



FY 2017/2018 INFRA GRANT APPLICATION

INTERSTATE 30 NATIONAL FREIGHT CORRIDOR IMPROVEMENTS

FY 2017/2017 INFRA Grant Application

Project Name	Interstate 30 National Freight Corridor Improvements
Was an INFRA application for this project submitted previously?	Yes. This application has been updated to reflect new program objectives and necessary changes in project scope.
If yes, what was the name of the project in the previous application?	Interstate 30 National Freight Corridor Improvements
Previously Incurred Project Cost	\$22.2 million
Future Eligible Project Cost	\$609.5 million
Total Project Cost	\$631.7 million
INFRA Request	\$100 million
Total Federal Funding (including INFRA)	\$192.2 million
Are matching funds restricted to a specific project component? If so, which?	No
Is the project or a portion of the project currently located on the National Highway Freight Network?	Yes
Is the project or a portion of the project located on the NHS? <ul style="list-style-type: none"> • Does the project add capacity to the Interstate System? • Is the project in a national scenic area? 	<ul style="list-style-type: none"> • National Highway System – Yes • Interstate Capacity – Yes • National Scenic Area – No
Do the project components include a railway-highway grade crossing or grade separation project? <ul style="list-style-type: none"> • If so, please include the grade crossing ID. 	Yes, the project will replace the existing highway bridges over a major Union Pacific Railroad yard. DOT #433850L, DOT #433849S
Do the project components include an intermodal or freight rail project, or freight project within the boundaries of a public or private freight rail, water (including ports), or intermodal facility?	No
If answered yes to either of the two component questions above, how much of requested INFRA funds will be spent on each of these project components?	\$40 million (40% of INFRA funds)
State(s) in which project is located	Arkansas
Small or large project	Large
Urbanized Area in which project is located, if applicable	The project is located in the Little Rock/North Little Rock, AR Urbanized Area.
Population of Urbanized Area	431,388
Is the project currently programmed in the: <ul style="list-style-type: none"> • TIP • STIP • MPO Long Range Transportation Plan • State Long Range Transportation Plan • State Freight Plan? 	<ul style="list-style-type: none"> • TIP – Yes, CARTS TIP • STIP – Yes • MPO LRTP – Yes, CARTS MTP • State LRTP – The Arkansas LRTP is not project specific. • SFP – No. However, this project is located on the Arkansas Freight Highway Network.
If selected, would you be interested in participating in a new environmental review and permitting approach?	The project utilized the Planning and Environmental Linkage process to accelerate project delivery. Currently, environmental review and permitting activities are nearly complete for this project.

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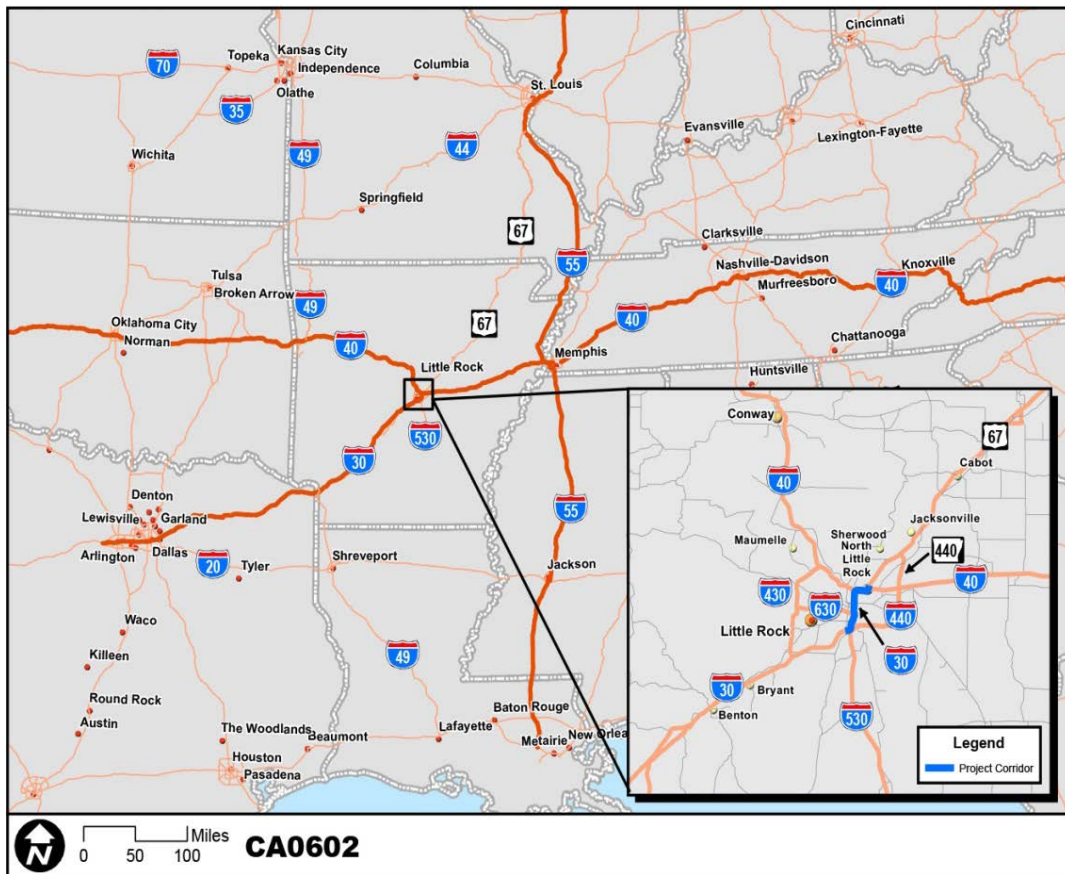
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¹ Supporting materials for this application are available at: <http://www.ardot.gov/INFRA/INFRA2017.aspx>.

