STATE PLANNING AND RESEARCH (SPR)

WORK PROGRAM AND COST ESTIMATE

State Fiscal Year 2016

FHWA PROJECTS
SPR-2000(36), SPR-4000(35)
SPR-3000(1) AND SPR 3000(2)
AND OTHER
FEDERALLY ASSISTED PROGRAMS

Arkansas State Highway and Transportation Department
Transportation Planning and Policy Division
System Information and Research Division
in cooperation with
U.S. Department of Transportation
Federal Highway Administration
Federal Transit Administration

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
TRANSPORTATION PLANNING AND POLICY DIVISION
SYSTEM INFORMATION AND RESEARCH DIVISION

STATE PLANNING AND RESEARCH (SPR)
WORK PROGRAM AND COST ESTIMATE
STATE FISCAL YEAR 2016

FOR

FHWA PROJECTS SPR-2000(36), SPR-4000(35),
SPR-3000(1) AND SPR-3000(2)

AND

OTHER FEDERALLY ASSISTED PROGRAMS

PART I
PLANNING

PART II
RESEARCH

PART III
MBTC ACTIVITIES

PART IV
CTTP ACTIVITIES

PART V
T^2 PROGRAM

PART VI
PUBLIC TRANSPORTATION PROGRAMS

PART VII
HIGHWAY SAFETY IMPROVEMENT PROGRAM

in cooperation with
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL TRANSIT ADMINISTRATION

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INTRODUCTION

This work program has been developed in compliance with United States Code Titles 23 and 49, as amended, in cooperation with the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA).

The contents of this document describe proposed planning and research activities of the Arkansas State Highway and Transportation Department (Department) for State Fiscal Year 2016. It contains Part I, the Planning portion of the State Planning and Research (SPR) Work Program and Cost Estimate; Part II, which describes Research activities; Part III, covering the Mack - Blackwell National Rural Transportation Study Center (MBTC). Other programs included are the Technology Transfer (T^2) Program, the planning portion of the FTA Program under Public Transportation Programs, and other federal and state funded projects.

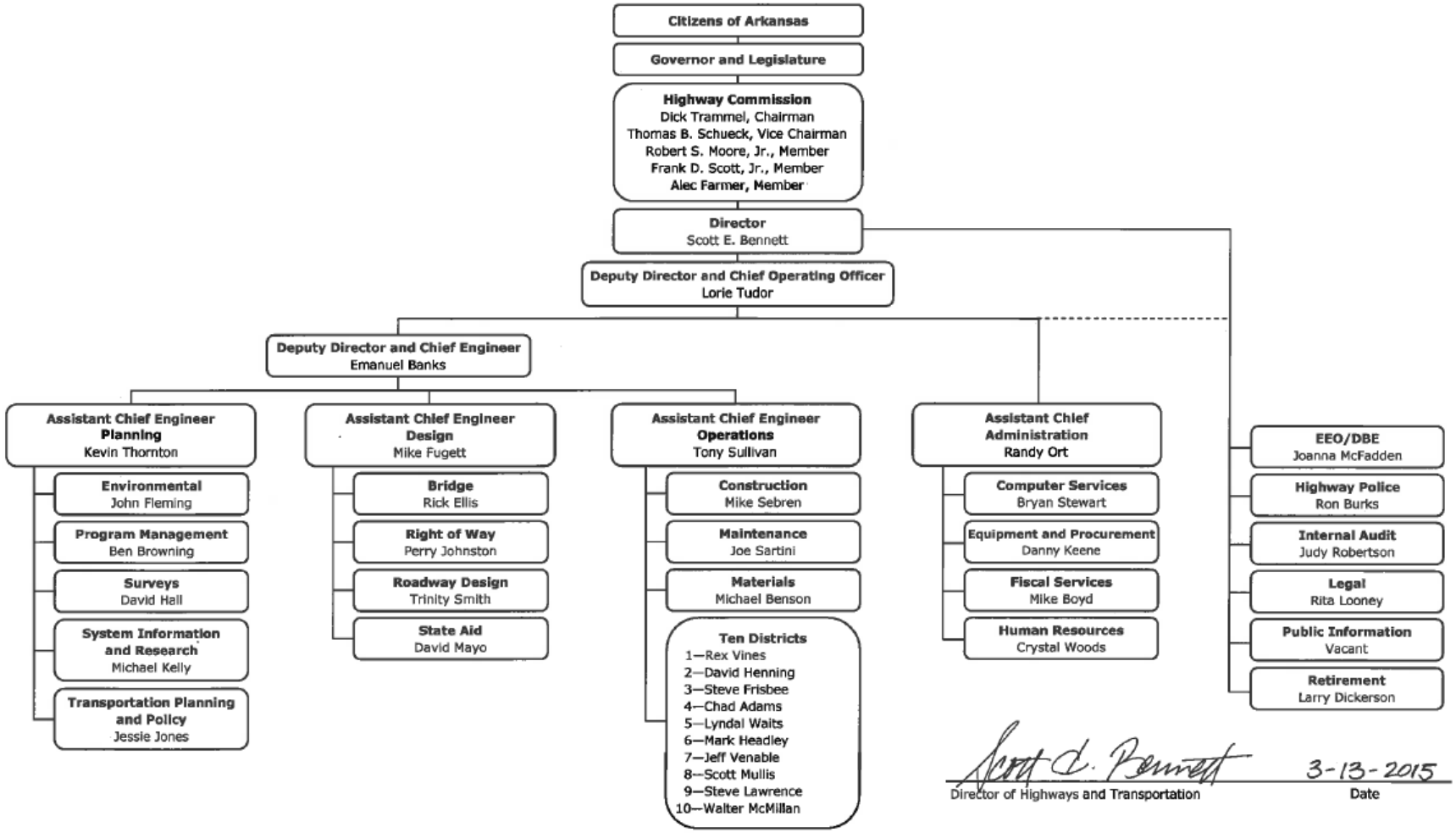
The Transportation Planning and Policy (TP&P) Division is composed of Geographic Information Systems and Mapping Section, Policy and Legislative Analysis Section, Multimodal and Project Planning, the Metropolitan Planning Organization (MPO) Coordination Office, Traffic Safety, and Public Transportation Programs Section. All of these activities are described in this document under the Part I (Planning Program Section) Part VI. Additionally, Public Transportation Programs Section activities are found in the Part VI section.

The System Information and Research (SIR) Division is composed of the Research, Traffic Information Systems, and the Asset Management Sections. SIR activities are described in this document under Part I (Planning) and Part II (Research).

In general, the goals and objectives of this program describe and implement the type of planning and research essential to maintain and improve the state's Transportation System. The System is part of the unified, interconnected National Intermodal Transportation System, in accordance with the policies set forth in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the Transportation Equity Act for the 21st Century (TEA-21) of 1998, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005, and Moving Ahead for Progress in the 21st Century (MAP-21) of 2012. FHWA-supported highway and transportation planning continues as the dominant activity. The Department will continue to give proper attention to the development of other modes of transportation as outlined in the various line items. Special efforts will be given to develop and implement a performance based planning and programming process that focuses on supporting transportation system performance outcomes. The Department's planning effort is an on-going operation, instrumental to the formulation of short- and long-term policies, plans and procedures to achieve the goals and objectives under each work function.

The T^2 Program funds are programmed based on a calendar year and the T^2 Program is presented through December 2015 and all of Calendar Year 2016.

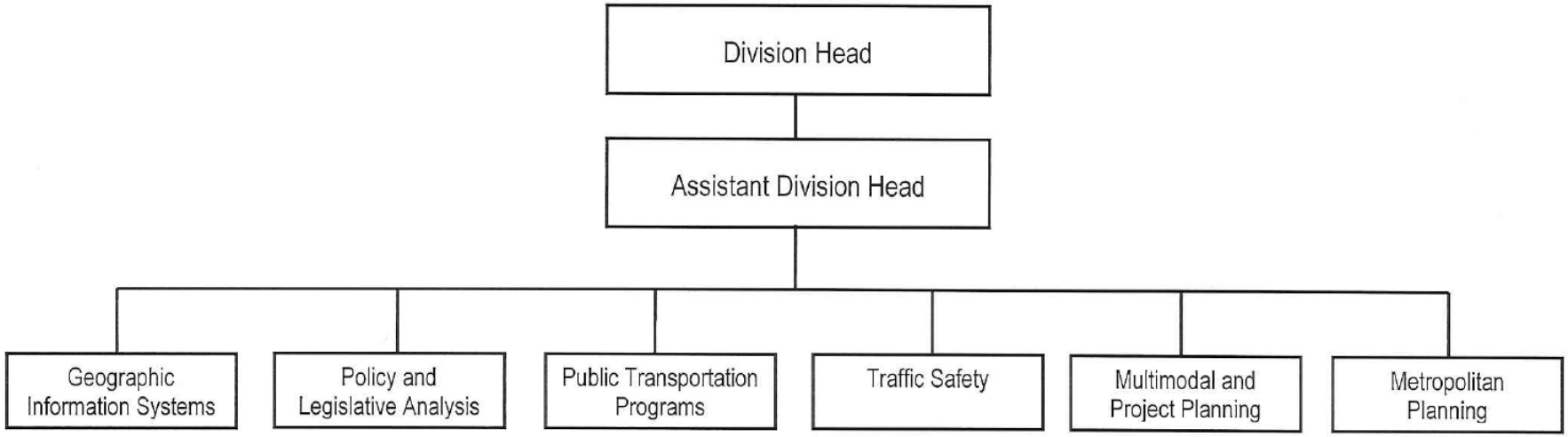
ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
ORGANIZATION CHART



Scott E. Bennett 3-13-2015

Director of Highways and Transportation — Date

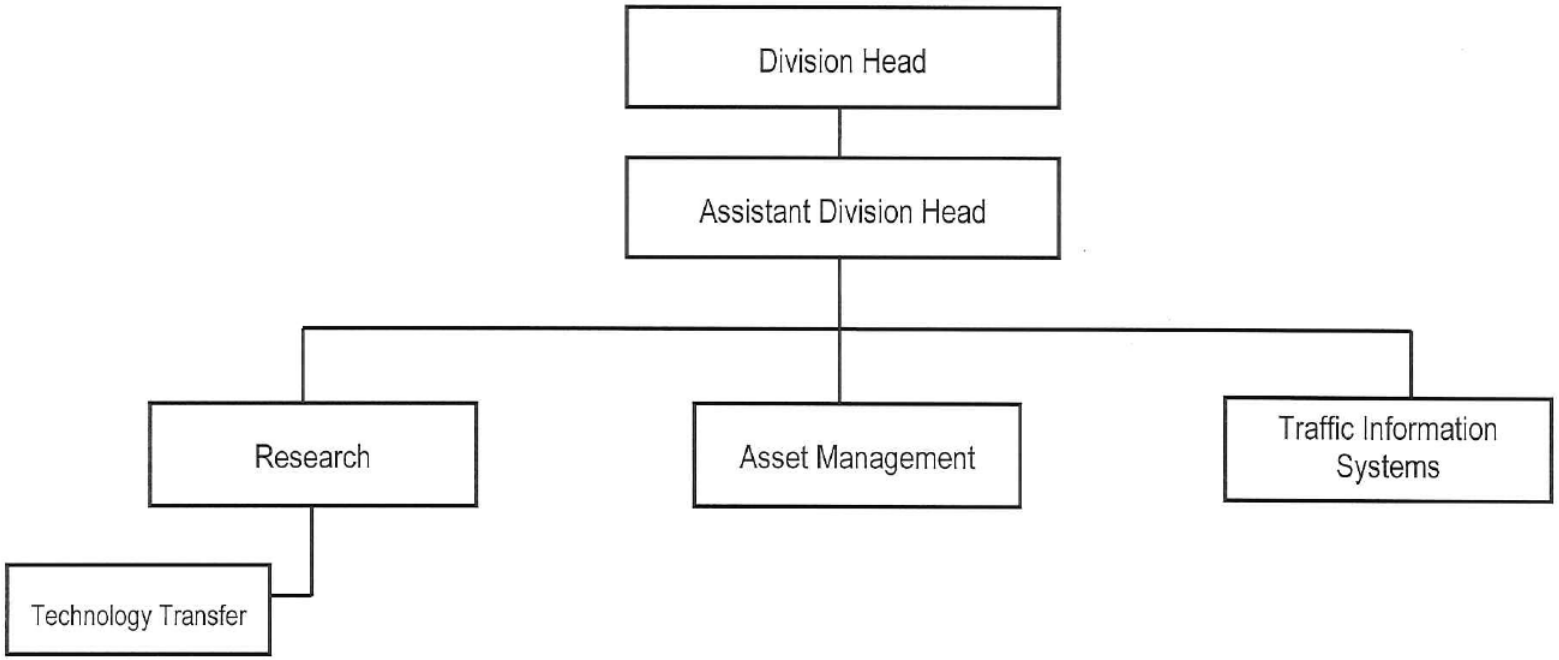
TRANSPORTATION PLANNING AND POLICY DIVISION
ORGANIZATION CHART



Approved Kevin Thornton
Assistant Chief Engineer – Planning

5-29-15
Date

SYSTEM INFORMATION AND RESEARCH DIVISION
ORGANIZATION CHART



Approved Kevin Thornton
Assistant Chief Engineer – Planning

5-29-15
Date

TRANSPORTATION PLANNING AND POLICY DIVISION

GEOGRAPHIC INFORMATION SYSTEMS AND MAPPING SECTION

The Geographic Information Systems and Mapping Section is responsible for the preparation of maps and related projects required by the Department. These consist of design and compilation for 75 counties (centerline maps, enhanced maps, road number layers and route and section maps), 512 municipal, city or community area maps, statewide maps (i.e. State Highway Map (Tourist Map) and State General Highway Map), GIS datasets and special projects or displays and presentations as needed.

METROPOLITAN PLANNING COORDINATION OFFICE

The Metropolitan Planning Coordination Office is the planning liaison between the Department and the eight Metropolitan Planning Organizations (MPOs) in Arkansas. This Office provides a point of contact for MPO staff seeking information and guidance on matters relating to AHTD projects in their area, interpreting and ensuring adherence to Federal regulations, and planning matters in general. The Metropolitan Planning Coordination Office and the Public Transportation Programs Section share in managing the Department's participation in the continuing, cooperative and comprehensive (3-C) planning process in each urbanized area in compliance with Federal regulations.

MULTIMODAL AND PROJECT PLANNING SECTION

The Multimodal and Project Planning Section coordinates Department planning activities with government agencies responsible for all modes of transportation. Planning studies are conducted to identify and measure engineering, social and economic factors of proposed transportation improvements for use in the decision-making process. Railroad crossings are monitored for possible upgrade of their protective systems and surfaces.

POLICY AND LEGISLATIVE ANALYSIS SECTION

The Policy and Legislative Analysis Section is responsible for a variety of activities involving both the Transportation Planning and Policy Division and several other Divisions in the Department. There are three main areas of effort:

- Legislative Review - monitoring state and federal legislative impacts on program requirements and funding; and monitoring other states' legislative actions to anticipate the impacts to Arkansas.
- Finance – monitoring Arkansas and federal funding trends, proposed funding mechanisms, monitoring financing options in other states, and submitting annual statistical reports to FHWA for federal fund distribution.

- Publications – Biennial Report, Motor Fuel Tax Rates, Selected Facts and Figures, Census Data, and others as requested.

This Section gathers and analyzes data basic to federal, state, and Department policies and administrative decisions required to maintain and improve Arkansas' State Transportation System. This section reviews highway, road and street laws, and familiarity with state and national financial trends.

PUBLIC TRANSPORTATION PROGRAMS SECTION

The Public Transportation Programs Section is responsible for the oversight of all state and federal public transportation grant programs and van pool initiatives. Various FTA grants to assist transit and paratransit service providers are administered through this office. This Section also coordinates state public transit activities, providing necessary technical assistance.

Federal assistance programs include small-urbanized area transit systems, rural area transit systems, and community service organizations that serve the needs of seniors, individuals with disabilities, and persons with low incomes. Federal and state capital projects, the metropolitan planning program, and local transit coordination planning are other responsibilities of this Section. Other duties include providing technical assistance, financial management, operations monitoring and reporting, safety and security oversight, asset management inventory and evaluation, and all associated compliance requirements for the Federal Transit Administration. Coordination activities include hosting and participating in the annual Public Transportation Conference and supporting the Public Transportation Coordination Council.

TRAFFIC SAFETY SECTION

The Traffic Safety Section is responsible for administering the Highway Safety Improvement Program (HSIP) and the rail-highway safety program. Part of the HSIP process involves traffic crash location and traffic crash data analysis. Traffic crash reports are checked for accurate highway-section-log mile location and are corrected if necessary. Traffic crash data is analyzed to identify high crash rate locations involving fatal and serious injuries, wet weather crashes, annual wrong way crash analysis study, and single vehicle run-off-road type crashes. The Traffic Safety Section conducts crash analyses as requested by other Divisions and Districts. The Section also facilitates the Statewide Safety Steering Committee and updates the State's Strategic Highway Safety Plan as needed.

SYSTEM INFORMATION AND RESEARCH DIVISION

ASSET MANAGEMENT SECTION

The Asset Management Section has various responsibilities falling under two categories, pavement performance information and asset inventory management. The section is responsible for collecting various metrics regarding pavement condition and structure, including but not limited to, smoothness, rutting, cracking, pavement modulus, skid resistance, macrotexture, pavement structure, and the collection of pavement and right-of-way imagery. This data is used to determine rehabilitation or preservation strategies and aid in the decision making process. The data collected by the section will be used for both the Transportation Asset Management Plan (TAMP) creation mandated by MAP-21 as well as for the Highway Performance Monitoring System (HPMS) data submissions. The other major duties of the section are the maintenance of the roadway inventory system, including all HPMS samples, the surveying and collection of assets along the roadway, and the management of the department's Multimedia Highway Information System.

RESEARCH SECTION

The Research Section is responsible for conducting the Department's Transportation Research and Development Program, the Transportation Research Assistantship Program, the Training Transportation Professionals Program, and the Pavement Acceptability Verification Profilograph Program. Other responsibilities include monitoring contract project activities, conducting in-house research projects, installing and evaluating test sections of roadways, implementing findings of research projects, conducting Department support operations as requested or required and other research related activities.

The Transportation Research and Development Program is composed of research projects recommended by the Research Advisory Council and approved by the Transportation Research Committee. The Program includes in-house projects, demonstration and experimental construction projects, required by the Department and contracts from FHWA, and projects that are contracted to various institutions of higher learning, other governmental agencies, and private contractors. The Department's participation in the National Cooperative Highway Research Program (NCHRP) and various pooled fund studies are conducted through the Research Section. NCHRP projects are selected based upon national need. The Research Section coordinates the Department's participation in this selection process.

The Transportation Research Assistantship Program is composed of short courses/seminars, assistantships for graduate students studying engineering and conducting research projects as approved by the Mack-Blackwell National Rural Transportation Study Center Review Panel at the University of Arkansas at Fayetteville, and the Department.

The Training Transportation Professionals Program is a continuing program and is composed of short courses specifically prepared at the request of the Department. Courses are developed through partnerships with local agencies and AHTD.

The Pavement Acceptability Verification Profilograph Program is a continuing program available at the request of the Districts to resolve pavement acceptability issues with contractors and to verify the authenticity of contractor performed profilograph ratings.
Grant projects are continuing with Arkansas State University in conjunction with the Crowley's Ridge Parkway and the Great River Road.

The Research Section subscribes to the National Highway Research Information Correlation Service. Through this system, information concerning research activities funded by the U.S. Department of Transportation is available to the Department. The Research Section maintains a library of selected publications from the Transportation Research Board, reports on Department sponsored research projects and various other states' sponsored research projects that are available to the Department and other agencies. Research maintains a database of research results and tracks their implementation within the Department.

TRAFFIC INFORMATION SYSTEMS SECTION

The Traffic Information Systems Section has the responsibility of monitoring, collecting, analyzing, managing, and disseminating system-wide traffic data. The Section is responsible for the Traffic Monitoring System for Highways.

Truck weight data, traffic counts, vehicle classifications are collected, reported and disseminated. Special surveys are conducted as needed in order to support the Department's planning and design efforts. Throughout the year, numerous statistical analysis reports and other reports are published for use by FHWA, State and local officials, planning departments, and Department personnel.

MACK-BLACKWELL NATIONAL RURAL TRANSPORTATION STUDY CENTER (MBTC) TRANSPORTATION RESEARCH ASSISTANCE PROGRAM

The Department entered into an agreement with the University of Arkansas at Fayetteville in 1996 establishing the Transportation Research Assistance Program at the Mack-Blackwell National Rural Transportation Study Center (MBTC). The Transportation Research Assistance Program permits the Department to participate with the MBTC in short courses/seminars, provide Transportation Research Assistantships to select graduate students, to select Department employees, and participate in state funded, Department-sponsored research projects. General supervision of this program for the Department is vested in the Review Panel consisting of the Deputy Director and Chief Engineer as Chairperson and the Assistant Chief Engineers.

Under the Short Courses/Seminars Program, the MBTC develops and presents short courses/seminars as mutually agreed to by the Department and the MBTC. Department personnel may be placed on loan to the MBTC to assist in development and/or presentation. Personnel may be made available for work with national short courses/seminars as well as Department-sponsored work.

Under the Transportation Research Assistantship Program, Research Assistantships are made available to select graduating Civil Engineering students and to select Department personnel. Applicants must be eligible for acceptance into the graduate program at the University of Arkansas at Fayetteville. This program permits employees to return to school to pursue advanced degrees in civil and transportation engineering and secures higher qualified personnel for the Department.

In the State Funded Research Projects Program, selected projects approved by the Review Panel will be forwarded to the MBTC. The MBTC may also submit research proposals directly to the Review Panel for review, approval, and inclusion in the State Funded Research Program. This program will complement the SPR Part II Contract Research Program.

TECHNOLOGY TRANSFER (T^2) PROGRAM

The Arkansas Technology Transfer (T^2) Program operates through the Research Section of the System Information and Research Division. The program is a cooperative effort of the Department, the University of Arkansas at Fayetteville, and the FHWA. The Local Technical Assistance Program (LTAP) is part of the T^2 Program.

The purpose of the Arkansas T^2 Program is to share the benefits of established and new transportation-related technology with local agencies. The methods of technology transfer include: training seminars, newsletters, webinars, video tapes/DVD, site visits, reports, publications, and information services. Training seminars ranging from basic equipment maintenance to administration skills are provided through this program. Seminars and workshops are presented to the local agencies at no cost to the receiving agency. Presentations are conducted at Planning and Development District (PDD) offices, at local government facilities, and local university facilities when available. Technology transfers are accomplished by personnel of all agencies involved in the LTAP Program. The subject matter ranges from worker safety, highway safety, and workforce development, to issues of infrastructure management. The experiences and innovations of established operations, as well as the implementation of the latest research findings, are shared.

The Arkansas T^2 Program is guided by an Advisory Committee consisting of representatives from the Municipal League, the Association of Arkansas Counties, the County Judges Association of Arkansas, the American Public Works Association, the FHWA, the University of Arkansas, and the Department.

ESTIMATED MANPOWER REQUIREMENTS – STATE F.Y. 2016

	Full Time	Part Time
TRANSPORTATION PLANNING AND POLICY DIVISION		
ADMINISTRATION:		
Number Supervisory	2	0
Number Staff	0	0
Number Secretarial	1	0
Number Clerical	1	0
GEOGRAPHIC INFORMATION SYSTEMS AND MAPPING:		
Number Supervisory	1	0
Number Staff	12	1 (Intern)
Number Secretarial	0	0
Number Clerical	0	0
METROPOLITAN PLANNING		
Number of Supervisory	1	0
Number Staff	2	0
Number Secretarial	0	0
Number Clerical	0	0
MULTIMODAL AND PROJECT PLANNING:		
Number Supervisory	1	0
Number Staff	13	0
Number Secretarial	1	0
Number Clerical	0	1
POLICY AND LEGISLATIVE ANALYSIS:		
Number Supervisory	1	0
Number Staff	5	0
Number Secretarial	0	0
Number Clerical	0	0
PUBLIC TRANSPORTATION PROGRAMS:		
Number Supervisory	1	0
Number Staff	12	0
Number Secretarial	1	0
Number Clerical	0	0
TRAFFIC SAFETY:		
Number Supervisory	1	0
Number Staff	10	0
Number Secretarial	1	0
Number Clerical	0	0
SUBTOTAL FOR TP&P	**67**	**1**
SYSTEM INFORMATION AND RESEARCH DIVISION		
ADMINISTRATION		
Number Supervisory	1	0
Number Staff	0	0
Number Secretarial	1	0
Number Clerical	0	0
ASSET MANAGEMENT		
Number Supervisory	5	0
Number Staff	22	0
Number Secretarial	0	0
Number Clerical	0	0
RESEARCH:		
Number Supervisory	3	0
Number Staff	12	0
Number Secretarial	1	0
Number Clerical	0	2*
TRAFFIC INFORMATION SYSTEMS:		
Number Supervisory	5	0
Number Staff	14	2
Number Secretarial	0	0
Number Clerical	0	0
SUBTOTAL FOR SIR	**64**	**4**
TOTAL Supervisory	22	0
Staff	101	0
Secretarial	6	0
Clerical	1	5
GRAND TOTAL	124	5

*Summer or C.O.E. Student Employees

FUNDING SUMMARY TABLE

PART I
PLANNING

PART II
RESEARCH

PART III
MBTC ACTIVITIES

PART IV
CTTP ACTIVITIES

PART V
T^2 PROGRAM

PART VI
PUBLIC TRANSPORTATION PROGRAMS

PART VII
HIGHWAY SAFETY IMPROVEMENT PROGRAM

FUNDING SUMMARY TABLE
ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
STATE PLANNING AND RESEARCH WORK PROGRAM
STATE FISCAL YEAR 2016
USING 2014 FEDERAL FUNDS

PART	AREA AND TYPE OF FUNDS	FTA FUNDS	FHWA FUNDS	STATE MATCH	OTHER MATCH	100% STATE FUNDS	UAF	TOTAL
Part I	PLANNING							
	S.F.Y. 2015 Estimated SPR Budget (M55)		$10,292,000	$2,573,000		$1,087,000		$13,952,000
	Part I Funds Transferred to Part II		$0	$0				$0
	Total Planning SPR Funds		$10,292,000	$2,573,000		$1,087,000		$13,952,000
	Other Federal Funds - STP Att., CMAQ, etc.		$963,200	$70,000	$170,800			$1,204,000
	Total Part I		$11,255,200	$2,643,000	$170,800	$1,087,000		$15,156,000
Part II	RESEARCH							
	Alloc. 2015 SPR Funds (M55)		$0	$0				$0
	Alloc. 2012 - 2015 SPR Funds (M56)		$3,140,295	$785,074				$3,925,369
	Total Research SPR Funds		$3,140,295	$785,074				$3,925,369
	Programmed from Previous M56 Funds							
	SPR-TPF5(412)		$543,717					$543,717
	TPD-5 (321) Core Program Services		$107,168					$107,168
	TPF-5 (212) Southeast Transportation Consortium		$10,000					$10,000
	TPF-5 (299) Improving Quality of Pavement		$15,000					$15,000
	TPF-5 (306) International Conference on Managing Pavem		$10,000					$10,000
	SHRP2 Implementation		$395,431					$395,431
	AASHTO TSP		$90,000					$90,000
	Total Previous Programmed M56 Funds		***$1,171,316***					***$1,171,316***
	SPR Funds for LTAP Matching (T2 Program)		($129,468)	($32,367)				($161,835)
	SPR Funds Available for Research Activities		$4,182,143	$752,707				$4,934,850
	Other Funds - State Funded Projects					$625,000		$625,000
Parts III & IV	MBTC and CTTP							
	MBTC and CTTP					$1,260,000		$1,260,000
	Total Parts II, III, & IV		$4,182,143	$752,707		$1,885,000		$ 6,819,850
Part V	TECHNOLOGY TRANSFER PROGRAM (T2)							
	LTAP FUNDS		$150,000					$150,000
	SPR FUNDS		$129,468	$32,367			$0	$161,835
	Total Part V		$279,468	$32,367			$0	$311,835
Part VI	PUBLIC TRANSPORTATION							
FHWA/FTA Consolidated								
	Metropolitan Planning	$2,022,848			$505,712			$2,528,560
	Statewide Planning	$110,568		$27,644				$138,212
	Safety Planning	$450,006		$112,502				$562,508
	Total Part VI	$2,583,422		$140,146	$505,712			$3,229,280
Part VII	HIGHWAY SAFETY IMPROVEMENT PROGRAM							
	Highway Safety Improvement Funds		$1,080,000	$120,000				$1,200,000
GRAND TOTAL		**$2,583,422**	**$16,796,811**	**$3,688,220**	**$676,512**	**$2,972,000**	**$0**	**$26,716,965**

Jessie Jones, Division Engineer
Transportation Planning and Policy Division

Scott E. Bennett, Director
Arkansas State Highway and
Transportation Department

6-4-2015
Date

Michael Kelly, Division Engineer
System Information and Research Division

PART I
PLANNING

PART I - PLANNING
Summary of Participation
FHWA SPR and State Funds
To be Obligated in Fiscal Year 2016

