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>River Crossings</b>									
Highway 49 - Mississippi River	NA	NA	NA	NA	NA	NA	NA	NA	NA
Highway 79 - Mississippi River	NA	NA	NA	NA	NA	NA	NA	NA	NA
Highway 82 - Mississippi River	NA	NA	NA	NA	NA	NA	NA	NA	NA
I-69 - Mississippi River	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Alternative Segments</b>									
North Belt - Highway 67/167 to I-40 West	NA	NA	NA	NA	NA	NA	NA	NA	NA
Highway 65N - Highway 412 to Missouri State Line	NA	NA	NA	NA	NA	NA	NA	NA	NA
Highway 67 - Newport to Hoxie	NA	NA	NA	NA	NA	NA	NA	NA	NA
I-530 Extension - Pine Bluff to Highway 278	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not available.

- (1) High Priority and Major Corridor projects were analyzed under a 4-lane configuration with an open barrier system.
- (2) Only selected Segmentation projects were analyzed under a 2-lane configuration with a closed barrier system. River crossings and Alternative Segments were not considered under a 2-lane configuration.
- (3) Gross annual toll revenue estimates have been adjusted to reflect "ramp-up" during the opening year of 2005.

## **FINANCIAL DISCUSSION OF INDIVIDUAL PROJECTS**

### **PROPOSED HIGHWAY 71 - MISSOURI TO LOUISIANA**

The Proposed Highway 71 project generates substantial net revenues available for debt amortization. However, due to the capital cost of this toll facility of approximately \$2.2 billion, the percentage of the project supported by revenues remains low at 21.20 percent in the closed-barrier scenario and 16.76 percent in the open-barrier scenario. This project is not financially feasible as a stand-alone toll supported project.

### **PROPOSED HIGHWAY 412 - OKLAHOMA TO MISSOURI**

This project has a capital cost of approximately \$2.4 billion. There are no anticipated net toll revenues available to support this size of project. This project is not financially feasible as a stand-alone toll supported project.

### **PROPOSED HIGHWAY 63 – I-55 TO JONESBORO**

The capital costs for Highway 63 are approximately \$109 million or \$106 million, depending on the closed or open-barrier configuration, and the net revenues available for debt service remain positive. However, the project does not achieve feasibility, with 71.97 percent supported in the closed-barrier scenario and 70.92 percent of the project costs supported in the open-barrier scenario. Although the Proposed Highway 63 Project is not financially feasible as a stand-alone toll supported project, it is the high-priority corridor project that on a relative basis, comes closest to financial feasibility.

### **PROPOSED INTERSTATE 69/I-530 EXTENSION**

The net revenues for the Proposed I-69/I-530 Extension project are actually negative for each year from 2005 – 2041. This obviously produces an impossible situation for a financing, as bonds can only be amortized in years where revenues are available. This \$1.7 billion project is not financially feasible as a stand-alone toll supported project having a negative net annual toll revenue in almost every year, thus estimated toll revenues support 0 percent of the project.

### **PROPOSED HIGHWAY 49 IMPROVEMENT CORRIDOR**

The Proposed Highway 49 Project has a capital cost of about \$804 million in the closed-barrier configuration and \$797 million in the open-barrier configuration. There is not a sufficient level of projected net toll revenues to fully fund this size of project. This project is not financially feasible as a stand-alone toll supported project. Estimated toll revenues support 0 percent of the project under either the closed or open barrier configuration.

### **PROPOSED HIGHWAY 65 NORTH IMPROVEMENT CORRIDOR**

This project generates net revenues available for debt amortization. However, due to the large capital cost of about \$1.070 billion in the closed-barrier configuration and \$1.066 billion in the open-barrier configuration, the percentage of the project supported by revenues remains very low (only 7.30 percent in the closed-barrier configuration and 0 percent in the open-barrier configuration). This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED HIGHWAY 65/82 IMPROVEMENT CORRIDOR**

The Proposed Highway 65/82 Project has a capital cost of about \$1.092 billion in the closed-barrier configuration and \$1.079 billion in the open-barrier configuration. There is not a sufficient level of projected net toll revenues to fully fund this size of project. This project is not financially feasible as a stand-alone toll supported project, having a negative net annual toll revenue in almost every year, thus estimated toll revenues support 0 percent of the project under either the closed or open barrier configuration.

#### **PROPOSED HIGHWAY 67 IMPROVEMENT CORRIDOR**

This project generates net revenues available for debt amortization. However, due to the large capital cost of about \$500 million in the closed-barrier configuration and \$494 million in the open-barrier configuration, the percentage of the project supported by revenues remains very low (only 16.78 percent in the closed-barrier configuration and 7.13 percent in the open-barrier configuration). This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED HIGHWAY 79 IMPROVEMENT CORRIDOR**

The Proposed Highway 79 Project has a capital cost of about \$1.474 billion in the closed-barrier configuration and \$1.462 billion in the open-barrier configuration. There is not a sufficient level of projected net toll revenues to fully fund this size of project. This project is not financially feasible as a stand-alone toll supported project, having a negative net annual toll revenue in almost every year, thus estimated toll revenues support 0 percent of the project under either the closed or open barrier configuration.

#### **PROPOSED HIGHWAY 167 IMPROVEMENT CORRIDOR**

The Proposed Highway 167 Project has a capital cost of about \$959 million in the closed-barrier configuration and \$952 million in the open-barrier configuration. There is not a sufficient level of projected net toll revenues to fully fund this size of project. This project is not financially feasible as a stand-alone toll supported project, having a negative net annual toll revenue in almost every year, thus estimated toll revenues support 0 percent of the project under either the closed or open barrier configuration.

#### **PROPOSED NORTH BELT IMPROVEMENT CORRIDOR (I-40 EAST TO I-40 WEST)**

The Proposed North Belt Project is the only major corridor project of those studied that does appear to be financially feasible. The percentage of the project supported by project revenues actually exceeds 100 percent. The significant annual revenues produced in the corridor, coupled with the relatively low capital costs of about \$208 million to complete the work appear to make this project financially feasible as a stand-alone toll supported project. However, it should be noted that a detailed, investment-grade traffic and revenue study would need to be completed before a financing could be completed for this project.