I. PROJECT DESCRIPTION

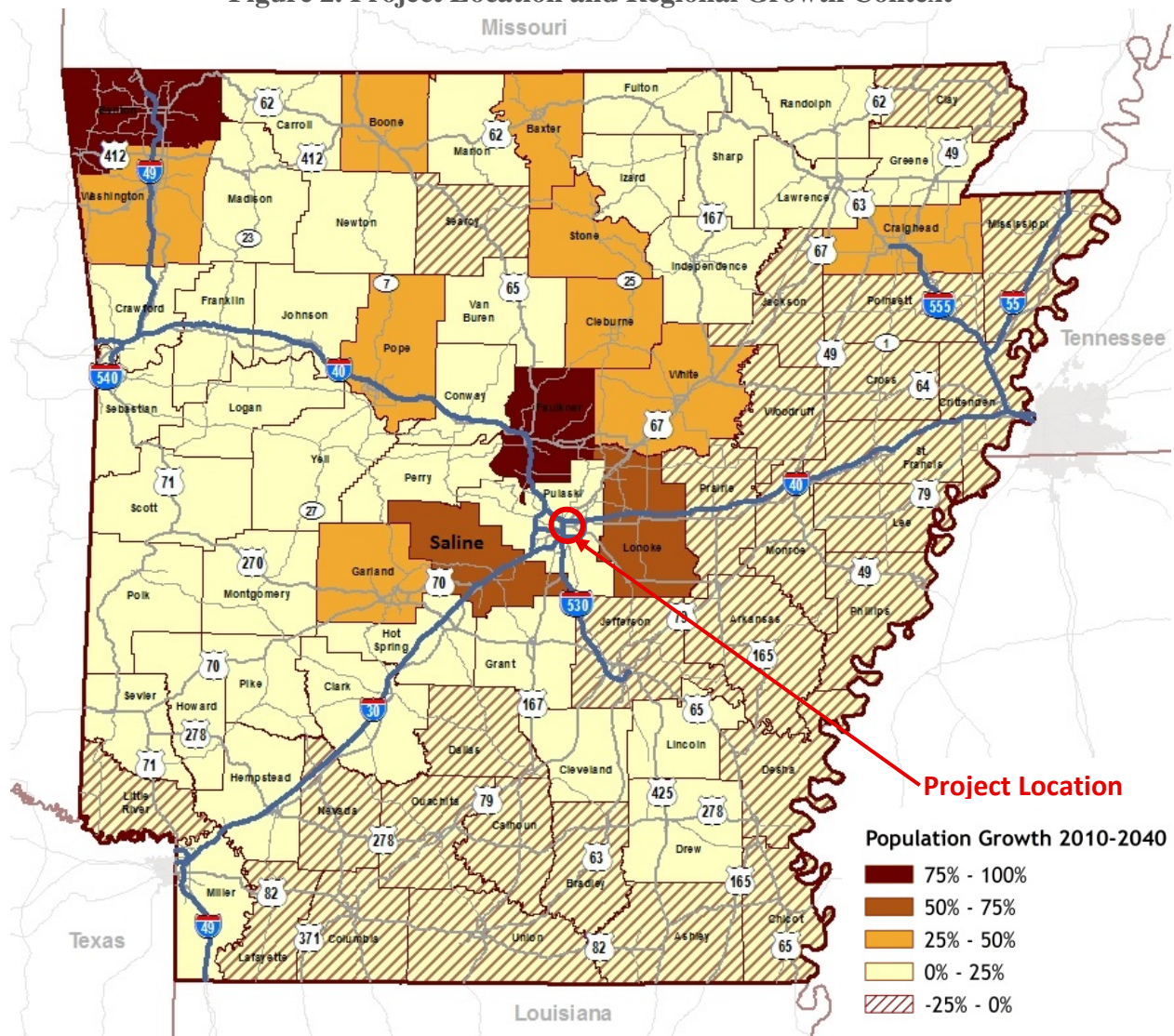
Interstate 30 (I-30) is a regional, national, and international freight corridor providing a direct connection between the Dallas-Fort Worth, Texas area and Memphis, Tennessee (via Interstate 40), as depicted in **Figure 1**. As an element of the National Highway System (NHS) and National Highway Freight Network (NHFN), I-30 plays a critical role in moving people and goods through the South and Southwest. This role is recognized in the Congressional designation of I-30 as an element of High Priority Corridor 55. In Central Arkansas, I-30 provides system connectivity to Interstates 40, 440, 530, and 630, which creates a network to support the region's economy.

Figure 1. Interstate 30 Freight Corridor



Approved by Arkansas voters in 2012, the Arkansas Department of Transportation (ARDOT) is implementing an accelerated State Highway Construction and Improvement Program named the Connecting Arkansas Program (CAP). The proposed project (Project) for which the ARDOT is seeking Infrastructure For Rebuilding America (INFRA) funding by leveraging the CAP funds will improve portions of I-30 and Interstate 40 (I-40) in Central Arkansas. Improvements will widen, reconstruct, and rehabilitate portions of I-30 and I-40, including replacing the Arkansas River Bridge with a wider structure. The Project's major components include improvements to approximately five miles of I-30 from the Interstate 530 (I-530) interchange north to the I-40 interchange; approximately 1.75 miles of I-40 from Highway 107 east to the Highway 67 (Future Interstate 57) interchange; the Interstate 630 (I-630) interchange; and replacement of the structurally deficient, fracture-critical Arkansas River Bridge.

Figure 2. Project Location and Regional Growth Context



This Project proposes to invest approximately \$631.7 million in State and Federal funds to improve portions of I-30 and I-40 in Pulaski County, Arkansas (**Figure 2**) – a location that impacts freight and commuters. When completed, the Project will provide support economic vitality at the national and regional level by:

Reducing the number of crashes throughout the corridor.

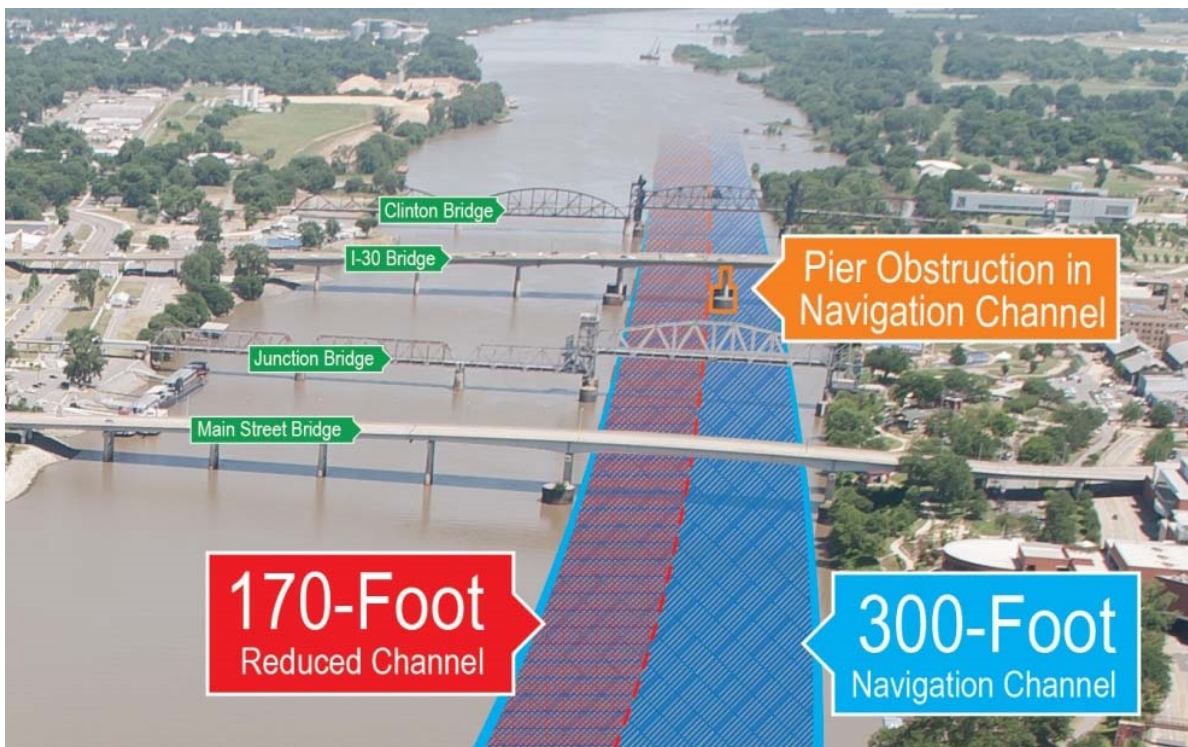
- Reducing the congestion levels within the corridor will reduce the number of sideswipe-same direction crashes.
- Utilizing a collector-distributor system to link surface streets along the reconstructed Arkansas River Bridge will reduce crashes by segregating locally-oriented and through traffic in the corridor.
- Removing roadway geometric deficiencies that have been identified as contributing to an unsafe roadway corridor.

- In the Little Rock – North Little Rock urbanized area, the I-30 Arkansas River Bridge is one of the six bridge structures (three vehicular, two pedestrian, and one railroad) that cross the Arkansas River, part of the McClellan-Kerr Arkansas River Navigation System (MKARNS). Currently one of the I-30 Arkansas River Bridge piers obstructs the navigational channel (see **Figure 3**), which has contributed to five barge strikes that have occurred since 2001 (Barge Collision Data, U.S. Coast Guard).

Eliminating bottlenecks in the freight supply chain.

- I-30 and I-40 in Central Arkansas are identified as one of seven Interstate freight bottlenecks in Arkansas based on capacity, projected traffic volume and composition, and congested speed.
- The I-30 Arkansas River Bridge pier (see **Figure 3**) that obstructs the navigation channel on the McClellan-Kerr Arkansas River Navigation System (MKARNS) affects river navigation by dividing the channel into two navigational spans, with substandard horizontal navigational clearance in both spans.