STATE FISCAL YEAR 2016 PROPOSED ACTIVITIES NUMBER AND WORK FUNCTION	JOB	FHWA SPR	FEDERAL SHARE	AHTD/LOCAL MATCH	TOTAL PROGRAMMED
TRANSPORTATION PLANNING AND POLICY Budget 500, Function 970					
ADMINISTRATION & OTHER					
Administration *	400	$0	0%	$687,000	$687,000
GIS and Mapping	401	$760,000	80%	$190,000	$950,000
Performance Management	402	$400,000	80%	$100,000	$500,000
Reference Library	403	$40,000	80%	$10,000	$50,000
Travel, Training and Seminars	404	$120,000	80%	$30,000	$150,000
POLICY AND LEGISLATIVE ANALYSIS					
Legislative Review	405	$400,000	80%	$100,000	$500,000
Finance	406	$240,000	80%	$60,000	$300,000
Publications	407	$200,000	80%	$50,000	$250,000
STATEWIDE PLANNING					
Statewide Plan	408	$400,000	80%	$100,000	$500,000
Modeling & Management Studies	409	$240,000	80%	$60,000	$300,000
Highway System Planning Studies	410	$600,000	80%	$150,000	$750,000
Freight Planning	411	$240,000	80%	$60,000	$300,000
Railroad Crossing Coordination	412	$80,000	80%	$20,000	$100,000
Traffic Crash Location	430	$8,000	80%	$2,000	$10,000
Traffic Crash Record Analysis	431	$12,000	80%	$3,000	$15,000
METROPOLITAN PLANNING					
Cities Over 50,000 Population	413	$320,000	80%	$80,000	$400,000
Air Quality Activities	414	$80,000	80%	$20,000	$100,000
Local Planning Techincal Assistance	415	$80,000	80%	$20,000	$100,000
PLANNING BY CONSULTANTS					
Planning and Environmental Linkage Support	Unknown	$40,000	80%	$10,000	$50,000
General Planning Studies	Unknown	$560,000	80%	$140,000	$700,000
Statewide Aerial Imagery	Unknown	$120,000	80%	$30,000	$150,000
Performance Driven Project Prioritization System	012219	$128,000	80%	$32,000	$160,000
SUBTOTAL PER DIVISION		**$5,068,000**		**$1,954,000**	**$7,022,000**
SYSTEM INFORMATION AND RESEARCH Budget 530, Function 976					
ADMINISTRATION AND OTHER					
Research	467	$0	0%	$0	$0
Administration*	468	$0	0%	$400,000	$400,000
Travel, Training and Seminars	469	$80,000	80%	$20,000	$100,000
Performance Measures	470	$24,000	80%	$6,000	$30,000
Traffic Control	471	$120,000	80%	$30,000	$150,000
TRAFFIC INFORMATION SYSTEMS					
Data Analysis	474	$500,000	80%	$125,000	$625,000
Automated Traffic Data Collection	475	$500,000	80%	$125,000	$625,000
Contract Turning Movement Counts	476	$100,000	80%	$25,000	$125,000
Contract Collection of Traffic Volume Counts	477	$480,000	80%	$120,000	$600,000
Contract Collection of Vehicle Classification Counts	478	$240,000	80%	$60,000	$300,000
Traffic Data Collection - Traffic Counts	479	$360,000	80%	$90,000	$450,000
ASSET MANAGEMENT					
Asset Management System	480	$500,000	80%	$125,000	$625,000
Asset Management System Analysis	481	$80,000	80%	$20,000	$100,000
Pavement Performance Data Collection Vehicle	482	$260,000	80%	$65,000	$325,000
Pavement Structural Tesing	483	$200,000	80%	$50,000	$250,000
Pavement Friction Data Collection Equipment	484	$100,000	80%	$25,000	$125,000
Nondestructive Subsurface Investigation	485	$80,000	80%	$20,000	$100,000
Automatic Road Analyzer	486	$160,000	80%	$40,000	$200,000
Pavement Management System (PMS)	487	$220,000	80%	$55,000	$275,000
Pavement Engineering Data Processing	488	$100,000	80%	$25,000	$125,000
Pavement Engineering Data Analysis	489	$220,000	80%	$55,000	$275,000
System Information - Program Coordination	490	$180,000	80%	$45,000	$225,000
Multimedia Highway Information System (MMHIS)	491	$80,000	80%	$20,000	$100,000
Roadway Asset Inventory	492	$80,000	80%	$20,000	$100,000
Application Development and Support	493	$140,000	80%	$35,000	$175,000
Highway Performance Monitoring System (HPMS)	494	$140,000	80%	$35,000	$175,000
Highway Inventory and Analysis	495	$280,000	80%	$70,000	$350,000
SUBTOTAL PER DIVISION		**$5,224,000**		**$1,706,000**	**$6,930,000**
Planning Total		**$10,292,000**		**$3,660,000**	**$13,952,000**

PART I SPR FUNDS AVAILABLE		FHWA SPR	FEDERAL SHARE	AHTD/LOCAL MATCH	TOTAL
FHWA F.Y. 2015		$6,945,442	80%	$2,823,361	$9,768,803
Unobligated/Released Funds from Previous Years		$3,349,003	80%	$837,251	$4,186,254
Total Available		$10,294,445		$3,660,611	$13,955,056
Estimated Balance Available for Programming		$2,445		$611	$3,056

* Denotes 100% State Funds

State Fiscal Year 2016 Work Program Estimated Expenditures
By Work Function and Section
Part I - Planning

Job Number	Work Function	Administration	Information Systems &	Metropolitan Planning	Multimodal & Project Planning	Legislative Analysis	Traffic Safety	Asset Management	Traffic Information Systems	Total
	A) FHWA SPR and STATE									
	ADMINISTRATION & OTHER									
400	Administration *	$687,000								$687,000
401	GIS and Mapping		$950,000							$950,000
402	Performance Management	$500,000								$500,000
403	Reference Library	$50,000								$50,000
404	Travel, Training and Seminars	$150,000								$150,000
	POLICY AND LEGISLATIVE ANALYSIS									
405	Legislative Review					$500,000				$500,000
406	Finance					$300,000				$300,000
407	Publications					$250,000				$250,000
	STATEWIDE PLANNING									
408	Statewide Plan				$500,000					$500,000
409	Modeling & Management Studies				$300,000					$300,000
410	Highway System Planning Studies				$750,000					$750,000
411	Freight Planning				$300,000					$300,000
412	Railroad Crossing Coordination				$100,000					$100,000
430	Traffic Crash Location						$10,000			$10,000
431	Traffic Crash Record Analysis						$15,000			$15,000
	METROPOLITAN PLANNING									
413	Cities Over 50,000 Population			$400,000						$400,000
414	Air Quality Activities				$100,000					$100,000
415	Local Planning Techincal Assistance				$100,000					$100,000
	PLANNING BY CONSULTANTS									
012199	Statewide Travel Demand Model Phase II				$0					$0
012194	State Biclycle and Pedestrian Transportation Plan Update				$55,000					$55,000
012234	Statewide Long Range Intermodal Transportation Plan				$1,000,000					$1,000,000
012233	Statewide Freight Plan				$550,000					$550,000
012182	State Rail Plan Update				$113,000					$113,000
Unknown	Planning and Environmental Linkage Support				$50,000					$50,000
Unknown	General Planning Studies				$700,000					$700,000
Unknown	Statewide Aerial Imagery		$150,000							$150,000
012219	Performance Driven Project Prioritization System				$160,000					$160,000
	ADMINISTRATION & OTHER									
467	Research	$0								$0
468	Administration	$400,000								$400,000
469	Travel, Training and Seminars	$100,000								$100,000
470	Performance Measures	$30,000								$30,000
471	Traffic Control	$150,000								$150,000
	TRAFFIC INFORMATION SYSTEMS									
474	Data Analysis								$625,000	$625,000
475	Automated Traffic Data Collection								$625,000	$625,000
476	Contract Turning Movements Counts								$125,000	$125,000
477	Contract Collection of Traffic Volume Counts								$600,000	$600,000
478	Contract Collection of Vehicle Classification Counts								$300,000	$300,000
479	Traffic Data Collection - Traffic Counts								$450,000	$450,000
	ASSET MANAGEMENT									
480	Asset Management System							$625,000		$625,000
481	Asset Management System Analysis							$100,000		$100,000
482	Pavement Performance Data Collection Vehicle							$325,000		$325,000
483	Pavement Structural Tesing							$250,000		$250,000
484	Pavement Friction Data Collection Equipment							$125,000		$125,000
485	Nondestructive Subsurface Invesigation							$100,000		$100,000
486	Automatic Road Analyzer (ARAN)							$200,000		$200,000
487	Pavement Management System (PMS)							$275,000		$275,000
488	Pavement Engineering Data Processing							$125,000		$125,000
489	Pavement Engineering Data Analysis							$275,000		$275,000
490	System Information - Program Coordination							$225,000		$225,000
491	Multimedia Highway Information System (MMHIS)							$100,000		$100,000
492	Roadway Asset Inventory							$100,000		$100,000
493	Application Development and Support							$175,000		$175,000
494	Highway Performance Monitoring System (HPMS)							$175,000		$175,000
495	Highway Inventory & Analysis							$350,000		$350,000
	Total FHWA (SPR) and Related Activities	**$2,067,000**	**$1,100,000**	**$400,000**	**$4,778,000**	**$1,050,000**	**$25,000**	**$3,525,000**	**$2,725,000**	**$15,670,000**
	B) METROPOLITAN PLANNING FUNDS (Total PL Funding is Included in PT's FTA Budget)									
	C) OTHER FEDERAL FUNDS									
	STP Attributable Funds									
060630	CARTS Planning Study			$250,000						$250,000
110273	WMATS Transportation Planning			$96,000						$96,000
012152	CARTS 2040 Long-Range Transportation Plan			$61,000						$61,000
012193	NARTS Planning Study			$250,000						$250,000
	CMAQ Funds									
110481	WMATS Air Quality - MPO			$149,000						$149,000
012178	CARTS Ozone Awareness			$48,000						$48,000
	Other Funds									
A803, B803	High-Speed/Intercity Passenger Rail Study				$350,000					$350,000
012181	I-40 Toll Feasibility Study (NLR-West Memphis)				$0					$0
061386	Highway 67 - I-40 West (North Belt Freeway Toll Feasibility Study)				$0					$0
090224	Bella Vista Toll Facility (Highway 71 Relocation)				$0					$0
	Total Other Federal Funds		**$0**	**$854,000**	**$350,000**					**$1,204,000**
	Grand Total	**$ 2,067,000**	**$ 1,100,000**	**$1,254,000**	**$5,128,000**	**$ 1,050,000**	**$25,000**	**$3,525,000**	**$2,725,000**	**$16,874,000**

ADMINISTRATION & OTHER

400 - ADMINISTRATION

Purpose and Scope: To set objectives, measure accomplishments, and provide administrative support for all work activities of the Division. To provide training and auxiliary functions necessary for Division work activities, including records, payroll, attendance reports, and all other required administrative, bookkeeping, and secretarial functions. Activities necessary to carry out planning requirements in accordance with all state and federal regulations will be executed. Activities performed under this job number are 100% State funded.

Accomplishments for F.Y. 2015: Administrative guidance and controls were accomplished in accordance with the goals and objectives set forth for the Division. The necessary purchasing, storing, and distribution of supplies continued. An accurate inventory was maintained for the Division. Federal Registers were reviewed for information affecting Department operations, planning, and the administration of funds. The Fiscal Year 2016 SPR Work Program and Cost Estimate document and the Fiscal Year 2014 Performance and Expenditure Report were developed in compliance with federal requirements.

Proposed Activities for F.Y. 2016: Continue to provide guidance and assistance in the development and analysis of transportation related projects and information including improving communication and support information exchange through new technologies. Web conferencing capable system will be developed and implemented. The Fiscal Year 2015 Final Performance and Expenditure Report will be developed and submitted to FHWA. The Fiscal Year 2017 SPR Work Program and Cost Estimate will be developed and submitted to FHWA for approval and work authorization.

Programmed Amount for F.Y. 2015	$460,000
Estimated Expenditure for F.Y. 2015	$300,000
Estimated Cost for F.Y. 2016	$687,000

401 - GIS AND MAPPING

Purpose and Scope: To meet the various needs of the Department and to provide the most current GIS and mapping data available. The preparation of GIS data and maps involves utilizing the latest information available to create and update needed and existing files. This information includes but is not limited to: orthorectified aerial photography, Global Positioning System (GPS) data, existing data from other sources (inside and outside the Department), and contact with state, county and city officials.

GIS and Mapping data is available to the general public through the State's Geographic Information System (GIS) clearinghouse (Geostor) www.geostor.arkansas.gov, and through the Department's website as .tif or .pdf images www.arkansashighways.com. Many other data requests are fulfilled throughout the year for other state agencies, private firms, and the public via direct requests to the GIS and Mapping Section.

Accomplishments for F.Y. 2015:

- Participant in the statewide aerial imagery acquisition effort led by the Arkansas GIS Office. This effort would provide seamless, 1ft resolution, leaf-off, four color band aerial imagery of Arkansas for the late 2015/early 2016 flying season.

- State Highway Map (Tourist Map) updated and 1,000,000 copies printed. The State Highway Map is distributed by the Reprographics Section at the Department by request in person, written, on the phone or online at www.arkansashighways.com or www.idrivearkansas.com. In addition, State Highway Maps are also available at Arkansas Welcome Centers and Arkansas Parks and Tourism facilities.

- Changes to the State Highway System were made in the current State Highway Linear Referencing System and the current Off-System Linear Referencing System. Mileage changes, relocated routes and new routes are updated as soon as notification is given to the GIS and Mapping Section. In addition, all cartographic maps are updated to reflect needed changes.

- Completed full county map updates on the following: (See Figure 1)
  - Dallas County – August 2014
  - Monroe County – August 2014
  - Woodruff County – September 2014
  - Perry County – December 2014
  - Calhoun County – December 2014
  - Cleburne County – December 2014
  - Nevada County – January 2015

- Counties that were not fully updated required minor revisions in specific areas such as but not limited to:
  - City Limits
  - State Highway Revisions
  - Local Road Updates
  - Culture Updates (i.e., schools, churches, post offices, police and fire stations, etc.)

- Completed full map updates with street indexes on the following cities and municipal areas:

  - Bethel Heights
  - Blackrock
  - Cash
  - Donaldson
  - Egypt
  - Elm Springs
  - Friendship
  - Forrest City
  - Fouke
  - Fountain Lake
  - Jacksonville
  - Lonoke
  - Malvern
  - Midway
  - Perla
  - Pine Bluff
  - Powhatan
  - Prairie Grove
  - Rockport
  - Southside
  - Springdale
  - Texarkana
  - White Hall
  - Wynne

- Cities that were not fully updated and indexed required minor revisions in specific areas such as but not limited to:
  - City Limits
  - State Highway Revisions
  - Local Road Updates
  - Culture Updates (i.e., schools, churches, post offices, police and fire stations, etc.)

- The following city limit boundaries were updated utilizing official legal descriptions from the Secretary of State's Office:

  - Bigelow
  - Brookland
  - Coal Hill
  - Corning
  - Datto
  - Dierks
  - Green Forest
  - Greenway
  - Grubbs
  - Gurdon
  - Jacksonport
  - Knobel
  - Mansfield
  - McDougal
  - Nashville
  - Newport
  - Nimmons
  - Peach Orchard
  - Perryville
  - Piggott
  - Pine Bluff
  - Pollard
  - Powhatan
  - Quitman
  - Rector
  - Rockport
  - Southside
  - Success
  - Swifton
  - Trumann
  - Tuckerman
  - Tupelo
  - Ward
  - Weldon
  - White Hall

- GIS Datasets Created /Updated/Maintained:
  - Linear Referencing System (LRS)-State Highway System and Off-System
  - All Public Roads Linear Referencing System (LRS)
  - Cities (Current and Archival)
  - National Forests/State Parks/Public Park Boundaries
  - Culture layers (Libraries, Museums, Drive-Ins, Chicken Houses, Airports, etc.)
  - Base map templates for State, District and County maps for consistent mapped products from the TP&P Division.

- Other Duties/Special Projects/Regular Maintenance:
  - Creating, Updating and Posting layers for the IDriveArkansas website (Administration)
  - Study Maps for Planning Studies (Multimodal and Project Planning)
  - Public Involvement Displays (Multimodal and Project Planning)
  - Crash Maps/Safety Study Maps (Traffic Safety)
  - Director's Book Maps (Policy & Legislative Analysis)
  - AHTD Arkansas Highway Police District Map (Radio Room)
  - State Highway System Route Change Sketches (System Information)
  - ADT County Book Base Maps (Traffic Information Systems)
  - ArcGIS, GeoMedia and Microstation methodologies training/assistance (Department-wide)
  - Intranet and Internet updated with TIF image of updated county and city maps
  - Intranet and Internet updated with PDF image of updated county and city maps
  - Provide a paper print of all county and city maps produced by the Mapping and Graphics Section, for distribution by Map Sales Section
  - Maps and Displays as needed

Proposed Activities for F.Y. 2016:

- Update and commercially print approximately 1,000,000 copies of the State Highway Map (Tourist Map).

- Map all changes made to the State Highway System on all statewide maps and county and city maps where needed.

- Complete full county map updates on the following:

  - Polk County – In Progress
  - Sevier County – In Progress
  - Howard County – In Progress
  - Greene County
  - Hempstead County
  - Conway County
  - Prairie County
  - Stone County

- Update full city map (with indices) in the following cities within these counties:

  - Jackson County – Amagon, Beedville, Tuckerman, Newport – In Progress
  - Dallas County – Fordyce, Carthage, Sparkman
  - Union County – Felsenthal, Huttig, Junction City, Strong
  - Monroe County – Brinkley, Clarendon, Fargo, Holly Grove, Roe
  - Woodruff County – Augusta, Cotton Plant, Hunter, McCrory, Patterson
  - Perry County – Adona, Bigelow, Casa, Fourche, Houston, Perry, Perryville
  - Calhoun County – Hampton, Harrell, Thornton, Tinsman
  - Cleburne County – Concord, Greers Ferry, Heber Springs, Higden
  - Nevada County – Bluff City, Bodcaw, Cale, Prescott, Rosston, Willisville

- Map minor revisions on all counties and cities as needed throughout the year.

- Maintain all GIS datasets that have been created and create new datasets as needed.

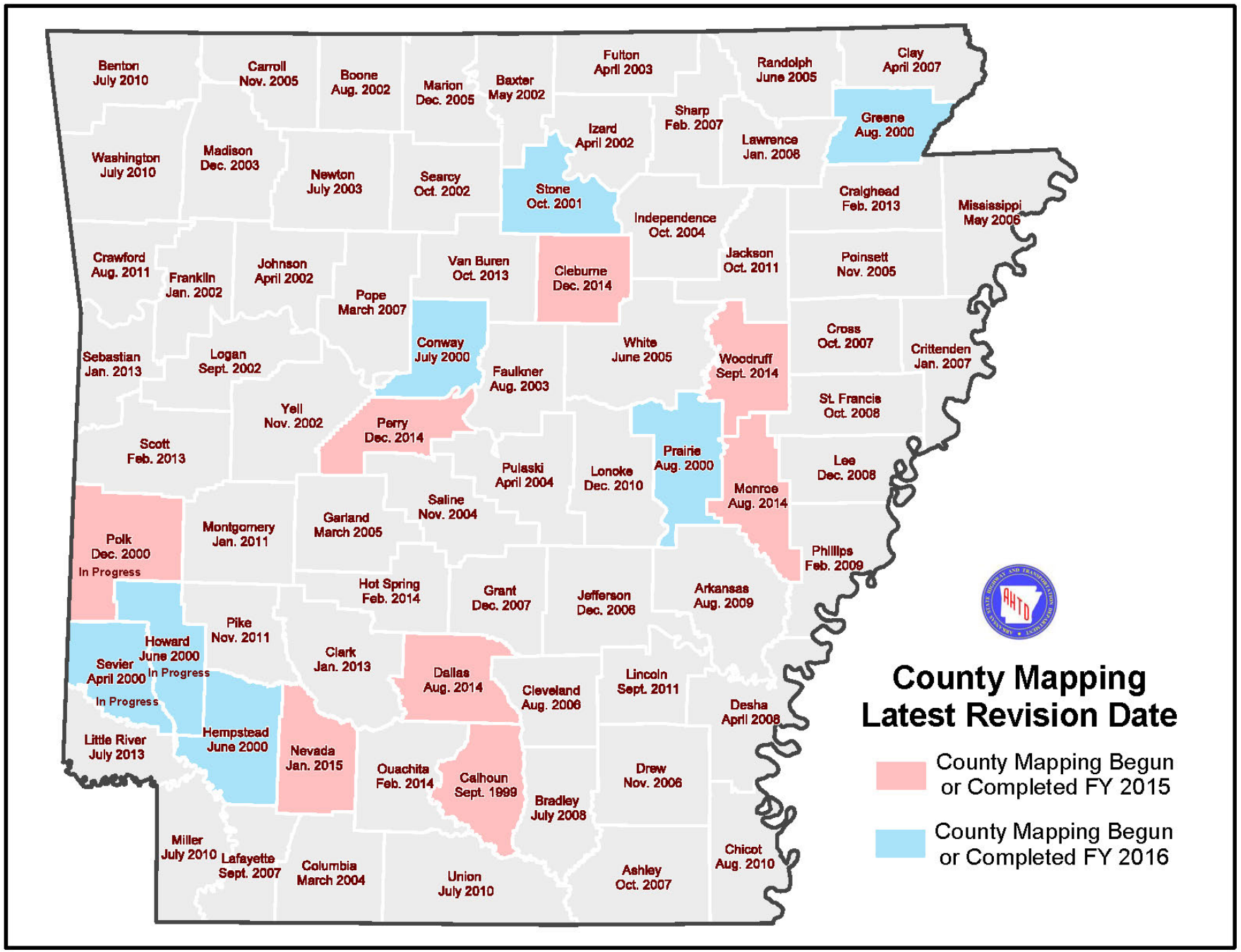
- Conduct other duties/special projects/regular maintenance as needed.

- Continue to create, update and deploy the mapped layers needed for the IDriveArkanas.com website.

- Continue to coordinate with Arkansas Geographic Information Systems office for the development and maintenance of the All Public Roads LRS.

- Participate in enhanced topographic and imagery acquisition.

Programmed Amount for F.Y. 2015	$850,000
Estimated Expenditure for F.Y. 2015	$850,000
Estimated Cost for F.Y. 2016	$950,000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July 2010
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Aug. 2010
County Mapping
Latest Revision Date
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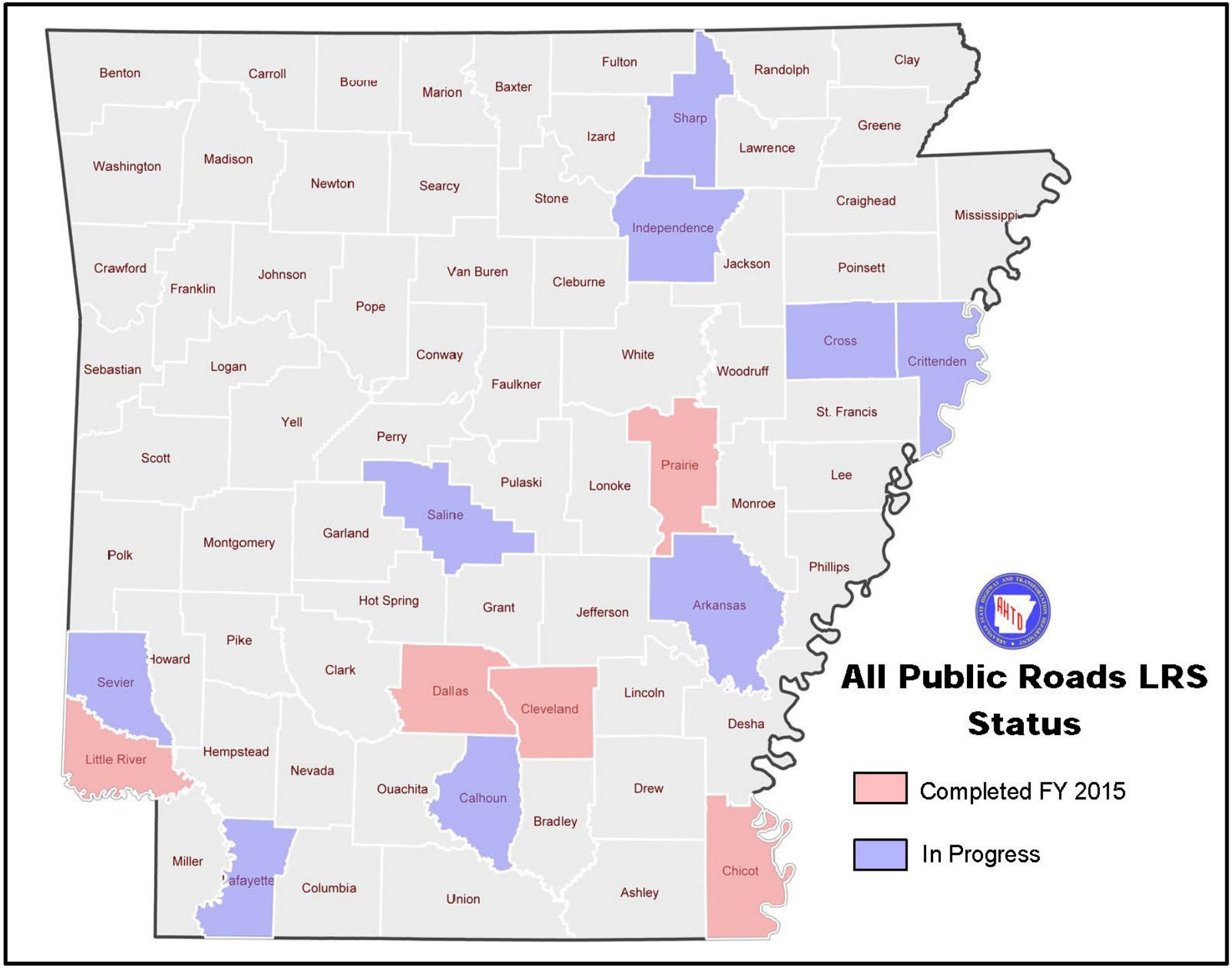
or Completed FY 2015
County Mapping Begun
or Completed FY 2016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Cleveland
Lincoln
Desha
Little River
Hempstead
Nevada
Ouachita
Calhoun
Drew
Bradley
Miller
Lafayette
Columbia
Union
Ashley
Chicot
All Public Roads LRS Status
Completed FY 2015
In Progress

402 – PERFORMANCE MANAGEMENT

Purpose and Scope: To monitor current and proposed performance measure requirements and advise the Department as necessary to insure compliance. Develop Transportation Performance Management (TPM) and to continue to champion for the incorporation of TPM into the Department's operations.

Accomplishments for F.Y. 2015: Work continued on identification and monitoring of performance measures, including researching Performance Measure reporting tools used by other state transportation agencies. The Decision Lens project prioritization tool was utilized to rank proposed projects for the 2016-2019 STIP based on a variety of performance criteria.

Proposed Activities for F.Y. 2016: Continue monitoring of current and proposed performance measures. Continue to refine the performance measures and develop TPM for the Department. Participant in AASHTO's TPM technical assistance Pooled fund program. Data purchase for system performance evaluation.

Programmed Amount for F.Y. 2015	$ 30,000
Estimated Expenditure for F.Y. 2015	$ 52,000
Estimated Cost for F.Y. 2016	$ 500,000

403 - REFERENCE LIBRARY

Purpose and Scope: To provide and maintain a reference library on transportation-related subjects, in published or electronic format, for use by Department personnel and the public. Participate in professional organization for access to the most up to date technical and policy publications.

Accomplishments for F.Y. 2015: Purchased, collected and filed relevant transportation data, reports and notices. Geographic Information System activities were continued for the on-line library. The Arkansas Statutes and Acts books were updated. Reviewed professional articles on transportation issues and prepared reports as necessary.

Proposed Activities for F.Y. 2016: Continue to purchase, assemble, review and file transportation related data. Review professional articles on transportation issues and prepare reports as necessary. Geographic Information System software, hardware and accessories will be used to further implement the on-line library. Replace State Statute documents as printed. Participate in ITE government agency membership.

Programmed Amount for F.Y. 2015	$ 16,000
Estimated Expenditure for F.Y. 2015	$ 5,000
Estimated Cost for F.Y. 2016	$ 50,000

404 - TRAVEL, TRAINING AND SEMINARS

Purpose and Scope: To acquire additional, up-to-date knowledge and the latest techniques to stay abreast of available information and/or technology in order to provide the best transportation system for the movement of people and goods in and through Arkansas.

Accomplishments for F.Y. 2015: Out-of-state trips were taken to attend transportation related meetings and seminars to acquire training, to update knowledge and techniques, and to network with others involved in planning and financing transportation programs and systems. Out-of-state trips and their purposes are listed below.

Washington, DC – TRB 94th Annual Meeting (x2)
Birmingham, AL – Roadway Departure Peer Exchange (x2)
Huntsville, AL – Intergraph 2015 Transportation Summit
Washington, DC – FHWA All Roads Study Expert Panel
St. Louis, MO – Traffic Record/Hwy Information Systems Forum
Biloxi, MS – ITTS Freight in the Southeast Conference
Orlando, FL – 15th Annual North American PTV Vision Traffic User Group Meeting
Atlanta, GA – ITTS Summer Meeting
Salt Lake City, UT – TRB Alternative Intersections & Interchanges Symposium
Washington, DC – 2014 Highway Information Seminar (x2)

Proposed Activities for F.Y. 2016: Division personnel will make necessary and pertinent in- and out-of-state trips to attend seminars and meetings. Federal participating funds that are used for these seminars and meetings will be tracked. Charging trips and training seminars to one job number improves record keeping. Registration fees, salaries, meals and lodging, the cost of the trip and miscellaneous expenses will be charged to this job number.