#### **PROPOSED HOT SPRINGS BYPASS IMPROVEMENT CORRIDOR**

This project generates net revenues available for debt amortization. However, even though the capital cost of about \$101 million in the closed-barrier configuration and \$100 million in the open-barrier configuration is fairly low, the percentage of the project supported by revenues remains very low (only 4.58 percent in the closed-barrier configuration and 0 percent in the

open-barrier configuration). This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED HIGHWAY 71 – BELLA VISTA BYPASS**

The Proposed Bella Vista Bypass appears to be financially feasible for both the two-lane and four-lane configuration. The percentage of the project supported by project revenues is 97.2 percent in the four-lane configuration and 163.0 percent in the two-lane configuration. The significant annual revenues produced in the corridor, coupled with the relatively low capital costs (\$173 million for the four-lane configuration and only \$107 million for the two-lane configuration) appear to make this project financially feasible as a stand-alone toll supported project. However, it should be noted that a detailed, investment-grade traffic and revenue study would need to be completed before a financing could be completed for this project.

#### **PROPOSED HIGHWAY 71 – I-40 TO DEQUEEN**

This project generates net revenues available for debt amortization. However, due to the large capital cost of about \$1.240 billion, the percentage of the project supported by revenues remains low (only 17.8 percent). This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED HIGHWAY 71 – I-40 TO I-30**

This project generates net revenues available for debt amortization. However, due to the large capital cost of about \$1.640 billion, the percentage of the project supported by revenues remains low (only 17.2 percent). This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED HIGHWAY 71 – WITCHERVILLE TO ASHDOWN**

The Proposed Witcherville to Ashdown segment has a capital cost of about \$1.187 billion. Anticipated revenues to fund this size of project are not generated by the projected toll charges. This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED HIGHWAY 71 – FORT SMITH BYPASS**

This project generates net revenues available for debt amortization. However, due to the large capital cost of \$256 million for the four-lane configuration and \$178 million for the two-lane configuration, the percentage of the project supported by revenues, remains low (only 34.2 percent for the four-lane configuration and 53.0 percent for the two-lane configuration). This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED HIGHWAY 71 – I-30 TO LOUISIANA**

The Proposed I-30 to Louisiana segment has a capital cost of about \$257 million. Anticipated revenues to fund this size of project are not generated by the projected toll charges. Only 7.75 percent of the project is supported by estimated toll revenue. This project is not financially feasible as a stand-alone toll supported project. Recently Congress made \$93.8 million available for construction of Highway 71. With these funds, the remaining cost for this section are approximately \$50 million. This may change the feasibility of the project, however, further study would be required if the Commission wanted to pursue tolling this section.

#### **PROPOSED HIGHWAY 412 – SPRINGDALE BYPASS**

This project generates net revenues available for debt amortization under this current analysis for both the two-lane and four-lane configurations. However, the percentage of the project supported by revenues remains low (only 27.6 percent in the two-lane configuration and only 14.5 percent in the four-lane configuration). This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED HIGHWAY 412 – SPRINGDALE BYPASS (I-540 TO HIGHWAY 412 WEST)**

The Proposed Springdale Bypass from I-540 to Highway 412 west has a capital cost of about \$127 million for the four-lane configuration and \$76 million for the two-lane configuration. Even with this relatively small capital cost, anticipated toll revenues to fund this size of project are not generated in either the two-lane or four-lane configuration. This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED HIGHWAY 412 – MOUNTAIN HOME TO WALNUT RIDGE**

The Proposed Mountain Home to Walnut Ridge segment has a capital cost of about \$918 million. Anticipated revenues to fund this size of project are not generated by the projected toll charges. The net toll revenues after payment of maintenance and operations are negative in every year even before considering debt service. This project is not financially feasible as a stand-alone toll project with estimated toll revenues supporting 0 percent of the project.

#### **PROPOSED MISSISSIPPI RIVER CROSSING – HIGHWAY 49**

This project generates net revenues available for debt amortization. However, the percentage of the project supported by revenues remains low (only 33.6 percent), primarily due to the relatively high capital cost of \$348 million. This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED MISSISSIPPI RIVER CROSSING – HIGHWAY 79**

The Proposed Highway 79 River Crossing has a capital cost of about \$472 million. Anticipated revenues to fund this size of project are not generated by the projected toll charges. The net toll revenues after payment of maintenance and operations are negative in every year even before considering debt service. This project is not financially feasible as a stand-alone toll project with estimated toll revenues supporting 0 percent of the project.

#### **PROPOSED MISSISSIPPI RIVER CROSSING – HIGHWAY 82**

This project generates net revenues available for debt amortization. However, the percentage of the project supported by revenues remains low (only 41.7 percent), primarily due to the relatively high capital cost of \$280 million. This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED MISSISSIPPI RIVER CROSSING – INTERSTATE 69**

The Proposed Interstate 69 River Crossing latest capital cost estimated by HNTB is about \$450 million. Anticipated revenues to fund this size of project are not generated by the projected toll charges. The net toll revenues after payment of maintenance and operations are negative in

every year even before considering debt service. This project is not financially feasible as a stand-alone toll project with estimated toll revenues supporting 0 percent of the project.

#### **PROPOSED NORTH BELT – U.S. 67/167 TO I-40 WEST**

The proposed North Belt appears to be very close to financial feasibility. The percentage of the project supported by project revenues is 85.9 percent. The significant annual revenues produced in the corridor, coupled with the relatively low capital costs of about \$204 million appear to make this project very close to financial feasibility as a stand-alone toll supported project. However, it should be noted that a detailed, investment-grade traffic and revenue study would need to be completed before a financing could be completed for this project.

#### **PROPOSED HIGHWAY 65N – U.S. 412 TO MISSOURI STATE LINE**

The Proposed Highway 65N has a capital cost of about \$117 million. Even with this relatively small capital cost, anticipated revenues to fund this size of project are not generated by the projected toll charges. This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED HIGHWAY 67 – NEWPORT TO HOXIE**

The Proposed Highway 67 has a capital cost of about \$224 million. Even with this relatively small capital cost, anticipated revenues to fund this size of project are not generated by the projected toll charges. This project is not financially feasible as a stand-alone toll supported project.

#### **PROPOSED I-530 EXTENSION – PINE BLUFF TO U.S. 278**

The Proposed I-530 Extension has a capital cost of about \$392 million. Anticipated revenues to fund this size of project are not generated by the projected toll charges. In fact, the net toll revenues after payment of maintenance and operations are negative in every year even before considering debt service. This project is not financially feasible as a stand-alone toll project with estimated toll revenues supporting 0 percent of the project.