Figure 3. Arkansas River Navigational Channel



Restoring the transportation infrastructure to good condition to support commerce and economic growth.

- Existing pavement surface conditions within the project area show moderate to severe levels of cracking. I-30 and I-40 were originally constructed with concrete pavement in the 1960s. In the 1980s, I-30 was overlaid with asphalt and I-40 was overlaid with concrete; it has been over 30 years since the pavement condition was improved. Pavement is typically designed to last for 20 years.

- Roadway functional deficiencies identified include short acceleration ramps, closely spaced interchanges, sharp curves, and inadequate shoulders.
- Of the forty-seven bridges in the project limits, five bridges, including the I-30 Arkansas River Bridge were found to be structurally deficient. Thirteen bridges were found to be functionally obsolete. The I-30 Arkansas River Bridge is functionally obsolete, structurally deficient, and most importantly fracture critical.

Sustaining national or regional economic development by encouraging connectivity to the National transportation network to support movement of freight and people.

- The proposed Project will allow improved flows for both freight and passenger vehicles through the I-30/I-40 Corridor.
- Improving freight and passenger accessibility to downtown Little Rock and North Little Rock supports ongoing economic development in those areas due to employment, tourism, entertainment, and retail trade outlets.

Reducing barriers between worker residences and places of employment and assisting in the connection of peripheral regions to the urban centers.

- The proposed Project will provide reliable travels to and from downtown Little Rock and North Little Rock from peripheral communities such as Conway, Sherwood, Jacksonville, Cabot, and Lonoke as traffic demand increases, connecting workers to major employment centers in the region.
- A major goal of the Project is also to improve opportunity for east-west connectivity including bicycle and pedestrian connections within the project area.

In addition to supporting national and regional economic vitality, the Project will meet other key objectives of the U.S. Department of Transportation (USDOT) by:

Leveraging Federal funds with non-Federal funds.

- Under the proposed funding matrix, approximately \$417.3 million of future eligible project costs would be accounted for by non-Federal funds, resulting in a leverage ratio of greater than 2:1.

Utilizing innovative approaches to project delivery and safety.

- This Project utilized the Planning and Environmental Linkage (PEL) process to accelerate the project development. It will be delivered using Design-Build, where the design and construction services are contracted by a single entity called the design-builder. This type of project delivery method has been proven to be successful in introducing innovation, and completing a project faster and more cost effective with fewer change orders.
- A suite of work-zone management and public information tools will be utilized to enhance work-zone safety and ensure that the motoring public is well-informed about potential traffic impacts within the project area.

Performance and Accountability.

- Under this proposal, the Project would be conditioned on timely project delivery.

II. PROJECT LOCATION

As illustrated in **Figure 4**, the Project is located in Central Arkansas, beginning with I-30 and at the junction with I-530 and I-440 to the south. From there, the Project moves north through downtown Little Rock and its junction with I-630 and, after crossing the Arkansas River, through North Little Rock. From the junction of I-30 and I-40, the project continues westward on I-40 past Highway 107 and eastward to the interchange with U.S. Highway 67 (Future I-57).

Figure 4. Project Area



The Project area is located in the heart of Arkansas’s largest urbanized area (a population of 431,388) with commercial and residential development adjacent to the corridor. Combined with other projects in Central Arkansas, this Project will play a critical role in the success of Central Arkansas’s economy by relieving a bottleneck that has been identified in the past 15 years.

III. PROJECT PARTIES

The ARDOT is the Project sponsor and would-be the grant recipient.

IV. GRANT FUNDS, SOURCES, AND USES OF ALL PROJECT FUNDING

The proposed funding matrix for the Project is presented in **Table 1**. State matching funds for the Project are generated by the Connecting Arkansas Program (CAP). In 2012, the citizens of Arkansas passed a temporary, half-cent, general sales tax to improve the State’s highway system. The CAP will invest approximately \$1.8 billion to widen or improve approximately 200 miles of state highways and interstates, including the Project described in this application.

Table 1. Proposed Funding Matrix – Future Eligible Project Costs Only

Source of Funding	Dollar Share (in Millions)	Percentage Share	Type of Funding	Funding Status
Non-Federal	\$417.3	69.6%	State	Committed
<i>Connecting Arkansas Program</i>	\$369.2			
INFRA	\$100.0	15.8%	Federal	Proposed
Other Federal Funds	\$92.2	14.6%	Federal	Committed
TOTAL	\$609.5			

Under the proposed funding matrix, INFRA would account for approximately 16.4% of future eligible project costs. Other Federal funds including the National Highway Performance Program (NHPP) and earmark funds would be utilized for the Project. To date, approximately \$22.2 million have been expended on the Project for planning, environmental clearance, and right-of-way acquisition, all from the CAP program. If INFRA funds are awarded, INFRA funds would leverage CAP funds for design and construction activities.

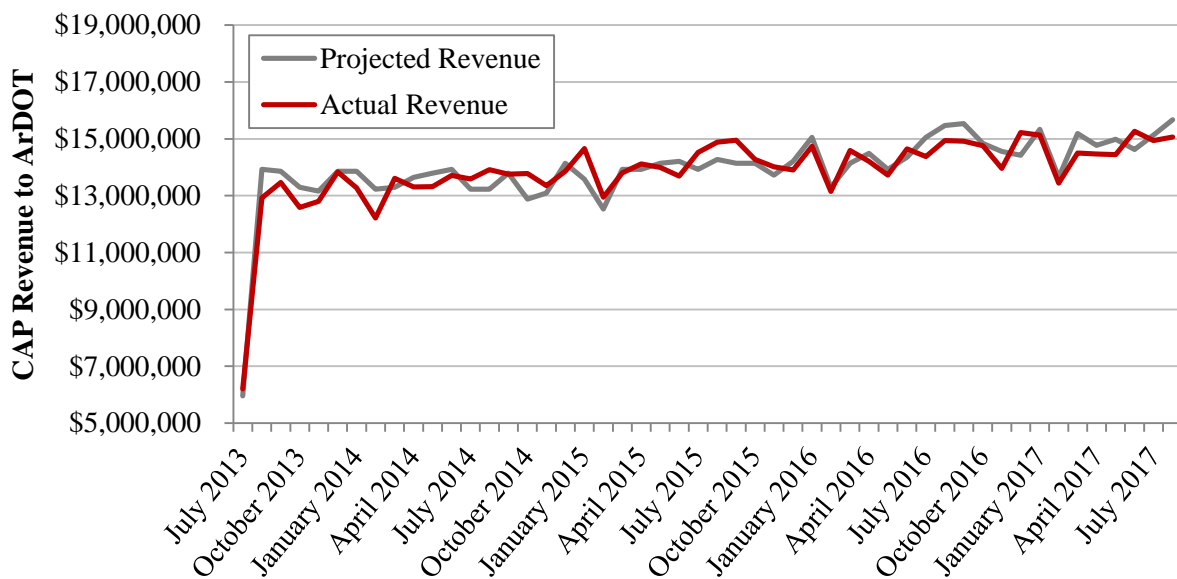
Because CAP funding is ultimately derived from a statewide, general sales tax, ARDOT is confident in the stability and reliability of CAP funding for the State portion of the Project. As illustrated in **Figure 5**, annual collections under the CAP have generally been in-line with forecasts. However, the revenue history does exhibit some variation in cash flow between actual and projected revenues, and actual revenues for FY 2017 were below projections. Collection of the sales tax will continue until 2023.

ARDOT is the designated recipient of nearly \$550 million from Federal-aid programs each year and has significant experience in managing Federal grants. ARDOT’s financial portfolio currently includes two bond programs:

- The CAP; and
- The Interstate Rehabilitation Program (IRP), which is financed using Grant Anticipation Revenue Vehicle (GARVEE) bonds that will be retired by 2026 using NHPP funds.