Programmed Amount for F.Y. 2015	$250,000
Estimated Expenditure for F.Y. 2015	$90,000
Estimated Cost for F.Y. 2016	$150,000

405 – LEGISLATIVE REVIEW

Purpose and Scope: To provide analyses of impacts on program requirements, implementation, and funding as they are impacted by state and federal legislative actions and to assist other Divisions and Sections relative to state and federal legislation and regulations.

Federal and state legislation is closely monitored for changes related to the authorization, apportionment, requirements, and allocation of funding, and implementation of the national and state transportation programs. When the Arkansas State General Assembly is in session, daily and weekly legislative summaries are prepared and distributed throughout the Department. Specific reports are prepared as requested. At the end of the

session, a final summary of all legislation tracked by the Department is compiled, distributed within the Department, and published to the Department's website.

Accomplishments for F.Y. 2015: State legislation from the 90th Arkansas General Session was monitored. The weekly legislative reports were prepared and distributed. At the federal level, Moving Ahead for Progress in the 21st Century (MAP-21) was monitored and analyzed for its impact to the Department. The status of the Highway Trust Fund was monitored for its impact to the Department.

Proposed Activities for F.Y. 2016: Staff members will continue to monitor, and analyze as necessary, federal legislation related to reauthorization, appropriations, and implementation of the national transportation programs. Preparations will be completed for the 90th Arkansas Fiscal Assembly. State legislation will be monitored and analyzed.

Programmed Amount for F.Y. 2015	$200,000
Estimated Expenditure for F.Y. 2015	$221,000
Estimated Cost for F.Y. 2016	$500,000

406 – FINANCE

Purpose and Scope: To analyze trends in state highway revenues and to prepare and distribute reports evaluating these data. Evaluate existing and changing financial information on highway taxation and finance. Provide analyses of economic, geographic, fiscal, and historic factors to assist in the use of physical and fiscal resources. Provide assistance related to funding and related matters to Department administrators, legislators, other government agencies, and private individuals. Provide fiscal projections of the development of long-range cash flow forecasts related to bond financing.

Accomplishments for F.Y. 2015: Monitored gasoline and diesel tax rate changes and price fluctuations. Various annual, quarterly, and monthly statistical reports reflecting highway user revenues were prepared. Fiscal data on taxation for local governments was evaluated. Monitored trends, prices, construction costs, and other economic indicators in Arkansas and analyzed their impact on residents, road use, and highway funds. Data for submittal as a part of the annual statistical reports was gathered, prepared, and submitted to FHWA prior to the deadline for use in the annual Highway Statistics Report.

Proposed Activities for F.Y. 2016: Monitor motor fuel prices that are used in making revenue estimates. Continue monitoring multi-agency economic conditions and the impacts on residents, road use, and highway-user revenues. Update impacts from changing situations, such as revenue forecasts for cash flow and overall fiscal management. Compile and prepare data to submit statistical reports to FHWA prior to the deadline.

Programmed Amount for F.Y. 2015	$ 240,000

Estimated Expenditure for F.Y. 2015	$ 85,000
Estimated Cost for F.Y. 2016	$ 300,000

407 – PUBLICATIONS

Purpose and Scope: To coordinate Department responses to questionnaires and surveys. Retain information preserving the history of the Department's organization and accomplishments in administering and operating the State Highway System and other state transportation systems. The Department's Biennial Report is prepared as part of this responsibility. Information requests from federal, state, and local agencies are researched and answered. Other regularly prepared documents include *Motor Vehicle Registration and Fees*, *Selected Facts and Figures*, *Motor Vehicle Traffic Laws and State Highway Commission Regulations*, and *The Fact Sheet of Information on Arkansas' Transportation System.*

Accomplishments for F.Y. 2015: Prepared and distributed the table of motor vehicle registrations and fees by county. The *2012 Selected Facts and Figures* report was developed. The Department's Biennial Report was published. The *2014 Fact Sheet of Information on Arkansas' Transportation System* was published. Historical information was provided in response to requests.

The Department coordinated responses to questionnaires and surveys requesting specific information regarding the Department's activities. Prepared and distributed the *Motor Vehicle Registration and Fee* table. Fiscal Year 2015 monthly turnback estimates for Arkansas counties and cities were prepared and distributed. Compiled and distributed the *2014 Reference Book*. Updated and published the *Development of Highway and Transportation Legislation in Arkansas.*

***Proposed Activities for F.Y. 2016*:** Continue coordination of Department responses to questionnaires and surveys. Prepare Fiscal Year 2015 monthly turnback estimates for Arkansas counties and cities. Compile *2014 Selected Facts and Figures* report. Compile the *2015 Fact Sheet of Information on Arkansas' Transportation System.* Compile and distribute the *Motor Vehicle Registration and Fee* table. Compile and distribute the *2015 Reference Book*. Publish the *Development of Highway and Transportation Legislation in Arkansas*. Published the Department's Biennial Report. The *2015 Motor Vehicle Traffic Laws and the State Highway Commission Regulations* will be published in cooperation with the Department of Finance and Administration.

Programmed Amount for F.Y. 2015	$ 150,000
Estimated Expenditure for F.Y. 2015	$ 57,000
Estimated Cost for F.Y. 2016	$ 250,000

408 – STATEWIDE PLAN

Purpose and Scope: Update the current Arkansas Statewide Long Range Intermodal Transportation Plan through the review of the current Plan documents and Plans from other states, the review of MAP-21 planning requirements, and the development of topics and trends to be addressed in the document. This will be achieved through close coordination with other Divisions within the Department, FHWA, State and Federal agencies, and other stakeholders.

Accomplishments for F.Y. 2015: Reviewed other statewide transportation plan documents from other states. Developed the Scope of Work for the on-call planning contract. Reviewed the Letters of Interest and Proposals submitted for the on-call planning services. Coordinated the work of the consultant team selected for the Statewide Long Range Intermodal Transportation Plan (LRITP) and the team selected for the State Freight Plan (SFP).

Proposed Activities for F.Y. 2016: Transportation issues will be monitored and evaluated throughout the year. Provide statistical information to Administration regarding statewide needs data and report on the condition and expected needs of the State Highway System. Coordinate activities for the development of LRITP and SFP.

Programmed Amount for F.Y. 2015	$100,000
Estimated Expenditure for F.Y. 2015	$ 4,600
Estimated Cost for F.Y. 2016	$500,000

409 – MODELING AND MANAGEMENT STUDIES

Purpose and Scope: To provide analyses and information to other Divisions and Sections regarding travel demand modeling results, census data, and related impacts to the planning process and programs. To provide support for consultant activities related to the development and use of the Arkansas Travel Demand Model (ARTDM).

Accomplishments for F.Y. 2015: Accepted delivery of Phase II of the Arkansas Statewide Travel Demand Model. Prepared studies and assessments for proposed federal and state funded projects. Ongoing coordination of TransCAD simulation modeling software was facilitated by this office for both the NARTS and CARTS areas in cooperation and coordination with the MPO staffs. Assistance to the Frontier MPO was conducted as they continued work on a regional travel demand model. Work on the ARTDM was continued through the delivery of a 2040 model which includes a mode choice module. The Arkansas Statewide Model Users Group communicated with each other and received training from the ARTDM consultant team through training outlined in the project contract. Members of the Multimodal and Project Planning staff continued to monitor and participate in freight related discussions, presentations, and meetings in an effort to more closely align existing freight planning activities and the ARTDM.

Additional activities in FY 2015 include the evaluation of TREDIS and REMI software as well as the evaluation of the AirSage and HERE data sets.

Proposed Activities for F.Y. 2016: Continue to answer specific questions as they pertain to travel demand model development and model implementation. Use the ARTDM as a source of information for the development of the State Freight Plan and the Statewide Long Range Multimodal Transportation Plan. Prepare economic impact statements and transportation system investment feasibility studies, and respond to specific requests. Conduct travel demand modeling for the Department and assist other agencies and jurisdictions with modeling activities, model development, and modeling training. Facilitate the statewide modeling support group by providing a discussion forum for users regarding training, data input, validation, and calibration activities. Origin-destination data from wireless (such as AirSage) or Bluetooth (such as TrafficCast or Traffax) data sets will be purchased to assist in planning studies. Additional vehicle probe data will be purchased to assist in determining congestion and travel time reliability system performance.

Programmed Amount for F.Y. 2015	$300,000
Estimated Expenditure for F.Y. 2015	$ 92,000
Estimated Cost for F.Y. 2016	$300,000

410 – HIGHWAY SYSTEM PLANNING STUDIES

Purpose and Scope: To identify and measure engineering, social, economic, and environmental features of various proposals for use in the Department's decision-making process. This includes conducting feasibility studies for use in determining the need for specific highway improvements as well as responding to requests for information such as traffic forecasts and traffic operating conditions. Coordination and oversight of consultant studies is also included.

Accomplishments for F.Y. 2015: Activities were conducted on several planning studies in various areas of the state and information was provided to assist decision-makers. Various studies analyzed route and corridor feasibility in order to maintain the highest quality highway system and to provide the best service for the safe and efficient movement of people and goods within and through the State.

The status of the studies and reports during F.Y. 2015 is provided below.

Studies Completed in 2015

- Highway 190 Improvements Study (Pine Bluff)
- Highway 67 Relocation Study (Walnut Ridge to Missouri State Line)
- Highway 82 Corridor Study (Texarkana to Lake Village)
- Highway 112 Corridor Study in Northwest Arkansas
- I-40/Highway 59 Interchange Modification Study (Van Buren)

- Highway 108 Study (Foreman)
- Highway 7 Improvement Study (Hot Springs to Highway 5)
- Harrison Bypass Study (Highway 65)
- Highway 139 Improvement Study - Highway 18 to Missouri State Line (Monette)
- Highway 18 Railroad Overpass Study (Jonesboro)
- Highway 49, Highway 351 and Highway 91 Feasibility Study (Jonesboro)
- Highway 5 (Benton – Pulaski Co. Line) Widening Study
- Highway 7 Improvement Study (Hot Springs to Highway 5)
- Memo Study: Highway 23 Passing Lanes Study (Madison & Carroll Counties)
- Memo Study: Highway 21 Passing Lanes and Highway 221 Extension Study (Madison & Carroll Counties)
- Memo Study: Highway 165 (I-440 – East) (North Little Rock)
- Memo Study: I-430 and Rodney Parham Interchange (Little Rock)
- Purpose and Need: Highway 25 (080397) (Conway)
- Purpose and Need: Highway 270 from Highway 227 to the Ouachita River Bridge
- Purpose and Need: Highway 70 Arkansas River Bridge
- Purpose and Need: Highway 70 Widening (Hot Springs to I-30)
- Purpose and Need: Newton Co. Line-South (Passing Lanes) (Hwy. 7)
- Purpose and Need: UPRR Overpass and Realignment (Mayflower) (Hwy. 89)
- Purpose and Need: Mulberry River Bridge and Approaches (Hwy. 23)
- Road User Cost Analyses: 040642, CA0907, 090330, 060395, BB0405, BB0611, 080484, 061303, 020535, 050230, 080391, BB0112, BB0113, BB0114, BB0115, BB0116, 080497, BB0201, CA0902, 040582, 012238, 050214, 080396, BB0610, 061437, 061333, 061348
- Interchange Justification Report: I-40 and Highway 25 (080397)
- Highway 321 Access Management Plan (Cabot)

Studies in Progress

- I-55/Highway 64 Interchange Study (Marion)
- I-40 Interchange Feasibility Study (Van Buren)
- Beebe Railroad Overpass Feasibility Study (Highway 31)
- Clarksville Congestion and Access Improvement Study
- Highway 16 (Highway 265 to Elkins) Study (Washington County)
- Highway 79 Relocation Study (Marianna)
- Highway 65 Railroad Overpass Study (McGehee)
- Highway 65/Highway 25 Improvement Study (Greenbrier)
- Study of Access Improvements to Highways 32 and 71 (Ashdown)
- Highway 67 Corridor Study (Jacksonville to Cabot)
- I-40 Corridor Study (Conway to North Little Rock)
- Purpose and Need: Highway 82B/167B (El Dorado)
- Russellville Traffic Study
- Highway 278 Washington Bypass Study (Hempstead County)

- I-630 Study (University Avenue to I-30)
- Highway 64 Study (I-40 – East) (Conway)
- Highway 90 (Park Street to Country Club Road) Improvement Study (Pocahontas)

Consultant Studies Completed

AHTD staff reviewed and coordinated activities on the following consultant studies that were completed in F.Y. 2015:

- I-430 and Highway 10 (061331) Interchange Justification Report
- CAP Traffic Forecasting Reports: CA0601, CA0602, CA0604, CA0605, CA0607, CA0608, CA0703, CA0704, CA0705, CA0201
- Interchange Justification Report: I-49 and Highway 72 (CA0902) (Bentonville)
- Interchange Justification Report: I-630 (CA0608) (Little Rock)
- Interchange Justification Report: I-49 and Highway 71B (BB0903) (Rogers)
- Interchange Justification Report: I-40 and Highway 64 (Conway)
- Interchange Justification Report: I-49 and Highway 62 (BB0410) (Fayetteville)
- Interchange Justification Report: I-49 and Highway 16 (BB0411) (Fayetteville)
- Interchange Justification Report: North Cabot Interchange (061102)
- Interchange Justification Report: I-430 and Highway 10 (061331) (Little Rock)

Consultant Studies in Progress

AHTD staff reviewed and coordinated activities on the following consultant studies that are in progress:

- Interchange Justification Report: I-40 Interchange (Maumelle)
- Northwest Arkansas Regional Airport Access Road Environmental Impact Study
- CA0602 PEL Study and Interchange Justification Report (I-30)
- CA0604 Interchange Justification Report (Highway 67)
- CA0601 Interchange Justification Report (I-30)
- Highway 71 Study (Bella Vista)
- I-30 Corridor Study (Benton to Little Rock)

Proposed Activities for F.Y. 2016: The Department will continue to identify and analyze the engineering, environmental, social, and economic features of various proposals for use in the Department's decision-making process. Activities will continue toward completion of planning studies that are in progress, as well as new studies as requested. It is anticipated that during the course of the year numerous other studies will be initiated as needs arise. Updated traffic analysis software such as Synchro 9 updates, new VISSIM updates, and other new software as needed will be acquired to support the activities related to planning studies. An interactive display board will be purchased for the conference room to assist with meetings, conference calls, and webinars.

Programmed Amount for F.Y. 2015 $300,000

Estimated Expenditure for F.Y. 2015	$450,000
Estimated Cost for F.Y. 2016	$750,000

411 – FREIGHT PLANNING

Purpose and Scope: To provide for the optimum use of all of the State's transportation modes for both passengers and freight. Intermodal refers to the shipping and/or receiving of freight by two or more different modes of transportation (e.g., rail and truck) or, in the case of passenger movements, a system link (e.g., ground transportation at airports). Current planning activities focus on providing improved intermodal connections, enhancing shipping choices, conducting intermodal studies to aid local and regional economic development efforts and activities to enhance passenger rail service.

Accomplishments for F.Y. 2015: Technical assistance was provided to regional intermodal freight facility authorities, MPOs and to State agencies. Activities included assistance with Federal-aid construction projects such as the construction of a bulk handling site and a rail spur. Freight data and freight transportation maps were prepared. Support functions were provided to AASHTO Standing Committees. Management of consultant activities continued during the update of the State Rail Plan and the development of the High Speed Passenger Rail Study. Coordinated with other Divisions regarding the status of NHS connectors. Provided Department input in developing the Institute for Trade and Transportation (ITTS) Studies five-year work program. Provided preliminary logistics for the 2015 ITTS summer Meeting.

Proposed Activities for F.Y. 2016: Project planning and development assistance will be provided to Federal-aid intermodal transportation projects. Technical assistance will be given to local communities and regional intermodal authorities to develop freight transportation assets. Freight data and modal maps will be provided upon request. NHS Intermodal Connector routes will be monitored for changes. Freight transportation studies in progress will be completed and new studies will be initiated as requested. Complete the State Rail Plan and continue support for consultant activities High Speed Passenger Rail Study. Support activities will be provided as needed for AASHTO Standing Committees and other special projects. Technical assistance will be provided as needed for freight and passenger rail grants, for rail line and railroad bridge improvement projects, and for the West Memphis freight capability evaluation. Work will continue to provide support to the consultant team charged with developing the State Rail Plan including purchase of data sets related to the State Freight Plan.

Programmed Amount for F.Y. 2015	$250,000
Estimated Expenditure for F.Y. 2015	$236,000
Estimated Cost for F.Y. 2016	$300,000

412 – RAILROAD CROSSING COORDINATION

Purpose and Scope: Monitor over 100 AHTD construction projects with varying degrees of railroad involvement and ensure that all railroad coordination is accomplished prior to bid letting. To prepare all Special Provisions for construction contract bid documents and to develop Construction and Maintenance Agreements including Overpass Agreements for any AHTD projects involving railroad crossings. To respond to requests from the public and private sectors concerning railroad crossing issues.

Accomplishments for F.Y. 2015: From July 1, 2013 through March 1, 2014, thirteen active grade crossing improvement projects were monitored. One Overpass Agreement was signed and drafts of seven were transmitted to railroads. Diagnostic Team Meetings were held at 10 crossings to determine if proposed improvements are warranted. Train Manager software was modified to increase usability. Funding was applied for and awarded for a SHRP 2 effort to streamline the coordination process with Union Pacific Railroad. Multi-crossing corridor improvement projects in Ashdown and Jonesboro were monitored.

Proposed Activities for F.Y. 2016: Construction projects will continue to be monitored for railroad involvement. All railroad related Special Provisions for construction contract documents will continue to be prepared. Construction projects that include railroad involvement will be coordinated with the railroad companies and appropriate Divisions and Districts. Construction and Maintenance Agreements including Overpass Agreements for any AHTD projects involving railroad crossings will continue to be developed. Improvements will be made to the Train Manager program. Continued efforts will be made to facilitate multi-crossing corridor improvement projects.

Programmed Amount for F.Y. 2015	$10,000
Estimated Expenditure for F.Y. 2015	$3,000
Estimated Cost for F.Y. 2016	$100,000

430 – TRAFFIC CRASH LOCATION

Purpose and Scope: To review all traffic crash reports for correct location. To verify the location listed on the crash report for correct highway-section-log mile location. If the location is incorrect on the crash report, the crash locators will determine the correct highway, section and log mile of the crash.

Accomplishments for F.Y. 2015: The crash locators reviewed 58,589 traffic crashes that occurred in the State in 2012. Of these, 36,679 crashes occurred on the State Highway System. The VISUAL-T tool is being used to locate crashes. Traffic Safety is also coordinating with the Department of Finance and Administration, the Arkansas State Police, and other crash data stakeholders to implement an electronic crash reporting and database system (eCrash).

Proposed Activities for F.Y. 2016: Crash reports will continue to be reviewed and checked for correct highway, section, and log mile locations. The VISUAL-T will continue to be used to identify the highway, section and log mile of a crash. Efforts to continue to implement eCrash will continue with Arkansas State Police and others. AHTD will work with the consultants who are developing eCrash to ensure the crash locating tool (VISUAL-T) is incorporated into the program. The eCrash implementation is expected to begin in mid FY 2015, starting with Arkansas State Police officers. Implementation will continue with other law enforcement agencies in a phased process. A separate safety job is expected to help fund this effort.

Programmed Amount for F.Y. 2015	$10,000
Estimated Expenditure for F.Y. 2015	$ 2,400
Estimated Cost for F.Y. 2016	$10,000

431 – TRAFFIC CRASH RECORD ANALYSIS

Purpose and Scope: To continue to review crash data and identify high crash rate locations. To implement the State's Strategic Highway Safety Plan (SHSP) to ensure that appropriate safety measures are implemented that will reduce the State's fatality and serious injury rate. To implement the Highway Safety Improvement Program (HSIP).

Accomplishments for F.Y. 2015: The Traffic Safety Section is the lead agency in the development of the State's SHSP. The goal of the SHSP is to identify traffic safety emphasis areas and recommend priority strategies to reduce fatalities and serious injuries. The latest SHSP was adopted by the Arkansas State Highway Commission in February 2013.

Crash analyses for various studies in FFY 2014 were completed. Studies of high crash locations at 52 locations were completed and forwarded to Maintenance for their review. The Roadway Departure Safety Implementation Plan was completed in coordination with FHWA and their consultant. Further crash analysis and projects were initiated from the Roadway Departure Plan. A Cable Median Barrier Policy, including a comprehensive statewide median crossover crash analysis on all divided median highways, was completed. Safety projects were initiated from this Policy. Approximately 20 crash analyses were completed for various reasons at the request of others. Review of approximately ten studies conducted by MPP were completed. In accordance with Minute Order 2009-035, an annual study on wrong-way crashes on Interstates and other Freeways was prepared. An annual report on HSIP was prepared and submitted to FHWA. Numerous traffic safety training workshops, both in-person and online, were conducted. A new computer program (Crash Manager) was created to facilitate identification of high crash rate locations, and also to calculate custom statewide average crash rates. Traffic Safety took the lead as AHTD participated in the NCHRP 8-76 research effort. Traffic Safety helped Research identify locations and treatments to use on TRC 1303 and 1305 research projects.

Proposed Activities for F.Y. 2016: Staff will continue to identify high crash rate locations and conduct crash analyses to recommend safety projects. Staff will continue to coordinate with and provide assistance to other Sections and Divisions for safety studies and related efforts. Improvements will be made to the Crash Manager program. New research efforts will continue to be explored. The AHTD Work Zone Policy will be re-evaluated to better incorporate safety into the process. High crash rate locations on the high risk rural road system will be identified. An annual wrong-way crash study will be conducted. The HSM and the corresponding Interactive Highway Safety Design Model (IHSDM) will continue to be implemented. The use of other safety programs, such as Safety Analyst and ISAT will continue to be explored. In addition, work will continue to coordinate with FHWA on the review and update of the HSIP process. An annual report on HSIP will be prepared and submitted to FHWA. The updated SHSP will be continuously implemented in coordination with the other agencies. SHSP will be updated to comply with MAP-21 requirements after final rulemaking. Performance measures will be re-evaluated to conform to MAP-21 requirements after final rulemaking. Traffic Safety will work with Traffic Information Systems and other Sections to expand safety data asset collection including equipment purchase to comply with FHWA MIRE requirements.

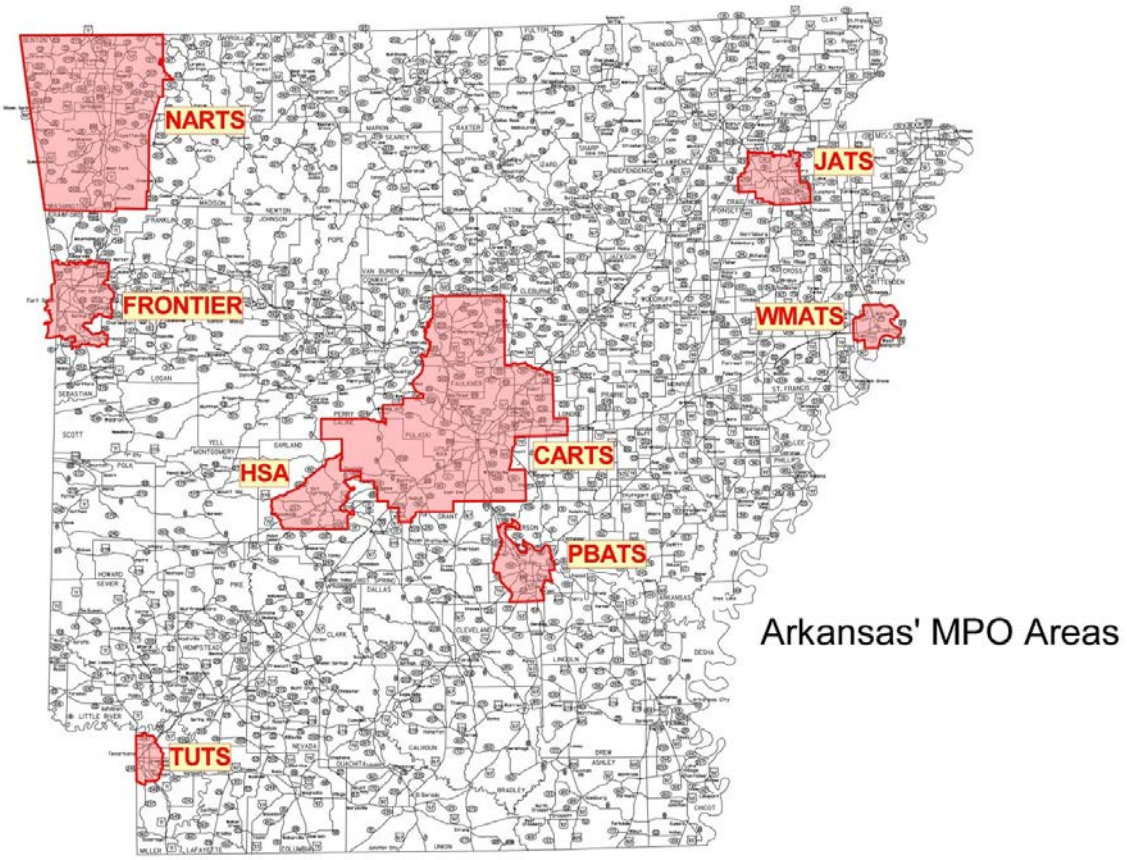
Programmed Amount for F.Y. 2015	$20,000
Estimated Expenditure for F.Y. 2015	$6,000
Estimated Cost for F.Y. 2016	$15,000

413 - CITIES OVER 50,000 POPULATION

Purpose and Scope: There are eight Metropolitan Planning Organizations (MPOs) in Arkansas. The MPOs and their general geographic areas are shown below. In cooperation with the MPOs, efforts are made to develop transportation systems embracing various modes of transportation in a manner that will efficiently maximize mobility of people and goods within and through urbanized areas and minimize transportation-related costs. To accomplish these objectives, MPOs, in cooperation with the State, develop transportation plans and programs for urbanized areas of the State. Such plans and programs provide for the development of transportation facilities (including pedestrian walkways and bicycle transportation facilities) that can be incorporated into the State's transportation system. The process for developing such plans and programs considers all modes of transportation and is continuing, cooperative, and comprehensive to the degree appropriate, based on the complexity of the transportation system.

Accomplishments for F.Y. 2015: The Metropolitan Planning Process (23USC134(c)(3)) was coordinated in all urbanized areas and the necessary activities were carried out for each area as explained below and in each MPO Unified Planning Work Program (UPWP). UPWPs, various funding agreements, Performance and Expenditure Reports, and the Annual Listing of Obligated Projects were developed for each Metropolitan Area. Each of the MPOs adopted a Federal Fiscal Year 2016-2019 Transportation Improvement

Program and considered changes in the functional classifications of roadways and in the National Highway System. The Metropolitan Planning Coordination Office developed a MPO Manual and worked with the MPOs to begin the development of performance measures in order to establish a performance based planning process. Progress reports and planning claims were reviewed and approved. Highlights of some of the activities conducted at the MPOs are as follows:



Central Arkansas Regional Transportation Study (CARTS) –

- Adopted the 2040 Metropolitan Transportation Plan in December 2014.
- Participated in the Arkansas Model Users Group
- Metroplan staff worked cooperatively with local governments and the AHTD to provide traffic forecasts for major corridor studies such as Interstates 30 and 40, Highway 67, and other routes as necessary.
- The Ozone Action Day program was continued.
- Monitoring continued of air quality issues and their impact on the region. Ozone readings have exceeded levels allowable under the 2008 National Ambient Air Quality Standards.
- Tracked and coordinated project design and cost items.

Frontier Metropolitan Planning Organization (FMPO) – 2015 activities

- Completed Van Buren Transit Service Expansion Study.
- Developed draft Wayfinding Plan.

- Initiated development of 2040 MTP including developing goals and objectives, conducting first round of public involvement meetings, updating demographics and regional maps, and drafting active transportation component and transit sections.

Hot Springs Area Metropolitan Planning Organization (HSAMPO) –
- Continued collecting traffic count, crash, tourism and visitors data.
- Continued creation of a regional database for crash data.
- Provided technical support to Intracity Transit.
- Hired a consultant to develop the 2040 MTP and completed a draft document with adoption anticipated by September 2015.
- Updated Title VI Plan

Jonesboro Area Transportation Study (JATS) –
- Hired new Study Director and staff.
- Conducted a community values survey.
- Created a Citizen Advisory Committee.
- Continued working on and collecting data for 2040 MTP with adoption anticipated by February 2016.
- Conducted two bike/pedestrian studies.
- Updated website and created Facebook and Twitter pages for Jonesboro MPO.

Northwest Arkansas Regional Transportation Study (NARTS) –
- Continued to work on the 2020, 2030 and 2040 travel demand forecast models and participated in the Arkansas Model Users Group.
- Completed development of a Congestion Management Process.
- Coordinated with AHTD, U.S. Fish and Wildlife and other environmental agencies on the Cave Springs Area Karst Resource Conservation Study.
- Coordinated with FHWA and AHTD to complete the Northwest Arkansas Razorback Regional Greenway Trail project.
- Completed Alternatives Analysis Study
- Accepted Regional Bicycle and Pedestrian Plan and shared vision with local jurisdictions.
- Initiated development of 2040 MTP with adoption anticipated by April 2016.
- Tracked and coordinated project design and cost items.

Pine Bluff Area Transportation Study (PBATS) –
- The focus of efforts was the completion of a draft of the 2040 MTP with adoption anticipated by September 2015.
- Coordinated with Pine Bluff Transit to provide transit planning and public participation for transit activities.

Texarkana Urban Transportation Study (TUTS) –
- Adopted the 2040 MTP in September 2014.
- Collected traffic count data, social and economic data and other pertinent data.

- Updated the Title VI Plan, the MPO Website, the Public Participation Plan and the travel demand model.