Table ES-4 presents a financial assessment summary for each project.

### **SUMMARY OF TOLL ROAD SYSTEM FINANCING ANALYSIS**

Salomon Smith Barney (SSB) performed a toll-based system financing analysis which included combinations of the following six projects:

- Proposed Highway 63;
- Proposed North Belt (I-40 East to I-40 West);
- Proposed Highway 71 Bella Vista Bypass Segment;
- Proposed Highway 71 Ft. Smith Bypass Segment;
- Proposed Highway 49 Mississippi River Crossing; and
- Proposed Highway 82 Mississippi River Crossing.

**Table ES-4  
Financial Assessment Summary  
High Priority Corridors, Major Corridors and Segmentation Projects**

Route	Estimated Capital Cost (1)	Total Funds Available from Financing (2)	Total Funding Surplus (Shortfall)	Percentage of Project Supported by Estimated Revenues (4)	Years where Debt Service Can Not be Paid Due to Lack of Available Revenues	Project Status
<b>High Priority Corridors</b>						
Highway 71 - Missouri to Louisiana - Closed Barrier	\$2,153,000,000	\$456,419,427	(\$1,696,580,573)	21.20%	2006 - 2014	NOT Feasible
Highway 71 - Missouri to Louisiana - Open Barrier	2,136,000,000	357,890,375	(1,778,109,625)	16.76	2006 - 2014	NOT Feasible
Highway 412 - Oklahoma to Missouri - Closed Barrier	2,452,000,000	183,340,019	(2,268,659,981)	7.48	2005 - 2014	NOT Feasible
Highway 412 - Oklahoma to Missouri - Open Barrier	2,439,000,000	92,143,316	(2,346,856,684)	3.78	2005 - 2014	NOT Feasible
Highway 63 - I-55 to Jonesboro - Closed Barrier	109,000,000	78,450,231	(30,549,769)	71.97	2006 - 2014	NOT Feasible
Highway 63 - I-55 to Jonesboro - Open Barrier	106,000,000	75,175,993	(30,824,007)	70.92	2006 - 2014	NOT Feasible
I-69/I-530 Ext. - Mississippi to Louisiana - Closed Barrier	1,723,000,000	(3)	(1,723,000,000)	0.00	2005 - 2041	NOT Feasible
I-69/I-530 Ext. - Mississippi to Louisiana - Open Barrier	1,719,000,000	(3)	(1,719,000,000)	0.00	2005 - 2041	NOT Feasible
<b>Major Corridors</b>						
Highway 49 - Closed Barrier	804,000,000	(3)	(804,000,000)	0.00	2005 - 2041	NOT Feasible
Highway 49 - Open Barrier	797,000,000	(3)	(797,000,000)	0.00	2005 - 2041	NOT Feasible
Highway 65N - Closed Barrier	1,070,000,000	78,116,500	(991,883,500)	7.30	2005 - 2025	NOT Feasible
Highway 65N - Open Barrier	1,066,000,000	(3)	(1,066,000,000)	0.00	2005 - 2025	NOT Feasible
Highway 65/82 - Closed Barrier	1,092,000,000	(3)	(1,092,000,000)	0.00	2005 - 2025	NOT Feasible
Highway 65/82 - Open Barrier	1,079,000,000	(3)	(1,079,000,000)	0.00	2005 - 2041	NOT Feasible
Highway 67 - Closed Barrier	500,000,000	83,914,970	(416,085,030)	16.78	2005 - 2016	NOT Feasible
Highway 67 - Open Barrier	494,000,000	35,220,954	(458,779,046)	7.13	2005 - 2025	NOT Feasible
Highway 79 - Closed Barrier	1,474,000,000	(3)	(1,474,000,000)	0.00	2005 - 2041	NOT Feasible
Highway 79 - Open Barrier	1,462,000,000	(3)	(1,462,000,000)	0.00	2005 - 2041	NOT Feasible
Highway 167 - Closed Barrier	959,000,000	(3)	(959,000,000)	0.00	2005 - 2041	NOT Feasible
Highway 167 - Open Barrier	952,000,000	(3)	(952,000,000)	0.00	2005 - 2041	NOT Feasible
North Belt - I-40 East to I-40 West - Closed Barrier	208,000,000	338,382,269	130,382,269	162.67	2006 - 2014	Feasible
North Belt - I-40 East to I-40 West - Open Barrier	205,000,000	254,502,468	49,502,468	124.15	2006 - 2014	Feasible
Hot Springs Bypass - Closed Barrier	101,000,000	4,626,091	(96,373,909)	4.58	2005 - 2025	NOT Feasible
Hot Springs Bypass - Open Barrier	100,000,000	(3)	(100,000,000)	0.00	2005 - 2025	NOT Feasible
<b>Segmentation Projects</b>						
<b>Highway 71</b>						
Bella Vista Bypass 4 Lanes	173,000,000	168,184,565	(4,815,435)	97.22	2006 - 2014	Feasible
Bella Vista Bypass 2 Lanes	107,000,000	174,433,374	67,433,374	163.02	2006 - 2014	Feasible
I-40 to DeQueen	1,240,000,000	221,029,773	(1,018,970,227)	17.82	2006 - 2014	NOT Feasible
I-40 to I-30	1,640,000,000	282,463,696	(1,357,536,304)	17.22	2006 - 2014	NOT Feasible
Witcherville to Ashdown	1,187,000,000	122,520,625	(1,064,479,375)	10.32	2006 - 2014	NOT Feasible
Fort Smith Bypass 4 Lanes	256,000,000	87,589,555	(168,410,445)	34.21	2006 - 2014	NOT Feasible
Fort Smith Bypass 2 Lanes	178,000,000	94,402,531	(83,597,469)	53.04	2006 - 2014	NOT Feasible
I-30 to Louisiana State Line (5)	257,000,000	19,905,684	(237,094,316)	7.75	2006 - 2014	NOT Feasible
<b>Highway 412</b>						
Springdale Bypass 4 Lanes	230,000,000	33,417,995	(196,582,005)	14.53	2006 - 2014	NOT Feasible
Springdale Bypass 2 Lanes	143,000,000	39,395,329	(103,604,671)	27.55	2006 - 2014	NOT Feasible
Springdale Bypass West 4 Lanes	127,000,000	2,282,630	(124,717,370)	1.80	2005 - 2014	NOT Feasible
Springdale Bypass West 2 Lanes	76,000,000	5,374,721	(70,625,279)	7.07	2005 - 2014	NOT Feasible
Mountain Home to Walnut Ridge	918,000,000	(3)	(918,000,000)	0.00	2005 - 2041	NOT Feasible
<b>River Crossings</b>						
Highway 49	348,000,000	116,839,219	(231,160,781)	33.57	2006 - 2014	NOT Feasible
Highway 79	472,000,000	(3)	(472,000,000)	0.00	2005 - 2041	NOT Feasible
Highway 82	280,000,000	116,631,751	(163,368,249)	41.65	2005 - 2014	NOT Feasible
I-69	450,000,000	(3)	(450,000,000)	0.00	2006 - 2034	NOT Feasible
<b>Alternative Segments</b>						
North Belt - Highway 67/167 to I-40 West	204,000,000	175,317,407	(28,682,593)	85.94	2006 - 2014	Borderline Feasible
Highway 65N - Highway 412 to Missouri State Line	117,000,000	8,026,188	(108,973,812)	6.86	2005 - 2014	NOT Feasible
Highway 67 - Newport to Hooze	224,000,000	27,063,661	(196,936,339)	12.09	2005 - 2016	NOT Feasible
I-530 Extension - Pine Bluff to Highway 278	392,000,000	(3)	(392,000,000)	0.00	2005 - 2041	NOT Feasible