ARDOT is fully compliant with the financial planning provisions of 23 U.S.C. § 135, as demonstrated by the approved FY2016-2020 Statewide Transportation Improvement Program (STIP). ARDOT is committed to maintaining its Interstate highways, as illustrated by the significant Interstate highway investments in the STIP and continuing investments under the CAP and IRP.

Figure 5. Monthly CAP Revenue History: July 2013 – August 2017



V. MERIT CRITERIA

As discussed below, the Project satisfies each of USDOT’s key objectives: supporting economic vitality, leveraging Federal funding, utilizing innovative approaches, and achieving accountability.

A. SUPPORTING ECONOMIC VITALITY

The Project is expected to generate significant benefits to the region and the nation, including:

- Creating economic efficiencies by improving the safety and reliability of freight movements;
- Providing additional highway capacity to accommodate anticipated population and traffic growth;
- Improving mobility by reducing congestion;
- Returning an Interstate facility with heavy freight volumes to a state of good repair; and

- Improving the safety of Interstate operations for all motorists.

Each of these points is discussed at length below.

1. Economic Outcomes

In the course of developing the Arkansas State Freight Plan (SFP), freight data from the American Transportation Research Institute (ATRI), Transearch, and the U.S. Census Bureau was analyzed. This data indicates that the economy of the State of Arkansas is heavily dependent upon freight, both for the movement of raw goods to manufacturers and processors and for the delivery of finished goods to market. Sectors of the economy that are most dependent upon freight are depicted in **Figure 6** and **Figure 7**.

Figure 6. Freight Contribution to Productivity in Arkansas

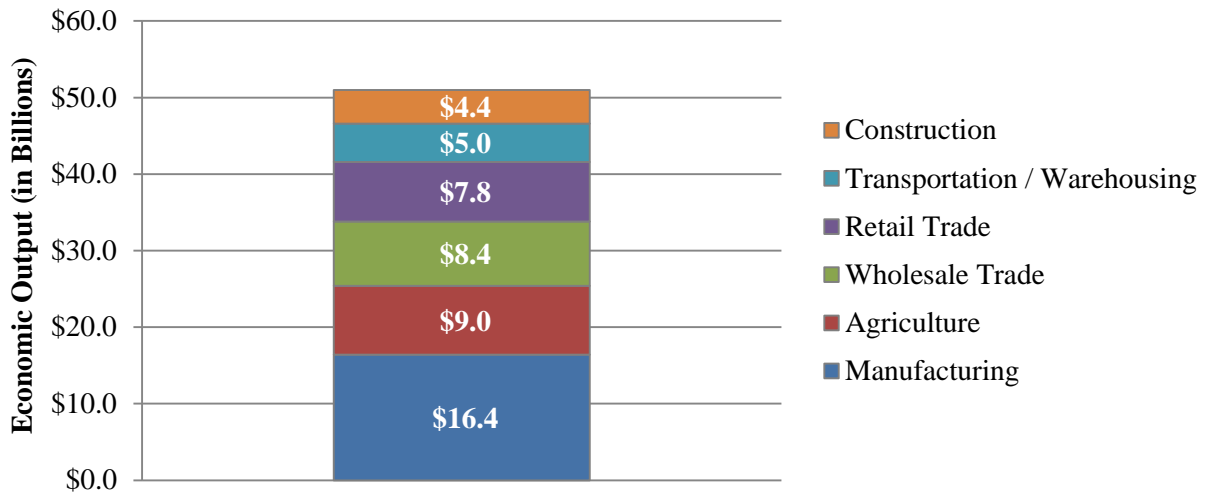
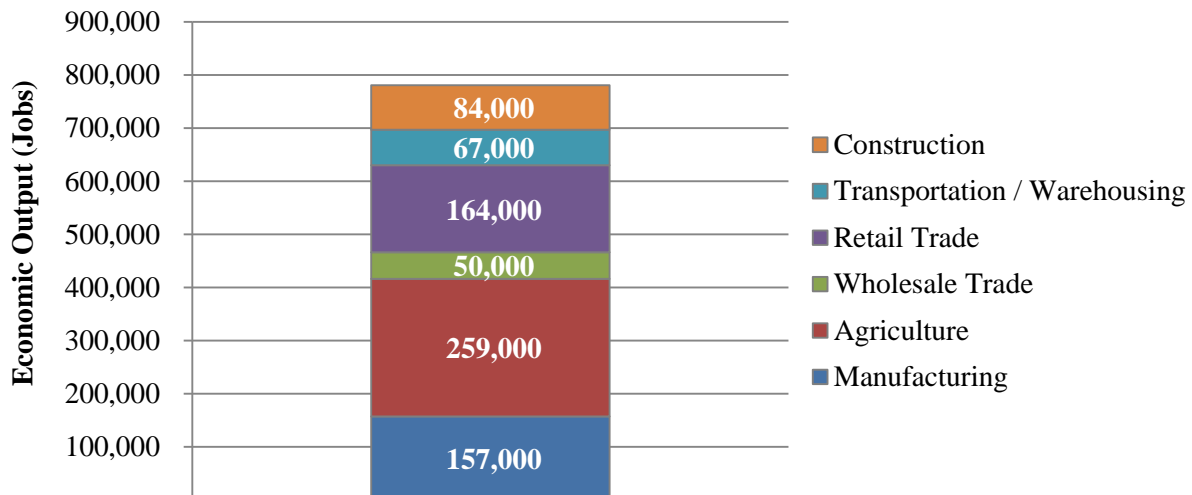


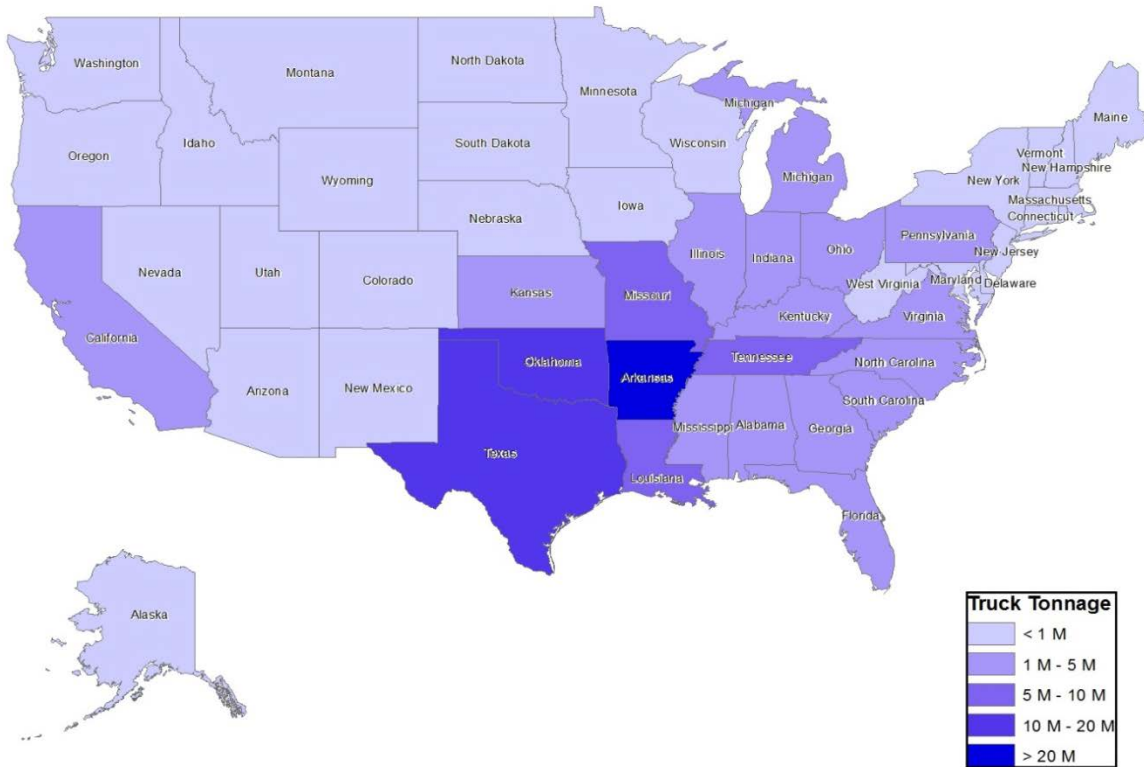
Figure 7. Freight Contribution to Employment in Arkansas