West Memphis-Marion Area Transportation Study (WMATS) –

- Continued to monitor crash data, land use and other characteristics with data being entered into the GIS system and specialized reports produced upon request.
- Continued to monitor air quality issues and held interagency meetings with MPO, ADEQ and AHTD staff.
- Continued data collection for pavement and congestion management systems.
- Provided input to TDOT on the proposed temporary closing of the I-55 Mississippi River Bridge.
- Continued to assist in the planning and development of the Harahan Bridge project.
- Participated in efforts to continue transit service in West Memphis.

Proposed Activities for F.Y. 2016: Efforts will be made cooperatively among the AHTD, all MPOs, and local agencies to accomplish the objectives of the Metropolitan Planning Process. Activities will continue to maintain compatibility between the Urbanized Area Transportation Plans and each local transportation plan (Master Street Plan). In developing transportation plans and programs pursuant to 23 USC 134, the eight factors set out in MAP-21 will be considered in all Metropolitan Planning Area Studies. Activities related to the administration of Metropolitan Planning funds will continue in all areas. Necessary activities will be conducted to maintain certification for all urbanized areas. Efforts will continue toward meeting federally-mandated requirements including review of environmental justice issues, the development of performance measures and air quality issues for the WMATS area. Activities will be conducted to assure necessary consideration of social, environmental and economic aspects of planning. UPWP, surveillance data analysis, annual reports, agreements, and other activities necessary to maintain the Metropolitan Area Transportation Planning Process will be conducted.

The UPWPs for each area and the Federal Transit Administration Work Program contain budget amounts and describe specific work to be accomplished for each work element by the MPOs. STP-Attributable and CMAQ claims will be processed for WMATS and CARTS. PL claims will be processed for all MPOs. Some highlights of the proposed F.Y. 2016 activities are listed below:

Central Arkansas Regional Transportation Study – The focus of efforts in central Arkansas will be the implementation of Imagine Central Arkansas through technical assistance to member jurisdictions, revisions to the plan documents as necessary for MAP-21 requirements, the review of the regional bikeway network and design standards, and assistance with corridor studies. Work will continue on the Congestion Management System, responding to changing air quality standards and the Ozone Action Day Program.

Frontier Metropolitan Planning Organization – The MPO will complete a draft of the 2040 Metropolitan Transportation Plan with adoption anticipated by August 2016.

Hot Springs Area Metropolitan Planning Organization – The MPO will complete the 2040 Metropolitan Transportation Plan. The MPO will continue to provide assistance, as needed, to Intracity Transit.

Jonesboro Area Transportation Study – The MPO will complete the 2040 Metropolitan Transportation Plan. The MPO will continue to provide assistance, as needed, to JETS.

Northwest Arkansas Regional Transportation Study – The MPO will continue to work on the 2020, 2030 and 2040 travel demand forecast models and migrating the base year to 2010. The MPO will continue to develop and monitor projects for STP>200K and TAP funds to ensure obligation of funds in a timely manner. The MPO will complete the 2040 Metropolitan Transportation Plan.

Pine Bluff Area Transportation Study – The MPO will complete the 2040 Metropolitan Transportation Plan. The MPO will continue to provide assistance, as needed, to Pine Bluff Transit.

Texarkana Urban Transportation Study –The MPO will work toward updating the Bicycle/Pedestrian Master Plan.

West Memphis-Marion Area Transportation Study – The MPO will continue to monitor air quality issues and the 2033 Metropolitan Transportation Plan and to work toward the completion of the 2040 Metropolitan Transportation Plan in 2017. The collection of crash data will continue and a database of crashes will be updated and the pavement management system will continue to be maintained. The MPO will continue to assist in the planning and development of the Harahan Bridge project and the Arkansas Eco Park between the two Mississippi River bridges.

All Metropolitan Planning by Department Staff

Programmed Amount for F.Y. 2015	$350,000
Estimated Expenditure for F.Y. 2015	$515,000
Estimated Cost for F.Y. 2016	$400,000

Note: MPO UPWPs will be developed by the individual MPOs and will reflect the metropolitan planning funds to be expended by each MPO staff.

414 – AIR QUALITY ACTIVITIES

Purpose and Scope: To coordinate air quality planning statewide. Activities include the coordination of planning and construction projects, compiling and analyzing data for

emission modeling, and coordinating air quality activities between the Arkansas Department of Environmental Quality (ADEQ) and WMATS and CARTS areas.

Accomplishment for F.Y. 2015: Provided Congestion Mitigation/Air Quality (CMAQ) funds to support air quality planning efforts by the Metropolitan Planning Organizations (MPO) in central Arkansas and Crittenden County. Specific activities in central Arkansas include coordination with Metroplan for the Ozone Action Day Program, implementation of the Ozone Action Day program within the Department, and participation in the Central Arkansas Clean Air Task Force. In Crittenden County, air quality planning activities include the gathering, analysis and preparation of local and statewide data used for sensitivity testing of emission modeling. Coordinated with ADEQ throughout the State Implementation Plan development process.

Proposed Activities for F.Y. 2016: Provide support activities for the air quality planning programs including those in the urbanized areas as well as programs within the Department. Activities will include developing implementation strategies for air quality programs within the Department, coordination with MPOs in developing and implementing programs and strategies, and coordination with the ADEQ and other entities. Training for current and additional staff will be included.

Programmed Amount for F.Y. 2015	$ 90,000
Estimated Expenditure for F.Y. 2015	$ 3,800
Estimated Cost for F.Y. 2016	$100,000

415 – LOCAL PLANNING TECHNICAL ASSISTANCE

Purpose and Scope: To coordinate, review, and provide technical assistance to local agencies to ensure the linkage between land use and transportation are maintained.

Accomplishments for F.Y. *2015:* This is a new job for fiscal year 2016.

Proposed Activities for F.Y. 2016: Activities include coordination of access management plans, review of Master Street plans, etc. These activities are particularly important to ensure goals/objectives of transportation investments can be achieved and maintained.

Programmed Amount for F.Y. 2015	$0
Estimated Expenditure for F.Y. 2015	$0
Estimated Cost for F.Y. 2016	$100,000

012199 – STATEWIDE TRAVEL DEMAND MODEL, PHASE II

Purpose and Scope: To develop Phase II of the statewide travel demand model. Phase II will include a forecast year, address the integration of data into the model, update

demographics, enhance the freight network component and add a tolling component for future project analysis.

Accomplishments for F.Y. 2015: Several draft final documents were submitted for Phase II of the ARTDM. Final delivery of the ARTDM II and training of Department staff and partner organizations.

Proposed Activities for F.Y. 2016: The consultant will complete their work in FY 2015.

Programmed Amount for F.Y. 2015	$400,000
Estimated Expenditure for F.Y. 2015	$275,000
Estimated Cost for F.Y. 2016	$0

012194 - STATE BICYCLE AND PEDESTRIAN TRANSPORTATION PLAN UPDATE

Purpose and Scope: To update the Arkansas State Bicycle and Pedestrian Transportation Plan that was published in 1998. With the renewed interest in improving bicycle and pedestrian transportation, it is important that the Department adopt policies and procedures to incorporate safe and convenient walking and bicycling facilities into transportation projects. A Technical Advisory Committee was organized from the staff at the Department and other agencies as well as from bicycle and pedestrian advocacy groups to oversee the development of these policies and procedures.

Accomplishments for FY 2015: The Department staff provided oversight of the consultant team activities including working with the Governor's Bicycle Advisory Committee, working with the Technical Advisory Committee, participating in the public involvement and stakeholder interviews. Staff also provided review of interim deliverables and the draft State Bicycle and Pedestrian Plan.

Proposed Activities for FY 2016: The consultant will complete their work in FY 2015.

Programmed Amount for FY 2015	$300,000
Estimated Expenditures for FY 2015	$235,000
Estimated Cost for FY 2016	$55,000

012234 – STATEWIDE LONG RANGE INTERMODAL TRANSPORTATION PLAN

Purpose and Scope: To create a mechanism where consultant services can be accessed for portions or entire planning studies. Typical studies (or portions thereof) would include the Statewide Long Range Intermodal Plan, and other regional or localized planning studies. This project covers a three-year period (Calendar Years 2014-2016). All activities will be in accordance with the MAP-21 requirements.

Accomplishments for F.Y. 2015: Developed the Scope of Work, reviewed Letters of Interest, and reviewed Proposals. Worked with the selected team to develop a final Scope of Work. Coordinate activities with the State Freight Plan.

Proposed Activities for F.Y. 2016: Provide coordination Between Department staff and the consultant team to assist in the administration of the task order with the Consultant Coordinator, the individual consultants, and other ongoing projects. This will include data purchases, transformations, and projections of data sets as well as public involvement activities.

Programmed Amount for F.Y. 2015	$ 500,000
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$1,000,000

012233 – STATEWIDE FREIGHT PLAN

Purpose and Scope: To create a mechanism where consultant services can be accessed for portions or entire planning studies. Typical studies (or portions thereof) would include the State Freight Plan, and other regional or localized planning studies. This project covers a three-year period (Calendar Years 2014-2016). All activities will be in accordance with the MAP-21 requirements.

Accomplishments for F.Y. 2015: Developed the Scope of Work, reviewed Letters of Interest, and reviewed Proposals. Worked with the selected team to develop a final Scope of Work. Coordinated activities with the Statewide Long Range Intermodal Transportation Plan.

Proposed Activities for F.Y. 2016: Provide coordination Between Department staff and the consultant team to assist in the administration of the task order with the Consultant Coordinator, the individual consultants, and other ongoing projects. This will include data purchases, transformations, and projections of data sets as well as public involvement activities.

Programmed Amount for F.Y. 2015	$500,000
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016-2017	$550,000

012182– STATE RAIL PLAN UPDATE

Purpose and Scope: To prepare an updated State Rail Plan that will meet Federal requirements established under the Passenger Rail Investment and Improvement Act (PRIIA) of 2008 and that will be based on Federal long-range rail transportation goals established in the National Rail Plan currently being developed by the Federal Railroad Administration (FRA).

Accomplishments for F.Y. 2015: Managed activities of the consultant team including stakeholder meetings and meetings with other state agencies, and local officials meetings. Reviewed drafts of public involvement materials including website content, invitation letters, news releases, and presentation materials. Coordinated document development with the High-Speed Passenger Rail Study.

Proposed Activities for F.Y. 2016: The Department will continue to oversee consultant activities to ensure compliance with PRIIA requirements and FRA rail planning policy. The State Rail Plan update will support the High Speed Passenger Rail Study. The consultant will complete their work in FY 2015.

Programmed Amount for F.Y. 2015	$144,125
Estimated Expenditure for F.Y. 2015	$170,000
Estimated Cost for F.Y. 2016	$113,000

UNKNOWN – PLANNING AND ENVIRONMENTAL LINKAGES SUPPORT

Purpose and Scope: Planning and Environmental Linkages (PEL) represents a collaborative and integrated approach to transportation decision-making that considers environmental, community, and economic goals early in the transportation planning process and uses the information, analysis, and products developed during planning to inform the environmental review process. Activities include providing support and exploring further use of the PEL process in planning.

Accomplishments for F.Y. 2015: PEL support activities were carried under Job 410 (Highway System Planning Studies) in F.Y. 2015.

Proposed Activities for F.Y. 2016: Future PEL activities for Job CA0602 include support for the PEL Study and the transitioning of PEL into the NEPA process. Other projects that will benefit from participation in the PEL process will be identified.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$ 50,000

UNKNOWN – GENERAL PLANNING STUDIES

Purpose and Scope: The work will generally consist of using consultants to conduct transportation planning studies, needs assessments, and other planning activities, as needed.

Accomplishments for F.Y. 2015: New project for Fiscal Year 2015.

Proposed Activities for F.Y. 2016: Perform planning activities as needed and directed.

Programmed Amount for F.Y. 2015	$ 500,000
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$ 700,000

UNKNOWN – STATEWIDE AERIAL IMAGERY

Purpose and Scope: The Arkansas Geographic Information Office (AGIO) is leading the effort to procure statewide aerial imagery for Arkansas. The goals of the acquisition are:

- A seamless statewide aerial imagery dataset with consistent resolution, color and time flown.
- Imagery will be orthorectified and delivered with metadata. Metadata provides users with the date of acquisition, information on the orthorectification process, and original projection information.
- One foot resolution imagery for the entire state will be provided with possible six inch resolution in some urbanized areas.
- Imagery will be flown late 2015 to early 2016 while there are no leaves on the trees for optimal visualization.
- Imagery will be delivered as multispectral aerial imagery in natural color (typical) or color infrared, which is useful when concentrating on water or vegetation.

Accomplishments for F.Y. 2015: This is a new job.

Proposed Activities for F.Y. 2016: Contribute up to $150,000 towards the Arkansas Aerial Imagery Project.

Programmed Amount for F.Y. 2015	$	0
Estimated Expenditure for F.Y. 2015	$	0
Estimated Cost for F.Y. 2016	$	150,000

012219 – PERFORMANCE DRIVEN PROJECT PRIORITIZATION SYSTEM

Purpose and Scope: The purpose of this project is to allow the Department to have a performance driven project prioritization system to prioritize objectives, evaluate investments, and optimize current resources for the state.

Accomplishments for F.Y. 2015: Decision Lens software and consultant services were purchased early in F.Y. 2015. The consultant provided three in-depth on-site training sessions to select staff that would be directly using the Decision Lens software during F.Y. 2015. The consultant also provided a single on-site overview to the department's division heads that would be providing data as input for Decision Lens. During this meeting, the division heads were asked to rank the input criteria that is used in the software rankings. Data was collected on the initial 2016-2019 STIP jobs and the data was entered into Decision Lens.

Proposed Activities for F.Y. 2016: Use the Decision Lens performance driven process to aid in the finalization the 2016-2019 STIP. Use the Decision Lens software to help distribute the TAP moneys around the state. Use Decision Lens programmatic resource allocation functions to estimate system performance in various scenarios in the Statewide Long Range Intermodal Transportation Plan.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$ 160,000

467 - RESEARCH SECTION PROJECTS FROM Q55 APPORTIONMENT

Accomplishments for F.Y. 2015: See the Part II Research portion of the Work Program for these project activities.

Proposed Activities for F.Y. 2016: None.

Programmed Amount for F.Y. 2015	$0
Estimated Expenditure for F.Y. 2015	$0
Estimated Cost for F.Y. 2016	$0

468 - ADMINISTRATION

Purpose and Scope: To set objectives, measure accomplishments, and provide administrative support for all work activities of the Division. To provide training and auxiliary functions necessary for Division work activities, including records, payroll, attendance reports, and all other required administrative, bookkeeping, and secretarial functions. Activities necessary to carry out requirements in accordance with all state and federal regulations will be executed. Activities performed under this job number are 100% State funded.

Accomplishments for F.Y. 2015: Administrative guidance and controls were accomplished in accordance with the goals and objectives set forth for the Division. The necessary purchasing, storing, and distribution of supplies continued. An accurate inventory was maintained for the Division.

Proposed Activities for F.Y. 2016: Continue to provide guidance and assistance in the development and analysis of transportation related projects and information including improving communication and support information exchange through new technologies. The Fiscal Year 2017 SPR Work Program and Cost Estimate will be developed and submitted to FHWA for approval and work authorization.

Programmed Amount for F.Y. 2015	$400,000
Estimated Expenditure for F.Y. 2015	$ 75,000
Estimated Cost for F.Y. 2016	$400,000

469 – TRAVEL, TRAINING AND SEMINARS

Purpose and Scope: To acquire additional, up-to-date knowledge and the latest techniques to stay abreast of available information and/or technology in order to provide the best transportation system for the movement of people and goods in and through Arkansas.

Accomplishments for F.Y. 2015: In and out-of-state trips were taken this year to attend transportation related meetings and seminars to acquire training, to update knowledge and techniques, and to network with others involved in traffic information and asset management related programs.

Proposed Activities for F.Y. 2016: Division personnel will make necessary and pertinent in- and out-of-state trips to attend seminars and meetings. Federal participating funds that are used for these seminars and meetings will be tracked. Charging trips and training seminars to one job number improves record keeping. Registration fees, salaries, meals and lodging, the cost of the trip and miscellaneous expenses will be charged to this job number.

Programmed Amount for F.Y. 2015	$125,000
Estimated Expenditure for F.Y. 2015	$ 45,000
Estimated Cost for F.Y. 2016	$100,000

470 – PERFORMANCE MEASURES

Purpose and Scope: To monitor current and proposed Performance Measure requirements and advise the Department as necessary to insure compliance.

Accomplishments for F.Y. 2015: Work continued on identification and monitoring of performance measures, including researching Performance Measure reporting tools used by other state transportation agencies. Activities continued on the development of a reporting tool through the revieTravfw of both the content of the tool and the context of the tool.

Proposed Activities for F.Y. 2016: Continue monitoring of current and proposed performance measures. The System Information and Research Division will coordinate activities with FHWA.

Programmed Amount for F.Y. 2015	$ 30,000
Estimated Expenditure for F.Y. 2015	$ 1,000
Estimated Cost for F.Y. 2016	$ 30,000

471 – TRAFFIC CONTROL

Purpose and Scope: To monitor current and proposed Performance Measure requirements and advise the Department as necessary to insure compliance.

Accomplishments for F.Y. 2015: New job number beginning this year to track cost associated cost with data collections.

Proposed Activities for F.Y. 2016: In order to collect data for traffic information and asset management activities this job number will be used for tracking the costs of the districts when using traffic control.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$150,000

474 - DATA ANALYSIS

Purpose and Scope: To analyze the various types of data collected on the State Highways, local roads, and city streets. This includes traffic volume counts, vehicle classification counts, turning movement counts, special counts and surveys, and other data collection efforts. This job also includes reporting the permanent collection site data to the Federal Highway Administration as required, along with statewide summaries of travel volumes, vehicle classifications and truck weights by functional system and rural, small urban and urbanized areas. Additionally, traffic projections are calculated to support highway and bridge design efforts.

Accomplishments for F.Y. 2015: This activity was carried under Job 491 for F.Y. 2015. All statewide coverage counts, special counts, turning movements and machine vehicle classification counts were processed, including 2,500 classification counts, 9,700 volume counts, and 150 Turning Movement Counts. Truck weight data and associated vehicle classification data from the permanent collection sites (ATR) were collected and analyzed. Seasonal and axle adjustment factors were calculated using the permanent count station data. A plan for the Automated Data Collection Sites was developed. This plan focuses on weight data needs for Pavement ME and additional volume and classification data needs for development of axle and seasonal factors.

Proposed Activities for F.Y. 2016: Traffic Information Systems will analyze approximately 3,000 48-hour machine classifications counts throughout the State, including some weekend and holiday samples. Approximately 150 turning movement counts and 9,700 traffic volume counts will be analyzed. Traffic data from the ATR stations will be collected and analyzed regularly. Special traffic counts will be processed.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditure for F.Y. 2015	$ 0

Estimated Cost for F.Y. 2016	$625,000

475 - AUTOMATED TRAFFIC DATA COLLECTION

Purpose and Scope: To collect vehicle volume, weight, speed, and classification traffic data at permanent, site-specific locations. The types of Automated Traffic Data Collection sites are Smart Sensor radar detectors, Volume-only, Automatic Vehicle Classifier (AVC), and Weigh-in-Motion (WIM). The AVC sites collect both volume and classification data and the WIM sites collect volume, classification, and weight data. The scope of this item includes developing and monitoring sample sites from year to year and making necessary updates when changes occur in the physical highway conditions. The scope of activities also includes the purchase of testing equipment, road tube, piezoelectric sensors and other equipment deemed necessary to support the collection of data, and repair of all assigned equipment. Also included is the installation of multi-purpose monitoring stations, upgrading of existing stations and replacement of obsolete and non-functional equipment. The Traffic Information Systems Recorder Shop will maintain all records of repairs to all data collection devices as well as all necessary items for the repair of portable equipment and installation of permanent automated data collection sites. Currently there are a total of 65 automatic data collection sites around the State. Of these, currently two are non-operational due to construction, three are smart sensor sites, ten are volume-only sites; four are AVC sites; and 46 are WIM sites.

Accomplishments for F.Y. 2015: This activity was carried under Job 494 for F.Y. 2015. All automatic data collection sites were maintained and repaired as needed to stay operational. The Traffic Information Systems Recorder Shop maintained all records of repairs to all data collection devices as well as kept all portable equipment in working condition and maintained supplies for the installation of permanent automated data collection sites. The plan for the Automatic Data Collection System was implemented as a guide for future installations. One new AVC site was installed. Four existing sites were reinstalled due to construction or site relocation. All sites, except the smart sensor sites, have been upgraded to IP-addressable modems.

Proposed Activities for F.Y. 2016: All automatic data collection sites will be maintained and repaired as needed to keep them operational. The Traffic Information Systems Recorder Shop will maintain all records of repairs to all data collection devices as well as all necessary items for the repair of portable equipment and installation of permanent Automated Data Collection Sites. Five AVC sites will be installed, ten WIM sites on lower truck volume routes will be switched to AVC, WIM sites on the Interstate System will be upgraded to a more accurate sensor type in accordance with the Automatic Data Collection System Plan. Seven existing sites will be rehabilitated. This is in addition to the normal maintenance of the existing sites.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$625,000

476 - CONTRACT TURNING MOVEMENT COUNTS

Purpose and Scope: The purpose of this activity is to use outside contractors in the collection of certain traffic data elements to reduce collection time. The scope of this element will include turning movement counts only.

Accomplishments for F.Y. 2015: This activity was carried under Job 496 for F.Y. 2015. Approximately 150 turning movement counts were completed during the fiscal year.

Proposed Activities for F.Y. 2016: The consultant will collect approximately 150 turning movement counts as requested from other Divisions and Sections.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$125,000

477 - CONTRACT COLLECTION OF TRAFFIC VOLUME COUNTS

Purpose and Scope: To use outside contractors to augment the collection of certain traffic data elements. The scope of this element will include the collection of 48-hour traffic volume counts. These counts include all State Highways and a significant number of the high volume county roads and city streets. The contractor will perform the counts supporting all ongoing urban transportation studies and routine count locations.

Accomplishments for F.Y. 2015: This activity was carried under Job 497 for F.Y. 2015. Collected approximately 9,700 traffic volume counts.

Proposed Activities for F.Y. 2016: Collect approximately 9,700 traffic volume counts.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$600,000

478 - CONTRACT COLLECTION OF VEHICLE CLASSIFICATION COUNTS

Purpose and Scope: To use outside contractors to augment the collection of certain traffic data elements. The scope of this element will include the collection of 48-hour vehicle classification counts. These counts include multi-lane undivided State Highways and a significant number of the high volume multi-lane HPMS sample segments within urban areas. The contractor will perform the counts supporting all ongoing urban transportation studies and HPMS segment locations. Additionally, the contractor will collect video classification counts at certain locations with extremely high traffic volumes or high truck volumes.

Accomplishments for F.Y. 2015: This activity was carried under Job 498 for F.Y. 2015. Collected 464 vehicle classification counts and 33 video classification counts

Proposed Activities for F.Y. 2016: Collect approximately 566 vehicle classification counts and 93 video classification counts.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$300,000

479 – TRAFFIC DATA COLLECTION – TRAFFIC COUNTS

Purpose and Scope: To collect traffic data, including vehicle classification counts, railroad crossing delay studies, and other special data collection efforts. The traffic counting effort will include normal coverage counts (48-hour counts), weekend counts, and holiday counts.

Accomplishments for F.Y. 2015: This activity was carried under Job 499 for F.Y. 2015. Classification counts were collected at 2,039 stations statewide by AHTD data collection personnel. Speed data was collected at all classification sites. Special counts, including holiday counts, were also conducted.

Proposed Activities for F.Y. 2016: Traffic Information Systems will conduct approximately 2,245 48-hour machine classification counts throughout the State, including some weekend and holiday samples. Speed data will be collected at all classification sites. Special counts will be made as requested.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$450,000

480 – ASSET MANAGEMENT SYSTEM

Purpose and Scope: The Asset Management System (AMS) is responsible for the coordination of activities in order to achieve the highest quality pavements, bridges, and other assets throughout the state at the lowest cost feasible. The AMS will coordinate the collection and reporting of assets throughout the Department to ensure the requirements of the "Moving Ahead for Progress in the 21st Century" (MAP-21) legislation are being met. The legislation requires all states must report the condition of its pavement and bridge assets on the enhanced NHS. Each state decides which assets, if any, above the minimums they choose to collect and report. The MAP-21 legislation requires states maintain their assets in a good state of repair. These assets may or may not be located within the right-of-way of the state highway system. This job may include, but is not limited to, associated transportation costs, contracts, and salaries.

Accomplishments for F.Y. 2015: This activity was carried under Job 483 for F.Y. 2015. Under the support contract with Deighton Associates Limited, the dTIMS Asset Management software was upgraded and Deighton completed and delivered a system-wide analysis of historical data.

Proposed Activities for F.Y. 2016: Under the remaining terms of the support contract with Deighton Associates Limited, training on dTIMS CT software will be received at the annual Deighton User's Conference (DUC). After receiving training, the analysis parameters used in performing analyses will be refined and adjusted for the Arkansas system. The Transportation Asset Management Plan will be developed in compliances with MAP-21 guidelines. This will require the use of a consultant to complete the Transportation Asset Management Plan.

Programmed Amount for F.Y. 2015	$510,000
Estimated Expenditure for F.Y. 2015	$400,000
Estimated Cost for F.Y. 2016	$625,000

481 – ASSET MANAGEMENT SYSTEM ANALYSIS

***Purpose and Scope*:** To provide system-level pavement condition information as well as system-level predictions on future trends. This job does not cover project-level analyses. This includes any use of software packages such as dTIMS CT which provide system projections, as well as any by-hand analyses of the system as a whole.

***Accomplishments for F.Y. 2015*:** Through Deighton, the dTIMS CT software went through the arduous process of being upgraded to the newest version. Deighton was also hired, under F.Y.2015 job number 483, to load the section's collected data and perform an analysis with the software. This contract also included a training session in which section personnel were trained in the use of the software so that the data can be loaded internally in the future.

***Proposed Activities for F.Y. 2016*:** The annual data collected by the section will be loaded into the dTIMS CT database. The dTIMS CT analysis variables, methodologies, and scenarios will be refined and corrected. A system-wide analysis will be completed that will create a recommended treatment schedule for the state's pavements.

Programmed Amount for F.Y. 2015	$200,000
Estimated Expenditure for F.Y. 2015	$130,000
Estimated Cost for F.Y. 2016	$100,000

482 – PAVEMENT PERFORMANCE DATA COLLECTION VEHICLE (PPDCV)

Purpose and Scope: The development of a second pavement performance data collection vehicle is an ongoing project. The vehicle will be data collection tool that should supplement the data provided by the Automatic Road Analyzer (ARAN). The

second data collection vehicle should allow use of the ARAN to concentrate on data collection for the Highway Performance Monitoring System (HPMS) and the requirements of the *"Moving Ahead for Progress in the 21st Century"* (MAP-21) legislation. This vehicle will be used to collect data on Fayetteville Shale Play routes and other low volume routes and special project routes.

Accomplishments for F.Y. 2015*:* This activity was carried under Job 490 for F.Y. 2015. The PPDCV was utilized to collect the Fayetteville Shale routes, ramps on divided highways, and special projects. The PPDCV was not upgraded with a 3-D pavement imaging system as was anticipated in F.Y. 2014. The section is evaluating the possible acquisition of a multi-point rut measurement system.

Proposed Activities for F.Y. 2016*:* Work will continue on the development of the PPDCV to provide collection of additional information. Routes that will be collected will include the Fayetteville Shale, poultry industry routes, special routes, and ramps along with special projects.

Programmed Amount for F.Y. 2015	$180,000
Estimated Expenditure for F.Y. 2015	$ 30,000
Estimated Cost for F.Y. 2016	$325,000

483 – PAVEMENT STRUCTURAL TESTING

Purpose and Scope: To collect and provide structural qualities of the pavement for analysis purposes. A Falling Weight Deflectometer is equipment that performs dynamic testing which simulates traffic by applying a load to the pavement surface and provides deflection values of the pavement. The deflection values can provide information on the remaining life, suggested overlay thickness, and resilient modulus. FWD testing can provide the variables for determining the effective static k-values, joint load transfer efficiency, and void detection in the pavement structure. This data can aid the Department on structural-related decisions of current and future pavements. FWD data will be collected on pavements based on specific job requests that can range from pre-construction sites, weight restricted roads, research projects, and monitoring purposes.

Accomplishments for F.Y. 2015: This activity was carried under Job 490 for F.Y. 2015. FWD data was collected as needed on roughly 1,400 centerline miles of pavements. Data was collected on bond jobs, Connecting Arkansas Program (CAP) jobs, state aid jobs, weight restricted routes, active poultry industry routes, Fayetteville Shale routes, and research projects. One of the FWDs was sent to the manufacturer's headquarters in Florida in order to be calibrated and serviced. The section also received training on both the operation of the FWD and the ELMOD software which analyzes the data produced by the FWD.

Proposed Activities for F.Y. 2016: The Department may receive an additional FWD unit in the future from Garver LLC through the Connecting Arkansas Program. As a result of

the additional unit, network level deflection data collection may be initiated. Network level collection will start, contingent on the receipt of the third unit, on Arkansas Primary Highway Network (APHN) which includes the National Highway System (NHS) routes. Deflection data will be collected as needed and will still be collected for Fayetteville Shale routes, the poultry industry routes, and weight restriction routes for monitoring. There are plans to acquire Light Weight Deflectometers for enhanced subgrade analysis. These units will allow testing of pavement subgrades before surface is applied to evaluate a subgrade's modulus with relation to the original pavement design. One FWD will be sent to the manufacturer's headquarters in Florida for calibration and servicing. The remaining FWD will be sent to a calibration center in Texas for an annual calibration.

