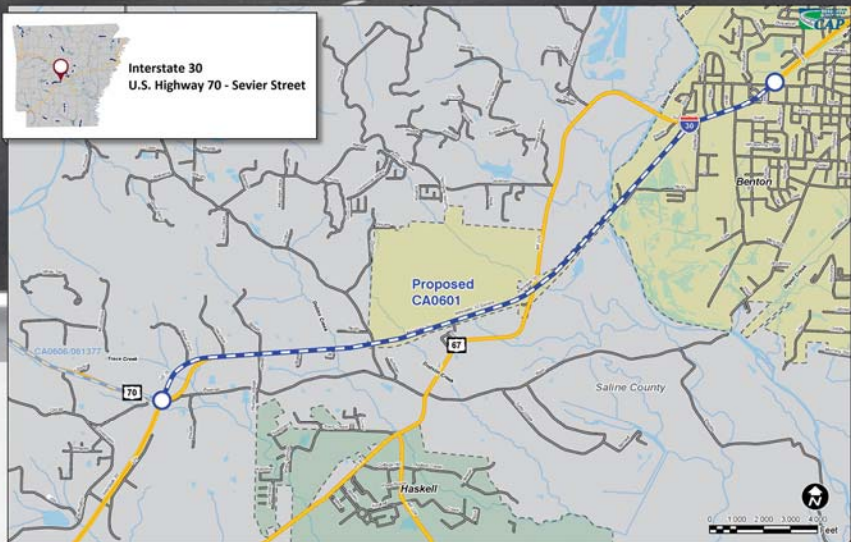


FASTLANE 2017 GRANT APPLICATION

INTERSTATE 30 (U.S. HIGHWAY 70 - SEVIER STREET)



Interstate 30 National Freight Corridor Improvements

Project Name	Interstate 30: U.S. Highway 70 - Sevier Street
Was a FASTLANE application for this project submitted previously?	No
If yes, what was the name of the project in the previous application?	N/A
Previously Incurred Project Cost	\$3.4 million
Future Eligible Project Cost	\$125.8 million
Total Project Cost	\$129.1 million
FASTLANE Request	\$75.5 million
Total Federal Funding (including FASTLANE)	\$82.1 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 separate project? <ul style="list-style-type: none"> • If so, please include the grade crossing ID. 	No
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 FASTLANE funds will be spent on each of these project components?	N/A
State(s) in which project is located	Arkansas
Small or large project	Large
Urbanized Area in which project is located, if applicable	A portion of 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 – CARTS TIP • Arkansas STIP – Yes • LRTP – CARTS MTP • SLRTP – The Arkansas Long Range Plan is not project specific. • Arkansas SFP – SFP is in development. This project will be included.

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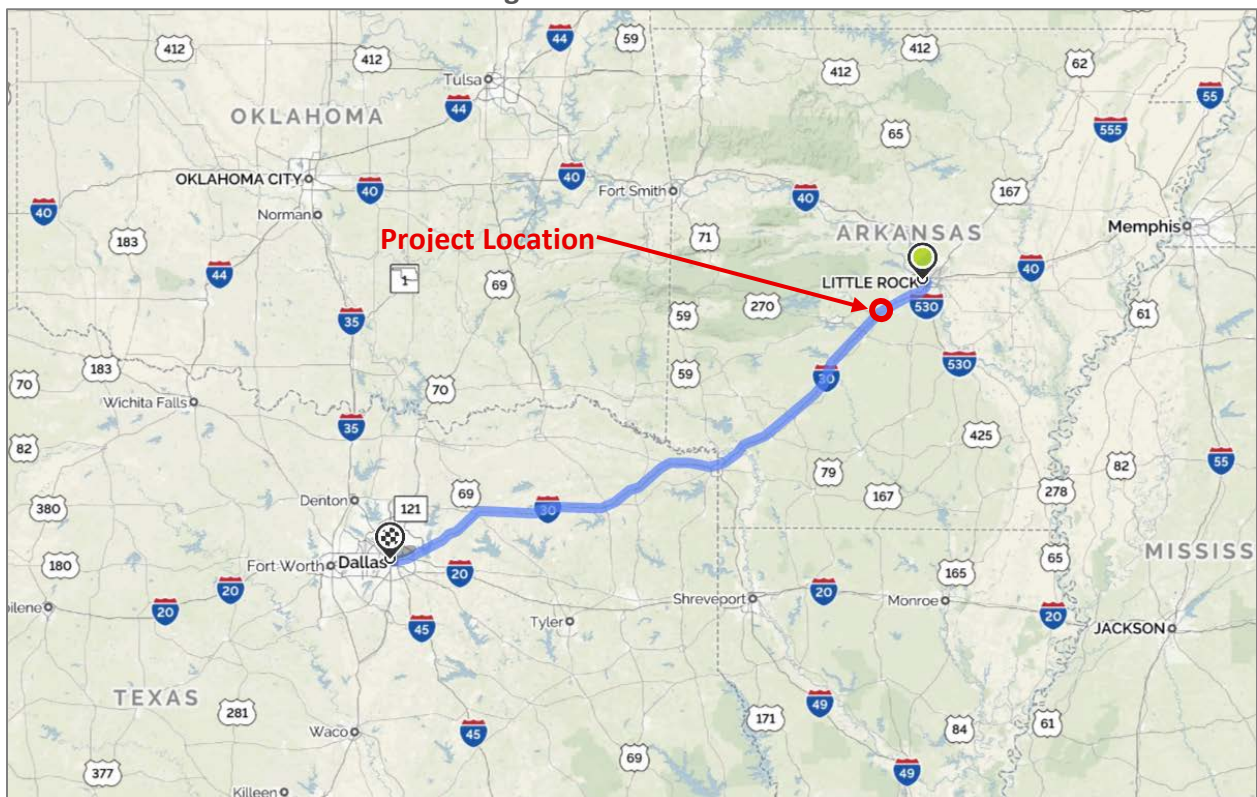
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¹ Supporting materials for this application are available at: <http://www.arkansashighways.com/FastLane/Fast2017.aspx>.

I. PROJECT DESCRIPTION

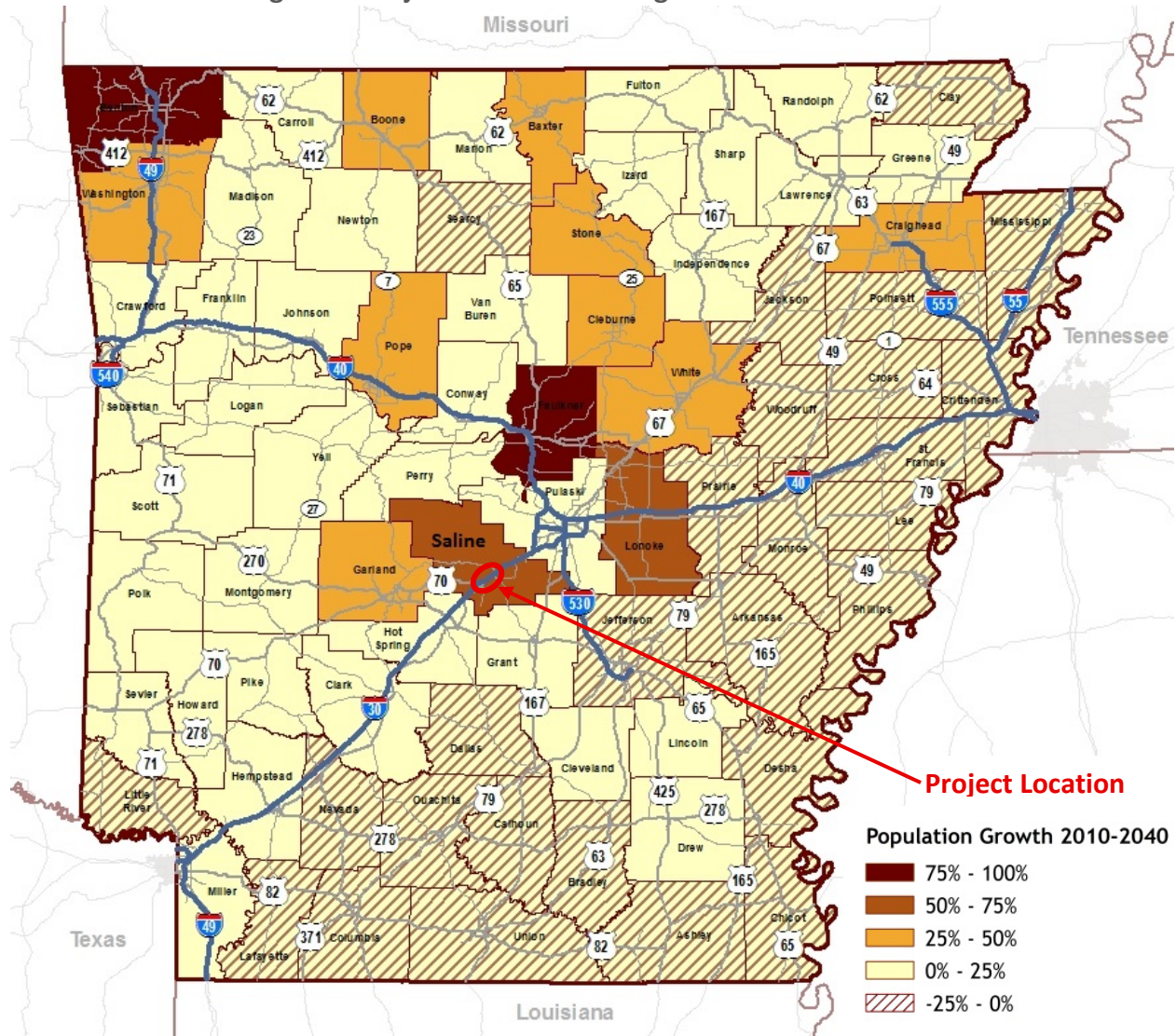
Interstate 30 is a regional, national, and international freight corridor providing a direct connection between Central Arkansas and the Dallas-Fort Worth area, as depicted in **Figure 1**. From Central Arkansas, Interstate 30 provides system connectivity to the East Coast via Interstate 40, Gulf area ports via Interstate 49, and the Midwest and Canada via Interstate 55. From the Dallas-Fort Worth area, Interstate 30 provides system connectivity to the Southwest via Interstate 20 and to Mexico via Interstate 35. As an element of the National Highway System (NHS) and National Highway Freight Network (NHFN), Interstate 30 plays a critical role in moving people and goods through the South and Southwest.