More than 40 percent of the total economic output of the State of Arkansas depends either directly or indirectly on freight, as well as nearly half of all employment. Agriculture and

manufacturing, in particular, make significant contributions to the economy of the State of Arkansas. Without a safe and efficient system of Interstate highways, Arkansas would not be able to compete in these national and international markets. Relevant to this application is the movement of freight along Interstate 30. As illustrated in **Figure 8**, Arkansas' top trading partners include Texas, Missouri, Tennessee and Louisiana.

Figure 8. Trading Partners by Truck Tonnage



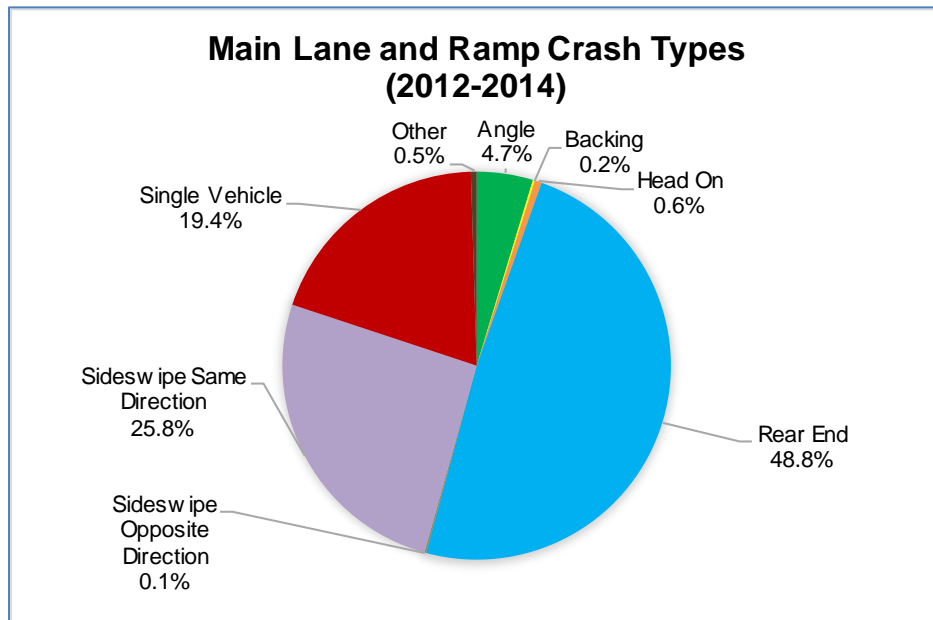
The Project is located in a highly-urbanized area that is experiencing slow but steady population growth. According to *MetroTrend (July 2017)*, a publication by the Metroplan, the six-county metropolitan area has grown by 5.5% since the 2010 census, which is faster than the 4.5% growth for the U.S. overall. By 2040, Central Arkansas is expected to grow from 671,000 people to almost one million, with most of the growth expected in the counties surrounding Pulaski County. Improvement to the I-30 corridor is expected to yield significant economic benefits to the region by improving the reliability and security of freight flows as well as connecting worker residents to employment centers.

2. Safety Outcomes

The three-year crash history (2012 thru 2014) of the Project area was analyzed. Within the safety area of influence, there were 1,529 crashes in 2012, 1,558 crashes in 2013, and 1,629 crashes in 2014. During the three-year study period, there were 2,336 main lane crashes and 592 ramp crashes. Rear end crashes (48.8%) were the predominant crashes in the corridor followed by sideswipe same direction (25.8%) and single vehicle crashes (19.4%). See **Figure 9**.

Crash rates were calculated for each of the three years of crash data (2012-2014) in order to evaluate the safety performance of the freeway main lanes as compared to statewide averages for similar facilities (four-lane or six-lane urban interstate) in Arkansas. Crash rates were calculated for total collisions with all severity types per Million Vehicle Miles (MVM) travelled as well as collisions with only fatal (K) and serious injury (A) (KA Crash Rate) per 100 MVM. These crash rates are exhibited in **Table 2** on the following page.

Figure 9: Type of Crashes (2012-2014)



The overall crash rates and KA crash rates are higher than the similar facilities in Arkansas. The highest concentration of severe crashes occurred on I-440 from I-30/I-530 to Springer Boulevard (4.70 times the average in 2013), I-630 from Cumberland Street to I-30 (6.71 times the average in 2012), I-30 from I-630 to I-40 (3.45 times the average in 2012), and Highway 67 from I-40 to McCain Boulevard (3.98 times the average in 2014). Overall crash rates were between two to three times the statewide averages (highlighted in orange) with some years over three times the statewide average (highlighted in red).

As mentioned previously, the I-30 Arkansas River Bridge is one of the six bridge structures on MKARNS. It has a pier in the navigational channel affecting river navigation. Due to the substandard horizontal navigational clearance in both spans, five barge strikes have occurred at this site since 2001 (Barge Collision Data, U.S. Coast Guard).

Safety is important to all modes of travel in the corridor. The high traffic volumes in the Project area combined with functionally deficient roadways and the Arkansas River Bridge are important safety factors to consider. The Project will address safety issues by addressing navigational safety, reducing congestion and improving roadway geometric features that contribute to the high crash rate throughout the corridor, reducing the main lane crash rate for all severity types from 1.74 per MVM in 2014 to 1.03 per MVM in 2041.