Programmed Amount for F.Y. 2015	$238,000
Estimated Expenditure for F.Y. 2015	$120,000
Estimated Cost for F.Y. 2016	$250,000

484 – PAVEMENT FRICTION DATA COLLECTION EQUIPMENT

Purpose and Scope: To provide the Department with information regarding the skid resistance of the pavement surfaces around the state. The Pavement Friction Tester (PFT) will be outfitted and calibrated to the standards of ASTM E274. The PFT will provide skid number (SN) data from the National Highway System (NHS), State maintained routes, and special projects to monitor pavement performance and subsequently maintain a database of historic records. The SN will allow the Department to potentially maintain safe roadway conditions by identifying friction problems in pavements through early detection of weathering, increased usage of a pavement, or the life span of the structure. The PFT lends itself to accident site investigation and the determination of International Friction Index (IFI) values when coupled with additional devices for the measurement of macrotexture. Currently, one PFT is in operation to measure the skid resistance.

Accomplishments for F.Y. 2015: This activity was carried under Job 490 for F.Y. 2015. It has been segmented into this job number to allow more detailed accounting. The PFT collected data and provided SNs of pavement surfaces around the state.

Proposed Activities for F.Y. 2016: Two additional friction testing devices, a Dynamic Friction Tester (DF Tester) and a Circular Track Meter (CT Meter), are expected to be acquired and utilized for increased pavement friction testing. Pavement friction data collection will be collected on NHS, State maintained routes, and for special projects. The use of the PFT, DF Tester, and the CT Meter will allow more data for skid-resistance determination. Routes on the NHS and State maintained routes will be selected for seasonal SN testing and monitoring. The data collected will contain GPS location, speed, and log mile. This data will be processed and loaded into a statewide database and mapped for internal use.

Programmed Amount for F.Y. 2015	$ 70,000

Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$125,000

485 – NONDESTRUCTIVE SUBSURFACE INVESTINGATION

Purpose and Scope: To collect and provide the Department with subsurface pavement structure data for analysis purposes. Currently, the Department's Ground Penetrating Radar (GPR) unit from Geophysical Survey Systems, Inc. is maintained in the Asset Management Section. GPR is a nondestructive test that emits electromagnetic energy and detects the reflected signals from the subsurface structures. The information from GPR can determine a material's dielectric properties. The different applications that can be provided by GPR include thickness of the various layers in the pavement structure, detection of void in the pavement structure, detection of underline utilities in the pavement structure, and the density of the pavement structure. The Department currently has a 2.0 gHz air horn antenna system for pavement analysis and a rebar detector that uses the same principles of GPR. GPR data is to be collected on a network level beginning with the Interstate System and the National Highway System and will be collected on other systems as time allows.

Accomplishments for F.Y. 2015: This activity was carried under Job 490 for F.Y. 2015. GPR data was collected as needed for data to supplement pavement engineering analysis. The GPR system has been configured for a single person operation with an emphasis on safety and efficiency. A high definition camera has been mounted to the windshield for visual reference. The antennas' cables were modified for weather proofing purposes. The distance measuring instrument (DMI) and global positioning system (GPS) have been permanently mounted.

Proposed Activities for F.Y. 2016: The Department will receive an additional lower frequency GPR system for environmental applications from the Department's Research Section. GPR data will continue to be collected on a network level. GPR data will be collected as needed and still be collected for special projects such as Fayetteville Shale routes, poultry industry routes, and weight restriction routes for monitoring.

Programmed Amount for F.Y. 2015	$150,000
Estimated Expenditure for F.Y. 2015	$100,000
Estimated Cost for F.Y. 2016	$100,000

486 – AUTOMATIC ROAD ANALYZER (ARAN)

Purpose and Scope*:* The Automated Road Analyzer (ARAN) is utilized to collect pavement performance data, including but not limited to, roughness, rutting, cracking, curve, grade and geographic location. In addition to the performance data, the ARAN also collects three (3) forward facing right-of-way views, two (2) rear facing right-of-way views and a downward looking pavement view. Pavement performance data is processed

and imported into the Pavement Management System. The data is also provided to the Department ad-hoc and through the Multimedia Highway Information System.

Accomplishments for F.Y. 2015*:* This activity was carried under Job 490 for F.Y. 2015. The ARAN collected approximately 9,000 miles of pavement performance data and imagery. Data collected includes the Interstate system, the Fayetteville Shale routes, and the majority of Districts 2, 3, and 7.

Proposed Activities for F.Y. 2016*:* The 2015 data collection is anticipated to include the entire NHS in preparation of the upcoming MAP-21 requirements, as well as the Fayetteville Shale routes and Districts 1, 5, and 8.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$200,000

487 – PAVEMENT MANAGEMENT SYSTEM (PMS*)*

Purpose and Scope**:** To develop and implement a statewide PMS for State Highways. The PMS is a systematic process that provides, analyzes, and summarizes information for use in selecting and implementing cost-effective pavement preservation, pavement construction, rehabilitation, and maintenance programs. The PMS work plan components include database development, pavement evaluations, establishment of preferable maintenance treatment strategies, and the identification of projects for consideration in developing statewide transportation plans and improvement programs.

Accomplishment for F.Y. 2015**:** This activity was carried under Job 480 for F.Y. 2015. Data from the NHS and Secondary Systems was processed and reported. The most current International Roughness Index (IRI) data on the state maintained highway network was supplied to the Highway Performance Monitoring System (HPMS). The data from all routes collected with the ARAN has been entered into a PMS database and images have been loaded into the MMHIS. All existing data files have been processed to conform to the Roadway Inventory System using geographic coordinates provided by the Surveyor asset inventory software.

Proposed Activities for F.Y. 2016: The MAP-21 legislation will require staff to process much more data than in the past. The legislation is based on a performance based model and the need for the most detailed and accurate data possible will be required. The processing of data collected by the ARAN will continue. The data will be incorporated into the Pavement Management database. This database will be used in the dTIMS CT asset management software. Work will continue to enhance pavement deterioration curves for use in dTIMS CT to allow more reliable analyses of the highway system. The QC/QA procedures incorporated in the Vision software will be implemented to ensure the quality and accuracy of ARAN provided distress data. The distress data will be used to

establish pavement cracking indices and will be used in combination with IRI and rutting data to provide a pavement condition index.

The Pavement Management database will provide necessary data to the HPMS. The latest HPMS reassessment demands more comprehensive data reporting and will require a more complex workflow. The full implementation of the Vision software should make the HPMS reporting less strenuous.

Asset Management personnel will provide assistance to the ten districts in Arkansas with the Preventative Maintenance Plan (PMP). This will include the IRI, rutting and cracking data along with assistance in the selection of the location of preventative maintenance treatments. Asset Management personnel will also evaluate the current PMP to see if an update to the agreement is necessary.

Asset Management personnel will provide support for research projects administered by the Research Section and the State universities as required.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$275,000

488 - PAVEMENT ENGINEERING DATA PROCESSING

***Purpose and Scope*:** To assemble and collate all data collected throughout the section, and to apply quality assurance measures to that data. This includes, but is not limited to, ARAN, FWD, GPR, and PFT data. This job is limited to typical processing of information and does not cover any data analysis.

Accomplishments for F.Y. 2015: This job was covered under Job 490 in the previous fiscal year. It has been broken out this year for more detailed accounting. A database of all historical ARAN data was prototyped and finalized which aligned the historical data to the linear referencing system, the roadway inventory, as well as traffic data. This has been used to great effect in several analysis projects throughout the year. This data is also being used to detect major changes from year to year as a method of quality control. Several other quality control measures have been put in place such as FWD and Friction Tester sanity checks, crack detection spot checks, and outlier-examination for most data collected.

The newly implemented Vision software has consolidated many previously used data processing applications into a single standalone system. Vision software utilizes a SQL database engine and imports data directly from the ARAN, bypassing any of the old data processing software. After full implementation of the software has been finalized, the data processing workflow will be more streamlined.

Proposed Activities for F.Y. 2016: The currently proposed regulations by FHWA under the MAP-21 legislation add an increased burden on the state to report pavement condition data. New quality-control measures, process flows, and tools, both inside and outside of Vision software, will need to be created and implemented to ensure that these data elements are high fidelity. Data driven quality control measures and processes will also be implemented. The database that was created will be expanded to house all other data the section has collected and processed, and will be used to augment quality control and data analysis as well as facilitate upgrades to tools such as MMHIS.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$125,000

489 – PAVEMENT ENGINEERING DATA ANALYSIS

Purpose and Scope: To analyze the various types of data collected on the National Highway System (NHS), State maintained routes, and through special projects. Evaluating the collected data provides pavement surface and structural properties including: pavement texture properties, right-of-way imagery, cracking, pavement profile properties, pavement structural properties, sub-surface properties, and pavement friction characteristics. According to the MAP-21 legislation the Department is required to report on International Roughness Index (IRI), rutting, faulting, and cracking for asphalt and concrete pavements.

Accomplishments for F.Y. 2015: This activity was carried under Job 491 for F.Y. 2015. The data from the ARAN was evaluated to determine pavement conditions and was reported for the PMP and for the HPMS. The data from the FWD was used to perform analysis of overweight loading on restricted routes for the Highway Police's Permit Section and the analysis on the Fayetteville Shale Maintenance Assessment and Fee Calculation for 2015. The data was also provided to Roadway Design to aide in their decision making process. The GPR vehicle provided sub-surface properties when needed to supplement layer data and void detection for FWD analysis. The PFT collected skid numbers for pavements as requested. Skid numbers were reported to the Traffic Safety Section and the Maintenance Division when requested. District maps of skid numbers recorded were disseminated to all of the districts.

Proposed Activities for F.Y. 2016: The Pavement Engineering Data Analysis section will analyze network level data through the operation of ARAN, FWD, GPR, and PFT equipment. Data will also be analyzed as needed for project level jobs such as Bond jobs, Connecting Arkansas Program jobs, state aid jobs, weight restricted routes, active poultry industry routes, Fayetteville Shale routes, and research projects. This data is expected to provide a more current representation of the pavement condition throughout the state.

Programmed Amount for F.Y.2015	$ 0
Estimated Expenditure for F.Y.2015	$ 0

Estimated Cost for F.Y.2016	$275,000

490 – SYSTEM INFORMATION – PROGRAM COORDINATION

***Purpose and Scope*:** To provide administrative support for work activities related to System Information, including administrative maintenance and reporting of the National Highway System (NHS), Functional Classification, and U.S. Route Numbering. Additional activities involve initiating changes to the State Highway System through the Highway System Change Minute Order process and administrative maintenance and analysis of the Arkansas Primary Highway Network (APHN).

***Accomplishments for F.Y. 2015*:** This is a new job for F.Y. 2016. Accomplishments for this job would have been included under the job number *491 – DATA ANALYSIS.* The ongoing functional classification updates, NHS changes were evaluated and submitted to FHWA, U.S. Route applications were submitted to AASHTO, and APHN analyses were performed.

***Proposed Activities for F.Y. 2016*:** Finalize the functional classification update and continue reevaluation of the National Highway System to ensure MAP-21 guidelines are met. Provide continued support and compliance of the U.S. Route Numbering efforts between the Department and the American Association of State Highway and Transportation Officials (AASHTO). Provide administrative support for continuation of the Highway System Changes and APHN analysis and reporting.

Programmed Amount for F.Y. 2015	$800,000
Estimated Expenditure for F.Y. 2015	$525,000
Estimated Cost for F.Y. 2016	$225,000

491 – MULTIMEDIA HIGHWAY INFORMATION SYSTEM (MMHIS)

***Purpose and Scope**:* The MMHIS is designed to provide the Department's users with highway imagery collected by the ARAN along with data from various Department databases. The data is synchronized with the imagery. The MMHIS is accessible to all users who are connected to the Department's fiber-optic network. It is also accessible at offices which have a local hard drive with the MMHIS data and imagery for their area of responsibility. This allows Department personnel to review the roadway and other associated features without the travel required for a field investigation. The scope of work includes continuous updates to the MMHIS along with expanding the number of MMHIS users within the Department.

***Accomplishments for F.Y. 2015*:** This activity was carried under Job 481 for F.Y. 2015. Work included the continued efforts to provide MMHIS users with high definition imagery and data as collected by the Department's ARAN data collection vehicle. Hard drives for the Department's outlying Districts were updated and distributed as new data and imagery became available.

***Proposed Activities for F.Y. 2016*:** Redevelopment and migration of the MMHIS program to a SQL Server environment, this will create a more robust platform and aide in the development of new data reporting tools. Research into the possibility of creating a web-based MMHIS and mobile version of MMHIS will be explored.

Programmed Amount for F.Y. 2015	$610,000
Estimated Expenditure for F.Y. 2015	$560,000
Estimated Cost for F.Y. 2016	$100,000

492 – ROADWAY ASSET INVENTORY

***Purpose and Scope**:* Cataloging the inventory of the assets within the right-of-way is essential for determining the total value of the pavement system. It is also important from a planning and design standpoint. Determining the useful life of all of the assets provides a tool to optimize the maintenance or replacement timing. The asset inventory process uses several tools, primarily the Surveyor asset inventory software in conjunction with the right-of-way imagery from the ARAN, to locate and catalog the assets within the right-of-way and store that information in a SQL database, making it easier to work with the data and query the data relationally with other SQL databases. The goal is to locate all of the assets within the system right-of-way over time. As inventoried assets become available they can be included in the Department's Transportation Asset Management Plan (TAMP).

AMS personnel use the Surveyor software with imagery from the five high-definition digital cameras mounted on the ARAN to extract asset data items. Each data item extracted has corresponding geographic coordinates that allow all assets to be displayed using the Department's GIS. The geographic coordinates are used to match the raw ARAN data files to the Department's Roadway Inventory System.

***Accomplishments for F.Y. 2015*:** Previous activities under Job 482 – *ROADWAY ASSET INVENTORY*. A comprehensive Surveyor training program was initiated for Asset Management staff. Research and development is being performed into the possibilities of utilizing Surveyor software to augment and complement Roadway Inventory data.

Surveyor was used to locate and classify all of the guardrail elements on the state maintained system. The development of a sign inventory database has also begun. A sign inventory template has been developed in Surveyor to allow Asset Management personnel to locate signs and classify them according to the guidelines of the *"Manual on Uniform Traffic Control Devices"* (MUTCD). There is currently a pilot project underway to evaluate the cost benefit of the data collection process.

***Proposed Activities for F.Y. 2016*:** Continuation of Surveyor Software training and continued development and establishment of a comprehensive asset collection and

management plan. The development and utilization of additional toolsets will be explored including the need for additional hardware.

Programmed Amount for F.Y. 2015	$400,000
Estimated Expenditure for F.Y. 2015	$170,000
Estimated Cost for F.Y. 2016	$100,000

493 – APPLICATION DEVELOPMENT AND SUPPORT

***Purpose and Scope*:** The development of computer applications and routines to augment the collection, analysis, and reporting of the Division's various data collection and analysis efforts. This involves modification of existing programs as well as research and development of current and future analysis and reporting needs. Support for all software developed including any specifications for hardware required to implement the software.

***Accomplishments for F.Y. 2015*:** This is a new job for F.Y. 2016. Accomplishments for this job would have been included under the job number *481 – MULTIMEDIA AND HIGHWAY INFORMATION SYSTEM*. The research and development of an offline-mapping tool, the continued enhancement of the software on the PPDCV, and the development of the highway-system change database.

***Proposed Activities for F.Y. 2016*:** Redevelop and update the current MMHIS platform into a robust SQL based application with possible web extensions. Development and distribution of GPS equipped hand-held data collection devices and associated reporting software for the road inventory and HPMS field data collection efforts. Continued development and implementation of the off-line mapping application with associated reporting and data collection features will also be performed. The acquisition of hardware will be required to develop and implement the applications created and maintained.

Programmed Amount for F.Y. 2015	$200,000
Estimated Expenditure for F.Y. 2015	$140,000
Estimated Cost for F.Y. 2016	$175,000

494 – HIGHWAY PERFORMANCE MONITORING SYSTEM (HPMS)

Purpose and Scope: To investigate, design, develop, document, and implement a continuing system capable of assessing the performance of the State Highway System with respect to safe, efficient, and economical movement of people and goods, and to determine how existing highway programs and policies impact highway performance. The scope of this item includes developing and monitoring a panel of sample sections year to year, making necessary updates when changes occur in the physical highway conditions, and reporting this data to the FHWA annually, along with statewide summaries of mileage travel by functional system and rural, small urban and urbanized areas.

***Accomplishments for F.Y. 2015*:** This activity was carried under Job 493 for F.Y. 2015. A complete review of sample adequacy was performed and the required number of samples were added or deleted according to the Sample Adequacy Plan, which was developed from the HPMS Sample Adequacy Report. Field reviews of sample sections were continued and locations for additional class stations were selected to reflect the additional samples identified by the Sample Adequacy Plan. The 2013 HPMS data submittal and following report was analyzed and a comprehensive plan is being implemented to address identified issues.

***Proposed Activities for F.Y. 2016*:** The development of an HPMS module to augment the new roadway inventory database will be explored. Additional software applications will be developed to aide in quality control and analysis of the HPMS data prior to submittal. Field reviews of sample sections will be continued and sample adequacy will be maintained.

Programmed Amount for F.Y. 2015	$600,000
Estimated Expenditure for F.Y. 2015	$480,000
Estimated Cost for F.Y. 2016	$175,000

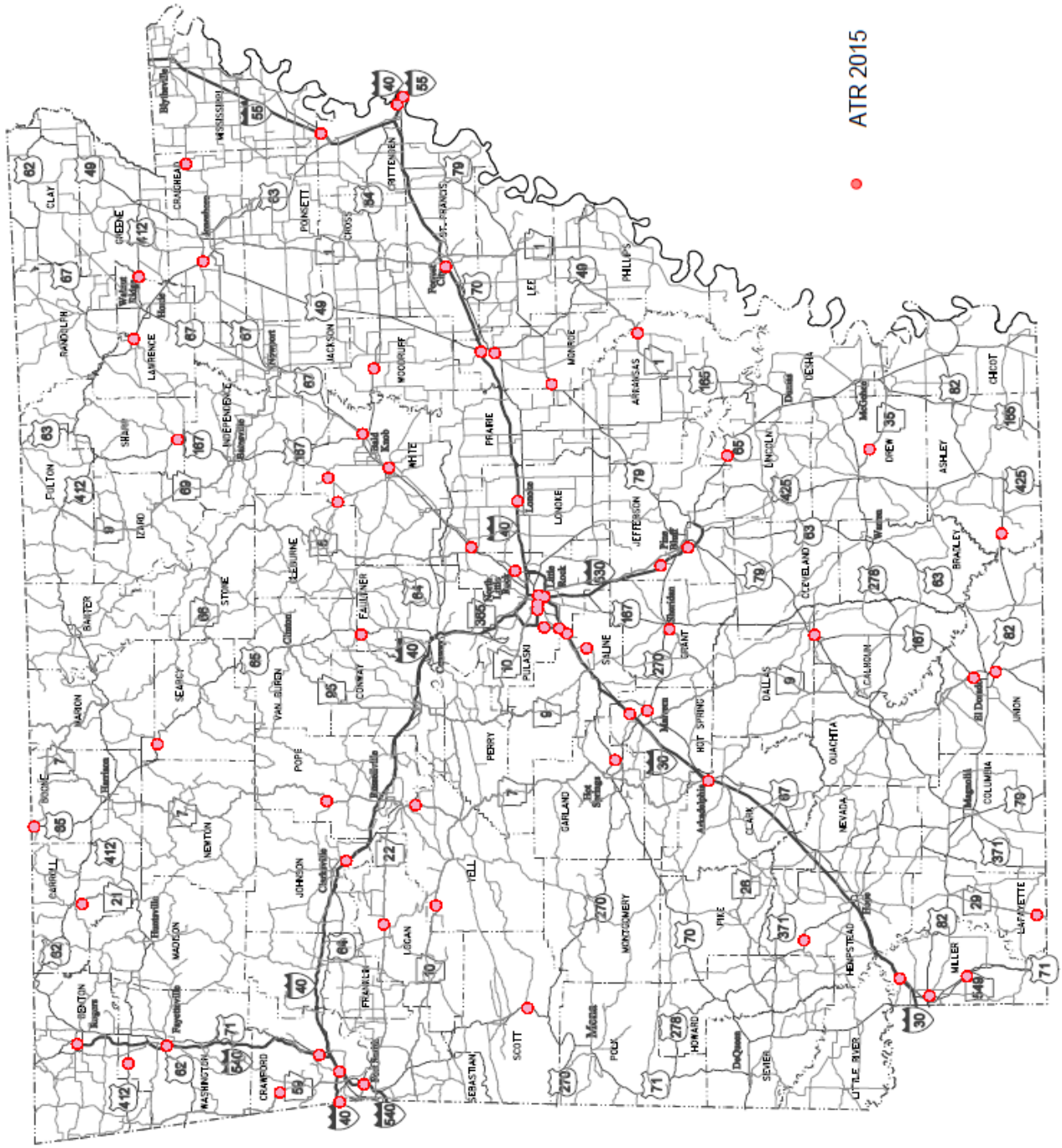
495 – HIGHWAY CONDITION INVENTORY AND ANALYSIS

Purpose and Scope: To provide the Department with data for a more precise means of evaluating the State Highway System in response to user's needs. A database will be maintained for information pertaining to the individual roadway's footprint and design. The scope of the inventory encompasses the gathering and compiling of information used in the needs evaluation process for each highway section. The inventory will be used to update and maintain the Department's highway road log.

***Accomplishments for F.Y. 2015*:** Activities included updating and maintaining roadway inventory data and the job record database. Utilization of GIS in quality control and analysis was implemented, as well as utilization of aerial photography for collecting physical roadway inventory assets. Public road mileage calculations and updates were preformed utilizing GIS and mapping based technologies. A special data collection program was implemented to aide in refinement of the shoulder width and surface data for Safety related issues.

***Proposed Activities for F.Y. 2016*:** Development of a new roadway inventory database designed with a modular concept that will work in in conjunction with the Department's ARAN data collection vehicle, the new linear network (ARNOLD) and asset management efforts. Development and utilization of GPS enabled tablets for field data collection and reporting. Additional enhancements will be made to current quality control and analysis efforts as well as the utilization of Surveyor software to better identify location of physical data items.

Programmed Amount for F.Y. 2015	$135,000
Estimated Expenditure for F.Y. 2015	$ 80,000
Estimated Cost for F.Y. 2016	$350,000


ATR 2015

CONTINUOUS AUTOMATED TRAFFICE MONITORING STATIONS
(VOLUME COUNT, VEHICLE CLASSIFICATION and WEIGH-IN-MOTION)
RURAL

Station	Route	Sec.	Log Mile	Location	Lanes	Year Est.	Year Wim
Functional Class 01							
460006	I-30	11	8.00	C.R. C-63 Overpass (Texarkana)	4	1994	1994
301769	I-30	21	101.70	C.R. 74 Overpass (Glen Rose)	4	2006	2006
170049	I-40	11	0.25	Oklahoma State Line (Dora)	4	2008	2008
360009	I-40	21	63.19	West of U.S. 64 (Lamar)	4	2009	2009
430037	I-40	41	176.97	East S.H. 31 Interchange (Lonoke)	4	2002	2002
481524	I-40	43	215.25	West of U.S. 49 (Brinkley)	4	2004	2004
680025	I-40	51	238.70	C.R. F-10 Overpass (Forrest City)	4	1991	1991
170064	I-49	27	22.36	South of Newberry Rd (Alma)	4	2007	2007
181501	I-55	11	26.80	C.R. D-28 Overpass (Gilmore)	4	1996	1996
350019	I-530	05	29.20	C.R. A-4 Overpass (Samples)	4	1996	1996
Functional Class 02							
730068	US 67	13	10.40	At S.H. 258 Overpass (Bald Knob)	4	1991	1999
460011	US 549	01	20.37	1 Mile North County Rd. 4 (Fouke)	4	2005	2005
Functional Class 03							
010009	SH 1	05	12.50	NE of S.H. 17 (St. Charles)	2	1999	1999
750006	SH 7	13	11.20	South of S.H. 155 (Dardanelle)	2	2000	2000
160095	SH 18	04	25.34	East of S.H. 139 (Monette)	2	2014	2014
380020	SH 63	03	15.71	South of S.H. 63 (Black River)	2	2011	2011
050026	US 65	01	0.69	South Missouri State Line (Omaha)	4	2007	2007
641932	US 65	04	5.40	North of S.H. 235 (Pindall)	2	1979	1979
230001	US 65	09	6.56	South of S.H. 124 (Damascus)	4	2000	2000
400062	US 65	16	8.70	North of S.H. 114 (Grady)	2	2009	2009
630009	US 71	10	10.25	North of U.S. 270 (Needmore)	2	2009	2009
071813	US 79	05	8.20	North of U.S. 167 (Thornton)	4	1979	1995
020006	US 82	08	3.50	East Quachita R. Brd (W. Crossett)	2	1984	2003
700040	US 167	01	13.41	South of S.H. 82 (El Dorado)	4	2009	2009
281983	US 412	08	0.67	East of Cache R. Bridge (Light)	2	2002	2002
480086	US 79	13	6.19	West of White R. Bridge (Clarendon)	2	2015	
Functional Class 04							
580024	SH 7	15	15.90	North of S.H. 164 (Dover)	2	1987	
750010	SH 10	03	7.20	East of County Road 537 (Havana)	2	2003	2003
730018	SH 16	13	1.49	S.H. 16 Sec. 13 (Pangburn)	2	2011	2011
420010	SH 22	03	14.00	East of S.H. 9008 (Paris)	2	2001	2001
370001	SH 29	01	3.30	No. Louisiana State Line (Bradley)	2	1995	1995
220024	SH 35	08	5.80	Southeast of U.S. 278 (Monticello)	2	1979	2003
171651	SH 59	05	10.00	North Natural Dam (Natural Dam)	2	2000	2000
740035	US 64	13	5.94	West of S.H. 17 (Patterson)	2	2002	2003
290002	US 278	05	7.30	South of S.H. 332 (Ozan)	2	1983	1998
Functional Class 05							
080004	SH 21	05	15.70	South of U.S. 62 (Berryville)	2	1987	2000
270012	SH 46	02	17.80	South of U.S. 270 (Sheridan)	2	1983	2005
670027	SH 115	03	13.80	East of U.S. 167 (Cave City)	2	1983	1996
730076	SH 124	12	8.95	S.H. 124 Sec. 12 (Sunnydale)	2	2011	2011
480037	US 70	17	9.90	East of S.H. 17 (Brinkley)	2	1999	1999

CONTINUOUS AUTOMATED TRAFFICE MONITORING STATIONS
(VOLUME COUNT, VEHICLE CLASSIFICATION and WEIGH-IN-MOTION)
URBAN

Station	Route	Sec.	Log Mile	Location	Lanes	Year Est.	Year Wim
Functional Class 01							
100019	I-30	14	77.10	Caddo River Bridge (Arkadelphia)	4	1998	1998
600563	I-30	23	126.50	West ofZ Motel (County Line)	6	2006	
600388	I-30	23	138.80	Roosevelt Rd. & I-440 (LR)	7	1997	
600639	I-30	23	139.60	Between 6th & 9th St. (LR	7	1997	
180209	I-40	52	283.97	River Bridge (West Memphis)	6	2007	
720236	I-49	28	61.30	South U.S. 62 (Fayetteville)	4	2007	2007
040432	I-49	29	84.82	North of U.S. 71B (Rogers)	4	2004	2004
180210	I-55	11	0.95	River Bridge (West Memphis)	4	2008	
600345	I-430	21	4.25	Col. Glenn Rd. W. 36th ST. (LR)	6	2006	2006
350314	I-530	05	37.00	North of S.H. 190 (Pine Bluff)	4	2000	2000
650284	I-540	01	7.00	North of S.H. 22 (Fort Smith)	4	2004	2004
600426	I-630	21	2.00	Park Street Overpass (LR)	6	1985	
600429	I-630	21	3.40	Ray Winder Field LTPP (LR)	6	2005	
Functional Class 02							
600870	SH 440	02	12.00	South of S.H. 161 (Rixey)	6	2003	2003
160058	US 63	06	10.00	South of S.H. 91 (Jonesboro)	4	1990	1990
430038	US 67	11	1.30	South of S.H. 89 (Cabot)	4	1991	1995
260059	US 70	09	1.50	North. of U.S. 270 (Hot Springs)	4	2005	2005
460286	US 549	01	31.9	South of U.S. 82 (Texarkana)	4	2002	2002
Functional Class 03							
300052	US 270	08	3.60	South of I-30 (Malvern)	2	2006	2006
600567	SH 338	01	0.66	East S.H. 5 I-430 Overpass (LR)	2	1997	1997
700229	US 167	01B	3.38	North of S.H. 7 Spur (Eldorado)	2	1987	
720034	US 412	02	4.20	West of S.H. 112 (Tontitown)	4	2003	2003
Functional Class 04							
620176	SH 183	01	6.06	S.H. 183 Sec. 010 (Bryant)	2	2010	2010
170053	SH 64	02	3.14	US 064 S.H. 282 & S.H. 60 (Van Buren)	4	2010	2010
Functional Class 05							
730222	SH 367	16	3.30	S.H. 367 Sec. 160 Park Ave. (Searcy)	2	2010	2010

OTHER FEDERAL FUNDS

A803, B803 – HIGH-SPEED/INTERCITY PASSENGER RAIL STUDY

Purpose and Scope: To evaluate passenger rail service, assess the feasibility of extending the South Central High-Speed Rail Corridor (SCHSRC) from Little Rock to Memphis, Tennessee, prepare a Service Development Plan (SDP) for the SCHSRC in Arkansas, and produce a Highway/Passenger Rail Impact Study to determine the net effects of intercity passenger rail development on the existing State highway system.