Figure 1. Interstate 30



In Central Arkansas, Interstate 30 serves local, regional and national travelers with varied destinations and trip purposes. The area is home to dozens of trucking companies – including national carriers such as CalArk and Maverick – who depend upon Interstate 30 to safely and efficiently move products to market. Each work day, Interstate 30 conveys thousands of commuters between Little Rock and neighboring communities such as Benton and Haskell in Saline County. Saline County has become a bedroom community for the Little Rock/North Little Rock urbanized area. On weekends, recreational travelers in Central Arkansas rely on Interstate 30 to connect them to popular destinations such as Hot Springs National Park. Interstate 30 plays a role in all aspects of the lives of many Central Arkansans.

Figure 2. Project Location and Regional Growth Context



This Project proposes to invest approximately \$129 million in State and Federal funds to improve a 5.4-mile segment of Interstate 30 in Saline County, Arkansas (**Figure 2**) – a location that impacts freight, commuter and recreational users alike. When completed, the Project will:

Relieve a freight bottleneck on Interstate 30.

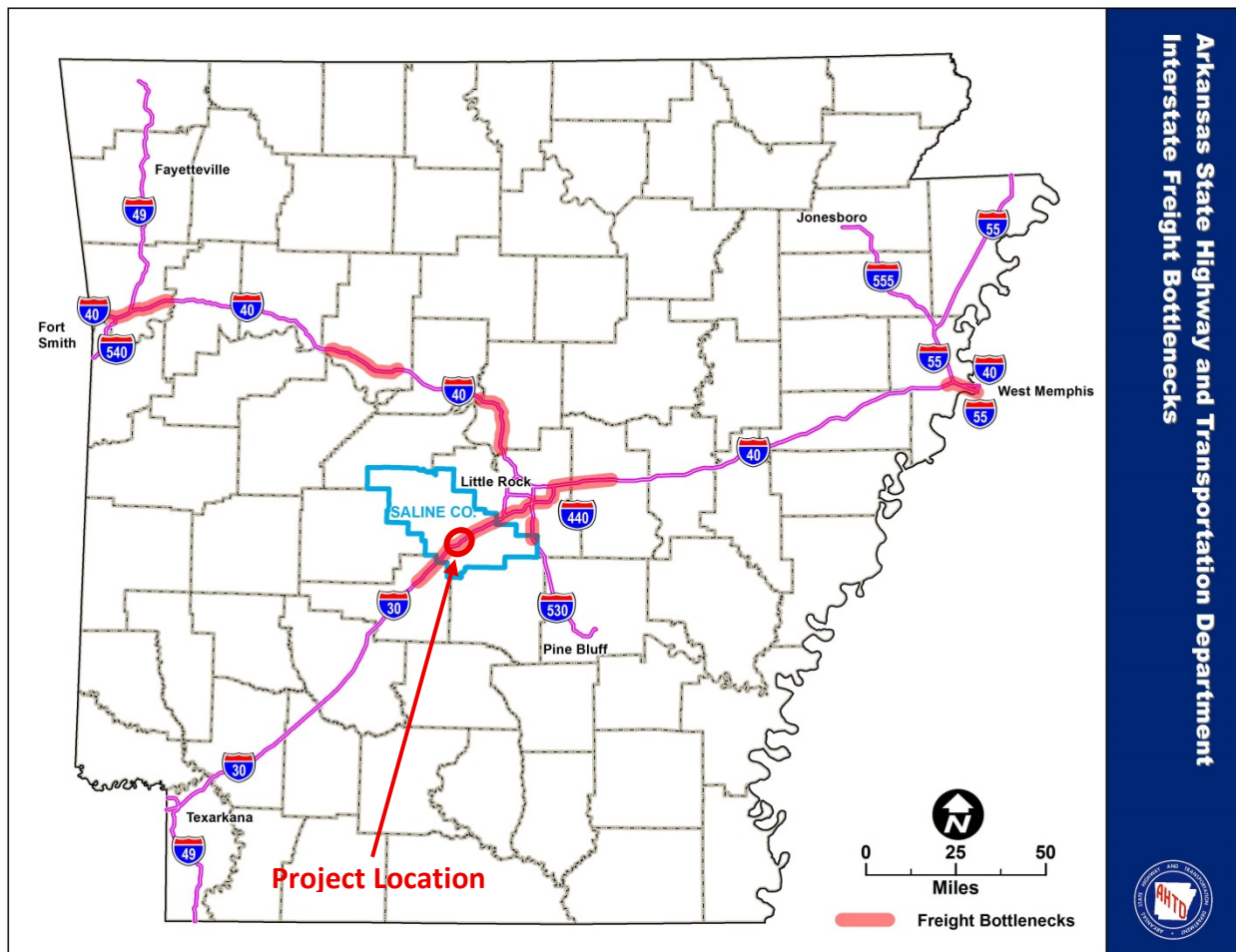
- Interstate 30 through Saline County was identified as one of seven Interstate freight bottlenecks in Arkansas based on capacity, projected traffic volume and composition, and congested speed (**Figure 3**).
- The existing four-lane cross-section carries approximately 50,000 passenger vehicles and 10,000 freight vehicles per day in the current year ([Appendix A](#), pp. 28, 57).
- As many as 110,000 passenger vehicles and 23,000 freight vehicles are anticipated at this location in the design year ([Appendix A](#), pp. 31, 57).

- Currently, approximately \$35 billion in commodities are transported through the Project area each year.

Improve travel times, reliability and service for local, regional, and interstate traffic.

- The proposed Project is expected to improve peak-hour mainlane and ramp operations by one or more levels of service at several locations in both the opening year and the design year ([Appendix B](#), pp. 34-37).

Figure 3. Interstate Freight Bottlenecks



Accommodate population growth in Central Arkansas.

- The Interstate 30 corridor through Saline County is experiencing tremendous growth, and the population of Saline County is projected to grow from approximately 120,000 in the current year to approximately 190,000 in the design year.
- Benton Town Center, a five-hundred acre multi-use development, is planned adjacent to Interstate 30 within the Project area ([Appendix A](#), p. 15).

Reduce accident frequency and severity.

- Congested conditions within the Project area increase the frequency of rear-end crashes ([Appendix B](#), pp. 44).
- Single-vehicle crashes account for more than 40 percent of all crashes in the Project area.
- With the existing cross-section (two travel lanes in each direction), freight vehicles impede fast-moving traffic in the inner lane and create friction with merging traffic in the outer lane.

Return the project area to a state of good repair.

- The pavement consists of a distressed jointed concrete, overlaid with asphalt showing signs of severe stripping, overlaid with composite geosynthetic joint tape and asphalt, meant as a stop-gap pending reconstruction (**Figure 4**).
- Four structurally-deficient mainlane bridges have been identified within the Project area ([Appendix C](#), p. 20).

Figure 4. Illustrative Pavement Conditions Prior to Stop-Gap Overlay



To address these challenges and achieve these outcomes, the Project proposes to:

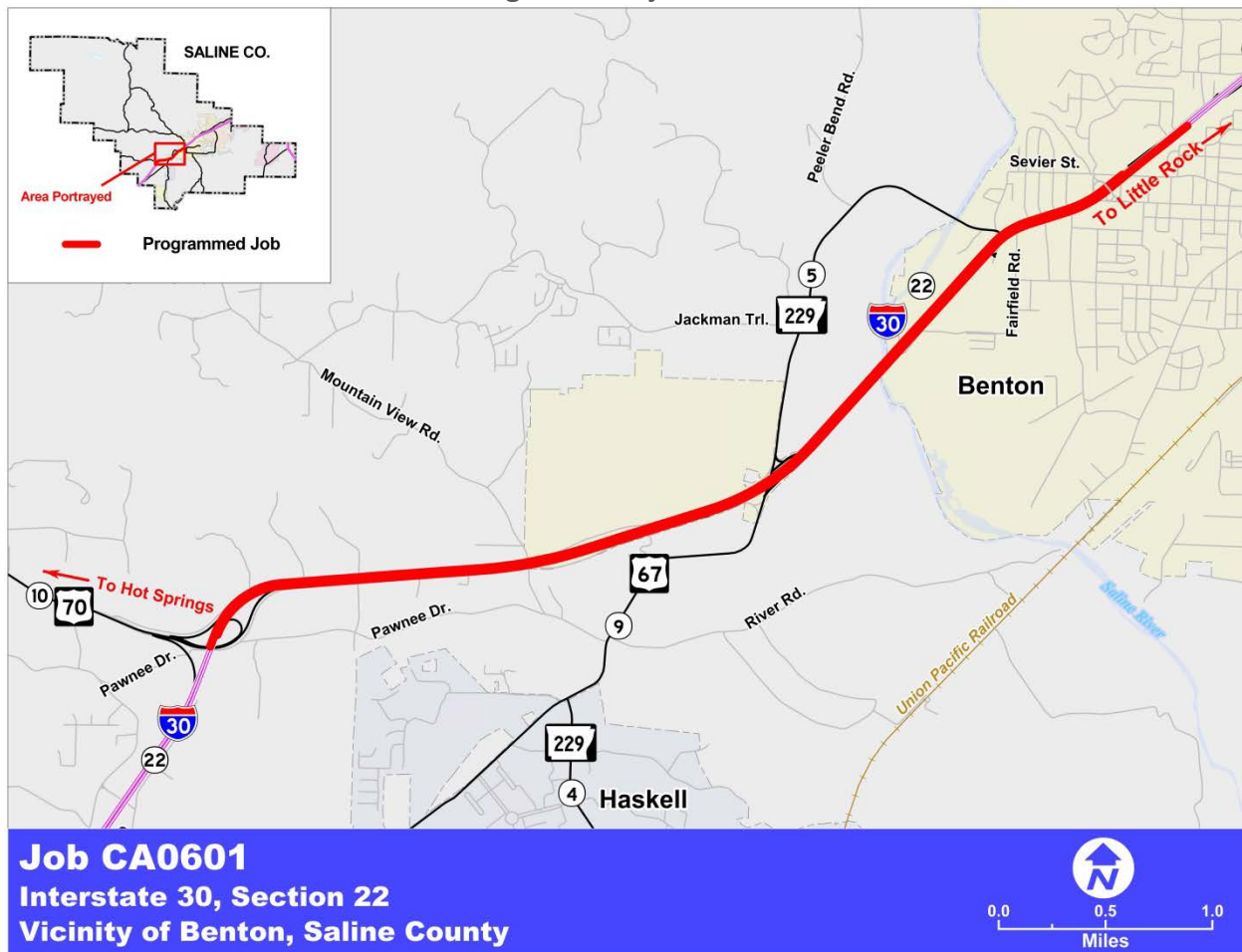
- Widen Interstate 30 from four lanes to six lanes;
- Improve alignments, signage and safety systems to meet modern safety standards;
- Modify ramp access, increase capacity and add traffic control devices at interchanges; and
- Fully reconstruct pavements and replace deficient structures.

Development phase activities are underway, and approximately \$3.4 million in State funds have been expended on the Project to date. Under this proposal, FASTLANE funds would be matched with State funds for construction activities, ensuring the success of the Project and expediting project delivery.

II. PROJECT LOCATION

As illustrated in **Figure 5**, the Project begins at the U.S. Highway 70 interchange in Saline County (at log mile 110.88). From U.S. Highway 70, the Project extends eastward, passing north of the city of Haskell before entering the city of Benton. The Project ends east of the South Street interchange in the vicinity of Sevier Street (at log mile 116.24), where the existing cross-section transitions from four lanes to six lanes.

Figure 5. Project Area

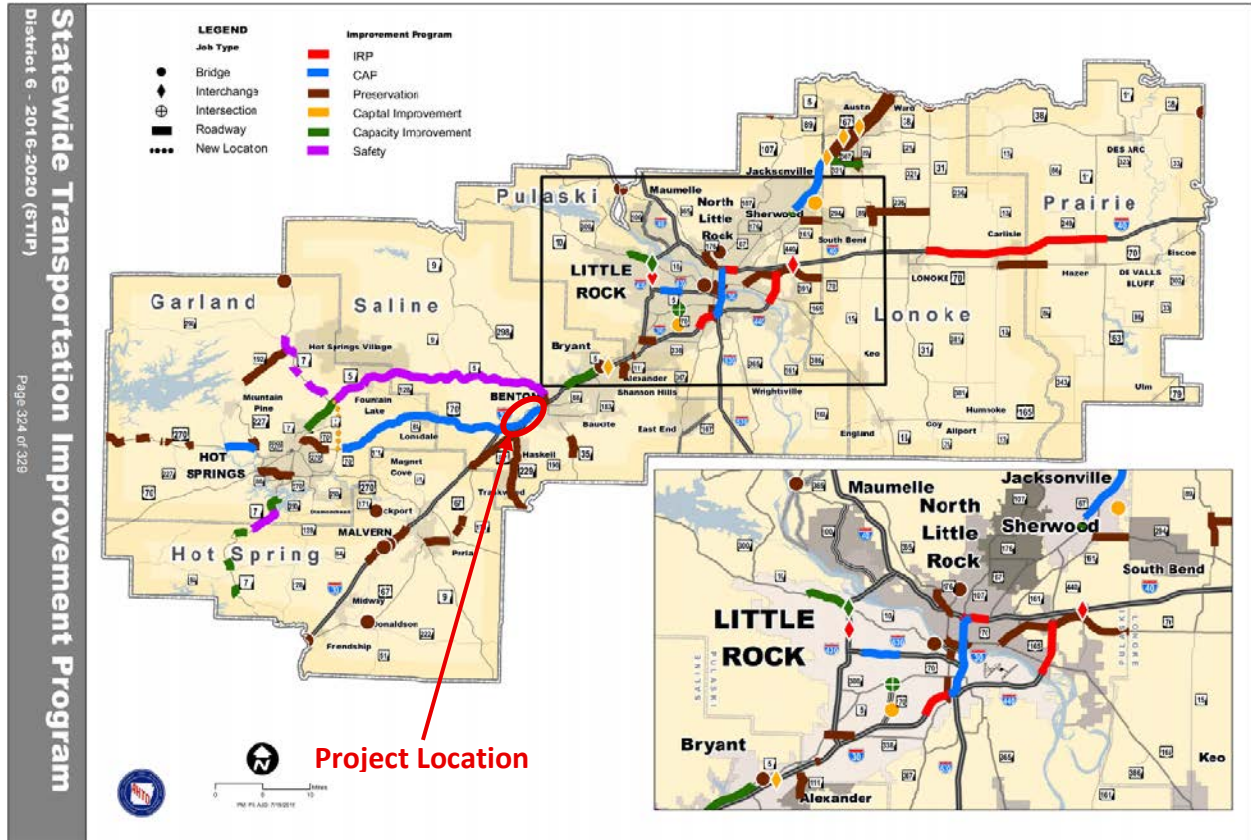


The Project area is generally rural toward the west, with light commercial development along the frontage roads between U.S. Highway 70 and U.S. Highway 67/State Highway 229. As the Project enters the city of Benton (and the Little Rock/North Little Rock, AR Urbanized Area) to

the east, the area is largely built out, with a mix of residential, commercial, and public uses at the fringe of a major center of commerce and employment.

As illustrated in **Figure 6**, the Project is part of a larger program of improvements on Interstate 30 and other critical highways in Central Arkansas.

Figure 6. Central Arkansas FY 2016-2020 STIP Improvements



The cumulative impact of these projects will be transformative for the movement of people and goods into, out of, and through Central Arkansas. This Project will play a critical role in the success of the Central Arkansas freeway network by relieving a bottleneck at a primary gateway to the region.

III. PROJECT PARTIES

The Arkansas Highway and Transportation Department (AHTD) is the Project sponsor and would-be grant recipient.

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

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 people of Arkansas passed a temporary, half-cent, general sales tax to improve the State’s highway system. From the projected \$1.8 billion in CAP revenues, the Program proposes to widen or improve approximately 200 miles of State and Interstate highways, including the section of Interstate 30 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
Connecting Arkansas Program	\$43.6	34.7%	State	Committed
<i>FASTLANE</i>	\$75.5	60.0%	<i>Federal</i>	<i>Proposed</i>
Other Federal Funds	\$6.7	5.3%	Federal	Committed
TOTAL	\$125.8			

Under the proposed funding matrix, FASTLANE would account for 60% of future eligible project costs, and the total Federal contribution would be approximately 65% of future eligible project costs. No other Federal funding requests have been made relating to this Project. A phase breakout for the Project is reported in **Table 2**.