- (1) Estimates provided by HNTB and Garver Engineers to Wilbur Smith.
- (2) Total amount of funds available for construction that was produced in the financial analysis. This total accounts for the cash flow shortfalls in the early years that would be required to be made up from some other sources.
- (3) These projects have negative net annual toll revenues in almost every year, making a financing impossible.
- (4) Total construction funds produced in the financing divided by the estimated capital cost.
- (5) Congress recently made \$93.8 million available for construction of Highway 71 which may change the feasibility of this project. Further study would be required if the AHTD pursued tolling this section.

These six projects were selected from the initial larger group of projects because they were the most financially feasible projects that were studied. Each of these projects had an individual feasibility percentage of greater than 33 percent, with the North Belt corridor (I-40 East to I-40 West) having the highest feasibility percentage (163 percent). Several different combinations of these projects were analyzed using a system financing approach in order to determine which systems, if any, could be financially feasible. In a system financing, the excess revenues of one facility are pledged to support the construction of additional sections of the other facilities, thereby strengthening the overall system. The following systems were studied:

- Base Case – All Six Projects;
- Base Case 1A and 1B – North Belt Corridor (I-40 East to I-40 West), Highway 71 Bella Vista Bypass Segment, Highway 71 Fort Smith Bypass Segment; and
- Base Case 2 – North Belt Corridor (I-40 East to I-40 West), Highway 71 Bella Vista Bypass Segment.

**Table ES-5  
Project Feasibility Summary  
Base Case**

	<u>Toll Revenue Bonds</u>	<u>TIFIA Loan</u>	<u>AHTD TIP Funds</u>	<u>Total</u>
<b>SOURCES:</b>				
Par Amount of Bonds	765,328,694	134,568,242	0	899,896,936
AH&TD TIP	0	0	186,600,000	186,600,000
<b>Total Sources</b>	<b>765,328,694</b>	<b>134,568,242</b>	<b>186,600,000</b>	<b>1,086,496,936</b>
<b>USES:</b>				
Construction Fund Deposit	561,206,077	134,568,242	186,600,000	882,374,319
Capitalized Interest Fund Deposit	71,473,693	0	0	71,473,693
Debt Service Reserve Fund Deposit	76,532,869	0	0	76,532,869
Underwriter's Discount	11,479,930	0	0	11,479,930
Costs of Issuance	3,826,643	0	0	3,826,643
Municipal Bond Insurance	40,808,231	0	0	40,808,231
Contingency	1,250	0	0	1,250
<b>Total Uses</b>	<b>765,328,694</b>	<b>134,568,242</b>	<b>186,600,000</b>	<b>1,086,496,936</b>
<b>CONSTRUCTION FUND SUMMARY:</b>				
Total Construction Fund Draws	621,334,555	134,568,242	186,600,000	942,502,797
Total Cost of Project				1,374,000,000
Funding Surplus/(Shortfall)				(431,497,203)
Percentage of Project Supported				<b>68.6%</b>

In each of these financings, it was assumed that funds would be derived from three sources: Toll Revenue Bonds, which would have a first lien on net toll revenues, Transportation Infrastructure Finance and Innovation Act (TIFIA) Loan, would have a second lien on net toll revenues, and AHTD Statewide Transportation Improvement Program (STIP) Funds. Funds already programmed in the STIP for the projects studied, were considered as a source of funds.

The Base Case produces a significant shortfall in the amount of funding needed to complete this system (\$431.5 million), producing a feasibility percentage of only 68.6 percent. The Base Case suffers primarily from the low feasibility of the two Mississippi River crossings, which have relatively high capital costs and low toll revenues generated. This system does not appear to be financially feasible.

In order to improve feasibility, the Mississippi River crossings were removed in Base Case 1A. The Highway 63 Corridor was also removed. The shortfall is significantly reduced in this system, decreasing to \$93.7 million, and the feasibility percentage is improved to 85.3 percent. With an additional source of funding to cover the 14.7 percent shortfall, this system could potentially be feasible. Additionally, because this system is relatively close to financial feasibility, a more refined analysis of the system's costs and toll revenues may allow this system to become financially feasible.

**Table ES-6  
Summary of Funding Sources  
Base Case 1A**

	<u>Toll Revenue Bonds</u>	<u>TIFIA Loan</u>	<u>AHTD TIP Funds</u>	<u>Total</u>
<b>SOURCES:</b>				
Par Amount of Bonds	494,472,397	86,497,148	0	580,969,545
AH&TD TIP	0	0	57,500,000	57,500,000
<b>Total Sources</b>	<b>494,472,397</b>	<b>86,497,148</b>	<b>57,500,000</b>	<b>638,469,545</b>
<b>USES:</b>				
Construction Fund Deposit	360,671,225	86,497,148	57,500,000	504,668,373
Capitalized Interest Fund Deposit	47,962,816	0	0	47,962,816
Debt Service Reserve Fund Deposit	49,447,240	0	0	49,447,240
Underwriter's Discount	7,417,086	0	0	7,417,086
Costs of Issuance	2,472,362	0	0	2,472,362
Municipal Bond Insurance	26,500,527	0	0	26,500,527
Contingency	1,141	0	0	1,141
<b>Total Uses</b>	<b>494,472,397</b>	<b>86,497,148</b>	<b>57,500,000</b>	<b>638,469,545</b>
<b>CONSTRUCTION FUND SUMMARY:</b>				
Total Construction Fund Draws	399,308,315	86,497,148	57,500,000	543,305,464
Total Cost of Project				637,000,000
Funding Surplus/(Shortfall)				(93,694,536)
Percentage of Project Supported				<b>85.3%</b>