Table 2. Crash History: 2012 – 2014

Year	Length (miles)	Average Daily Volume (vpd)	# Crashes ¹		Crash Rate ²		Arkansas Average Crash Rate			Crash Rate/ARAverage	
			All Severity Types	KA ³	All Severity Types (per MVM)	KA (per 100 MVM)	All Severity Types (per MVM)	KA (per 100 MVM)	Type of Facility	All Severity Types	KA
I-30 from 65th Street to I-530/I-440 (Log Miles 134.816-138.236)											
2012	3.42	81,000	81	6	0.80	5.93	0.95	5.08	Six-Lane Full Access Control	0.84	1.17
2013		86,000	65	3	0.61	2.79	0.99	4.38		0.61	0.64
2014		91,000	72	3	0.63	2.64	1.02	3.19		0.62	0.83
I-530 from Dixon Road to I-30/I-440 (Log Miles 0.456 - 3.135)											
2012	2.68	43,000	27	3	0.64	7.13	0.52	4.04	Four-Lane Full Access Control	1.23	1.77
2013		44,000	16	3	0.37	6.97	0.63	4.06		0.59	1.72
2014		44,000	39	3	0.91	6.97	0.62	3.99		1.46	1.75
I-440 from I-30/I-530 to Springer Boulevard (Log Miles 0.874 - 1.938)											
2012	1.06	52,000	13	2	0.64	9.90	0.95	5.08	Six-Lane Full Access Control	0.68	1.95
2013		50,000	22	4	1.13	20.60	0.99	4.38		1.14	4.70
2014		54,000	9	0	0.43	0.00	1.02	3.19		0.42	0.00
I-30 from I-530/I-440 to I-630 (Log Miles 138.236-139.433)											
2012	1.20	98,000	67	2	1.56	4.67	0.95	5.08	Six-Lane Full Access Control	1.65	0.92
2013		100,000	81	1	1.85	2.29	0.99	4.38		1.87	0.52
2014		98,500	74	0	1.72	0.00	1.02	3.19		1.69	0.00
I-630 from Cumberland Street to I-30 (Log Miles 0.076-0.437)											
2012	0.36	89,000	35	4	2.98	34.11	0.95	5.08	Six-Lane Full Access Control	3.14	6.71
2013		85,000	27	0	2.41	0.00	0.99	4.38		2.44	0.00
2014		89,000	35	0	2.98	0.00	1.02	3.19		2.93	0.00
I-30 from I-630 to I-40 (Log Miles 139.433-142.435)											
2012	3.00	109,500	422	21	3.52	17.50	0.95	5.08	Six-Lane Full Access Control	3.70	3.45
2013		112,000	371	13	3.02	10.59	0.99	4.38		3.05	2.42
2014		111,500	357	5	2.92	4.09	1.02	3.19		2.86	1.28
I-40 from MacArthur Drive to I-30 (Log Miles 151.395 - 153.048)											
2012	1.65	90,000	37	3	0.68	5.52	0.95	5.08	Six-Lane Full Access Control	0.72	1.09
2013		90,000	36	0	0.66	0.00	0.99	4.38		0.67	0.00
2014		87,000	54	3	1.03	5.72	1.02	3.19		1.01	1.79
I-40 from I-30 to Highway 67 (Log Miles 153.048 - 154.872)											
2012	1.82	112,000	81	5	1.09	6.71	0.95	5.08	Six-Lane Full Access Control	1.14	1.32
2013		114,500	95	4	1.25	5.25	0.99	4.38		1.26	1.20
2014		115,500	96	2	1.25	2.60	1.02	3.19		1.22	0.82
Highway 67 from I-40 to McCain Boulevard (Log Miles 0.475-1.254)											
2012	0.78	79,000	28	1	1.25	4.45	0.95	5.08	Six-Lane Full Access Control	1.31	0.88
2013		83,000	25	2	1.06	8.47	0.99	4.38		1.07	1.93
2014		83,000	35	3	1.48	12.71	1.02	3.19		1.45	3.98
I-40 from Highway 67 to Springhill Drive (Log Miles 154.872 - 155.936)											
2012	1.06	45,000	14	2	0.80	11.44	0.52	4.04	Four-Lane Full Access Control	1.54	2.83
2013		45,000	9	2	0.51	11.44	0.63	4.06		0.82	2.82
2014		46,000	13	1	0.73	5.60	0.62	3.99		1.17	1.40

1-2X Statewide Average for Similar Facilities 2-3X Statewide Average for Similar Facilities >3X Statewide Average for Similar Facilities

Source: AHTD and Arkansas State Police Database

Notes: ¹ Does not include ramps or frontage roads; ² MVM = million vehicle miles; ³ KA = fatal (K) and serious injury (A) collisions

3. Mobility Outcomes

Within the Project area, Interstate 30 currently carries approximately 120,000 vehicles per day. Under the existing condition, traffic volumes approach or exceed capacity for several segments during peak periods, resulting in delays to commuters and freight shippers alike (see **Figure 10** for typical peak period traffic conditions). Over the next two decades, traffic volumes could

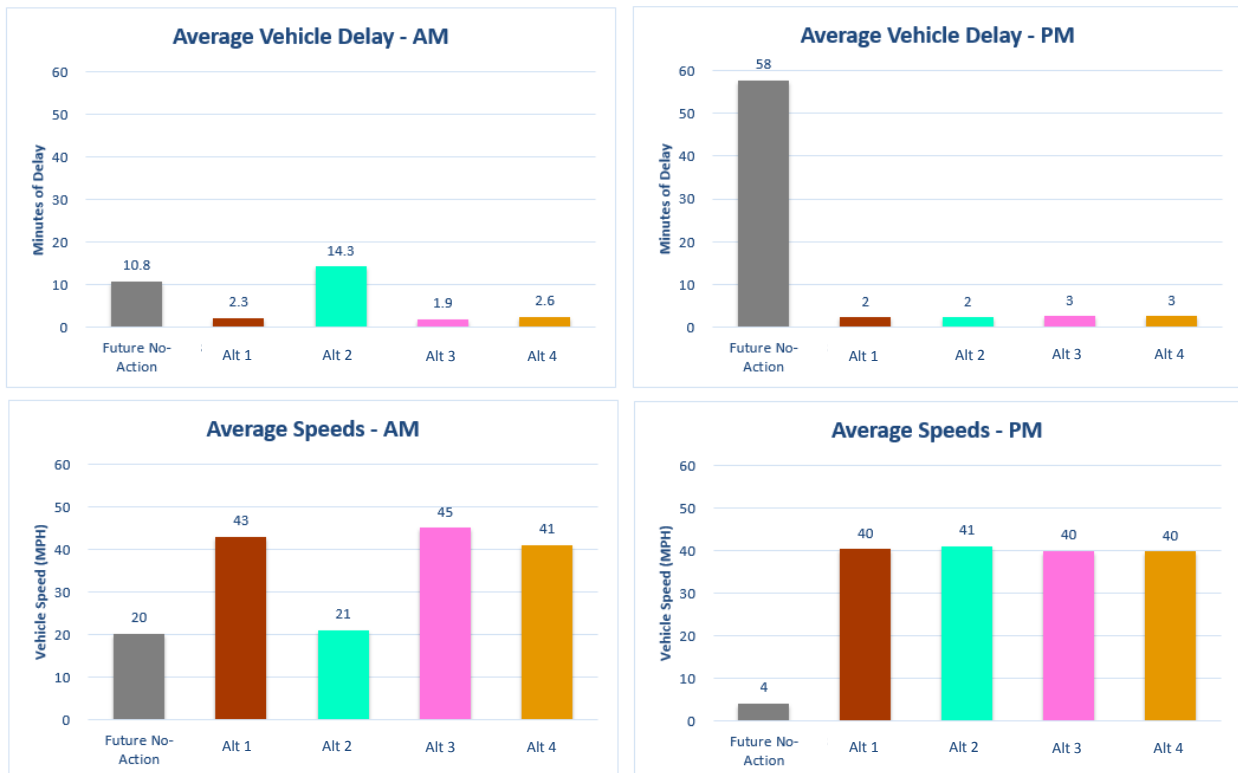
grow to over 180,000 vehicles near the Arkansas River Bridge, resulting in significant delays on a regular basis.

Figure 10. Typical Peak Period Congestion in Project Area



By implementing the Project, operations are expected to improve by one or more levels of service at many locations, resulting in significant delay reductions. A comparison of the No-Action and Action Alternatives is shown in **Figure 11**.