The Feasibility Study analysis will contain three components: technical feasibility (physical route data, engineering and capacity constraints), economic feasibility (ridership potential, capital and operating costs), and operating feasibility (equipment needs and crew scheduling). The SDP will include demand and revenue forecasts, conceptual engineering and benefit-cost analysis.

Accomplishments for F.Y. 2015: FRA Task 1 was completed which allowed for the consultant team to address subsequent tasks. Staff coordinated public involvement and stakeholder involvement with the State Rail Plan. A draft Purpose and Need, Statement, a draft Alternatives Analysis, and a draft Selection Criteria were submitted to FRA for their review and comment. Reviewed draft mapping images to identify the potential routes in the study document. Provided detailed crossing information to the consultant team.

Proposed Activities for F.Y. 2016: Continue coordination between the Department and the Consultant team to ultimately submit draft technical and economic feasibility analyses for the preferred route and initial conceptual engineering for the SDP.

Programmed Amount for F.Y. 2015	$868,600
Estimated Expenditure for F.Y. 2015	$400,000
Estimated Cost for F.Y. 2016	$350,000

012181 – I-40 TOLL FEASIBILITY STUDY (NLR – WEST MEMPHIS)

Purpose and Scope: The Department has determined that a need exists to increase capacity and improve safety on Interstate 40 from Little Rock to West Memphis. The proposed improvements would include widening Interstate 40 from four to six lanes. This study evaluates the feasibility of using tolls to finance the improvement.

Accomplishments for F.Y. 2014: Jacobs Engineering Group conducted preliminary workshops with Department staff and data collection activities began. Draft sections of the final report were completed. A draft report was submitted to the Department. Steps to advance the project were identified and presented to the Department administration.

Proposed Activities for F.Y. 2015: Contract completion activities only.

Programmed Amount for F.Y. 2015	$628,022

Estimated Expenditure for F.Y. 2015	$21,000
Estimated Cost for F.Y. 2016	$ 0

061386 – HIGHWAY 67 – I-40 WEST (NORTH BELT FREEWAY TOLL FEASIBILITY STUDY

Purpose and Scope: The Department and Metroplan have determined that a need exists to construct a new-location, four-lane, controlled-access facility to the north and west of Interstate 40 between the Highway 440/Highway 67 interchange and Interstate 40 near its interchange with Interstate 430. The consultant will conduct a corridor planning study to determine if the travel demand is suitable for tolling.

Accomplishments for F.Y. 2015: Activities included publishing the final document and Executive Summary. All work for this project has been completed.

Proposed Activities for F .Y. 2016: No activity expected.

Programmed Amount for F.Y. 2015	$75,000
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$ 0

090224 BELLA VISTA TOLL FACILITY (HIGHWAY 71 RELOCATION)

Purpose and Scope: The proposed US 71 Bella Vista Bypass Project consists of constructing a new, four-lane, fully access controlled toll road with appropriate toll plaza facilities for the collection of toll from the Arkansas-Missouri state line to US 71/US 71 Business interchange. The study will be performed to assist the Department in deciding whether to move forward with construction of a four-lane facility with tolls or a two lane facility with existing funding.

Accomplishments for F.Y. 2015: Activities included publishing the final document and Executive Summary. All work for this project has been completed.

Proposed Activities for F.Y. 2016: No activity expected.

Programmed Amount for F.Y. 2015	$ 50,000
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$ 0

060630 - CARTS PLANNING STUDY (STP ATTRIBUTABLE)

Purpose and Scope: The funds under this Job Number are used to supplement the Metropolitan Planning Funds in the CARTS Area to conduct the 3-C Transportation Planning Process as required by 23USC134.

Accomplishments for F.Y. 2015: The 3-C Transportation Planning Process continued with tasks as noted in the CARTS Work Program.

Proposed Activities for F.Y. 2016: The Department and Metroplan will conduct activities on the following CARTS UPWP elements: program support and administration, general development and comprehensive planning, long and short-range transportation planning, and transportation improvement program.

Programmed Amount for F.Y. 2015	$310,000
Estimated Expenditure for F.Y. 2015	$100,000
Estimated Cost for F.Y. 2016	$250,000

061260 – I-630 CORRIDOR FIXED GUIDEWAY ALIGNMENT STUDY

Purpose and Scope: Consultant-led study to determine the most feasible alignment for development of a fixed guideway transit system along the I-630 corridor for long-term corridor preservation efforts.

Accomplishments for F.Y. 2014: The study and design visualization video were completed.

Proposed Activities for F.Y. 2015: None.

Programmed Amount for F.Y. 2015	$94,000
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$ 0

110273 - WMATS PLANNING STUDY (STP ATTRIBUTABLE)

Purpose and Scope: The West Memphis MPO will use STP Attributable funds to supplement the West Memphis-Marion Area Transportation Study.

Accomplishments for F.Y. 2015: STP Attributable funds were used for transportation planning in this area for the following Work Elements: Administration, Data Development/Maintenance, Short-Range Planning, Long-Range Planning, Management Systems, and Special Studies.

Proposed Activities for F.Y. 2016: Portions of the transportation planning activities described in the WMATS UPWP will be accomplished using STP Attributable funds.

Programmed Amount for F.Y. 2015	$94,000
Estimated Expenditure for F.Y. 2015	$94,000
Estimated Cost for F.Y. 2016	$96,000

012152 CARTS 2040 LONG-RANGE TRANSPORTATION PLAN

Purpose and Scope: Assistance with the public outreach and technical aspects of the long-range plan update.

Accomplishments for F.Y. 2015: Completion of the contract and adoption of Imagine Central Arkansas by the Metroplan Board.

Proposed Activities for F.Y. 2016:

Programmed Amount for F.Y. 2015	$400,000
Estimated Expenditures for F.Y. 2015	$ 75,000
Estimated Cost for F.Y. 2016	$ 61,000

012193 - NARTS PLANNING STUDY (STP ATTRIBUTABLE)

Purpose and Scope: The Northwest Arkansas Regional Transportation Study (NARTS) MPO will use STP Attributable funds to supplement the NARTS Study.

Accomplishments for F.Y. 2015: STP Attributable funds were used for transportation planning in this area for the following Work Elements: Administration, Data Development/Maintenance, Short-Range Planning, Long-Range Planning, Management Systems, and Special Studies.

Proposed Activities for F.Y. 2016: Portions of the transportation planning activities described in the NARTS UPWP will be accomplished using STP Attributable funds.

Programmed Amount for F.Y. 2015	$100,000
Estimated Expenditure for F.Y. 2015	$100,000
Estimated Cost for F.Y. 2016	$250,000

110481 - WMATS AIR QUALITY – MPO

Purpose and Scope: The WMATS will use State CMAQ funds to supplement the WMATS UPWP for air quality planning in the West Memphis area.

Accomplishments for F.Y. 2015: Coordination with ADEQ, EPA, and Memphis-Shelby County air quality planning groups continued. The 2033 Long-Range Plan and 2010-2013 TIP were monitored and amended with appropriate conformity determination documentation.

Proposed Activities for F.Y. 2016*:* Coordination will be continued with ADEQ, EPA, and Memphis-Shelby County for air quality planning in the West Memphis-Marion area to ensure that the requirements of the current NAAQS attainment status are being met.

Programmed Amount for F.Y. 2015	$149,000

Estimated Expenditure for F.Y. 2015	$149,000
Estimated Cost for F.Y. 2016	$149,000

012178 – CARTS OZONE AWARENESS

Purpose and Scope: The use of CMAQ funds by the Central Arkansas MPO to continue air quality planning activities in the CARTS Area.

Accomplishments for F.Y. 2015: The use of CMAQ funds in the CARTS area continues the cooperative effort among the MPO, the Department, ADEQ, and other agencies for a continued Awareness and Public Education campaign stressing voluntary actions to reduce seasonal emissions (ridesharing, refueling during the evening, etc.). Public relations, an advertising campaign, and notifications to local media and major employers of potential high ozone days were continued.

Proposed Activities for F.Y. 2016: Continue activities listed above.

Programmed Amount for F.Y. 2015	$ 48,000
Estimated Expenditures for F.Y. 2015	$ 48,000
Estimated Cost for F.Y. 2016	$ 48,000

PART II
RESEARCH

PART II - RESEARCH
FHWA AND State Funds
To be obligated in Fiscal Year 2016

System Information and Research Division
FY 2016 Part II Work Program

Financial Summary
SPR-4000(35)

FY & Type	Fed. Funds Available	Previously Programmed		Unprogram. Amount	Federal Rate	State Funds	Fed. Program Total Cost
2016 SPR (M56 Apportion.)	$ 4,311,611	$ 1,171,316	*	$ 3,140,295	0.8	$ 785,074	$ 3,925,369
TOTAL	$ 4,311,611	$ 1,171,316		$ 3,140,295		$ 785,074	$ 3,925,369

Total Program Funding Summary:

SPR Funds (M56, L56)	$ 3,140,295
Previously Programmed	$ 1,171,316
State Matching for SPR$	$ 785,074
100% State Program	$ 1,980,000
TOTAL	$ 7,076,685

* Previously Programmed SPR Funds:

SPR-TPF5(412) NCHRP Contribution	$ 543,717
TPF-5 (321) Core Program Services for a Highway Research, Development & Technology Program	$ 107,168
TPF-5 (212) Southeast Transportation Consortium	$ 10,000
TPF-5 (299) Improving Quality of Pavement Surface Distress	$ 15,000
TPF-5 (306) International Conference on Managing Pavement Assets	$ 10,000
SHRP2 Implementation	$ 395,431
AASHTO TSP Technical Services Program	$ 90,000
	$ 1,171,316

ARKANSAS PROJECT SPR-4000(35)
WORK PROGRAM - PART II
FISCAL YEAR 2016
JULY 1, 2015 TO JUNE 30, 2016

State Study	Title	Budget-FY16 (Exp. FY14)	Total Exp. to Date (Total Study Budget)	Completion Date	State Contact
B456	PROJECT DEVELOPMENT	$200,000 {$124,000}	{N/A} {N/A}	CONTINUING	E. Wright-Kehner
D456	PROFILOGRAPH STUDIES	$100,000 {$35,000}	{N/A} {N/A}	CONTINUING	T. Frierson
E456	PRODUCT EVALUATION	$80,000 {$15,600}	{N/A} {N/A}	CONTINUING	C. Dailey
F456	IMPLEMENTATION OF RESEARCH	$100,000 {$108,000}	{N/A} {N/A}	CONTINUING	D. Webb
G456	PROJECT MONITORING	$225,000 {$209,000}	{N/A} {N/A}	CONTINUING	E. Wright-Kehner
L456	SUBSURFACE DRAINAGE EVALUATION	$100,000 {$35,000}	{N/A} {N/A}	CONTINUING	C. Dailey
M456	LOW VOLUME ROUTE EVALUATION	$50,000 {$85,000}	{N/A} {N/A}	CONTINUING	E. Wright-Kehner
R456	PEER EXCHANGE TEAM ACTIVITIES	$2,500 {$0}	{N/A} {N/A}	CONTINUING	E. Wright-Kehner
S456	SHRP-LTTP	$45,000 {$16,000}	{N/A} {N/A}	CONTINUING	M. Greenwood
N456	CALIBRATION OF NEW PAVEMENT DESIGN GUIDE	$150,000 {$0}	{N/A} {N/A}	CONTINUING	C. Dailey
J456	NONDESTRUCTIVE TESTING METHODS FOR CONSTRUCTION AND PERFORMANCE MONITORING	$100,000 {$0}	{N/A} {N/A}	CONTINUING	R. Stanley
T456	SHRP 2	$35,000 {$0}	{N/A} {N/A}	CONTINUING	E. Wright-Kehner
H456	LRFD BRIDGE EVALUATION	$50,000 {$0}	{N/A} {N/A}	CONTINUING	J. Jabo
I456	PAVEMENT PERFORMANCE TACK-WARM MIX ASPHALT	$125,000 {$0}	{N/A} {N/A}	CONTINUING	B. Signorelli
K456	ASR MONITORING	$100,000 {$0}	{N/A} {N/A}	CONTINUING	C. Dailey
A457	SUPPORT SERVICES	$231,034 {$228,000}	{N/A} {N/A}	CONTINUING	E. Wright-Kehner
	Subtotal	**$1,693,534**			
Continuing Studies					
Q457	DEVELOPMENT OF A VIRTUAL WEIGH STATION	$50,000 {$380}	$36,565 {$198,294}	Jul-07	D. Webb
C457	EVALUATION OF NEW TECHNOLOGY FOR TRAFFIC MONITORING	$50,000 {$38,000}	$41,225 {$100,000}	Jun-13	M. Greenwood
B467	DATA PREPARATION FOR IMPLEMENTING DARWIN-ME	$150,000 {$178,000}	$361,668 {$382,000}	May-15	C. McKenney
J467	LRFD SITE SPECIFIC VARIABILITY IN LABORATORY	$100,000 {$128,000}	$366,264 {$387,800}	Jun-14	C. Dailey
F457	CHEMICAL ADMIXTURES TO INCREASE EFFECTIVENESS OF SNOW/ICE REMOVAL	$15,000 {$1,200}	$48,245 {$126,865}	Dec-14	M. Greenwood
G457	COMPARISON OF TEXTURING METHODS USED FOR HIGHWAY CONSTRUCTION AND MAINTENANCE	$20,000 {$28,000}	$45,547 {$77,888}	Jun-14	R. Stanley
H457	LOW-COST EXPERIMENTAL TREATMENTS FOR HORIZONTAL CURVES	$20,000 {$33,000}	$53,767 {$114,820}	Jun-14	C. McKenney
J457	WORK ZONE TRAFFIC CAPACITY DETERMININATION OF VARIOUS FUNCTIONAL CLASSIFICATIONS	$20,000 {$3,800}	$9,296 {$88,900}	Jun-14	R. Stanley
M457	INVEST. OF GPS DATA COLLECTION FOR MAINTENANCE OPERATIONS	$20,000 {$925}	$60,570 {$176,820}	Jun-14	C. McKenney
A458	DEV. EMBANKMENT AND SUBGRADE STABILIZATION SPECIFICATIONS	$80,000 {$52,000}	$94,799 {$202,238}	Jun-16	T. Frierson
C467	DEV OF FIELD EXPOSURES SITE ASR DAMAGE	$150,000 {$49,000}	$124,977 {$367,342}	Jun-16	C. McKenney
A459	ECONOMIC FEASIBILITY OF SHORT SPAN ARCH CULVERTS	$100,000 {$27,000}	$82,204 {$179,461}	Jun-15	C. Dailey
E467	DEV BMP FOR TURBIDITY CONTROL DURING RAINFALL EVENTS	$75,000 {$45,000}	$103,913 {$156,195}	Jun-15	C. McKenney
G467	EVAL PERFORMANCE OF ASPHALT PAVEMENT IRP	$75,000 {$90,000}	$148,503 {$218,708}	Jun-15	C. Dailey
M467	EXAMINATION OF FULL-DEPTH RECLAMATION FOR SHALE AREAS	$60,000 {$58,000}	$100,746 {$168,776}	Jun-15	R. Stanley
B458	PERFORMANCE OF ASPHALTS WITH POLYPHOSPHORIC ACID	$125,000 {$0}	$0 {$220,708}	Jun-16	D. Webb
K467	EVALUATING THE CAPACITY OF DEEP SOIL FOUNDATIONS	$165,000 {$0}	$6,625 {$295,486}	Jun-16	M. Greenwood
N467	SAFETY PERFORMANCE FUNCTIONS FOR ARKANSAS	$150,000 {$0}	$6,636 {$202,554}	Apr-16	R. Stanley
	Subtotal	**$1,425,000**			
New Projects					
B457	DETERMINING FEASIBILITY OF AHTD MOBILE LIDAR SYSTEM	40000			C. Dailey
V467	EXAMINING THE REQUIRED CEMENT CONTENT	100000			C. McKenney
P467	DEEP SHEAR WAVE VELOCITY PROFILING IN NORTH-EASTERN ARKANSAS	100000			J. Jabo
L457	LIFE CYCLE COST ANALYSIS OF PAVEMENT PRESERVATION TREATMENTS IN ARKANSAS	100000			K. McDaniels
N457	EVALUATING THE USAGE OF CULVERTS AND BRIDGES BY WILDLIFE IN ARKANSAS	70000			M. Greenwood
Q467	ESTIMATING BRIDGE GIRDER CAMBER AND DEFLECTION	100000			R. Stanley
P457	DEVELOPING BEST PRACTICES FOR ON SITE PRODUCTION AND PLACEMENT OF CSCSBC MATERIAL	35000			B. Signorelli
R467	LOCATING TRANSLOAD FACILITIES TO EASE HIGHWAY CONGESTION AND SAFEGUARD THE ENVIRONMENT	100000			D. Webb
	Subtotal	**$645,000**			
20050	TECHNOLOGY TRANSFER PROGRAM - LTAP Match	$161,835			L. Carter
	Subtotal	**$161,835**			
	PART II BUDGET	**$3,925,369**			

ARKANSAS PROJECT SPR-4000(35)
WORK PROGRAM - PART II
FISCAL YEAR 2016 BUDGET

NO.	Project	Work Description	Budget
B456		PROJECT DEVELOPMENT	$200,000
D456		PROFILOGRAPH STUDIES	$100,000
E456		PRODUCT EVALUATION	$80,000
F456		IMPLEMENTATION OF RESEARCH	$100,000
G456		PROJECT MONITORING	$225,000
L456		SUBSURFACE DRAINAGE RESEARCH	$100,000
M456		LOW VOLUME ROUTE EVALUATION	$50,000
R456		PEER EXCHANGE TEAM ACTIVITIES	$2,500
S456		SHRP	$45,000
N456		CALIBRATION OF NEW PAVEMENT DESIGN GUIDE	$150,000
J456		NONDESTRUCTIVE TESTING METHODS FOR CONSTRUCTION AND PERFORMANCE MONITORING	$100,000
T456		SHRP 2	$35,000
H456		LRFD BRIDGE EVALUATION	$50,000
I456		PAVEMENT PERFORMANCE TACK-WARM MIX ASPHALT	$125,000
K456		ASR MONITORING	$100,000
A457		SUPPORT SERVICES	$231,034
		Subtotal	**$1,693,534**
		Continuing Projects	
Q457	TRC0503	DEVELOPMENT OF A VIRTUAL WEIGH STATION	$50,000
C457	TRC1202	EVALUATION OF NEW TECHNOLOGY FOR TRAFFIC MONITORING	$50,000
B467	TRC1203	DATA PREPARATION FOR IMPLEMENTING DARWIN-ME	$150,000
J467	TRC1204	LRFD SITE SPECIFIC VARIABILITY IN LABORATORY AND FIELD MEASUREMENTS AND CORRELATIONS	$100,000
F457	TRC1302	USE CHEMICAL ADMIXTURES TO INCREASE EFFECTIVENESS OF SNOW/ICE REMOVAL	$15,000
G457	TRC1303	COMPARISON OF TEXTURING METHODS USED FOR HIGHWAY CONSTRUCTION AND MAINTENANCE	$20,000
H457	TRC1305	LOW-COST EXPERIMENTAL TREATMENTS FOR HORIZONTAL CURVES	$20,000
J457	TRC1306	WORK ZONE TRAFFIC CAPACITY DETERMININATION OF VARIOUS FUNCTIONAL CLASSIFICATIONS	$20,000
M457	TRC1307	INVEST. OF GPS DATA COLLECTION FOR MAINTENANCE OPERATIONS	$20,000
A458	TRC1308	DEV. EMBANKMENT AND SUBGRADE STABILIZATION SPECIFICATIONS	$80,000
C467	TRC1401	DEV OF FIELD EXPOSURES SITE ASR DAMAGE	$150,000
A459	TRC1402	ECONOMIC FEASIBILITY OF SHORT SPAN ARCH CULVERTS	$100,000
E467	TRC1403	DEV BMP FOR TURBIDITY CONTROL DURING RAINFALL EVENTS	$75,000
G467	TRC1404	EVAL PERFORMANCE OF ASPHALT PAVEMENT IRP	$75,000
M467	TRC1405	EXAMINATION OF FULL-DEPTH RECLAMATION FOR SHALE AREAS	$60,000
B458	TRC1501	PERFORMANCE OF ASPHALTS WITH POLYPHOSPHORIC ACID	$125,000
K467	TRC1502	EVALUATING THE CAPACITY OF DEEP SOIL FOUNDATIONS	$165,000
N467	TRC1503	SAFETY PERFORMANCE FUNCTIONS FOR ARKANSAS	$150,000
		Subtotal	**$1,425,000**
20050		TECHNOLOGY TRANSFER PROGRAM^	$161,835
		Subtotal	**$161,835**
		New Projects	
B457	TRC1601	DETERMINING FEASIBILITY OF AHTD MOBILE LIDAR SYSTEM	$40,000
V467	TRC1602	EXAMINING THE REQUIRED CEMENT CONTENT	$100,000
P467	TRC1603	DEEP SHEAR WAVE VELOCITY PROFILING IN NORTH-EASTERN ARKANSAS	$100,000
L457	TRC1604	LIFE CYCLE COST ANALYSIS OF PAVEMENT PRESERVATION TREATMENTS IN ARKANSAS	$100,000
N457	TRC1605	EVALUATING THE USAGE OF CULVERTS AND BRIDGES BY WILDLIFE IN ARKANSAS	$70,000
Q467	TRC1606	ESTIMATING BRIDGE GIRDER CAMBER AND DEFLECTION	$100,000
P457	TRC1607	DEVELOPING BEST PRACTICES FOR ON SITE PRODUCTION AND PLACEMENT OF CSCSBC MATERIAL	$35,000
R467	TRC1608	LOCATING TRANSLOAD FACILITIES TO EASE HIGHWAY CONGESTION AND SAFEGUARD THE ENVIRONMENT	$100,000
		Subtotal	**$645,000**
		TOTAL PART II BUDGET	$3,925,369

^ LTAP Match

ARKANSAS PROJECT
NON-SPR IN-HOUSE & CONTRACT ACTIVITIES
BUDGET FOR FY2016

A556		ADMINISTRATION	$205,000
B556		PROJECT DEVELOPMENT	$10,000
C556		PAVEMENT DEFLECTION STUDIES	$5,000
D556		PROFILOGRAPH STUDIES	$5,000
E556		PRODUCT EVALUATION	$5,000
G556		PROJECT MONITORING	$20,000
L556		SUBSURFACE DRAINAGE RESEARCH	$10,000
M556		LOW VOLUME ROUTE EVALUATION	$10,000
N556		CALIBRATION OF NEW PAVEMENT DESIGN GUIDE	$30,000
J556		NONDESTRUCTIVE TESTING METHODS FOR CONSTRUCTION A	$10,000
T556		SHRP 2	$10,000
H556		LRFD BRIDGE EVALUATION	$10,000
I556		PAVEMENT PERFORMANCE TACK-WARM MIX ASPHALT	$10,000
K556		ASR MONITORING	$5,000
A557		SUPPORT SERVICES	$20,000
B557		MONITOR OF BRIDGE END EMBANKMENT SETTLEMENT	$20,000
		Subtotal	**$385,000**

Continuing In-House Projects

X556	- - -	EARS	$40,000
		Subtotal	**$40,000**

New Projects

P559	TRC1504	ALTERNATIVE FOR GPR IN HIGHWAY CONST & MAINTENANCE	$200,000
		Subtotal	**$200,000**

Total Non-SPR In-House Budget $625,000

B456 – PROJECT DEVELOPMENT

Purpose and Scope: This job provides for expenditures incurred for the Research and Development Program in efforts to develop or procure studies and projects. It includes the development, preparation, review, and processing of Problem Statements for the Research Program. It includes library searches and maintenance, on-line information retrieval, preparation of problem statements, request for proposals, and writing of contracts and work plans for research projects, studies, and proposals. This budget line item is to cover all relevant and pertinent expenses incurred in the preparation and submittals for federally-funded programs.

Accomplishments for F.Y. 2015: Development was completed on four new TRC projects for FY2015. These projects are scheduled to begin on July 1, 2014.

Proposed Activities for F.Y. 2016: Work will include development of new TRC projects for F.Y. 2017.

Programmed Amount for F.Y. 2015	$200,000
Estimated Expenditures for F.Y. 2015	$170,000
Estimated Cost for F.Y. 2016	$200,000

D456 – PROFILOGRAPH STUDIES

Purpose and Scope: The purpose of Profilograph studies is to provide the Department with the data collection, reduction, analysis, and interpretation involved with Profilograph activities. This project includes funding for refurbishing, recalibration, and replacement of the Profilograph may be needed. This item includes the purchase of equipment, travel and subsistence, and other necessary expenditures incurred in support of the design and construction divisions and districts and for the research program for pavement profile studies.

Accomplishments for F.Y. 2015: Successful evaluations were completed at various construction sites throughout the state. Data was collected and analyzed using both the lightweight profiler and the new high speed profiler that was purchased. Data was also collected for TRC 0208: “Development of Certification Procedures for Profiler Operators” and for TRC 0308: “Developing a Smoothness Specification for ACHM Pavements”

Proposed Activities for F.Y. 2016: Smoothness verification jobs for the state of Arkansas will be done, and all equipment currently owned for profilograph studies will be utilized.

Programmed Amount for F.Y. 2015	$200,000
Estimated Expenditures for F.Y. 2015	$100,000
Estimated Cost for F.Y. 2016	$100,000

E456 – PRODUCT EVALUATION

***Purpose and Scope**:* This job provides for expenditures incurred in support of the Product Evaluation Committee. All expenditures related to the evaluation of products or processes for highway construction and maintenance when the Research Section is called upon to evaluate a particular product. The preparation of reports reflecting evaluation findings and actions of the Product Evaluation Committee are included. Charges for documentation, dissemination of how products and processes function, roles they may fulfill, and their benefits to the Department's Construction and Maintenance Program may be included.

***Accomplishments for F.Y. 2015**:* Work included supporting the Product Evaluation Committee related to the evaluation of products or processes for highway construction and maintenance. Monitoring of culverts new placed culverts for material performance. LED stop signs were placed into service for evaluations at 3 sites in District 2 and at the Peel Ferry in District 9.

***Proposed Activities for F.Y. 2016**:* Work includes supporting the Product Evaluation Committee related to the evaluation of products or processes for highway construction and maintenance when the Research Section is called upon to evaluate a particular product. Monitoring of culverts for material performance will continue.

Programmed Amount for F.Y. 2015	$80,000
Estimated Expenditures for F.Y. 2015	$50,000
Estimated Cost for F.Y. 2016	$80,000

F456 – IMPLEMENTATION OF RESEARCH

***Purpose and Scope**:* This job provides for expenditures incurred in association with the implementation of research results. It will be used to accumulate expenses incurred for implementation tracking and monitoring. The preparation of reports reflecting findings, recommendations and actions of any project results may be included. Charges for documentation and dissemination of how products and processes function, roles they may fulfill and their benefits to the Department's construction and maintenance programs may be included. Activities designed to put research results into practice will be included in this line item. Any charges relating to providing information to a user will be included in this line item.

This line item may include equipment purchase and rental, supplies and services, reproduction costs, and any other pertinent charges for the implementation of research findings. This may include responses to information requests, on-line information requests and retrievals, phone calls, report preparation, report condensing and other activities undertaken to get research results into the hands of a user. The documentation of activities related to the monitoring of implementation of results research will be included in this line item.

Accomplishments for F.Y. 2015: There were two TRC finalized and distributed to FHWA, public libraries in Arkansas, and the other 49 states research agencies. Research products received from other agencies were distributed to interested personnel throughout the Department.

Proposed Activities for F.Y. 2016: As the AHTD Research projects are finalized they will be distributed to FHWA and other state agencies. Notification from other states' agencies regarding their research products will be forwarded to the proper AHTD personnel. Maintain the research electronic and traditional libraries.

Programmed Amount for F.Y. 2015	$100,000
Estimated Expenditures for F.Y. 2015	$ 90,000
Estimated Cost for F.Y. 2016	$100,000

G456 – PROJECT MONITORING

Purpose and Scope: This job provides for expenditures incurred for the Research and Development Program in monitoring of projects where charges to a specific project would be inappropriate. It includes the review and preparation of responses to various specifications, letters, questionnaires, and information requests of a general nature. It may include arranging meetings and demonstrations. It may include expenditures for all follow-up actions on projects whose funding has otherwise expired. It includes all activities in monitoring of contract studies and in-house studies where funding for the Department effort is not included elsewhere.

Accomplishments for F.Y. 2015: The Research Section has many projects for which monitoring and/or evaluating is still required to determine if updates are needed.

Proposed Activities for F.Y. 2016: Work will include the continued monitoring of contract studies and in-house projects.

Programmed Amount for F.Y. 2015	$225,000
Estimated Expenditures for F.Y. 2015	$170,000
Estimated Cost for F.Y. 2016	$225,000

L456 – SUBSURFACE DRAINAGE RESEARCH

Purpose and Scope: This line item is provided to cover the cost of research, maintenance, departmental support services, fabrication equipment and monitoring of pavement subsurface drainage. The purpose of this project is to evaluate the performance of pavement subsurface drainage under various conditions and make determinations of their effectiveness. This line item will provide for the cost of research and assistance to TRB Committee on Subsurface Drainage, AFS60.

Accomplishments for F.Y. 2015: Assisted with Districts' maintenance activities.

Proposed Activities for F.Y. 2016: Evaluation performance of subsurface drainage to determine future construction and maintenance activities. Potential purchase of culvert inspection rover.