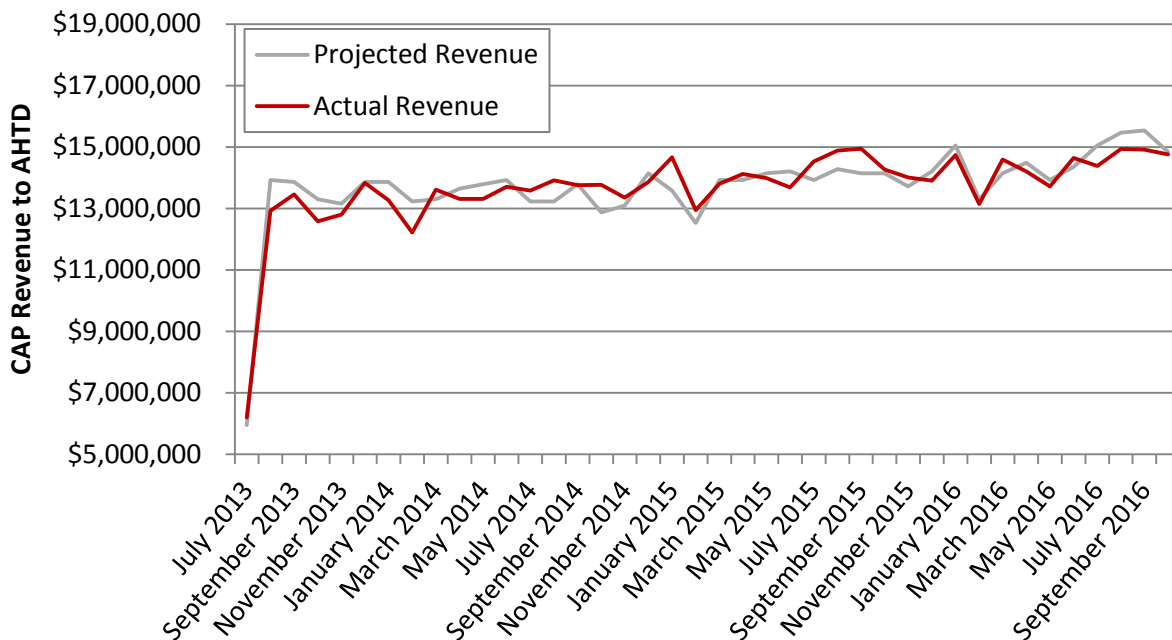
Table 2. Phase Breakout (thru October 2016) – All Project Costs (in Millions)

Activity	State Funding		Federal-Aid Funding			Total Estimate
	To Date	Remaining	To Date	<i>FASTLANE</i>	Other Remaining	
Surveying	\$0.6	–	–	–	–	\$0.6
Preliminary Engineering	\$2.8	\$0.6	–	–	–	\$3.4
Right-of-Way Acquisition	\$0.0	\$4.7	–	–	–	\$4.7
Utility Relocation	–	\$0.9	–	–	–	\$0.9
CEI	–	\$1.8	–	–	\$6.7	\$8.5
Highway Construction	–	\$23.6	–	\$49.9	–	\$73.5
Bridge Construction	–	\$12.0	–	\$25.6	–	\$37.6
TOTAL	\$3.4	\$43.6	–	\$75.5	\$6.7	\$129.2
	\$47.0 (36.3%)		\$82.2 (63.6%)			

To date, approximately \$3.4 million have been expended on the Project, all from the CAP program. Under the proposed finance package, pre-construction activities would be completed using CAP funds only, and FASTLANE funds would leverage CAP funds for construction activities.

Because CAP funding is ultimately derived from a statewide, general sales tax, the AHTD is confident in the stability and reliability of CAP funding for the State portion of the Project. As illustrated in **Figure 7**, 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 have been below projections. Collection of the sales tax will continue until the general obligation bonds used to accelerate the CAP are retired, which is expected to occur in 2023.

Figure 7. Monthly CAP Revenue History: July 2013 – October 2016



The AHTD is the designated recipient of nearly \$550 million from Federal-aid programs each year and has significant experience in managing Federal grants. The AHTD’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 National Highway Performance Program (NHPP) funds.

Neither bond program is in financial distress. The AHTD is fully compliant with the financial planning provisions of 23 U.S.C. § 135, and recently adopted the fiscally-constrained, FY 2016-2020 Statewide Transportation Improvement Program (STIP). The AHTD 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.

V. REVIEW CRITERIA

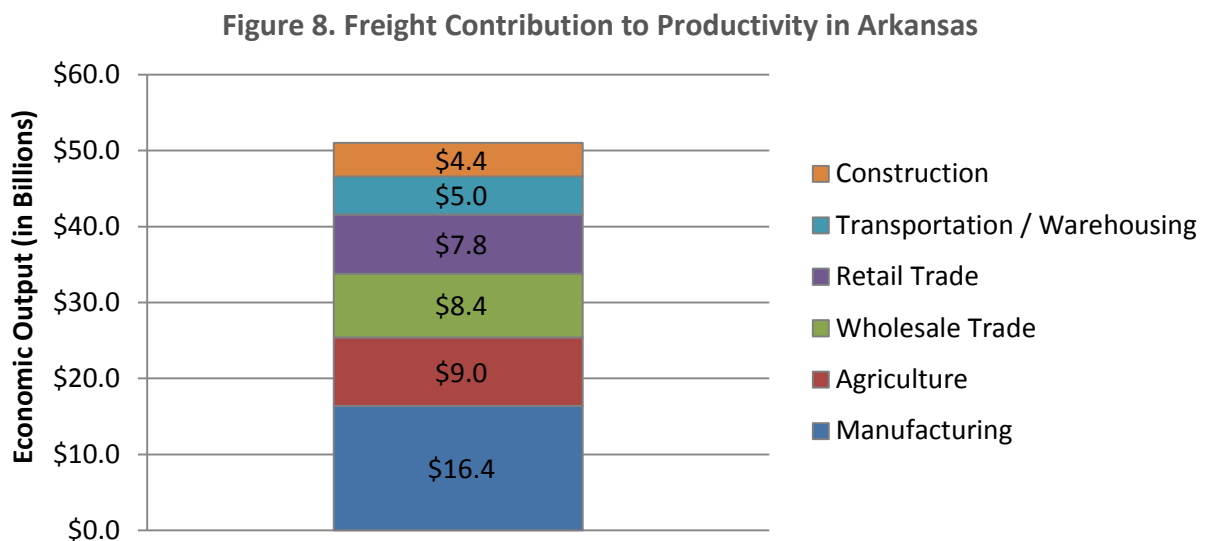
The Project is expected to generate significant benefits to the region and the nation, including:

- 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.

ECONOMIC OUTCOMES

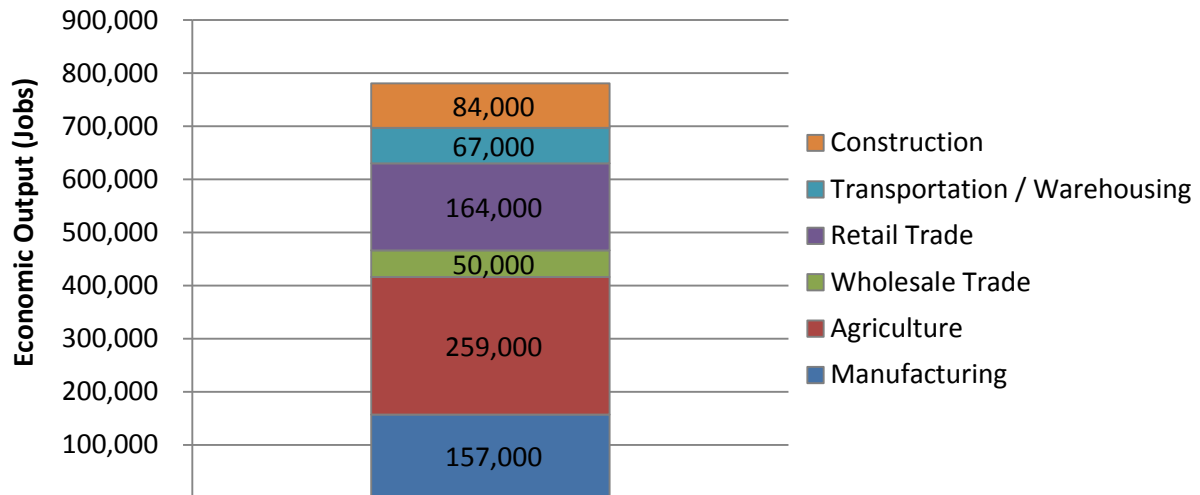
In the course of developing the forthcoming State Freight Plan (SFP), the AHTD and its consultants analyzed the freight sector using data from the American Transportation Research Institute (ATRI), Transearch, and the U.S. Census Bureau. Those data indicate that the economy of the state of Arkansas is 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 8** and **Figure 9**.



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

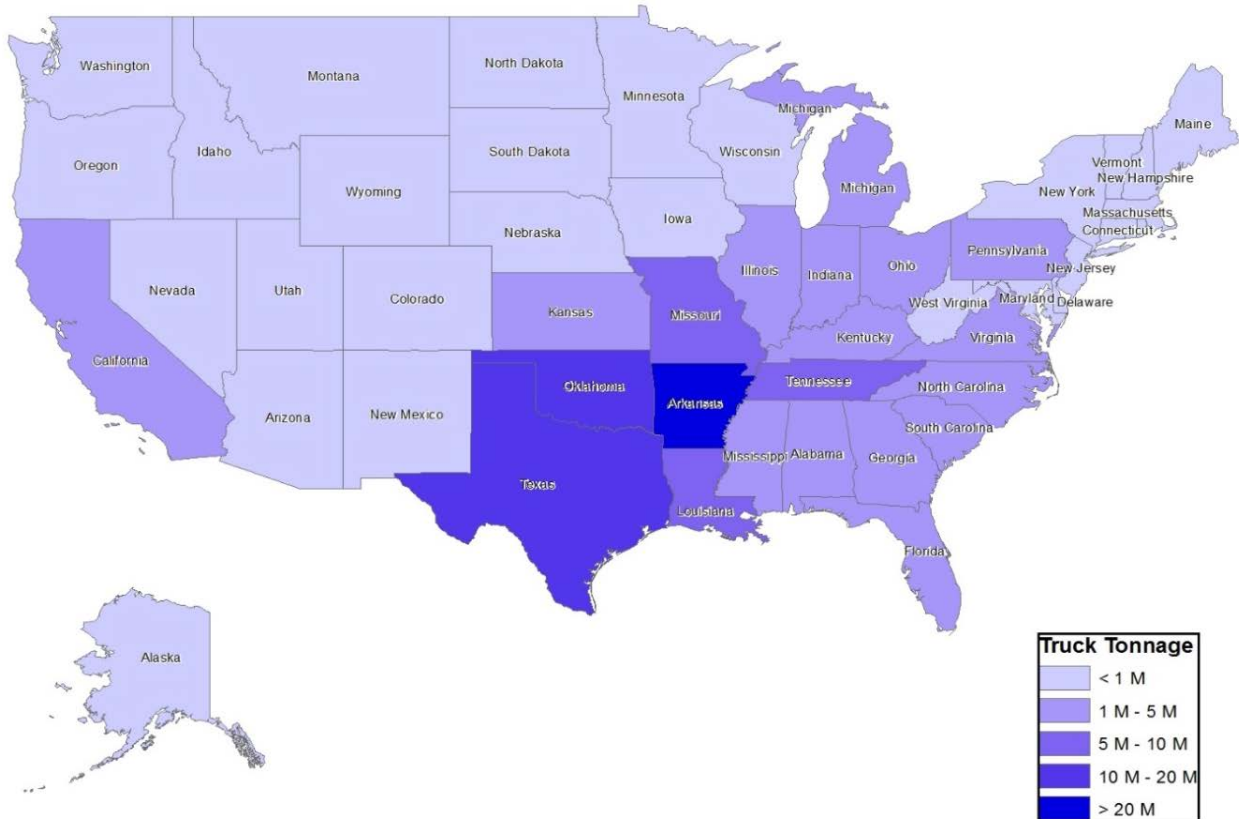
Arkansas. Without a safe and efficient system of Interstate highways, Arkansas would not be able to compete in these national and international markets.