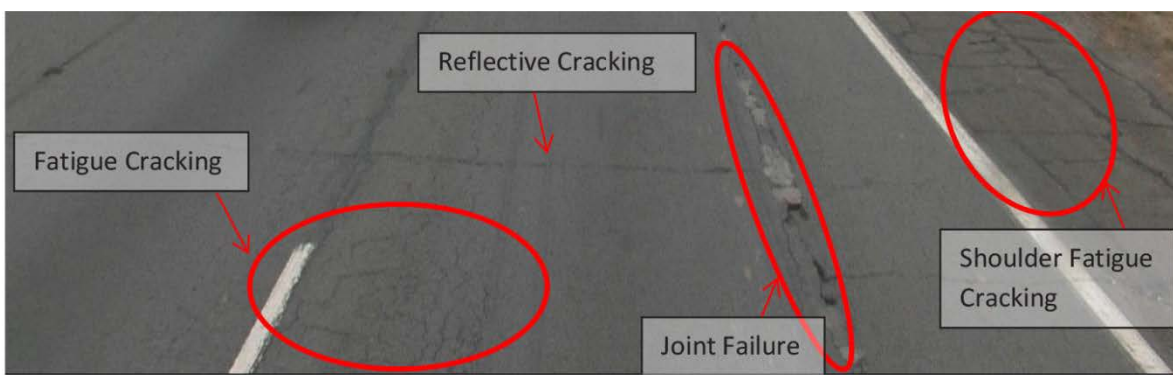
Figure 11. System Performance Measures



4. Other Outcomes

This Project will address structural and functional deficiencies of roadway and bridges that are no longer functioning as designed due to the effects of heavy traffic loads over time. Existing pavement surface conditions within the project area are showing moderate to severe levels of cracking (see **Figure 12**). I-30 and I-40 were originally constructed with concrete pavement in the 1960s. In the 1980s, I-30 was overlaid with asphalt and I-40 was overlaid with concrete; it has been over 30 years since the pavement condition was improved. Pavement is typically designed to last for 20 years. Portions of the project area will likely require some level of pavement rehabilitation within the expected timeframe of this project to meet adequate structural performance.

Figure 12. I-30 Pavement Conditions



Of the forty-seven bridges in the project limits, five bridges, including the I-30 Arkansas River Bridge, which was constructed in 1958, were found to be structurally deficient in a September 2017 bridge inspection conducted by ARDOT. The I-30 Arkansas River Bridge is also fracture critical. Modern bridges are designed so that there are no portions of the bridge that will result in collapse of the entire bridge if individual sections are damaged. In addition, thirteen bridges were found to be functionally obsolete, meaning that lane widths, shoulder widths, or other features are not sufficient for the traffic the bridge is currently carrying.

This Project enhances multimodal mobility while minimizing adverse effects on the built and natural environment. The limits of the project are expected to be almost entirely within the existing right-of-way limits with a few exceptions. Currently, the Project is under an Environmental Assessment, which will be completed in early 2018.

5. Cost Effectiveness

A detailed benefit-cost analysis (BCA) was conducted for the Project in accordance with *Benefit-Cost Analysis Guidance for TIGER and INFRA Applications* and related guidance. Detailed technical documentation supporting the BCA is included as *Appendix A1* and *Appendix A2*.

The benefits and costs of the project (in 2016\$) are summarized in **Table 3**. The benefits of the project are expected to derive from travel time savings, safety improvements, reduction in

vehicle operating costs, emissions reductions, maintenance savings, and the residual value of new structures.

Table 3. Summary of Benefit-Cost Analysis

Cost-Effectiveness Indicator	Discounted 3%	Discounted 7%
NET PRESENT VALUE = (B) - (C) =	\$1,761,612,193	\$862,932,315
BENEFIT-COST RATIO = (B) / (C) =	3.18	1.85
Project Costs	Discounted 3%	Discounted 7%
Capital Costs	\$553,325,257	\$467,224,507
Total Costs (C) =	\$553,325,257	\$467,224,507
Project Benefits	Discounted 3%	Discounted 7%
State of Good Repair	(\$10,848,243)	(\$3,889,591)
Travel Time	\$1,475,146,672	\$720,336,451
Truck Travel Time Reliability	\$30,742,285	\$15,935,067
Vehicle Operating Costs	(\$143,110,962)	(\$89,061,573)
Emissions Costs	\$3,963,851	\$2,685,759
Traffic Safety	\$207,480,868	\$118,148,310
Travel and Tourism	\$49,745,299	\$25,129,486
Maritime Navigation Safety	\$9,349,825	\$5,193,267
O&M Cost Savings	\$126,778,618	\$66,991,104
Residual Value of the I-30 Bridge	\$12,363,979	\$1,464,034
Total Benefits (B) =	\$1,761,612,193	\$862,932,315

The benefit-cost ratio for the Project is expected to be between 1.85 and 3.18 (assuming discount ratios of seven percent and three percent, respectively). The Project is expected to yield substantial benefits to the motoring public, particularly by reducing travel-time and vehicle-operating costs and improving traffic and maritime safety.

The direct, indirect, and induced economic impacts were evaluated using an economic modeling software package known as IMPLAN (IMPact analysis for PLANing). In the next twenty years, the Project will result in 4,820 additional jobs and \$201.2 million in labor income, \$379 million in Gross Regional Product (GRP), and \$37.6 million in tax revenues.

B. LEVERAGING FEDERAL FUNDING

1. Cost Sharing

As discussed above, the State matching funds for the Project are derived from a temporary, half-cent, general sales tax, approved by voters for the specific purpose of improving the State's multi-lane highway system through the Connecting Arkansas Program (CAP). If the proposed INFRA award is received, approximately 70% of future eligible Project costs will be financed by State funds, and 30% will be financed by Federal funds. On average, approximately 46% of ARDOT's annual expenditures come from non-Federal sources.

Currently, negotiations are on-going with local jurisdictions for cost sharing for possible enhancements.

2. Accounting for Life-Cycle Costs

ARDOT is committed to sound financial planning for operations and maintenance activities on Interstate 30. As illustrated by the significant Interstate investments in the STIP, and continuing investments under the CAP and IRP, ARDOT recognizes the need to proactively invest in its Interstate Highway assets. Additionally, ARDOT is in the process of developing a Transportation Asset Management Plan (TAMP) to provide strategic direction for operating and maintaining the State's multimodal infrastructure.

C. INNOVATION

1. Environmental Review and Permitting

The Project utilized the PEL process to accelerate the project development. Currently environmental review is nearing completion for this project. Potential innovation exists for environmental permitting upon review of Design-Builder's proposal.

2. Use of Experimental Delivery Authorities

This Project will be delivered using Design-Build, where the design and construction services are contracted by a single entity called the design-builder. This type of project delivery method has been proven to be successful in completing a project faster and more cost effective with fewer change orders.

3. Safety and Technology

ARDOT intends to deploy a suite of tools to maintain a safe work zone and keep the public informed about traffic conditions in the project area. First, ARDOT will deploy an automated work-zone information system (AWIS) consisting of incident detectors, dynamic message signs and other alert systems to identify incidents and inform the public about traffic conditions within the Project area. Second, incident management will be accelerated during the construction period using a combination of dedicated wrecker vehicles and regular motor patrols. Third, ARDOT's traveler information portal – www.IDriveArkansas.com – will be used in combination with aggressive public outreach to inform motorists of traffic conditions.

D. PERFORMANCE AND ACCOUNTABILITY

ARDOT is proposing to condition INFRA funding as follows: ARDOT plans to issue a Request for Proposal to select a design-builder in the Spring of 2018, with anticipated completion of construction in 2023. If construction is not completed by the end of 2023, ARDOT will charge disincentives to the contractor.

VI. PROJECT READINESS

As discussed at length below, the Project is expected to be awarded when INFRA awards are announced in calendar year 2018. Thus, INFRA funds are expected to be obligated well in advance of the statutory deadline, and construction is expected to begin well in advance of the construction start deadline.

A. TECHNICAL FEASIBILITY

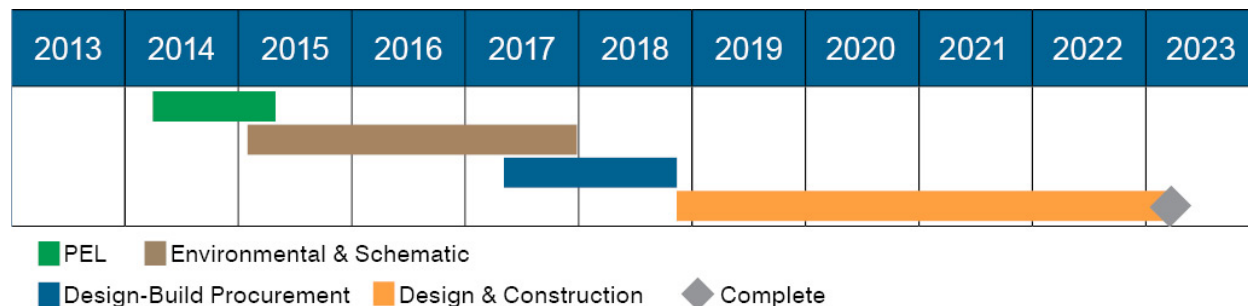
Technical feasibility of the Project is demonstrated by the following accomplishments, among others:

- An Environmental Assessment is currently underway with a public hearing to be held in January 2018 for public comments;
- The access modifications proposed in the September 2017 Interchange Justification Report (IJR) are expected to be acceptable from an engineering and operational standpoint; and
- Three design-builders have been shortlisted.