Programmed Amount for F.Y. 2015	$100,000
Estimated Expenditures for F.Y. 2015	$ 25,000
Estimated Cost for F.Y. 2016	$100,000

M456 – LOW VOLUME ROUTE EVALUATION

Purpose and Scope: To create and maintain a pictorial database, along with traffic counts at selected sites, for the purpose of forecasting roadway failures and problem areas due to traffic increases, and attempting project rehabilitation methods and techniques to alleviate these problems in the most feasible manner possible. Help will be provided in assistance to research needs for the TRB Committee on Maintenance and Operations Management, AHD10.

Accomplishments for F.Y. 2015: Pictorial updates of recently overlayed routes located within the Fayetteville Shale Play area, with special attention to the 'problem' areas. Also, pictorial data gathered on routes additionally designated to be rehabilitated.

Proposed Activities for F.Y. 2016: To expand the database that is in place for the Fayetteville Shale Play Area and to create a database for the Brown Dense Shale Play area. Also to use the information gathered in order to provide data in determining rehabilitation methods for all areas with low volume routes.

Programmed Amount for F.Y. 2015	$100,000
Estimated Expenditures for F.Y. 2015	$ 35,000
Estimated Cost for F.Y. 2016	$ 50,000

R456 – PEER EXCHANGE TEAM ACTIVITIES

Purpose and Scope: The line item is to accumulate the charges incurred from participation in peer exchange activities as required by 23 CFR Part 420, Subpart B. It may include costs incurred by Department personnel and by non-Department personnel named to participate in Peer Review activities. Costs may include salaries and wages, travel and subsistence, equipment purchase and rental, meeting facilities and amenities, and supplies and services as may be pertinent and necessary for the conduct of peer reviews of the research program in any state.

Accomplishments for F.Y. 2015: Regulations are to hold a Peer Exchange meeting at least every 5 years. A Peer Exchange was held in Hot Springs, AR on August 12-16, 2012. Final Report was completed and available in the Research Library.
Proposed Activities for F.Y. 2016: Peer Exchange is not scheduled until F.Y. 2017.

Programmed Amount for F.Y. 2015	$2,500
Estimated Expenditures for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$2,500

S456 – SHRP ACTIVITIES

Purpose and Scope: The purpose of the Strategic Highway Research Program (SHRP)/Long Term Pavement Performance (LTPP) program is monitoring pavement performance. Some pavements perform better than others and this is the key to building and maintaining a cost-effective highway system. In 1987, the LTPP program - a comprehensive 20-year study of in-service pavements - began a series of rigorous long-term field experiments monitoring more than 2,400 asphalt and portland cement concrete pavement test sections across the U.S. and Canada. In Arkansas, we began with 21 sites and through significant maintenance and/or reconstruction most of the sites have been removed from study. One of the latest goals for the LTPP program is to collect 5 years of complete data for the Specific Pavement Study sites. Most of the WIM systems for our LTPP sites are collecting Volume only. The weight and class numbers are suspect due to deteriorating pavement conditions. SHRP 2 Developments in research and technology—such as advanced materials, new data collection technologies, communications technology and human factors science—offer an opportunity to improve the safety and reliability of the nation's highway system. In establishing SHRP 2, Congress recognized that breakthrough resolution of some significant problems requires concentrated resources over a short time frame. SHRP 2's intense, large-scale focus, requiring the integration of multiple fields of research and technology, is fundamentally different from the broad, mission-oriented, discipline-based research programs that have been the mainstay of the highway industry for half a century.

Accomplishments for F.Y. 2015: Traffic data has been collected but has been delayed on transmitting to the LTPP contractor. Currently there is a 3-month lag time from collecting, filtering, and transmitting this data for SHRP's use. The 050200 site's bending plates experienced some sensor and communication issues that were repaired. The 050200 site has been officially removed from study due to reconstruction contract let in January 2015. The 054046, 054019 and 050800 sites were visited by Fugro and distress surveys were conducted. SHRP 2 Implementation Assistance Funds were allocated to the state of Arkansas to deploy Expediting Project Delivery (C19) and implement Strategies for Improving the Project Agreement Process between Highway Agencies and Railroads (R16).

Proposed Activities for F.Y. 2016: Work will include transmitting traffic data as it is collected and filtered. The LTPP contractor will be notified when maintenance and/or major construction is scheduled for a specific site to allow them to obtain a final manual distress survey before construction begins. The SHRP 2 C19 assessment workshop will be planned and facilitated by FHWA with help from AHTD within the next couple of months. Funds will be obligated prior to the end of May 2014. The SHRP 2 R16 funds

have been obligated, existing agreement documentation and processes to determine requirements of AHTD and Union Pacific Railroad will be analyzed.

Programmed Amount for F.Y. 2015	$75,000
Estimated Expenditures for F.Y. 2015	$40,000
Estimated Cost for F.Y. 2016	$45,000

N456 – CALIBRATION OF THE NEW PAVEMENT DESIGN GUIDE

Purpose and Scope*:* This line item is provided to cover the cost to create and maintain a database for the multiple inputs into the new AASHTO pavement design guide, for the purpose of future calibrations of the new design guide. Help with and provided in assistance with data collection, data analysis, and design guide calibration needs for the Departments' pavement designers. These calibrations are needed to provide quality data to pavement designers for the enhanced designs in the new guide.

Accomplishments for F.Y. 2015*:* Data collected to support existing databases.

Proposed Activities for F.Y. 2016*:* To expand the databases in place from previous research and to create a database with newly collected data.

Programmed Amount for F.Y. 2015	$ 80,000
Estimated Expenditures for F.Y. 2015	$ 50,000
Estimated Cost for F.Y. 2016	$150,000

J456 – NONDESTRUCTIVE TESTING METHODS FOR CONSTRUCTION AND PERFORMANCE MONITORING

Purpose and Scope*:* This job provides for expenditures incurred for the Research and Development Program in efforts to research different nondestructive testing equipment. It includes the purchase of three different pieces of nondestructive testing equipment. It includes reviewing the products, purchasing the products, testing the equipment, traveling to and from construction sites. It is proposed that we buy a PSPA and a DSPA that are approximately $25,000 each and a Troxler E-gauge that the price is unknown at the time. This budget line item is to cover all relevant and pertinent expenses incurred in the research and development of nondestructive testing methods.

Accomplishments for F.Y. 2015*:*

Proposed Activities for F.Y. 2016*:* Work will include purchasing and testing equipment.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditures for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$100,000

T456 – SECOND STRATEGIC HIGHWAY RESEARCH PROGRAM (SHRP2)

Purpose and Scope: The second Strategic Highway Research Program (SHRP2) has undertaken more than 100 research projects designed to address critical state and local challenges, such as aging infrastructure, congestion, and safety. The research results are now being made available in a series of effective solutions that will improve the way transportation professionals plan, operate, maintain, and ensure safety on America's roadways. The Arkansas State Highway and Transportation Department (AHTD) has applied for these solutions in several rounds. AHTD received two awards for Expediting Project Delivery (C19) and Railroad-DOT Mitigation Strategies (R16) from Round 2. Each solution has a work plan towards implementing them in the state of Arkansas. The work plan describes the tasks, deliverables, schedule and cost required for the use of the funds provided to AHTD to deploy these solutions. Other expenditures incurred for the SHRP2 program includes workshops, webinars, progress reports, meetings, travel and applying for other solutions.

Accomplishments for F.Y. 2015: The workshop and action plan was completed for C19, and a workshop between Union Pacific Railroad, AHTD & FHWA was held to discuss moving forward with implementation for R16.

Proposed Activities for F.Y. 2016: Work will include implementing both C19 and R16, attending webinars and applying for other solutions.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditures for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$35,000

H456 – LRFD BRIDGE EVALUATION

Purpose and Scope: This study deals with a preliminary assessment on the impact of using two different specifications (AASHTO LRFD for design phase and AHTD standard specifications for construction and acceptance phases) on reliability and cost of bridge foundations.

The current Arkansas Standard Specifications for Highway Construction Manual (2014 Edition) for driven pile foundations (Section 805) is based on Allowable Stress Design method, which faces various limitations that result in foundations of questionable reliability. Following the FHWA memorandum issued on June 28, 2000 that all new bridges initiated after October 1, 2007 shall be designed using LRFD approach, the Arkansas State Highway and Transportation Department (AHTD) adopted the AASHTO LRFD design procedures for designing its bridge foundations. The AASHTO LRFD specifications are based on reliability approach and take into account different sources of uncertainties.

If AHTD designs its bridge foundations based on AASHTO LRFD and accepts them based on AHTD specifications, there is a great risk that the final implied reliability level of the end product will not be known. Moreover, the construction process may result in either oversized piles/shafts, more piles/shafts in a bridge foundation, or show poor agreement between

design and in-situ results, which can lead to a significant increase in cost for the entire structure. Due to this possible disparity in results between design and construction phases, there is a great need to unify (or harmonize) the two phases in order to have a more reliable and cost effective bridge foundation.

This proposed study would investigate the potential impacts of using the LFRD and the AHTD specifications on the same deep foundation job, and propose a would-be remedy to the problem. Potential deliverables of the study include: (1) a well-structured electronic bridge foundation database created on Microsoft Access that can be utilized to assess the reliability and cost savings on design and construction process; (2) a new design and acceptance protocol for deep foundations that reflects local design and construction experiences and practices; and (3) If the preliminary assessment discovers inconsistencies between design and construction phases, an in-depth assessment into the matter on large scale will be performed.

Accomplishments for F.Y. 2015*:* Literature review just began, and Microsoft Access database is being developed. Communication is underway with AHTD personnel who can provide information related to this study.

Proposed Activities for F.Y. 2016*:* Work will include collecting data for bridge foundations, investigating the design and construction procedures utilized by the Department and proposing changes for better foundation design and construction practices.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditures for F.Y. 2015	$ 0
Programmed Amount for F.Y. 2016	$50,000

I456 – PAVEMENT PERFORMANCE TACK-WARM MIX ASPHALT

Purpose and Scope*:* This job provides for expenditures incurred for the Research and Development Program in efforts to research the pavement performance obtained through the use of Warm Mix Asphalt. This budget line item is to cover all relevant and pertinent expenses incurred in the research and development of warm mix asphalt performance.

Accomplishments for F.Y. 2015*:*

Proposed Activities for F.Y. 2016*:* Work will include literature reviews and investigations into existing warm mix asphalt installations in Arkansas.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditures for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$125,000

K456 – ASR MONITORING

Purpose and Scope*:* This job provides for expenditures incurred for the research, treatment and monitoring of multiple concrete pavements and structures affected by Alkali Silica Reaction. It includes the development, preparation, review, and processing

of work plans related to ASR Monitoring. The purpose of this project is to evaluate the performance of concrete surface treatments to prevent or reduce the effects of alkali silica reaction and make determinations of their effectiveness.

Accomplishments for F.Y. 2015*:*

Proposed Activities for F.Y. 2016*:* Work will include development of multiple test sites for F.Y. 2016.

Programmed Amount for F.Y. 2015	$ 0
Estimated Expenditures for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$100,000

A457 – SUPPORT SERVICES

Purpose and Scope*:* This line item covers costs associated with work done for Divisions, Districts, and other agencies that are not directly related to the Research Program. It may be for activities related to site evaluations, pavement studies, design evaluations, failure mode investigations, forensic investigations and such other activities as may be required. Charges for data collection and evaluation, sample taking, conditioning, storing and delivering, and the conducting of tests may be included in this line item. The line item is to cover salaries and wages, travel and subsistence, equipment purchase and equipment rental, report preparation, supplies and services, and such other costs as may be pertinent to functions conducted in support of other programs.

Accomplishments for F.Y. 2015*:* Several activities were supported this year from site evaluations, data collection and traffic surveys.

Proposed Activities for F.Y. 2016*:* Continued support when the Research Section is called upon for many relatively small jobs that are of concern to the Department or other agencies.

Programmed Amount for F.Y. 2015	$223,500
Estimated Expenditures for F.Y. 2015	$215,000
Estimated Cost for F.Y. 2016	$231,034

Q457 – DEVELOPMENT OF A VIRTUAL WEIGH STATION

Purpose and Scope*:* The purpose of this project is to evaluate ways to improve the current traffic data collection system. The usability, cost, and maintenance will be evaluated along with the accuracy of a new WIM system. The present piezo system will also be directly compared to that of another WIM system. Additionally, this will investigate a way to provide the AHP with an enforcement tool to curb overweight vehicles that may take alternative routes to avoid weigh stations.

Accomplishments for F.Y. 2015: Project has been put on hold due to funding uncertainties. Commercial Vehicle Information Systems and Networks (CVISN) and the Federal Motor Carrier Safety Administration (FMCSA) are working on a grant with Federal Highway Administration to use funds associated with SAFETEA-LU.

Proposed Activities for F.Y. 2016: Design, construct and monitor virtual weigh station.

Programmed Amount for F.Y. 2015	$50,000
Estimated Expenditures for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$50,000

C457 – EVALUATION OF NEW TECHNOLOGY FOR TRAFFIC MONITORING

Purpose and Scope: The primary focus of this research is to determine which of two technologies would be most beneficial in estimating motorist travel times: Bluetooth traffic monitoring or side-scan radar. Both systems are to be co-located at a minimum of three locations on Interstate 40 between Conway and Little Rock. Average speeds between sites are to be determined with Bluetooth sensors; side-fire radar will provide point speeds, length and vehicle count at each location. Travel times can also be obtained using side-fire radar once calibrated with the proper algorithm. Monitoring will be supplemented with live network video.

Accomplishments for F.Y. 2015: Version 2 was purchased and installed along Interstate 40, heading eastbound into Russellville. This was the testing site for Version 1. A Final Report is to be written and submitted to AHTD by June 30, 2015.

Proposed Activities for F.Y. 2016: The goal is implementation through Maintenance Division. A modified report will be submitted for the Annual 2016 TRB Meeting for possible presentation.

Programmed Amount for F.Y. 2015	$50,000
Estimated Expenditures for F.Y. 2015	$52,500
Estimated Cost for F.Y. 2016	$50,000

B467 – DATA PREPARATION FOR IMPLEMENTING DARWIN-ME

Purpose and Scope: The primary objective of the proposed study is to establish a workflow for AHTD to start implementing DARWin-ME for production and develop relevant technologies so that positive impacts of DARWin-ME will be fully exploited in pavement design, management, materials, construction, and traffic data collection. The long-term impact of this and other follow-up studies will be the establishment of a database infrastructure to support the entire pavement engineering activities of AHTD including traffic, materials, construction, pavement management, and others.

Accomplishments for F.Y. 2015: Dr. Hall's team coordinated with Dr. Wang's team for the delivery of PREP-ME software. Implementation of PREP-ME with Pavement-ME has yet to occur.

Proposed Activities for F.Y. 2016: Implementation of Pavement-ME software and coordination with Traffic Information Systems section, Materials Division and Roadway Design Division.

Programmed Amount for F.Y. 2015	$ 80,000
Estimated Expenditures for F.Y. 2015	$ 2,000
Estimated Cost for F.Y. 2016	$150,000

J467 – LOAD AND RESISTANCE FACTOR DESIGN SITE SPECIFIC VARIABILITY IN LABORATORY AND FIELD MEASUREMENTS AND CORRELATIONS

Purpose and Scope: The objective of this study is to determine the variance in reliability between current site characterization techniques of field sampling and conventional laboratory testing, as compared with state-of-the-art sampling and laboratory testing and full-scale load tests. Three primary geological formations utilized in foundation support for structures should be investigated: 1) Bedrock material consisting of Limestone, Sandstone and/or Shale in western and northern Arkansas, 2) Primarily Clays in southwestern and eastern Arkansas, and 3) Clay underlain by Sand in northeastern Arkansas. The bias associated with the geotechnical engineering properties (of soil, rock, and soil-structure interaction) obtained from both current and advanced techniques will be analyzed to determine how the deviation in applied design values will affect LRFD based geotechnical engineering designs in terms of reliability and cost.

Accomplishments for F.Y. 2015: The drilled shafts in Monticello were constructed and the load testing was completed. All of the laboratory testing has been completed. Data is currently being compiled and reviewed for preparation of the final report.

Proposed Activities for F.Y. 2016: Work on the final report should begin towards the end of the FY2015.

Programmed Amount for F.Y. 2015	$ 80,000
Estimated Expenditure for F.Y. 2015	$ 10,000
Estimated Cost for F.Y. 2016	$100,000

F457 – USE OF CHEMICAL ADMIXTURES TO INCREASE THE EFFECTIVENESS OF SNOW AND ICE REMOVAL

Purpose and Scope: This research project will determine the effectiveness and/or cost benefit of adding different or new chemical admixtures to the sand and salt mixture that the Department uses during snow and ice removal on Arkansas highways. A decision

tree using what is found about chemical additives that Divisions and/or area maintenance headquarters can utilize in their planning for winter weather is also planned. More Road Weather Information Systems (RWIS) will be installed in the state, allowing the Department to better known weather conditions in important and/or outlying areas during winter weather events. All of the weather systems will be incorporated into a single web-based interface for Department personnel to monitor and possibly make this available for travelers through the Department's webpage.

Accomplishments for F.Y. 2015*:* After Evaluating District Maintenance procedures, it was decided that other alternatives are to be researched for this project. Each Maintenance office has devised their own specific plans to achieve deicing along the roads within their districts.

Proposed Activities for F.Y. 2016*:* The literature review will continue searching for other cost effective alternatives for deicing and snow mitigation, such as other brines and by-products.

Programmed Amount for F.Y. 2015	$65,000
Estimated Expenditures for F.Y. 2015	$ 5,000
Estimated Cost for F.Y. 2016	$15,000

G457 – COMPARISON OF TEXTURING METHODS USED FOR HIGHWAY CONSTRUCTION AND MAINTENANCE

Purpose and Scope*:* The primary purpose of this project is to determine which methods of adding surface texture are most effective for improving the surface friction of the roadway. Each method of adding texture to the pavement will be rated on economic viability and improved performance.

Accomplishments for F.Y. 2015*:* Got the DFT and CTM on loan from FHWA. Will start testing the sites as soon as possible. Will write final report.

Proposed Activities for F.Y. 2016*:* The project is due to be complete June 30, 2015.

Programmed Amount for F.Y. 2015	$70,000
Estimated Expenditures for F.Y. 2015	$25,000
Estimated Cost for F.Y. 2016	$20,000

H457 – LOW COST EXPERIMENTAL TREATMENTS FOR HORIZONTAL CURVES

Purpose and Scope*:* This project will find cost-effective treatments to reduce crashes in horizontal curves. Compared to changing an alignment, these treatments will increase safety at lower cost.

Accomplishments for F.Y. 2015: Treatments were monitored, analyzed and an early conclusion was presented. New treatments were installed. All treatments are currently being monitored and traffic data is being collected.

Proposed Activities for F.Y. 2016: All data will be analyzed and the final will be written.

Programmed Amount for F.Y. 2015	$50,000
Estimated Expenditures for F.Y. 2015	$15,000
Estimated Cost for F.Y. 2016	$20,000

J457 – WORK ZONE CAPACITY ESTIMATION FOR HIGH TRUCK VOLUME ROUTES IN ARKANSAS PREDICTING HIGHWAY CAPACITY THROUGH WORK ZONES WITH HIGH TRUCK VOLUMES AND REDUCED LANE GEOMETRY BASED UPON LOCAL CONDITIONS

Purpose and Scope: The primary objective of this research is intended to focus upon highway work zone capacity and travel delay in relationship to both existing and temporary highway work zones including, the number and width of the typical lanes compared to the number and width of lanes remaining open during work zone activity and to document how heavy vehicles adversely impact highway work zone capacity and result in congestion.

Accomplishments for F.Y. 2015: This project is working in conjunction with TRC 1202, using the data information from the traffic monitoring equipment.

Proposed Activities for F.Y. 2016: Provide supporting material from TRC 1202 to help with implementation of VisuaLogistic Technologies ITS equipment.

Programmed Amount for F.Y. 2015	$50,000
Estimated Expenditures for F.Y. 2015	$10,000
Estimated Cost for F.Y. 2016	$20,000

M457 – INVESTIGATING THE USE OF GPS DATA COLLECTION FOR MAINTENANCE OPERATIONS

Purpose and Scope: This line item is provided to cover the cost of research, departmental support services and monitoring of tablet devices for all maintenance operations. The purpose of this project is to evaluate the effectiveness of converting all maintenance supervisory documentation to electronic forms as well as streamline maintenance operations.

Accomplishments for F.Y. 2015: Software created to facilitate data collection.

Proposed Activities for F.Y. 2016: Investigate data collection needs of Maintenance Division. Data collection using tablet devices alongside Maintenance activities.

Programmed Amount for F.Y. 2015	$75,000
Estimated Expenditures for F.Y. 2015	$10,000
Estimated Cost for F.Y. 2016	$20,000

A458 – DEVELOPING EMBANKMENT AND SUBGRADE STABILIZATION REGIONAL SPECIFICATION

Purpose and Scope: The primary objective of this project is to establish guidelines for stabilization of subgrade and embankments up to ten feet in height based on geological soil regions in the state and would establish testing protocols for preliminary design and construction.

Accomplishments for F.Y. 2015: Collect soil samples and construct and monitor test selections.

Proposed Activities for F.Y. 2016: A one year project extension has been submitted, allowing the PI time for AHTD to locate viable construction projects to gain soil samples for testing.

Programmed Amount for F.Y. 2015	$70,000
Estimated Expenditures for F.Y. 2015	$55,000
Estimated Cost for F.Y. 2016	$80,000

C467 – DEVELOPMENT OF FIELD EXPOSURES SITE ASR DAMAGE

Purpose and Scope: Alkali-silica reaction (ASR) is an expansive reaction between the alkalis in the cement and reactive silica in the aggregates. Arkansas is currently witnessing the detrimental effects of ASR at various locations in Arkansas. A petrographic analysis of samples from select locations has confirmed that ASR is present in these areas. Therefore, prevention and mitigation measures must be developed. There are two main objectives in this project. The first objective will be to create an outdoor long-term field exposure site in which to study different reactive aggregates. This site will allow the research team to categorize the aggregates and concrete mixtures and develop an inventory for use in AHTD mix designs. Following these guidelines should help to prevent ASR in future concrete projects. The second objective will be to determine the most effective and efficient ways of halting or slowing existing ASR activity in concrete structures.

Accomplishments for F.Y. 2015: Aggregate samples were obtained and exposure blocks were cast.

Proposed Activities for F.Y. 2016: Plans are to continue to prepare mixes with the aggregates obtained and casting exposure blocks to be tested.

Programmed Amount for F.Y. 2015	$120,000

Estimated Expenditures for F.Y. 2015	$120,000
Estimated Cost for F.Y. 2016	$150,000

A459 – ECONOMIC FEASIBILITY OF SHORT SPAN ARCH CURLERTS

Purpose and Scope: This research project is to evaluate the improved structural efficiency, economic feasibility, and the increased sustainability of using short span arch culverts in replacement of the current standard short span concrete box sections adopted by the Arkansas State Highway and Transportation Department.

Accomplishments for F.Y. 2015: All work is finished. Just waiting on final report.

Proposed Activities for F.Y. 2016: The project is due to be complete June 30, 2015.

Programmed Amount for F.Y. 2015	$120,000
Estimated Expenditures for F.Y. 2015	$80,000
Estimated Cost for F.Y. 2016	$100,000

E467 – DEVELOPING BMP FOR TURBIDITY CONTROL DURING RAINFALL EVENTS

Purpose and Scope: To reduce water runoff on construction sites. By using PAM (Polyacrylamide), it binds soil particles together, causing them to settle out and not be carried away in runoff water.

Accomplishments for F.Y. 2015: Additional testing is being done using a PAM block to see if the correct amount of PAM can be introduced into the current.

Proposed Activities for F.Y. 2016: Lab and field testing will continue.

Programmed Amount for F.Y. 2015	$85,000
Estimated Expenditures for F.Y. 2015	$80,000
Estimated Cost for F.Y. 2016	$75,000

G467 – EVALUATING PERFORMANCE OF ASPHALT PAVEMENT IRP

Purpose and Scope: In 1999, the Arkansas State Highway and Transportation Department began an ambitious program to rehabilitate over 300 miles of Interstate in 5 years. As part of this rehabilitation program, approximately 270 miles of deteriorated concrete pavement was rubblized and overlaid. Many of these pavements constructed during this program are exhibiting a severe level of cracking. Most of these severely cracked asphalt pavements are located west of Conway on Interstate 40; while the rubblized pavements east of Little Rock on I-40 and I-30, which were constructed at virtually the same time, exhibit much less cracking. An evaluation of material properties,

construction techniques, and other factors is needed to determine why some projects performed much better than others.

***Accomplishments for F.Y. 2015**:* All of the coring has been completed and samples have been delivered to the Universities. A testing protocol was developed and approved by the AHTD. Both the U of A in Fayetteville and ASU in Jonesboro continue testing the asphalt cores collected. All of the construction data has been collected and delivered to both Universities. A literature review is on-going. The project is on schedule.

***Proposed Activities for F.Y. 2016**:* Should be receiving the Final Report early in FY16.

Programmed Amount for F.Y. 2015	$90,000
Estimated Expenditures for F.Y. 2015	$90,000
Estimated Cost for F.Y. 2016	$75,000

M467 – EXAMINATION OF FULL DEPTH RECLAMATION FOR SHALE AREAS

***Purpose and Scope**:* Thoroughly evaluate Full-Depth Reclamation (FDR) methods for AHTD and determine if there is a preferable FDR technique for AHTD to implement.

***Accomplishments for F.Y. 2015**:* A literature search has been completed. All four highways have been selected and sampled. In process of executing mix designs for Portland cement, asphalt emulsion, and asphalt foaming. Also in the process of evaluating designs for cracking characteristics of the mixes and calculating the life cycle cost for three FDR techniques. Will be getting a final report.

***Proposed Activities for F.Y. 2016**:* The project is due to be complete June 30, 2015.

Programmed Amount for F.Y. 2015	$90,000
Estimated Expenditures for F.Y. 2015	$70,000
Estimated Cost for F.Y. 2016	$60,000

B458 – PERFORMANCE OF ASPHALTS WITH POLYPHOSPHORIC ACID

***Purpose and Scope**:* Many highway agencies are concerned about the performance characteristics of polyphosphoric acid (PPA) modification and possible negative interactions with other mix components such as lime and liquid anti-strips. Such concerns also exist for emulsion-based warm mix asphalt (WMA) additive-modified asphalt binders containing PPA. Since PPA is a hydrophilic material and easily absorbs water, asphalt binders modified with higher percentages of PPA have a tendency to absorb water and loose strength, which is expected to result in increased moisture damage. The proposed study will investigate this issue and propose solutions through laboratory and field evaluations of PPA-modified asphalts for conditions prevailing in Arkansas. The primary objective of this study is to generate necessary performance data for PPA-

modified asphalts prepared with anti-stripping and WMA additives. Performance properties (stripping, rutting and fatigue) of PPA-modified asphalt binder and mix (lab and field core) samples will be evaluated in the laboratory.

Accomplishments for F.Y. 2015: Completing the first three tasks, which include a literature search and review, and conduct surveys with neighboring DOT's and oil refineries.

Proposed Activities for F.Y. 2016: A comprehensive test plan including Superpave test methods, tensile strength ratio (TSR), Hamburg Wheel Tracking, will be executed. Further, stripping of modified asphalt binders will be evaluated through a surface science approach (e.g., surface free energy) to gather insight information of the compatibility between aggregates and binders. Laboratory test data will be correlated with field performance data to formulate necessary guidelines for PPA-modified asphalts for conditions prevailing in Arkansas.

Programmed Amount for F.Y. 2015	$90,000
Estimated Expenditures for F.Y. 2015	$50,000
Estimated Cost for F.Y. 2016	$125,000

K467 - EVALUATING THE CAPACITY OF DEEP SOILS FOUNDATIONS

Purpose and Scope: The purpose of evaluating the capacity of deep soils foundations is to determine the consequences of the design earthquake on transportation infrastructure (bridges) in Northeastern Arkansas. This study investigates typical values of small strain dynamic properties for surficial soils (0-100 feet), and seeks to quantify post-liquefaction axial capacities of drilled shafts and piles. Utilizing blasting, laboratory testing on reconstituted samples, and full-scale axial load tests the downdrag and dragload will be evaluated. This project should provide the Department with instructions, special provisions or specifications on implementation of developed t-z and Q-z curves to help personnel from the AHTD to predict the axial load response for deep foundation elements constructed within liquefiable soil deposits.

Accomplishments for F.Y. 2015:

- Literature Review is ongoing and is planned to continue until the end of the project
- Resonant Column Torsion Shear is ongoing and the final results are expected at the end of the F.Y.2015.
- Drilling operations are ongoing for placing blast charges.
- The required equipment for completing soil blasting will be purchased and installed.
- Blast-Induced liquefaction on soil with no deep foundation elements will be performed in the FY2015 as soon as drilling operations are finalized.

Proposed Activities for F.Y. 2016*:*

- Literature review will continue.
- Blasting operations will continue on soil with drilled shaft and piled foundations.
- During final phase of the project, the implementation phase will begin and the final report will be prepared.

Programmed Amount for F.Y. 2015	$90,000
Estimated Expenditures for F.Y. 2015	$140,000
Estimated Cost for F.Y. 2016	$165,000

N467 – SAFETY PERFORMANCE FUNCTIONS FOR ARKANSAS

Purpose and Scope*:* The objective of this project is to determine SPF calibration factors for rural two-lane and multilane (excluding freeways) roadway segments and intersections on the state-numbered system in Arkansas. The resulting work products will be a final report, and a guidebook, all further described later in this proposal.

Accomplishments for F.Y. 2015*:* Relevant literature has been reviewed and compiled.