Base Case 1B is pushed even closer to financial feasibility, as this case would involve a gross pledge of AHTD to pay operations and maintenance (O&M) for the first ten years of operations. This reduces the pressure during the early “ramp-up” years of the toll system, allowing the financing proceeds to increase by about \$61 million. This reduces the shortfall to \$32.3 million and increases the feasibility percentage to 94.9 percent. Although AHTD would have to pay approximately \$46.5 million to support O&M of the toll system during the first ten years of operations of the system in our analysis, AHTD would be repaid fully by 2019. This gross pledge makes Base Case 1B financially feasible.

**Table ES-7  
Project Feasibility Summary  
Base Case 1B**

	<u>Toll Revenue Bonds</u>	<u>TIFIA Loan</u>	<u>AHTD TIP Funds</u>	<u>Total</u>
<b>SOURCES:</b>				
Par Amount of Bonds	528,858,811	110,760,023	0	639,618,834
AH&TD TIP	0	0	57,500,000	57,500,000
<b>Total Sources</b>	<b>528,858,811</b>	<b>110,760,023</b>	<b>57,500,000</b>	<b>697,118,834</b>
<b>USES:</b>				
Construction Fund Deposit	394,341,074	110,760,023	57,500,000	562,601,097
Capitalized Interest Fund Deposit	43,772,307	0	0	43,772,307
Debt Service Reserve Fund Deposit	52,885,881	0	0	52,885,881
Underwriter's Discount	7,932,882	0	0	7,932,882
Costs of Issuance	2,644,294	0	0	2,644,294
Municipal Bond Insurance	27,281,123	0	0	27,281,123
Contingency	1,250	0	0	1,250
<b>Total Uses</b>	<b>528,858,811</b>	<b>110,760,023</b>	<b>57,500,000</b>	<b>697,118,834</b>
<b>CONSTRUCTION FUND SUMMARY:</b>				
Total Construction Fund Draws	436,452,438	110,760,023	57,500,000	604,712,461
Total Cost of Project				637,000,000
Funding Surplus/(Shortfall)				(32,287,539)
Percentage of Project Supported				<b>94.9%</b>

Base Case 2 includes only the North Belt Corridor and the Bella Vista Bypass Segment of Highway 71 in this system. As these two projects were the most financially feasible on an individual basis, it stands to reason that the combination of these projects would be financially feasible. The TIFIA loan is reduced to almost zero in this system financing, with the AHTD STIP funds and the toll revenue bonds providing the necessary funds to construct this system. In an actual financing, less debt based on toll revenues would be issued and a larger TIFIA loan utilized in order to improve debt service coverage on the toll revenue bonds to achieve a higher rating, thereby reducing borrowing costs.

**Table ES-8**  
**Project Feasibility Summary**  
**Base Case 2**

	<u>Toll Revenue Bonds</u>	<u>TIFIA Loan</u>	<u>AHTD TIP Funds</u>	<u>Total</u>
<b>SOURCES:</b>				
Par Amount of Bonds	420,208,197	2,145,406	0	422,353,603
AH&TD TIP	0	0	39,400,000	39,400,000
<b>Total Sources</b>	<b>420,208,197</b>	<b>2,145,406</b>	<b>39,400,000</b>	<b>461,753,603</b>
<b>USES:</b>				
Construction Fund Deposit	306,606,061	2,145,406	39,400,000	348,151,468
Capitalized Interest Fund Deposit	40,632,348	0	0	40,632,348
Debt Service Reserve Fund Deposit	42,020,820	0	0	42,020,820
Underwriter's Discount	6,303,123	0	0	6,303,123
Costs of Issuance	2,101,041	0	0	2,101,041
Municipal Bond Insurance	22,543,554	0	0	22,543,554
Contingency	1,250	0	0	1,250
<b>Total Uses</b>	<b>420,208,197</b>	<b>2,145,406</b>	<b>39,400,000</b>	<b>461,753,603</b>
<b>CONSTRUCTION FUND SUMMARY:</b>				
Total Construction Fund Draws	339,456,304	2,145,406	39,400,000	381,001,711
Total Cost of Project				381,000,000
Funding Surplus/(Shortfall)				1,711
Percentage of Project Supported				<b>100.0%</b>

## INNOVATIVE FINANCING SUMMARY

The traditional model for funding highway projects is to pay for projects as funds become available, a method commonly referred to as Pay-As-You-Go Financing. The primary sources of funding for highway projects are the Federal-aid reimbursement program, with the Federal government typically funding approximately 80 percent of federally eligible projects and the state funding the remaining 20 percent, and from 100 percent state highway revenue. States generate highway revenues from a variety of sources (including such sources as motor fuel taxes, sales taxes, and vehicle registration fees) to pay for projects. If a state exclusively uses Pay-As-You-Go Financing, then the projects that a state can complete in a given year are constrained by the amount of funding that is available in that year. This constraint delays projects, resulting in unmet transportation needs and economic development goals. The Statewide Transportation Improvement Program (STIP) is the planning and financial document that documents the capital program.

Innovative financing techniques, broadly defined, include any method that allows a state to increase the current funds available or generate additional funds for highway projects from non-traditional sources. The two basic methods used to increase current funds available involve (1) generating additional revenue from a non-state or federal resource or (2) leveraging anticipated future federal or state revenues. The primary examples of these methods that generate additional funds or capital include toll road financing and the Federal Transportation Infrastructure Finance and Innovation Act (TIFIA) loan program. Since both sources are loans, as differentiated from grants, which are a form of user fees, toll revenues will be required to pay principal and interest. In the absence of toll revenues or other project-based revenues, taxes whether excise or real property would be a required source of dedicated revenues in order to be eligible for a TIFIA loan. The primary examples of techniques that leverage anticipated future federal or state revenues include state highway revenue bonds, Federal Grant Anticipation Revenue Vehicle (GARVEE) bonds, and Transportation Improvement Districts (TIDs). These innovative financing techniques, along with a few others, are detailed below, along with the impact that each of the techniques may have on existing Federal or State funding for highways. At the end of this section, a chart is presented that summarizes each of the innovative financing techniques.