Figure 9. Freight Contribution to Employment in Arkansas



Relevant to this application is the movement of freight along Interstate 30. As illustrated in **Figure 10**, Arkansas' top trading partners include Texas, Missouri, Tennessee and Louisiana.

Figure 10. Trading Partners by Truck Tonnage



Interstate 30 plays a critical role in each of these trade relationships, providing a direct connection between Arkansas and Texas, and system connectivity to Tennessee (via Interstate 40), Missouri (via Interstate 40 and Interstate 55), and Louisiana (via Interstate 49). Trading activity with these and other partners is expected to increase significantly over the next three decades. Forecasts developed for the SFP indicate that freight tonnage into, out of, and within Arkansas will increase from 299 million tons in 2012 to an estimated 439 million tons in 2040. Likewise, as depicted in **Figure 11**, data from the Freight Analysis Framework (FAF) indicate that freight volumes on Interstate 30 are expected to nearly double between 2007 and 2040.

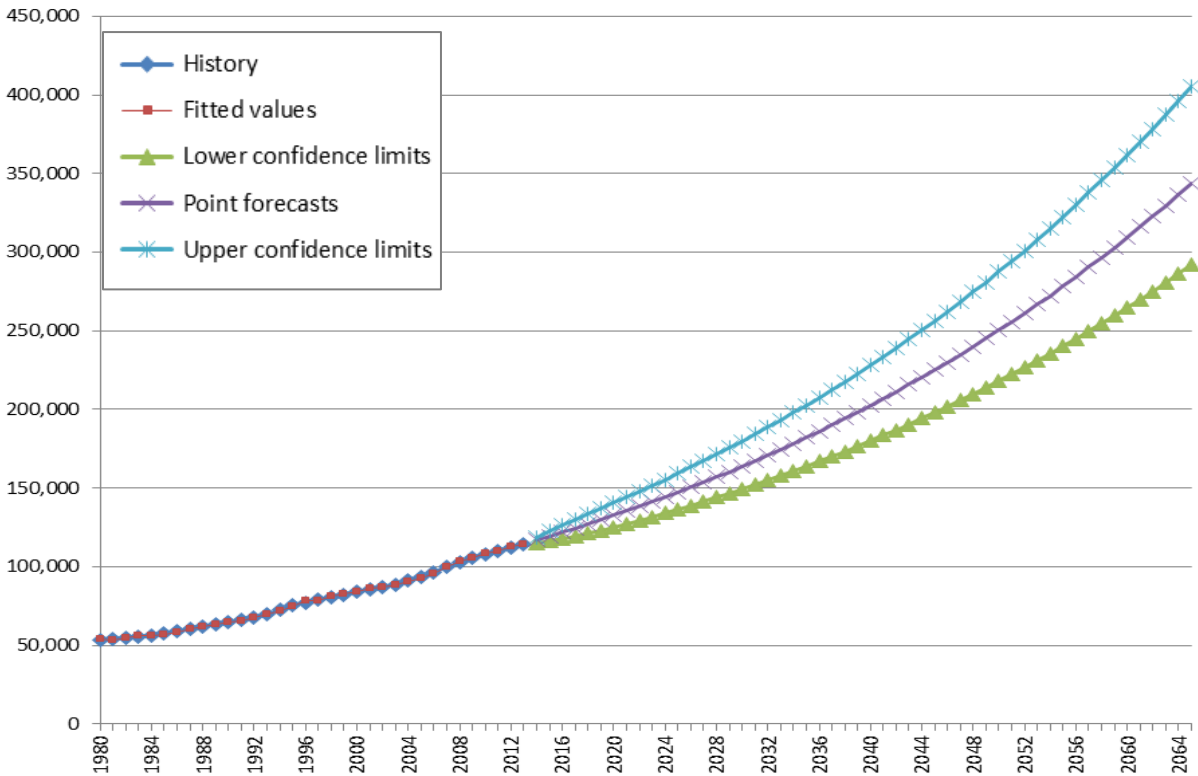
Figure 11. NHS Freight Truck Traffic: 2007 and 2040



This Project is expected to yield significant economic benefits to the region and the nation by improving the reliability and security of freight flows along this vital Interstate corridor.

The Project is also necessary to accommodate the continuing growth of Saline County. According to the Institute for Economic Advancement at the University of Arkansas at Little Rock, the population of Saline County is expected to grow by nearly 60% over the next two decades, from approximately 120,000 today to nearly 190,000 in the design year of the project (**Figure 12**).

Figure 12. Saline County Population Projections



Population growth in the cities of Benton and Haskell, in particular, will create new demand within the Project area that cannot be accommodated without adding capacity and improving access to Interstate 30.

MOBILITY OUTCOMES

Within the Project area, Interstate 30 currently carries approximately 50,000 passenger vehicles and 10,000 freight vehicles per day ([Appendix A](#), pp. 28, 57). Over the next two decades, traffic volumes could grow to approximately 110,000 passenger vehicles and 23,000 freight vehicles per day ([Appendix A](#), pp. 31, 57).² Operational analyses confirm that the existing four-lane cross-section and access configurations will not be able to accommodate anticipated volumes, and there are no nearby parallel routes that have the potential to relieve congestion on Interstate 30 ([Appendix B](#), p. 46).

The findings of design-year, peak-hour operational analyses are discussed in [Appendix B](#) (pp. 36-37) and reported in **Table 3** and **Table 4**.

² Within the Project area, two significant impending developments were identified – Benton Town Center and Riverside Park ([Appendix A](#), pp. 29-30). To account for the traffic potential of those developments, two forecasts were prepared: one forecast assumes traffic growth based on linear trending only; a second forecast adds the anticipated trip generation of those developments to background traffic growth. This application generally assumes full build-out of those developments by the design year of the Project.

Table 3. Design Year (2038) Peak-Hour Operational Analysis – Eastbound

Location	Roadway Element	No Build		Build	
		Mainlane or Ramp LOS		Mainlane or Ramp LOS	
		AM	PM	AM	PM
West of Hwy 70	Mainlane	B	C	B	C
Exit Ramp to Hwy 70	Exit Ramp	C	D	C	D
Between Hwy 70 Exit & Entrance Ramps	Mainlane	B	C	B	C
Entrance Ramp from Hwy 70	Entrance Ramp	D	D	C	C
Between Hwy 70 Entrance Ramp & Hwy 67 Exit Ramp	Mainlane	D	E	C	C
Exit Ramp to Hwy 67	Exit Ramp	E	E	C	C
Between Hwy 67 Exit & Entrance Ramps	Mainlane	D	D	B	B
Entrance Ramp from Hwy 67	Entrance Ramp	F	F	D	D
Between Hwy 67 Entrance Ramp & South St Exit Ramp	Mainlane	F	F	D	D
Exit Ramp to South St	Exit Ramp	F	F	D	D
Between South St Entrance Ramp & Hwy 5 Exit Ramp	Mainlane	F	F	C	C
Entrance Ramp from South St	Entrance Ramp	D	D	E	D
Between South St Entrance Ramp & Hwy 5 Exit Ramp	Mainlane	D	D	E	E
Exit Ramp to Hwy 5	Exit Ramp	E	E	E	E
Between Hwy 5 Exit & Entrance Ramps	Mainlane	C	C	C	C

Table 4. Design Year (2038) Peak-Hour Operational Analysis – Westbound

Location	Roadway Element	No Build		Build	
		Mainlane or Ramp LOS		Mainlane or Ramp LOS	
		AM	PM	AM	PM
Between Hwy 5 Exit & Entrance Ramps	Mainlane	B	D	B	D
Entrance Ramp from Hwy 5	Entrance Ramp	B	D	B	D
Between Hwy 5 Entrance Ramp & South St Exit Ramp	Mainlane	C	E	C	E
Exit Ramp to South St	Exit Ramp	C	E	C	E
Between South St Exit & South St Overpass	Mainlane	B	D	B	D
Between South St & South St Entrance Ramps	Mainlane	C	F	B	D
Entrance Ramp from South St	Entrance Ramp	C	F	B	E
Between South St Entrance Ramp & Hwy 67 Exit Ramp	Mainlane	D	F	B	E
Exit Ramp to Hwy 67	Exit Ramp	D	F	A	C
Between Hwy 67 Exit & Entrance Ramps	Mainlane	C	F	B	D
Entrance Ramp from Hwy 67	Entrance Ramp	C	F	B	C
Between Hwy 67 Entrance Ramps	Main Lane	N/A	N/A	B	D
Entrance Ramp from Hwy 67	Entrance Ramp	N/A	N/A	B	C
Between Hwy 67 Entrance Ramp & Hwy 70 Exit Ramp	Mainlane	C	F	B	D
Exit Ramp to Hwy 70	Exit Ramp	C	F	B	D
Between Hwy 70 Exit & Entrance Ramps	Mainlane	B	C	B	C
Entrance Ramp from Hwy 70	Entrance Ramp	B	C	B	C
West of Hwy 70	Mainlane	B	C	B	C

Under the no-build scenario, peak-hour operations are expected to degrade to unacceptable levels by the design year. By implementing the Project, operations are expected to improve by one or more levels of service at many locations, resulting in significant delay reductions, as summarized in **Table 5**.