Proposed Activities for F.Y. 2016*: Data from AHTD will be assembled and reviewed.*

Programmed Amount for F.Y. 2015	$100,000
Estimated Expenditures for F.Y. 2015	$ 90,000
Estimated Cost for F.Y. 2016	$150,000

P559 – ALTERNATIVE FOR GPR IN HWY CONST & MAINTENANCE

Purpose and Scope*:* The primary objectives of this research project is to evaluate the possibility of using the current AHTD GPR system, and find/recommend possible alternative GPR systems to be used in AHTD activities with high accuracy.

Accomplishments for F.Y. 2015*:* Literature review has started.

Proposed Activities for F.Y. 2016*:* Develop lab and field investigation procedure. Start collecting data.

Programmed Amount for F.Y. 2015	$ 90,000
Estimated Expenditures for F.Y. 2015	$ 80,000
Estimated Cost for F.Y. 2016	$200,000

PART III
MBTC ACTIVITIES

PART III
MACK BLACKWELL RURAL TRANSPORTATION
STUDY CENTER ACTIVITIES
FISCAL YEAR 2016

A588	PROJECT DEVELOPMENT	$10,000
B588	ASSISTANTSHIPS	$300,000
C588	COURSE DEVELOPMENT AND IMPLEMENTATION	$100,000
	PROJECTS (See list below)	$500,000
	TOTAL MBTC BUDGET	**$910,000**

PROJECT LIST:

M580	MBTC2026	MULTI-SPEC SATELLITE IMAGERY TO ENHANCE	$125,000
E580	MBTC4000	ALKALI SILICA REACTION MITIGATION (ASR)	$125,000
F580	MBTC4001	REGIONAL ECONOMIC IMPACT STUDY OF THE MCCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM	$125,000
A580	MBTC5000	LOWERING LONG-TERM COSTS OF ARKANSAS' PAVEMENT INFRASTRUCTURE	$125,000
			$500,000

^MBTC projects listed here are funded with 100% State Funds.

Purpose: The Mack-Blackwell National Rural Transportation Study Center (MBTC) at the University of Arkansas at Fayetteville participates with the Department in research projects, provides transportation research assistantships to selected graduate students at the Center as well as selected employees at the Department, and conducts short courses and seminars. The Department operates under a review panel consisting of the Deputy Director and Chief Engineer as Chairman, the Deputy Director and Chief Operating Officer, and the Assistant Chief Engineers.

M580 – MULTI-SPECTRAL SATELLITE IMAGERY TO ENHANCE SLOPE FAILURE PREDICTION

***Purpose and Scope**:* The overall purpose of this project is to develop a reliability-based design procedure for cut slopes and embankments.

***Accomplishments for F.Y. 2015**:* Final report has been written and received. After review and approvals from AHTD, final payment will be made and project closed out.

Proposed Activities for F.Y. 2016: Completion and final payment of project.

Programmed Amount for F.Y. 2015	$ 20,000
Estimated Expenditures for F.Y. 2015	$ 5,000
Estimated Cost for F.Y. 2016	$125,000

E580 – ALKALI SILICA REACTION MITIGATION AND PREVENTION MEASURES – PHASE I

***Purpose and Scope**:* This project stems from the deterioration of concrete structures and pavements in Arkansas due to ASR. Repairing or rebuilding ASR damaged structures is costly. This research project will examine the reactivity of three coarse aggregates, examine repair and mitigation techniques for ASR damaged structures, and review the physical properties of the materials used in jobs exhibiting ASR distress. The research team will also develop concrete mixtures that are not susceptible to ASR attack and provide recommendations for changes to current AHTD Specifications regarding ASR. Results from this project will be used to provide AHTD a better understanding of ASR and will be used to help prevent ASR from occurring and mitigating damage caused by ASR.

***Accomplishments for F.Y. 2015**:* The research team monitored several spots on the barrier wall on I-540 near Log Mile 45. The team took additional readings on the test sections of wall that were coated with four different treatments to see how they work at mitigating the current damage.

Proposed Activities for F.Y. 2016: The research team will continue to monitor the treatments on the barrier wall and will conclude the concrete prism tests. Gigapan technology will also be used to monitor any changes in the wall in the test areas. Testing will also be done on barrier walls and pavements in the Little Rock, Winslow and Pine Bluff areas.

Programmed Amount for F.Y. 2015	$120,000
Estimated Expenditures for F.Y. 2015	$110,000
Estimated Cost for F.Y. 2016	$125,000

F580 – STUDY OF MCCLELLAN-KERR AR RIVER NAVIGATION SYSTEM

***Purpose and Scope**:* The primary goal of this research is to conduct a regional economic impact study of the McClellan-Kerr Arkansas River Navigation System (MKARNS). This will be accomplished through the achievement of three primary achievements;

1. Evaluate the economic impacts of the MKARNS under normal operating conditions,
2. Estimate the ancillary benefits of the MKARNS including recreational impacts,
3. Conduct scenario analysis of the system under varying conditions such as catastrophic event closure, lock and dam congestion, port capacity issues, 12' channel induced traffic, port modernization containerization, and Panama Canal expansion impacts,
4. Report findings in a public friendly format to enable state lobbying efforts in this area.

It is anticipated that an economic input-output model and a system dynamic model will be employed to assess the economic impact of the system. The most successful inland waterway commerce data from the U.S. Department of Commerce, the U.S. Economic Census, the Waterbourne Commerce Statistics Center, and other sources will be utilized.

***Accomplishments for F.Y. 2015**:* A literature review is on-going. Several meetings with various U.S. and State government agencies have been and continue to be held. A Little Rock project team was established and economic models for both normal and disruption conditions were developed. An input-output model was also developed and data as it is collected will be used to populate it. This project is currently on schedule.

Proposed Activities for F.Y. 2016: Literature reviews will continue to be conducted. Scenario analysis will be performed on the system under varying conditions such as catastrophic event closure, lock and dam congestion, port capacity issues, 12' channel induced traffic and port modernization containerization.

Programmed Amount for F.Y. 2015	$50,000
Estimated Expenditures for F.Y. 2015	$60,000
Estimated Cost for F.Y. 2016	$125,000

A580 – LOWERING LONG-TERM COSTS OF ARKANSAS' PAVEMENT INFRASTRUCTURE

***Purpose and Scope**:* To leverage the knowledge of Next 25 highways to perform two objectives: 1) calibrate anticipated pavement performance of PavementME with actual pavement performance and 2) explore new pavement maintenance and rehabilitation techniques. It is hoped that a foundation can be built with these pavement sections to lower long-term costs of Arkansas' pavement infrastructure.

Accomplishments for F.Y. 2015*:*

Proposed Activities for F.Y. 2016*:* New project beginning this FY.

Programmed Amount for F.Y. 2015	$0
Estimated Expenditures for F.Y. 2015	$0
Estimated Cost for F.Y. 2016	$125,000

PART IV
CTTP ACTIVITIES

ARKANSAS
Part IV CTTP ACTIVITIES
Budget for FY2016

A589	ADMINISTRATION AND COORDINATION	$50,000
E589	COURSE DEVELOPMENT	$300,000
	TOTAL	**$350,000**

Purpose: The Center for Training Transportation Professionals (CTTP) program at Mack-Blackwell National Rural Transportation Center provides training to qualify and certify technicians and provide materials and training for the Local Technical Assistance Program (LTAP). The program also provides continuing education as required by the State Board of License for Professional Engineers and Professional Surveyors and other training as may be deemed required by the Department and is agreeable to the center. Funding for development courses is included.

PART V
T^2 PROGRAM

PART V
ARKANSAS TECHNOLOGY TRANSFER (T^2) PROGRAM

The purpose of the Arkansas Technology Transfer (T^2) Program is to share the benefits of established and new transportation-related technology with local agencies. The methods of technology transfer include: training seminars, publications, digital video disc (DVD), site visits, reports, and information services.

The T^2 Program is guided by an Advisory Committee consisting of representatives from the Municipal League, the Association of Arkansas Counties, the County Judges Association of Arkansas, the American Public Works Association, the Federal Highway Administration (FHWA), the University of Arkansas at Fayetteville (UAF), and the Arkansas State Highway and Transportation Department (AHTD).

A major function of the T^2 Program is to facilitate training seminars for local agencies. The program focuses on four major areas: Safety (worker/workplace/highway), Infrastructure Management, Workforce Development, and Organizational Excellence. These seminars are primarily conducted at local sites to reach a larger number of the local workforce agencies. The various seminars and vendors are listed below:

- Asphalt Patching and Maintenance - Center for Training Transportation Professionals (CTTP)
- Basic Pavement Management - CTTP
- Chain Saw Safety - University of Arkansas at Monticello (UAM)
- Computer Courses: Access, Excel, Power Point, Window XP, & Word - Pulaski Technical College's Business and Industry Center (PTC)
- Confined Space: Competent Person & Confined Space Entry - Trench Safety and Supply, Inc.
- CPR and First Aid Certification - UAM
- Defensive Driving - Thompson Defensive Driving
- Drainage Control and Mitigation of Erosion for Unpaved Roads - CTTP
- Drainage Design and Improvements for Low Volume Roads - CTTP
- Drug and Alcohol Recognition for Supervisors - aTest Inc.
- Flagger Instructor Train-the-Trainer (FIT) - American Traffic Services Association (ATSSA)
- Flagger/Work Zone Certification - ATSSA
- Forklift Certification - UAM
- Gravel Road Maintenance - UAM
- Heavy Equipment: Backhoe Loader, Bulldozer, Dump Truck, Motor Grader & Trackhoe - UAM
- Safety Countermeasures for Local Roadways - CTTP
- Shop Safety and General Equipment Safety - UAM
- Stormwater Management - CTTP

- Supervisory Development: Time Management, Public Speaking, Project Management - PTC
- Traffic Control Supervisor (TCS) – ATSSA
- Traffic Control Technician Training (TCT) - ATSSA
- Traffic Signal Maintenance (Basic and Advanced) - Jacobs Engineering & Hot Springs
- Warm Mix Asphalt - CTTP

Site visits for "problem solving" will continue to be part of the program. Required Local Technical Assistance Program (LTAP) tasks will be accomplished. Sources of the total budget will be allocated approximately as follows:

	F.Y. 2016 July 1, 2015 to June 30, 2016
LTAP funds requested	$ 150,000
Matching funds (SPR)	$ 129,468
Matching funds (State)	$ 32,367
TOTAL	**$ 311,835**

Activity Summary for F.Y. 2016:

AHTD activities will include overall program administration and management, training schedule coordination, and seminar presentation oversight. The contracted presenter seminars are a part of an agreement with the AHTD and T^2 Program.

University of Arkansas at Fayetteville (UAF) activities will include the development of selected courses, as requested and approved by the AHTD with guidance from the T^2 Advisory Committee. An agreement between UAF and the AHTD has been finalized that allows the CTTP to administer T^2 activities involving the two entities.

Efforts will continue to involve Historically Black Colleges and Universities (HBCU) like Philander Smith College and the University of Arkansas at Pine Bluff in mutually beneficial projects.

Contracted presenters have proven to be our most efficient and effective delivery method and are expected to accomplish the requested training in FY16. Flexibility remains to expand the needs of the program as needed.

Details are included in the formal T^2 program submittal.

Technology Transfer Funding Summary:

	F.Y. 2016				*July 1, 2015 - Dec. 31, 2015**			
	LTAP	**SPR MATCH**	**STATE MATCH**	**RELEASED FUNDS**	**LTAP**	**SPR MATCH**	**STATE MATCH**	**RELEASED FUNDS**
CTTP	$0	$89,687	$22,422	$0	$0	$44,843	$11,211	$0
AHTD	$ 150,000	$39,781	$9,945	$16,958	$75,000	$19,890	$4,976	$0
TOTALS	$150,000	$129,468	$32,367	$16,958	$75,000	$ 64,734	$16,187	$0

***** The T^2 program operates on a calendar year basis. The six-month period from July 1 to December 31, 2015 is included here to allow the implementation of calendar year 2015 contracts. Next year's work program will include this period.

PART VI
PUBLIC TRANSPORTATION PROGRAMS

PART VI
FTA CONSOLIDATED PLANNING WORK PROGRAM

SECTION 5303 (STATE FISCAL YEAR 2016 Summary)
FHWA/FTA CONSOLIDATED METROPOLITAN PLANNING PROGRAM

	FEDERAL	LOCAL/ STATE	TOTAL	FEDERAL SHARE
Central Arkansas Regional Transportation Study	$ 871,847	$ 217,962	$ 1,089,809	80%
Frontier Metropolitan Planning Organization	$ 212,399	$ 53,100	$ 265,499	80%
Jonesboro Area Transportation Study	$ 115,302	$ 28,826	$ 144,128	80%
Northwest Arkansas Regional Transportation Study	$ 517,849	$ 129,462	$ 647,311	80%
Pine Bluff Area Transportation Study	$ 93,051	$ 23,263	$ 116,314	80%
Tri-Lakes Metropolitan Planning Organization	$ 97,097	$ 24,274	$ 121,371	80%
Texarkana Urban Transportation Study	$ 44,503	$ 11,125	$ 55,628	80%
West Memphis-Marion Area Transportation Study	$ 70,800	$ 17,700	$ 88,500	80%
SUBTOTAL	**$ 2,022,848**	**$ 505,712**	**$ 2,528,560**	

SECTION 5304 - FTA STATEWIDE PLANNING PROGRAM

Arkansas State Highway and Transportation Department				
• Program Support and Administration	$ 45,332	$ 11,334	$ 56,666	80%
• Safety & Security/Drug-Alcohol Planning	$ 28,748	$ 7,187	$ 35,935	80%
• Seniors/Disabled/Low Income Service Planning	$ 28,748	$ 7,187	$ 35,935	80%
• Staff Training and Development	$ 7,740	$ 1,936	$ 9,676	80%
SUBTOTAL	**$ 110,568**	**$ 27,644**	**$ 138,212**	
TOTAL 5303/5304 PLANNING PROJECTS	**$2,133,416**	**$533,356**	**$2,666,772**	

SECTION 5329 - FTA RAIL AND BUS SAFETY PLANNING PROGRAM

Arkansas State Highway and Transportation Department				
• Program Support and Administration (FY 2014)	$ 225,342	$ 56,336	$ 281,678	80%
• Program Support and Administration (FY 2015)	$ 224,664	$ 56,166	$ 280,830	80%
SUBTOTAL	**$ 450,006**	**$112,502**	**$ 562,508**	
TOTAL PROJECT COSTS	**$2,583,422**	**$645,858**	**$3,229,280**	

FFY 2015 Metropolitan Planning Funds
(Federal Funds)

MPO AREA	2010 POPULATION	DISTRIBUTION FACTOR	PL $	FTA $	TOTAL
CARTS	496,665	0.431	$ 689,335	$ 182,512	$ 871,847
FRONTIER MPO	120,714	0.105	$ 167,935	$ 44,464	$ 212,399
JATS	65,419	0.057	$ 91,165	$ 24,137	$ 115,302
NARTS	295,083	0.256	$ 409,443	$ 108,406	$ 517,849
PBATS	53,495	0.046	$ 73,572	$ 19,479	$ 93,051
TRI-LAKES MPO	55,121	0.048	$ 76,771	$ 20,326	$ 97,097
TUTS	23,072	0.022	$ 35,186	$ 9,317	$ 44,503
WMATS	40,270	0.035	$ 55,979	$ 14,821	$ 70,800
	1,149,839	1.000	$1,599,386	$ 423,462	$2,022,848

FTA SECTION 5304
FTA STATEWIDE PLANNING PROGRAM

PROGRAM SUPPORT AND ADMINISTRATION

Purpose and Scope: To provide general program administration responsibilities which are associated with Federal Transit Administration (FTA) grants.

Accomplishments for F.Y. 2015: General administration of grant activities and processing claims and quarterly reports. MPO TAC meetings and other transit-related activities were attended as necessary to support transportation planning requirements. Northwest Arkansas transitioned to a TMA area. Staff conducted on-site inspections of each public transit system's maintenance facilities. Staff worked on the development of the 2016-2019 STIP. With staff assistance 90% of the subrecipients' Title VI Plans were updated. Central Arkansas Transit Authority (CATA) hired a consultant to conduct a study of service development, financial analysis of service and project alternatives, long-range transit vision, and an image and branding review in FTA's grant AR-81-X017.

Proposed Activities for F.Y. 2016: The Department will conduct all grants management activities associated with Sections 5303, 5304, 5307, 5310, 5311, 5316, 5317, 5329, 5337 and 5339 grant programs (i.e., accounting, coordination, program development, etc.) as may be necessary to complete these grants. The Department may allocate some Transit Statewide Planning Program funds to the MPOs to develop 20-year transportation plans, TIPs, UPWPs and continue the metropolitan transportation planning process. Review and comment on Arkansas' MPOs UPWPs and transit related studies as they are drafted. Staff will continue to monitor and review transit reauthorization legislation. Staff will continue development of an Asset Management System as the FTA regulations are released and completed. Staff will continue to assist subrecipients in compiling Title VI Plans updates. Staff will also develop performance based transit planning and programing as required by MAP-21 as final transit regulations are released.

SAFETY & SECURITY – DRUG-ALCOHOL PLANNING

Purpose and Scope: The abuse of drugs and alcohol by transit employees poses a potential threat to the overall safety of the transit-dependent public. Control and/or elimination of these substances will result in a safer transit industry, increased productivity, reduced absenteeism, reduced theft, decreased sick leave, fewer worker's compensation claims, and lower medical costs. Safety and Security oversight responsibilities of passenger light rail and public transit systems in Arkansas have been delegated to the Department, specifically the Public Transportation Programs Section. Duties related to this program will be performed.

Accomplishments for F.Y. 2015: Continued coordination and certification efforts with the Arkansas Transit Association who administers the Drug and Alcohol Testing Consortium for all Arkansas-based transit systems. Staff conducted Drug and Alcohol

Review at all public transportation agencies. Implemented and monitored the State's Safety and Oversight efforts at the Little Rock/North Little Rock River Rail project. Staff completed Safety Oversight Triennial Review with FTA. Staff conducted Safety and Security Facilities inspections at public transportation agencies.

Proposed Activities for F.Y. 2016: The Department will continue to work closely with the Arkansas Transit Association and all Arkansas-based transit systems to ensure compliance with FTA drug and alcohol testing regulations and Safety and Security mandates. This will include reviews and inspection at the public transit agencies.

Programmed Amount for F.Y. 2015	$ 28,748
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$ 28,748

SENIORS/DISABLED SERVICE PLANNING

Purpose and Scope: To promote increased coordination between state agencies and private-nonprofit organizations in providing transportation services to seniors, disabled, and low income persons in Arkansas.

Accomplishments for F.Y. 2015: Developed reporting forms and computer files as per Federal guidelines. Job Access and Reverse Commute and New Freedom projects were monitored and claims were processed. The Department continued the development of the Section 5310 Seniors and Disabled Management Information System (5310 SDMIS). The staff updated the State Management Plan for Sections 5310 program.

Proposed Activities for F.Y. 2016: Continue participation with transportation committees and promote public awareness of transportation opportunities for coordination. Continue development of the 5310 SDMIS and expand to include other administered transit programs. Prepare and publish the 2015 Public Transportation Directory as a resource for staff, agencies and vendors. Assist ATA in an analysis of Non-Emergency Transportation models for Medicaid brokers. Start or move toward being in compliant with MAP-21 requirements.

Programmed Amount for F.Y. 2015	$ 28,748
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$ 28,748

STAFF TRAINING AND DEVELOPMENT

Purpose and Scope: To increase the expertise of transit staffs through the exposure of innovative options in transit planning and operations.

Accomplishments for F.Y. 2015: The Department was represented at conferences and meetings, which focused on transportation training, funding, compliance with regulations

and development of training programs. This included the Arkansas Transit Association Annual Conference, the Southwest Transit Association Annual Conference, and FTA webinars.

Proposed Activities for F.Y. 2016: Continue participation in training and information sharing workshops and conferences. Complete State Rail Oversight Certification program. Attend the Arkansas Biennial Transportation Planning Conference.

Programmed Amount for F.Y. 2015	$ 7,740
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$ 7,740

TRANSIT RAIL AND BUS SAFETY OVERSIGHT PROGRAM

Purpose and Scope: To identify actual or perceived risks and develop methods to mitigate such risks in the operations of or transporting persons on a rail or bus public transportation system in Arkansas.

Accomplishments for F.Y. 2015: The Department conducted all grants management activities associated with the Section 5329 grant program (i.e., accounting, coordination, program development, etc.) to complete the grant. Staff developed a Work Plan that outlined the PTP Section organization, legal review related to authority over transit systems, draft oversight regulations and staffing requirement. Staff monitored Central Arkansas Transit Authority's River Rail Project to ensure all regulations were met.

Proposed Activities for F.Y. 2016: Staff will attend safety training courses as required by FTA. Staff may hire consultants to assist in preparing safety plans, regulations and conducting safety investigations, audits, reviews, etc. Staff will continue to monitor Central Arkansas Transit Authority's River Rail Project to ensure all regulations are met. Staff will also review FTA proposed regulations as released.

Programmed Amount for F.Y. 2015	$ 224,664
Estimated Expenditure for F.Y. 2015	$ 0
Estimated Cost for F.Y. 2016	$ 224,664

PART VII
HIGHWAY SAFETY IMPROVEMENT PROGRAM

PART VII – Traffic Safety
Highway Safety Improvement Program (HSIP)

HSIP Funds

Type of Fed. Funds	Fed. Funds Available[1]	Fed. Funds Budgeted	Required Match Ratio	State Funds	Total Amount
SAFETEA-LU'[2]	$4,907,681	$0	90/10	$0	$0
MAP-21[3]	$48,826,236	$1,080,000	90/10	$120,000	$1,200,000

[1] Funds available as of May 26, 2015 per Program Management. Highway Safety Improvement Program (HSIP) funds only. Does not include other Federal-aid safety funding sources such as High Risk Rural Roads or Rail Highway Crossing funds, since they are not eligible for safety planning activities.
[2] Appropriation codes LS30, LS3E, LS3R
[3] Appropriation code MS30, MS3E

UNKNOWN – RAILROAD SAFETY PROGRAM

Purpose and Scope: To maintain and update highway/railroad crossing data files for all public crossings in the State. To rank the crossings by a hazard rating that is used as a guide to evaluate crossings for possible signal improvements. To review and submit proposed signal improvements and/or surface improvements for the crossings to FHWA for approval. To respond to requests from the public and private sectors concerning railroad crossing issues. To maintain and update highway/railroad crossing data files for all public crossings in the State. To rank the crossings by a hazard rating that is used as a guide to evaluate crossings for possible signal improvements. To review and submit proposed signal improvements and/or surface improvements for the crossings to FHWA for approval.

Accomplishments for F.Y. 2015: This activity was carried under Job 012208 for F.Y. 2015. From July 1, 2014 through March 1, 2015, 36 active grade crossing improvement projects were monitored and another 19 projects were approved by the Arkansas Highway Commission. Two grade crossing projects using STP-Attributable funds are being developed. Four Overpass Agreements were signed and drafts of four were transmitted to railroads. Diagnostic Team Meetings were held at 19 crossings to determine if proposed improvements are warranted. Train Manager software was modified to increase usability. An internal AHTD workshop was held to develop a list of concerns for our SHRP-2 project to streamline the coordination process with Union Pacific Railroad. Multi-crossing corridor improvement projects in Ashdown, Kensett, and Jonesboro were monitored. Federal funds were applied for through FRA to make corridor improvements in Kensett involving four crossings

Proposed Activities for F.Y. 2016: Railroad crossings will continue to be monitored in order to recommend projects to install signals and surface improvements. Approximately 19 crossing improvement projects will be submitted to FHWA for approval. Construction and Maintenance Agreements including Overpass Agreements for any AHTD projects involving railroad crossings will continue to be developed. Improvements will be made to the Train Manager program. Continued efforts will be made to facilitate multi-crossing corridor improvement projects. Railroad crossings will

continue to be monitored in order to recommend projects to install signals and surface improvements. Approximately 16 to 20 crossing improvement projects will be submitted to FHWA for approval.

Programmed Amount for F.Y. 2015	$0
Estimated Expenditure for F.Y. 2015	$0
Estimated Cost for F.Y. 2016	$200,000

012208 – TRAFFIC SAFETY PLANNING ACTIVITIES

Purpose and Scope: To review all traffic crash reports for correct location. To verify the location listed on the crash report for correct highway-section-log mile location. If the location is incorrect on the crash report, the crash locators will determine the correct highway, section and log mile of the crash. To continue to review crash data and identify high crash rate locations. To implement the State's Strategic Highway Safety Plan (SHSP) to ensure that appropriate safety measures are implemented that will reduce the State's fatality and serious injury rate. To implement the Highway Safety Improvement Program (HSIP).

Accomplishments for F.Y. 2015: The crash locators reviewed 58,589 traffic crashes that occurred in the State in 2012. Of these, 36,679 crashes occurred on the State Highway System. The VISUAL-T tool is being used to locate crashes. Traffic Safety is also coordinating with the Department of Finance and Administration, the Arkansas State Police, and other crash data stakeholders to implement an electronic crash reporting and database system (eCrash). Continue coordination with the SHSP steering committee and other safety committees across the state. The latest SHSP was adopted by the Arkansas State Highway Commission in February 2013.

Crash analyses for various studies in FFY 2014 were completed. Studies of high crash locations at 52 locations were completed and forwarded to Maintenance for their review. The Roadway Departure Safety Implementation Plan was completed in coordination with FHWA and their consultant. Further crash analysis and projects were initiated from the Roadway Departure Plan. A Cable Median Barrier Policy, including a comprehensive statewide median crossover crash analysis on all divided median highways, was completed. Safety projects were initiated from this Policy. Approximately 20 crash analyses were completed for various reasons at the request of others. Review of approximately ten studies conducted by MPP were completed. In accordance with Minute Order 2009-035, an annual study on wrong-way crashes on Interstates and other Freeways was prepared. An annual report on HSIP was prepared and submitted to FHWA. Numerous traffic safety training workshops, both in-person and online, were conducted. A new computer program (Crash Manager) was created to facilitate identification of high crash rate locations, and also to calculate custom statewide average crash rates. Traffic Safety took the lead as AHTD participated in the NCHRP 8-76 research effort. Traffic Safety helped Research identify locations and treatments to use on TRC 1303 and 1305 research projects.

Proposed Activities for F.Y. 2016: Crash reports will continue to be reviewed and checked for correct highway, section, and log mile locations. The VISUAL-T will continue to be used to identify the highway, section and log mile of a crash. Efforts to continue to implement eCrash will continue with Arkansas State Police and others. AHTD will work with the consultants who are developing eCrash to ensure the crash locating tool (VISUAL-T) is incorporated into the program. The eCrash implementation is expected to begin in mid FY 2015, starting with Arkansas State Police officers. Implementation will continue with other law enforcement agencies in a phased process. A separate safety job is expected to help fund this effort.

Staff will continue to identify high crash rate locations and conduct crash analyses to recommend safety projects. Staff will continue to coordinate with and provide assistance to other Sections and Divisions for safety studies and related efforts. Improvements will be made to the Crash Manager program. New research efforts will continue to be explored. The AHTD Work Zone Policy will be re-evaluated to better incorporate safety into the process. High crash rate locations on the high risk rural road system will be identified. An annual wrong-way crash study will be conducted. The HSM and the corresponding Interactive Highway Safety Design Model (IHSDM) will continue to be implemented. The use of other safety programs, such as Safety Analyst and ISAT will continue to be explored. In addition, work will continue to coordinate with FHWA on the review and update of the HSIP process. An annual report on HSIP will be prepared and submitted to FHWA. The updated SHSP will be continuously implemented in coordination with the other agencies. SHSP will be updated to comply with MAP-21 requirements after final rulemaking. Performance measures will be re-evaluated to conform to MAP-21 requirements after final rulemaking. Traffic Safety will work with Traffic Information Systems and other Sections to expand safety data asset collection including equipment purchase to comply with FHWA MIRE requirements.

Programmed Amount for F.Y. 2015	$1,500,000
Estimated Expenditure for F.Y. 2015	$ 878,000
Estimated Cost for F.Y. 2016	$1,000,000

012221 – AGIO LINEAR REFERENCING SYSTEM UPGRADE

Purpose and Scope: The Federal Highway Administration (FHWA) has required that all states expand their linear referencing system (LRS) networks to cover all public roads. This mandate also requires that dual carriageway, paved/unpaved attributes and seamless topography is included in the dataset. In addition, this dataset will determine the Certified Public Road Mileage for the state. On September 25, 2014 the Department signed an agreement with the Arkansas Geographic Information Office that allows the two agencies to participate in a cooperative program for the development, implementation and maintenance of an All Public Roads LRS for Arkansas.

Accomplishments for F.Y. 2015:

- A total of five counties were completed since October 2014 for the All Public Roads Linear Referencing System (LRS) to meet FHWA requirement of developing an All Public Roads LRS. The Department and the Arkansas Geographic Information System Office have been working together to develop the new LRS as well as inform and educate local governments on the new requirement and what is being done to accomplish and maintain the LRS.

Proposed Activities for F.Y. 2016:

- Continue working on the All Public Road LRS with the Arkansas Geographic Information System Office to comply with FHWA's requirement of developing an All Public Roads LRS.
- Starting May 2015, the Department and AGIO will only focus on completing the State Highway System on the All Public Roads LRS. This will including completing all dual carriageway segments. This phase of the project should be complete by December 2015. At that point, the Department and AGIO will add the additional public roads to the dataset on a county by county basis.

Programmed Amount for F.Y. 2015	$0
Estimated Expenditure for F.Y. 2015	$140,000
Estimated Cost for F.Y. 2016	$250,000