Each of the financing options require federal, state, or local statutory authority to implement, and have been used over the past 50 years in the capital markets. Toll roads began to gain their popularity in the late 1940s prior to the enactment of the Interstate Program, particularly in the congested Northeast and Central states, but have more recently broadened their application to the south, west, and southwest. Since the 1970s, states have been leveraging their state revenue sources by issuing debt for transportation projects secured by state and federal revenues. Federal statutory amendments in 1991, 1995, and 1998 permitted both Federal highway and transit funds to be used to pay debt service as a new option.

#### **TOLL ROAD FINANCING**

It is obvious that if tolls are collected on new lanes or a new road, then additional revenues will be generated above and beyond any state or federal highway program receipts. With proper planning and if a proposed toll road satisfies certain financial market conditions, then a highway improvement can be constructed using proceeds from a bond issue that is at least partially secured by toll revenues. In the body of the Report, options are presented to the Arkansas State Highway Commission (AHC) concerning segments of various roads that should achieve economic feasibility currently as toll projects.

Developing a toll road does not impact the federal highway funding received by a state. However, the amount of total highway funds available could be impacted positively, even if the state supports a toll road by providing operating and maintenance costs or paying for a portion of the construction of a toll road, if the road originally was planned to be built solely relying upon state funds or state and federal funds. The state would have to properly assess traffic and finance factors for the toll road in order to ascertain the level of state support needed and the impact to the state's on-going highway programs.

Throughout the Project Team's discussions with the AHC and the AHTD several legal issues related to tolls in Arkansas have been discussed and assessed. In order for the state to develop a

toll road system and issue toll revenue bonds, there is a consensus that new state legislation needs to be adopted which would replace the existing statutory language currently in Arkansas transportation law. The Project Team has proposed that this legislation establish a toll authority, as a subsidiary of AHC, and authorize the collection of tolls on certain types of improvements in the State. In addition, various legal provisions are required allowing for the administration of the new toll authority, the enforcement of toll collection violations and the policing of toll roads by state or local agencies.

### **TIFIA**

The federal government provides a funding option for certain highway projects through the Transportation Infrastructure Financing and Innovation Act (TIFIA) program, which is administered by the Federal Highway Administration (FHWA). This program was created by TEA-21 to provide loans, lines of credit, and loan guarantees that are secured by a second lien on a project or user fee or dedicated revenues. In the case of a TIFIA loan, the minimum coverage requirement may potentially be as low as 1.10 times debt service, the project must have an investment-grade rating, and the loan can have a final maturity of up to 35 years after project construction is substantially complete. The borrowing rate for a TIFIA Loan is the rate of the comparable United States Treasury Security at the time of the loan commitment, plus five basis points for servicing by the USDOT. However, a TIFIA loan can only be for up to one-third of the cost of the project, the project must be on the Statewide Transportation Improvement Program (STIP), and the project must cost at least \$100 million. The TIFIA program provides an alternative source for capital, leverages private investment with public support, and can integrate up to three levels of government and the private sector.

A TIFIA loan or line of credit does not impact the level of federal highway funding received by a State under the federal-aid highway program. In fact, a TIFIA loan provides federal funding above and beyond what is normally received through the federal-aid highway program providing additional capital through loans. The TIFIA program is a competitive, application-based process which requires a dedicated revenue source to repay a loan, guarantee, or line of credit.

### **HIGHWAY REVENUE BONDS**

Arkansas, like many other states, has a state motor fuel tax and various user fees that are used primarily to provide for roadway maintenance, rehabilitation, and construction. Amendment 65 to the Arkansas Constitution provides that the AHC is authorized to issue revenue bonds. However, the repayment for the debt shall not include these specific taxes. This restriction currently prohibits the AHC from securing debt with motor fuel taxes. There are currently 24 states that have issued highway revenue bonds, with the bonds typically secured by state highway user tax and/or sales taxes such as motor fuel taxes, motor vehicle registration fees, motor vehicle license fees, and traffic penalties and fines.

The State should consider legislation and an ensuring constitutional amendment to provide the AHC with the discretion to authorize the development and issuance of a highway revenue bond program leveraging motor fuel taxes and other fees or sales taxes which can be used in conjunction with the financing of toll facilities or for non-toll roads. This additional financing option will provide the AHC and the Department with an additional mechanism to improve the

feasibility of potential toll projects and/or address the reconstruction/modernization/expansion of existing facilities as well as undertake new major road projects.

The issuance of highway revenue bonds can be used as a tool to manage large highway projects and complete them more quickly. For example, a \$500 million project that would take ten years to complete by paying \$50 million per year using a Pay-As-You-Go financing method could potentially be completed in two years using bond proceeds from a highway revenue bond issue. Construction cost savings are generated since the projects can be completed more quickly, offsetting inflationary increases. The debt from a roughly \$500 million bond issue could be paid off over the next 10 to 20 years using state highway funds however, as mentioned above this would require statutory change. Also, since highway improvements typically have a useful life anywhere from 10 to 30 years or longer, bonds that have a 20-year maturity accurately match the average lives of the assets and liabilities of the highway department, and is the maturity used most often with highway revenue bonds. Highway revenue bonds do not produce greater resources. In fact, they reduce funds available to the remainder of the system. However, this concept permits earlier completion of projects with some level of construction cost savings, offsetting the interest cost of the debt.

Issuing highway revenue bonds has no impact on the level of federal highway funding received.

#### **GARVEE BONDS**

Arkansas has been an active participant in leveraging Federal Highway Administration funds. The State of Arkansas has already issued \$595 million of Grant Anticipation Revenue Vehicle (GARVEE) bonds, issuing \$175 million in March 2000, \$185 million in July 2001 and \$215 million in July 2002. GARVEE bonds allow for the leveraging of future federal highway funds by borrowing against anticipated future federal-aid. In Arkansas, the current GARVEE bond proceeds can only be used to fund Interstate rehabilitation projects since only future Interstate Maintenance funds are used to repay the debt.

Issuing GARVEE bonds has no impact on the level of federal highway funding received. However, a portion of future federal highway funding must be used to pay debt service on the GARVEE bonds, thereby reducing the amount of federal highway funding that will be available for future highway projects. If the State issued a high amount of GARVEEs when compared to its annual federal highway reimbursements, then the on-going cash funded capital improvement program will be impacted in the future, affecting projects planned to be constructed on a Pay-As-You-Go basis.