Table 5. Travel-Time Impacts

Scenario	Peak-Period Delay (hours/day)
2020 No-Build	1,486
2020 Build	886
Reduction	600 (40.4%)
2040 No-Build	3,932
2040 Build	2,529
Reduction	1,403 (35.7%)

Thus, the Project is expected to significantly improve operations on Interstate 30 and increase mobility for local, regional and national travelers alike. (For the results of other operational analyses, including opening-year and cross-street operations, see [Appendix B](#), pp. 34-35, 42-43.)

The proposed improvements will also return the Project area to a state of good repair. The existing pavement consists of a jointed concrete of varying condition (mostly poor), with severely faulted and deteriorating joints; overlaid with asphalt showing signs of severe stripping. In 2012, the Project area was overlaid with a composite geosynthetic joint tape and four-inch overlay meant as a stop-gap pending reconstruction ([Appendix D](#)). Additionally, structural deficiencies have been identified on four of the seven bridges (not including box culverts) within the Project area ([Appendix C](#), p. 20). The Project will completely reconstruct existing pavements and replace all existing bridges. Without reconstruction of deficient pavement and structures, Interstate 30 may not be able to reliably and safely accommodate anticipated traffic volumes.

SAFETY OUTCOMES

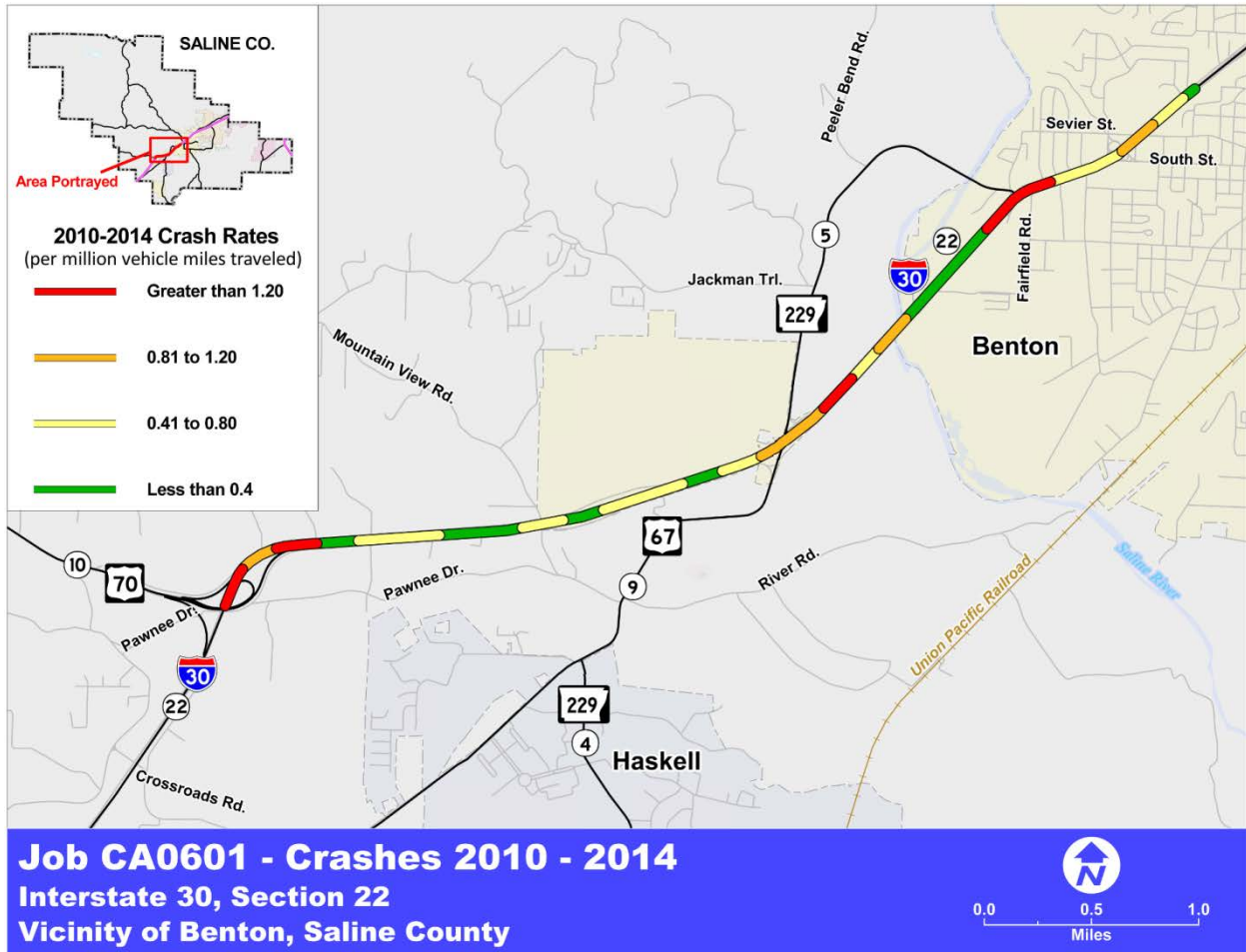
The five-year crash history (2010 thru 2014) of the Project area is summarized in **Table 6**. Over that period, 428 crashes were documented within the Project area (including main lanes, ramps and the cross-street approaches of U.S. Highway 67 and State Highway 229). Of those 428 crashes, 29 resulted in loss of life or serious injury. As these data indicate, the predominant crash types within the Project area are rear-end and single-vehicle crashes, which primarily occurred on the Interstate mainlanes and ramps. Those two crash types also account for the majority of fatal or serious injury crashes within the Project area.

Table 6. Crash History: 2010 – 2014

Crash Type	Severity					TOTAL
	Fatal	Serious Injury	Minor Injury	Complaints of Pain	Property Damage Only	
Angle	1	2	4	8	29	44
Backing	–	–	–	–	2	2
Head-On	1	–	–	–	2	3
Rear-End	2	4	7	27	75	115
Sideswipe, Opposite	–	–	–	–	1	1
Sideswipe, Same	–	3	–	17	62	82
Single-Vehicle	5	11	10	30	125	181
TOTAL	9	20	21	82	296	428

Figure 13 illustrates the distribution of crashes on Interstate 30. Between 2010 and 2014, the statewide average crash rates (all types and severities) for four-lane freeways in urban and rural areas were 0.87 and 0.40 crashes per million vehicle miles, respectively. Areas highlighted in orange or red in Figure 13 represent locations where the localized crash rate is higher than the statewide average.

Figure 13. Crash Rates by Location



The proposed improvements are expected to improve safety in the following ways (*Appendix B*, pp. 44-45):

- The Project will add capacity to Interstate 30. Adding capacity is expected to reduce the rear-end crash rate by reducing vehicle density and mitigating peak-hour congestion.
- The Project will revise curve sections, improve the vertical profile of the mainlanes, add rigid safety barriers to the median, and update signage. All of these improvements are expected to reduce the frequency and severity of single-vehicle crashes.
- The Project will eliminate conflict points, add or lengthen acceleration and deceleration lanes, signalize ramp terminals, and add capacity at approaches and overpasses/underpasses. All of these improvements are expected to improve safety at interchange areas.
- The Project will add a third mainlane in each direction, which will allow freight vehicles to avoid fast-moving vehicles in the inner lane and merging vehicles in the outer lane. Thus, the Project is expected to improve interactions between freight vehicles and passenger vehicles.

COMMUNITY AND ENVIRONMENTAL OUTCOMES

This Project enhances personal and freight mobility while minimizing adverse effects on the built and natural environment. The construction limits of the project are expected to be almost entirely within the existing right-of-way limits, with the exception of interchange areas, where some right-of-way acquisition is anticipated (*Appendix B*, pp. 93-116). Currently, the AHTD is anticipating 12 relocations as a result of the Project. A Tier 3 Categorical Exclusion has been approved, and only minor environmental impacts have been identified (*Appendix C*, pp. 8-9).