B. PROJECT SCHEDULE

A schedule of Project milestones is presented in **Figure 13**. The Project is expected to be awarded when INFRA awards are announced in calendar year 2018, and matching funds will be secured under the dedicated revenue streams of the CAP. INFRA funds would be obligated by October 2018, well in advance of the statutory obligation deadline for large projects (September 2020). It is expected the construction will be completed in 2023. Property and right-of-way acquisition activities are being performed in accordance with 49 CFR Part 24 and other applicable legal requirements, with a scheduled completion date of October 2018.

Figure 13. Project Schedule



C. REQUIRED APPROVALS AND PUBLIC INVOLVEMENT

The environmental review process is nearing completion. An Environment Assessment will be released for public comment in January 2018. All necessary permitting is expected well in advance of the INFRA obligation deadline.

The Project is included in each of the required State and Metropolitan planning documents. An amendment is anticipated for the Transportation Improvement Program (TIP) to align the project with the scope in the Metropolitan Transportation Plan by the end of 2017. The Arkansas Long Range Intermodal Transportation Plan (LRITP) has been adopted, and while the LRITP does address freight needs, that plan is not project specific. The Arkansas State Freight Plan (SFP) has also been adopted. The SFP identifies freight needs for all modes, and specifically recommends improvements at Interstate freight bottlenecks. This Project is on the Arkansas Freight Highway Network.

ARDOT has provided opportunities for the public to be involved through every step of project development. Project Partners (City of North Little Rock, City of Little Rock, Pulaski County, Metroplan, FHWA, and ARDOT), Technical Work Group (TWG) members, stakeholders, and community members were involved in all phases of the project from conception to present. Furthermore, TWG meetings brought representatives together from more than 30 federal, state and local agencies to gather technical expertise utilized throughout the PEL process.

Public input was solicited at the first set of public meetings for the I-30 PEL study, which took place on August 12, 2014 in North Little Rock and August 14, 2014 in Little Rock. In a two-year period beginning April 2014, more than 1,500 attendees have participated in 6 public meetings and submitted more than 2,200 questions and comments.

The public can visit www.30crossing.com or www.connectingarkansasprogram.com to stay informed about this and all other projects under the CAP.

D. ASSESSMENT OF PROJECT RISKS AND MITIGATION STRATEGIES

Risk management is an ongoing activity on this Project. Prior to issuance of the RFP, a formal risk assessment workshop will be conducted. Based on the current status, the risk assessment is summarized in **Table 4**.

Table 4. Risk Register

Functional Area	Potential Risks	Scope (Impact/ Likelihood)	Schedule (Impact/ Likelihood)	Estimate (Impact/ Likelihood)	Overall Risk (High, Med, Low)	Outcomes and Mitigation Activities
Construction Impacts						
Planning, Environmental, and Permitting	Complete Env. Assessment (Receive FONSI)	High/High	High/High	Medium/Medium	Medium/High	Complete EA in timely manner Complete public involvement process
Roadway Design	Designing outside NEPA	Low/Low	High/Low	Low/Low	Low	Ensure a sufficient NEPA footprint
Bridge Design	Designing outside NEPA	Low/Low	High/Low	Low/Low	Low	Ensure a sufficient NEPA footprint
Construction	Restraining Conditions, Hazardous Materials	Low/Medium	High/Medium	Medium/Medium	Medium	Programmatic Agreements
Other Project Impacts						
Right of Way	Condemnation	Low/High	High/High	Low/High	Medium	Early coordination with property owners
Utilities	Relocation delays	Low/Medium	Medium/Medium	Medium/Medium	Medium	Detailed locates of existing utilities.
Railroad	Relocation of Communication Tower	High/Low	High/Low	High/Low	Low/Low	Work Order issued 9/11/17
Other (Funding Availability and Inflation)	Directly related to funding availability	High/High	High/High	Medium/High	High	Pursue all opportunities for funding of improvements.

VII. LARGE/SMALL PROJECT REQUIREMENTS

The Project satisfies each of the requirements for eligibility as a large project, as summarized below and discussed at length elsewhere.

1. Does the project generate national or regional economic, mobility or safety benefits?

Yes. Within the Project area, Interstate 30 currently serves more than 120,000 vehicles per day. Volumes are projected to increase to 180,000 vehicles per day over the Arkansas River Bridge over the next two decades. The Project is a critical part of the Central Arkansas freeway network, providing an essential connection to downtown Little Rock and North Little Rock, the regional employment and commerce center. The Project will reduce congestion on I-30 and I-40 by adding capacity at a bottleneck, eliminate roadway and bridge structural and functional deficiencies, as well as make access

improvements along the routes. As a result, operations on I-30 and I-40 will be safer and more efficient. For more information, see Section V.

2. Is the project cost effective?

Yes. The benefit-cost ratio for the Project is expected to be between 1.85 and 3.18 (assuming discount ratios of seven percent and three percent, respectively). For more information, see Section V and *Appendix A*.

3. Does the project contribute to one or more of the Goals listed under 23 USC 150?

Yes. The Project will meet all the goals as shown below:

- Improve traffic **safety** through congestion reduction and geometric and access improvements;
- Return the facility to a **state of good repair**;
- Reduce **congestion** by adding capacity;
- Improve **system reliability** by reducing recurring congestion and non-recurring congestion (particularly due to traffic incidents);
- Improve **freight movement** and promote **economic vitality** by reducing congestion along a busy freight corridor;
- Respect the built and natural **environment** by being constructed almost entirely within existing right-of-way (thereby minimizing impacts on existing development) and implementing appropriate environmental mitigation; and
- Expedite **project delivery** by using Design-Build.

For more information, see Section V.

4. Is the project based on the results of preliminary engineering?

Yes. The environmental review process is nearing completion. The project cost is based on the results of preliminary engineering. Since the Project will be delivered by a Design-Build to a Budget process, the estimated cost will be fixed.

5a. With respect to non-federal financial commitments, does the project have one or more stable and dependable funding sources to construct, maintain, and operate the project?

Yes. The State match for the Project is derived from a dedicated sales tax. Funds for maintenance and operations derive from annual Federal-aid and State revenue streams. For more information, see Section IV.

5b. Are contingency amounts available to cover unanticipated cost increases?

Yes. Appropriate contingency amounts are included in line item budget figures in lieu of a separate cost classification.

6. Is it the case that the project cannot be easily and efficiently completed without other federal funding or financial assistance available to the project sponsor?

Yes. As discussed in Section IV, this Project is one of several large projects financed by the CAP. The revenues generated by the CAP are considerable, and ARDOT and the CAP manager have taken appropriate steps to manage project risk and cash-flows limitations. However, maximizing innovation and efficiency could be realized by leveraging the INFRA funds to remove financial constraints that have resulted in a conservative project pay curve.

7. Is the project reasonably expected to begin construction not later than 18 months after the date of obligation of funds for the project?

Yes. Under the proposed schedule, a RFP will be issued by the Spring of 2018 with an expected Notice to Proceed to the design-builder in late 2018. For more information, see Section VI.