The economic and transportation benefits mentioned for state revenue supported highway revenue bonds are also attributable to federally secured GARVEE debt. It should be noted that a vote of the people of the state of Arkansas is required if federal funds or state highway revenues are to be used to pay back bonds.

#### **SECTION 129 LOANS TO TOLL PROJECTS**

Under Section 129 of Title 23, a state department of transportation can make loans from current, authorized, and future federal-Aid funds to a toll project or a non-toll project. The source of

these loans are eligible federal-Aid programs such as the National Highway System, Surface Transportation, and/or Bridge programs. These loans are often made in order to support the construction of a toll or non-toll project, especially during the early years or “ramp-up” period where toll collection revenues are often too low to support the repayment of debt. There is a cash flow impact on the State Department of Transportation in the years the loan is drawn. However, the loan can then be paid back to the State Department of Transportation with excess toll collection revenues in later years when the toll road has stabilized and is self-sufficient and generates interest income to the department.

An example of this type of loan is State Highway 190 in Texas (also known as the President George Bush Turnpike), which is a 26.4 mile toll road around the northern suburbs of Dallas connecting two interstates and the Dallas North Tollway. The toll project was financed in 1995 with \$446 million of toll road revenue bonds and a \$135 million loan of FHWA funds from the Texas Department of Transportation (TxDOT) to the Texas Turnpike Authority. Without the loan from TxDOT, the project would not have been feasible. The loan will save over \$180 million in debt service costs for the project, and the repayments of the \$135 million loan will generate over \$185 million to TxDOT for future projects in Texas. The loan repayments to TxDOT exceed the original loan amount and can be used for any eligible transportation project in Texas and are free of most federal restrictions.

#### **OTHER STATE MODELS**

Another financing model has been developed by South Carolina for the development of toll projects in that state. This model does not rely upon a system financing structure where one state-wide toll authority is authorized to develop toll projects throughout the state, and revenues are shared among all toll projects, thereby creating a stronger revenue pledge as security for the toll revenue bonds.

Rather, in South Carolina each toll project is developed as a distinct, separate project under a not-for-profit corporate structure and revenues are not shared. In addition to toll revenues, some South Carolina projects are supported by county-wide sales tax revenues. To secure this revenue pledge, a county referendum is required. Certain projects are also supported by leveraging of future FHWA funds coupled with a back-up pledge of the State’s general obligation.

The South Carolina model is not a structure that this project team recommends to Arkansas. We believe that a system approach produces a potentially higher rated toll revenue bond credit for the capital markets and permits a more efficient, less costly method of future expansion of the toll system without the requirement for county subsidization.

#### **TRANSPORTATION IMPROVEMENT DISTRICTS (TIDs)**

Transportation Improvement Districts (TIDs) are established by local governments in order to fund highway and road projects in the local area. Often, a TID will establish a sales tax or a real property tax within the TID, and revenues from these taxes will be used to secure bonds issued by the TID for project development. In this way, a local government can raise funds to pay for all or a portion of a road project that is desired by residents in the area. Ohio has led the effort to

expand this financing concept, using a combination of debt supported by GARVEEs and state funds and local TID debt.

The creation of a TID, and the issuance of bonds supported by taxes within a TID, does not impact the level of federal highway funding received, yet can stretch the dollar impact of federal and state resources.

Arkansas statutes, Arkansas Code Ann. 14-317-100, provides a legal framework for the establishment of road improvement districts by one or more counties. However, the approval process and the financial structure are difficult to implement and burdensome to property owners in the district. These obstacles make the development of this option very unlikely.

Legislation to revise and reform the current statute to enable the complementation of TIDs in a practical and efficient method should be considered.

#### **LOCAL PARTICIPATION**

Local governments can also participate in funding portions of highway projects in other ways. Local governments can use cash or debt to contribute to project development. For example, in Texas, local governments are required to contribute a portion up to the entire amount of the right-of-way costs for a project in their service area. In the August 2002 financing of the Central Texas Turnpike Project, a total of \$487 million in right-of-way costs were contributed by the counties and cities benefiting from the project. In Arizona, if a county is willing to pay 50 percent of the interest debt service cost for a project, then the Arizona DOT will accelerate the completion of the project through issuing GARVEE bonds. Both of these states will elevate the STIP prioritization if a county or city contributes an amount above the minimum required since less state DOT resources are used.

With the considerable costs of the large high priority corridor and major corridor projects in Arkansas that were evaluated by this study, assembling many financing partners is a necessity for the development of these complex and costly transportation projects. The State should consider legislation to authorize counties, cities, and other levels of local governments to participate in the funding of large transportation project above certain minimum threshold project cost amounts. The local units of government could be authorized to donate funds or purchase right-of-way and then donate the land to the project.

#### **STATE INFRASTRUCTURE BANKS (SIBs)**

In 1995, the National Highway System Designation Act (Section 350) established the State Infrastructure Bank (SIB) pilot program. Since then, 32 States, including Arkansas, have entered into 245 loan agreements with a dollar value of over \$2.9 billion (as of September 2001). Arkansas has entered into one loan agreement for \$31,000. However, SIBs have been hampered by the inability since 1997, except for five states, to continue to use federal funds to capitalize their SIB.

SIBs are designed to complement traditional transportation funding programs by giving states significantly increased flexibility in project selection and financial management. SIBs are capitalized with state funds, or formerly with federal seed money, and are often used to create a self-sustaining revolving loan and credit enhancement program, leveraging funds for transportation purposes. SIBs can offer a menu of loans and credit enhancement assistance (such as lines of credit) to projects.

SIBs do not have any impact on the amount of Federal funding received by a state, or state funding available for transportation projects, until loans are repaid. However, SIBs provide an internal mechanism to increase state funding capacity for transportation projects through better leveraging state and federal funds. Through a leveraged revolving loan fund, principal and interest is repaid to AHTD and can be reloaned to additional projects. If the SIB is also empowered to issue debt, leveraging can be increased by multiples.

#### **DESIGN-BUILD**

Design-Build is a method of project development in which a single entity provides to the client/project owner all of the services required to concurrently design and construct a project with a guaranteed price development contract. Often, a Design-Build team is assembled involving several different construction and engineering firms, but there is one single entity responsible for project design, construction, and management. The threshold contract amount is for projects larger than \$150 million.