Stakeholders were engaged throughout the project-development process, including:

- Coordination with staff from the metropolitan planning organization (Metroplan) on August 13, 2013, pertaining to future traffic volumes;
- Consultation with staff and public officials from the cities of Benton and Haskell on September 26, 2013, pertaining to anticipated development, design preferences for Interstate 30, and local infrastructure improvements;
- Consultation with staff from Saline County on September 26, 2013, pertaining to recent infrastructure improvements, anticipated development, and specific concerns about the extant conditions of Interstate 30;
- Coordination with public officials on March 25, 2014; and
- An open-forum public-involvement meeting on November 5, 2015, where 60% designs were presented (*Appendix C*, pp. 115-119).

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

PARTNERSHIP AND INNOVATION

As discussed above, the CAP is financed using a statewide sales tax approved by voters for the specific purpose of funding this and other projects under the CAP. Bond financing has been used to accelerate project delivery. To further accelerate project delivery, management of the CAP is led by a consultant engineering team, with oversight by the AHTD.

COST SHARE

This Project is a component of a strategic highway improvement program (CAP) that will invest approximately \$1.8 billion to improve major highways throughout Arkansas. The AHTD and CAP management team have been careful to understand and manage the risks of this and other projects under the CAP, and to schedule projects within limits of anticipated cash flows.

AHTD is proposing that 60 percent of future eligible project costs be provided by the FASTLANE program. Receipt of those funds would ensure that this Project can proceed to construction without delay.

As discussed in Section IV, the State match for the Project comes from the CAP, which is supported by a dedicated sales tax. AHTD is committed to proactively improving, maintaining and operating its Interstate highways, as demonstrated by its significant and continuing investments on the Interstate System.

VI. 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. Interstate 30 connects Arkansas and Texas to regional, national and international markets. In the Project area, Interstate 30 currently serves more than 50,000 passenger vehicles and 10,000 freight vehicles per day. Volumes are projected to increase significantly over the next two decades. The Project will reduce congestion on Interstate 30 by adding capacity at a bottleneck, as well as make geometric and access improvements along the route. As a result, operations on Interstate 30 will be safer and more efficient. For more information, see Sections I and V.

2. Is the project cost effective?

Yes. The benefit-cost ratio for the Project is expected to be between 1.3 and 2.0 (assuming discount ratios of seven percent and three percent, respectively). For more information, see Section VII.

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

Yes. The Project will:

- Improve traffic **safety** through congestion reduction and geometric and access improvements;
- Return the length of the facility to a **state of good repair**;
- Reduce **congestion** by adding capacity;
- Improve system **reliability** by reducing recurring congestion and non-recurring congestion (due to traffic incidents, weather, and special events);
- Improve **freight** movement 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** and promote economic development by minimizing the costs associated with moving people and goods.

For more information, see Section V.

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

Yes. The environmental review process is complete, and a Tier 3 Categorical Exclusion has been approved. The FHWA accepted the access modifications proposed in the Interchange Justification Report from an engineering and operational standpoint, with final approval pending environmental clearances and final design. Preparation of 90% plans is underway. For more information, see Section VIII.

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 and Section V, this Project is one of several large projects financed by the CAP. The revenues generated by the CAP are considerable, and the AHTD and CAP manager have taken appropriate steps to manage project risk and cash-flows limitations. However, the cumulative risk of all projects under the CAP, and the potential for related cash-flow issues, does introduce the possibility of project delay. Receipt of FASTLANE funds will allow the Project to proceed to construction without delay.

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, construction notice to proceed would be issued in January 2018. For more information, see Section VIII.

VII. COST EFFECTIVENESS

A detailed Benefit-Cost Analysis (BCA) was conducted as part of the impact analysis for the Project. In conducting the BCA, all Federal guidance regarding evaluation criteria, discount and monetization rates, and evaluation methods prescribed in the 2016 TIGER VIII and FASTLANE guidance and supporting documents were adhered to. The benefits and costs of the Project are calculated in 2015 dollars over a time horizon of 20 years. Benefits were estimated across the following categories:

- Economic Competitiveness
- Environmental Sustainability
- Safety

The estimation of benefits involved establishing base year Build and No-Build scenarios in 2016 and 2036, and calculating the differences between the Build and No-Build in the benchmark years, using straight line growth. The project is assumed to open to traffic in 2020. A horizon year of 2040 was applied for the Build and No-Build scenarios to provide a 20-year benefit stream. A summary of the BCA methodology is provided in **Table 7** for each benefits category. Detailed technical documentation is included as [Appendix E1](#) and [Appendix E2](#). The benefits of implementing the Project include cost savings due to reduced pavement maintenance cost, travel time, delays and vehicle operating cost, motor vehicle crash costs.

Table 7. Summary Methodology and Data Sources for Benefit-Cost Analysis

Economic Benefit Category	Metrics	Methodology	Sources
A. Economic Competitiveness	Travel Time Costs	Estimate the change in hours of peak hour delay by calculating the average delay per vehicle and applying it to peak hour traffic counts. Changes in delay over the 20-year analysis period are multiplied by the corresponding Value of Time (VOT) estimates for autos and trucks	Level of Service and Traffic Counts: Interchange Justification Report for AHTD Job No. CA0601: F.A.P. No 9991 Interstate 30 Highway 70 - Sevier Street (Widening) Saline County Arkansas
	Vehicle Operating Costs (VOC)	Estimate average per-hour VOC for passenger vehicles and trucks. Multiply the average marginal VOC for passenger cars and trucks by their corresponding changes in peak hour delay over the 20-year analysis period	Auto VOC: Your Driving Costs, 2015 Edition (AAA) Truck VOC: An Analysis of the Operational Costs of Trucking: 2015 Update (ATRI, September 2015), Table 15, p. 27 Fuel consumption, Auto: Environmental Protection Agency, Office of Transportation and Air Quality Fuel Consumption, Truck: U.S. Energy Information Administration Fuel Prices: U.S. Energy Information Administration
B. Environmental Sustainability	Social Cost (SCC) Emissions & Non-Carbon Emissions Costs	Calculate emission rates for Carbon Dioxide (CO ₂), Volatile Organic Compound (VOCs), Nitrogen Oxides (NO _x), Particulate Matter (PM) and Sulfur Dioxide (SO _x) for passenger cars and trucks on urban restricted access roads. Multiply emission rates by the changes in peak hour delay resulting from project implementation Multiply emissions increase/decrease by emissions cost	Emission rates: Calculated by CS using MOVES2014 2016 TIGER Benefit-Cost Analysis (BCA) Resource Guide; Corporate Average Fuel Economy for MY2017-MY2025 Passenger Cars and Light Trucks (August 2012), page 922, Table VIII-16, "Economic Values Used for Benefits Computations (2010 dollars)." 2016 TIGER Benefit-Cost Analysis (BCA) Resource Guide; Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866 (May 2013; revised July 2015), page 17, Table A1 "Annual SCC Values: 2010-2050 (2007\$/metric ton CO ₂).

Table 7. Summary Methodology and Data Sources for Benefit-Cost Analysis (continued)

Economic Benefit Category	Metrics	Methodology	Sources
C. Safety	Motor Vehicle Crash Costs	<p>Apply fatality, injury and property damage only (PDO) crash rates to changes in VMT resulting from project to estimate crash reduction/increase</p> <p>Multiply crash reduction/increase by the dollar value of crash</p> <p>The crash rates are reduced in the build scenario due the extra lanes.</p>	<p>Traffic Counts: Traffic Count Plan, Traffic Projection Plan and Traffic Forecast CA0601 - I-30 Widening, Highway 70 to Sevier Street. Arkansas State Highway and Transportation</p> <p>Crash Rates: Arkansas State Police, Highway Safety Office, "Arkansas 2013 Traffic Crash Statistics"</p> <p>Fatal Accident Cost: 2016 TIGER Benefit-Cost Analysis (BCA) Resource Guide supplement to the 2016 Benefit-Cost Analysis Guidance for Grant Applicants, <i>Guidance on Treatment of the Economic Value of a Statistical Life in U.S. Department of Transportation Analyses</i> (2016)</p> <p>Injury Accident Cost: estimated based on the KABCO/Unknown - AIS Data Conversion Matrix developed by the NHTSA (July 2011) and provided in the 2016 TIGER Benefit-Cost Analysis (BCA) Resource Guide, page 13 of 20</p> <p>Source of PDO Crash Cost: <i>The Economic and Societal Impact of Motor Vehicle Crashes, 2010</i></p>

Table 8 summarizes the findings of the benefit-cost analysis.

Table 8. Summary of Benefit-Cost Analysis

Benefit-Cost Analysis Summary		Discounted at 3%	Discounted at 7%
NET PRESENT VALUE = (B) - (C) =		\$118,728,226	\$33,812,263
BENEFIT-COST RATIO = (B) / (C) =		2.0	1.3
Project Costs		Discounted at 3%	Discounted at 7%
Capital Costs		\$119,018,666	\$107,278,115
O&M Costs		\$515,973	\$315,480
	Total Costs (C) =	\$119,534,639	\$107,593,595
Project Benefits		Discounted at 3%	Discounted at 7%
A. Economic Competitiveness	Travel Time Costs	\$111,297,823	\$65,897,956
	Vehicle Operating Costs	\$51,973,315	\$30,700,850
B. Sustainability	Social Cost of Emissions	\$16,651,306	\$9,727,266
C. Safety	Motor Vehicle Crashes	\$58,340,421	\$35,079,786
	Total Benefits (B) =	\$238,262,865	\$141,405,858

The benefit-cost ratio for the Project is expected to be between 1.3 and 2.0 (assuming discount ratios of seven percent and three percent, respectively). As indicated in **Table 8**, the Project is expected to yield substantial benefits to the motoring public by reducing travel-time and vehicle-operating costs and improving traffic safety.

The transportation cost savings arising from the Project will support additional economic growth and development in the region. It is estimated that the short-term impact of the increased construction spending in the amount of \$111.1 million will lead to an additional 1,445 jobs. In the long term, the Project will increase the overall competitiveness of the region, translating into an additional 57 jobs, \$2.0 million in labor income, and \$7.0 million in Gross Regional Product (GRP), annually.

VIII. PROJECT READINESS

As discussed at length below, the Project is expected to be shovel ready when FASTLANE awards are announced in calendar year 2017. Thus, FASTLANE 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.

TECHNICAL FEASIBILITY

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

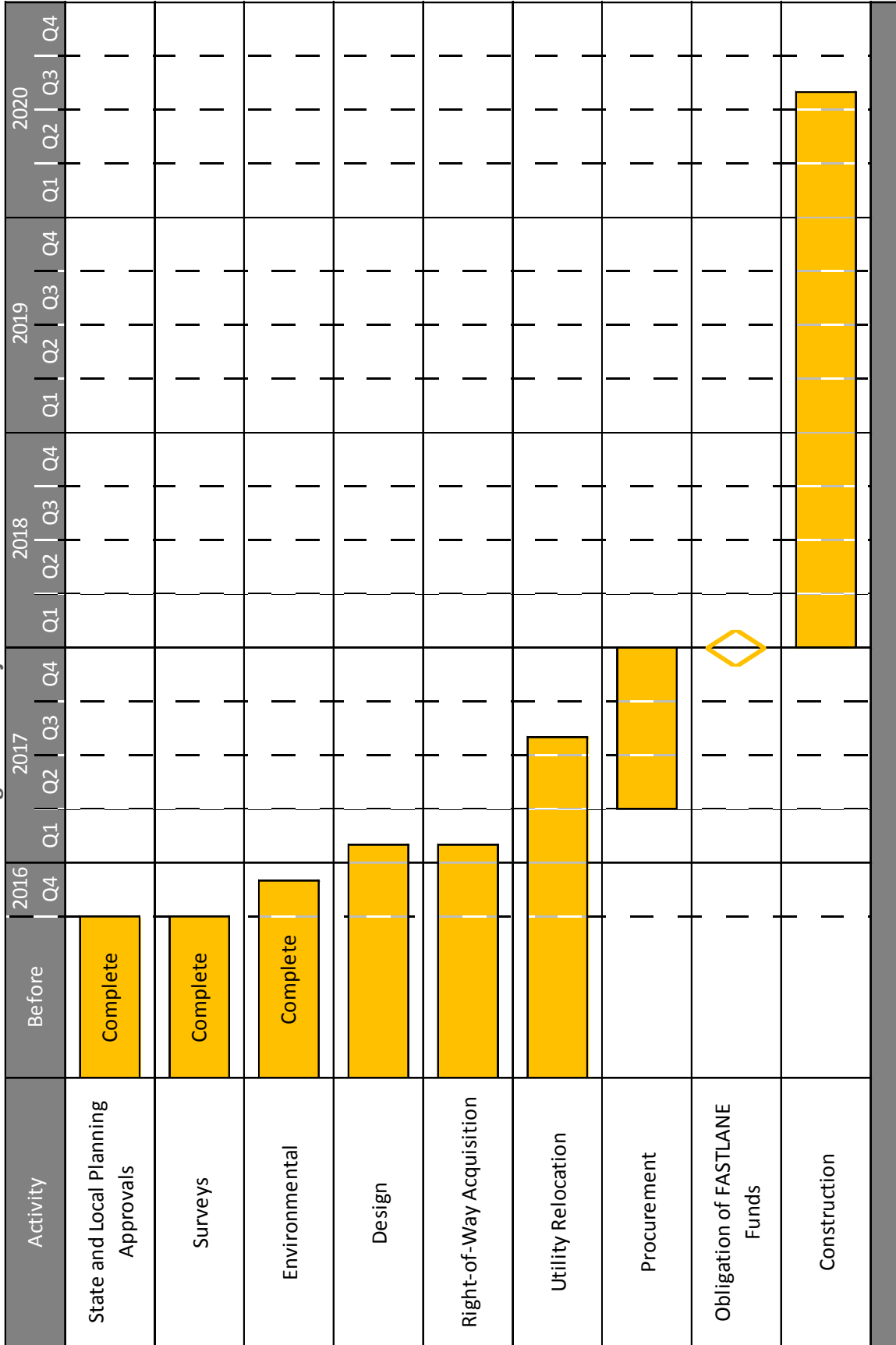
- FHWA approval of a Tier 3 Categorical Exclusion for the project, indicating that no significant environmental impacts are anticipated ([Appendix C](#));
- FHWA finding that proposed access modifications are acceptable from an engineering and operational standpoint ([Appendix F](#));
- Completion of final right-of-way plans; and
- Preparation of cost estimates based on 60% design documents, with 90% design documents under development.

For a detailed description of proposed improvements, see [Appendix B](#), pp. 20-23.

PROJECT SCHEDULE

A schedule of Project milestones is presented in **Figure 14**. This Project will be shovel-ready when FASTLANE awards are announced in calendar year 2017, and matching funds will be secured under the dedicated revenue streams of the CAP. FASTLANE funds would be obligated in January 2018, well in advance of the statutory obligation deadline for large projects (September 2020). Likewise, construction is scheduled to begin as weather permits in 2018, well in advance of the construction start deadline (March 2022). Property and right-of-way acquisition activities will be performed in accordance with 49 CFR Part 24 and other applicable legal requirements, with a scheduled completion date of January 2017.

Figure 14. Project Schedule



REQUIRED APPROVALS AND PUBLIC INVOLVEMENT

The environmental review process is complete. A Tier 3 Categorical Exclusion was approved by the FHWA on June 30, 2016 ([Appendix C](#)). All necessary permitting is expected well in advance of the FASTLANE obligation deadline. Formal consultation with the United States Fish and Wildlife Service concluded with the Biological Opinion issued on June 22, 2016 ([Appendix G](#)).

Detailed studies, anticipated project impacts and a list of environmental commitments are included in [Appendix C](#) and [Appendix G](#). For a discussion of stakeholder involvement efforts, see Section V.

The Project is included in each of the required State and Metropolitan planning documents. Development of the Arkansas Long Range Intermodal Transportation Plan is ongoing, but that plan will not be project specific. Development of the Arkansas State Freight Plan is also ongoing, and the Project will be included in that plan.

In September 2015, the AHTD submitted an Interchange Justification Report (IJR) to the FHWA describing the Project's proposed access modifications. By letter dated December 22, 2015, the FHWA communicated its acceptance of the proposed access modifications from an engineering and operational standpoint, with final approval pending completion of the NEPA process and a review of final plans ([Appendix F](#)).

ASSESSMENT OF PROJECT RISKS AND MITIGATION STRATEGIES

Risk management is an ongoing activity on this Project. The most recent risk assessment was completed in October 2015 at the 60 percent design stage, as reported in **Table 9**. Subsequent outcomes and risk-mitigation activities are summarized in the **Table 10**. An updated risk assessment is anticipated at the 90 percent design stage.

Table 9. Risk Register (60% Design Stage)

Functional Area	Potential Risks	Scope (Impact/Likelihood)	Schedule (Impact/Likelihood)	Estimate (Impact/Likelihood)	Overall Risk (High, Med, Low)
Construction					
Planning, Environmental and Permitting	Mussels survey needed.	Low/Low	Medium/Medium	Low/Medium	Medium
	Noise report to be submitted 10/23.				
Roadway Design	Adding fifth ramp at Hwy. 67 interchange.	Low/High	Medium/High	Low/Medium	Medium
	Unit price bid is low for portable concrete median barriers.				
	No approved pavement design at this time.				
Bridge Design	No significant concerns at this point.	Low/Low	Low/Low	Medium/Medium	Medium
Construction	No concerns at this point.	Low/Low	Low/Low	Low/Low	Low
Other Project					
Right of Way	Five relocatees identified.	Low/Low	Medium/Medium	Medium/Medium	Medium
Utilities	Multiple utility relocations expected at interchanges and curves.	Low/Low	High/High	High/High	High
Railroad	NA	—	—	—	—
Other	NA	—	—	—	—

Table 10. Outcomes and Mitigation Activities

Discussion	
Mussels survey completed. USFWS concluded that the project is not expected to jeopardize protected mussels.	
Noise abatement not warranted based on AHTD policy.	
Will be addressed in 90% submittal (December).	
Will be corrected in 90% submittal (December).	
Approval by AHTD pending (December).	
Remaining issues will be addressed in 90% submittal (December).	
—	
Additional relocatees identified, bringing total to 12. Right-of-way activities underway.	
Utility relocation schedule extended.	
—	
—	

**WAGE RATE CERTIFICATION
FOR
FIXING AMERICA'S SURFACE TRANSPORTATION ACT**

Pursuant to the Fixing America's Surface Transportation Act (Pub. Law 114-94), I, Scott E. Bennett, Director of Highways and Transportation for the State of Arkansas, certify that all laborers and mechanics employed by contractors and subcontractors on projects funded directly by or assisted in whole or in part by and through the federal government pursuant to the Act shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of Chapter 31 of Title 40, United States Code, the Davis-Bacon Act.

I understand that the Arkansas State Highway and Transportation Department may not receive FASTLANE 2017 funding unless this certification is made and posted.



Scott E. Bennett, P.E.
Director of Highways and Transportation



Date