While the Design-Build process does not generate new funds or more funds, it can permit faster completion of projects, allegedly generating cost savings through reducing inflationary increases through a faster completion. In addition, Design-Build projects frequently involve an equity contribution, an actual cash investment from the Design-Build team, normally in the range of 2 percent to 5 percent of project costs.

Current Arkansas procurement statutes do not permit design-build due to the requirement for "low-bid" construction bidding. Legislation is required to allow for the design-build process in Arkansas.

Table ES-9 summarizes the various innovative finance techniques discussed.

**Table ES-9**  
**Summary of Innovative Finance Techniques**

<b>Option</b>	<b>Dollar Impact on Current Federal/State Funds</b>	<b>Statutory Authority</b>
Toll Road Financing	Toll financing generates new funds for projects that would be funded by current federal or state sources.	New updated State legislation would be helpful.
TIFIA	Positive (additional Federal funds obtained but are a loan and will have to be paid back with interest).	No legislative action needed. Competitive application process for TIFIA loan with FHWA.
Highway Revenue Bonds	Future state revenues reduced by debt service on State Highway Bonds. No impact on Federal funds.	Constitutional and State legislation required.
GARVEE Bonds	Future Federal funds reduced by debt service on GARVEE bonds. No impact on State funds.	Already authorized in Arkansas. Limited to interstate modernization and rehabilitation.
Sec. 129 Loans to Toll Projects	Reduction in States federal highway funds in year of loan. Increase in state funds when loan repaid.	See Toll Road Financing above.
TIDs	None. (additional local funds generated).	Revised State legislation required.
Local Participation	None (additional local funds generated).	Revised State legislation required.
SIBs	Since Federal seed money can no longer be used-any state funds used will have an impact on state revenues available for the state funding portion of the STIP unless the SIB is financing projects already in the STIP.	Arkansas already has created a SIB.
Design-Build	Design-Build does not deliver any additional state or federal funds, but the process can expedite project completion which may save construction costs.	State legislation required.

## CONCLUSION

It can be concluded that, based upon the WSA, HNTB, and GE estimates for each of the corridors addressed in the study, the proposed projects are not feasible under pure toll financed debt structures. The revenues do not produce sufficient annual amounts to pay operating and maintenance expenses and cover debt service for approximately the first ten years of each project's operation. The debt issued for each project will fail the fundamental rating agency criteria for a minimum investment-grade rating of the proposed debt. In addition, the construction proceeds generated from each financing do not produce sufficient revenues to fund the estimated construction and right-of-way costs.

It should be recognized, however, that while these projects are not financially feasible on a stand-alone basis, each of them may potentially be implemented employing innovative financing techniques, phasing of project construction, and identification of specific constructible portions of each corridor which may be able to support a financing effort. All of these issues, including the development of system financing whereby the excess revenues of one facility are pledged to support the construction of additional sections of the other facilities were evaluated for all the project corridors.

We can conclude that, based on our assumptions and the data that has been provided to us, that Base Case 1A and Base Case 1B are nearly financially feasible, and that Base Case 2 is financially feasible. If AHTD were to pursue any of these system financings, particularly Base Case 2, involving North Belt Corridor (I-40 West – I-40 East) and Highway 71 - Bella Vista Bypass Segment only, it appears that financings could be arranged that secure the necessary funds to construct and operate these systems. It should be noted that a detailed, investment-grade traffic and revenue study will need to be completed before a financing is completed for any of the systems proposed.

Given the limited financial resources of the AHTD, the consultants believe that a strategic implementation of feasible toll projects can both generate additional resources and accelerate the completion of planned segments that would normally be delayed into the distant future. In this Report and in the five oral presentations to the Commission and the Department, a number of corridors and segments have been evaluated and financing opportunities presented. If properly implemented, the proposed toll projects will initiate a system and in the future generate surplus revenues that can be used to expand the toll system. If a competent team comprised of traffic engineers with conservative revenue forecasts and civil engineers with accurate construction cost estimates, and investment bankers with experience in financing toll projects are used, and the projects can generate surplus revenue after paying principal and interest, operation and maintenance, and reserves, only then may surplus reserves be used for future projects.

Without some level of additional federal resources, the expanded use of federally secured debt will have an impact upon the Pay-As-You-Go federal-aid portion of the Department's STIP. Similarly, without additional state resources, a highway revenue bond program, while an important additional funding tool, will also have a negative impact on the Pay-As-You-Go

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portion of the STIP. The other options discussed, such as TIDs, SIBs, local participation, etc., can bring additional resources to transportation or complement current AHTD funds.

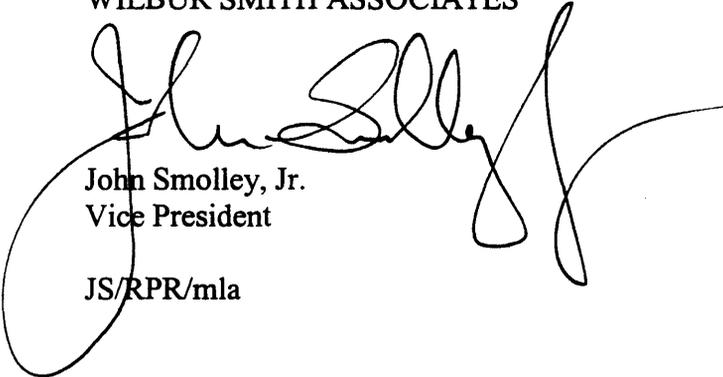
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Current professional practices and procedures were used in the development of these findings. However, there is considerable uncertainty inherent in future traffic and revenue forecasts for any toll facility. There may sometimes be differences between forecasted and actual results caused by events and circumstances beyond the control of the forecasters. These differences could be material. Also, it should be recognized that traffic and revenue forecasts in this document are preliminary estimates and are intended to reflect the overall estimated long-term trend. Actual experience in any given year may vary due to economic conditions and other factors.

Our project managers Raymond P. Richard, Paul M. Marcella and Robert J. Torello, and other members of the WSA study team, greatly acknowledge the assistance provided by the AHTD staff. We sincerely appreciate the opportunity to participate in this important analysis, and stand ready to assist the AHTD on future projects.

Respectfully submitted,

WILBUR SMITH ASSOCIATES



John Smolley, Jr.  
Vice President

JS/RPR/mla