LTRC Annual Research Program

Fiscal Year July 1, 2010 - June 30, 2011

FHWA Part II SPR Research Program FAP Number SPR-0010(34) & FHWA IBRD Funded Research Program & FHWA LTAP Funded Program & FHWA STP Funded Program & State Funded Research Program



Conducted by:

Louisiana Department of Transportation and Development Louisiana Transportation Research Center

> In cooperation with United States Department of Transportation Federal Highway Administration

> > June 2010



of Transportation

Federal Highway Administration Louisiana Division Office

June 30, 2010

5304 Flanders Drive, Suite A Baton Rouge, La 70808 (225) 757-7600 (225) 757-7601 (Fax)

> In Reply Refer To: HDA-LA

Sherri LeBas, P.E. Secretary Louisiana Department of Transportation and Development Baton Rouge, LA

Subject: LTRC Annual Research Program, FY 2010-2011 SPR-0010(34) Part II

Attention: Dr. Harold 'Skip' Paul

Dear Ms. LeBas:

We have reviewed the subject work program, and find it to be satisfactory. Please furnish this office with three copies of the final, bound printed work program.

A separate request from your Federal-aid section is required to process the fiscal documents necessary to obligate funding.

Sincerely yours,

Mary M. Stringfellow // Program Delivery Team Leader







Research, Technology Transfer, Education & Training

May 12, 2010

Mr. Charles W. Bolinger Division Administrator Federal Highway Administration 5304 Flanders Drive, Suite A Baton Rouge, Louisiana 70808

Attention: Ms. Mary Stringfellow

Re: FY 2010-2011 LTRC WORK PROGRAM

Dear Mr. Bolinger:

Enclosed please find the FY 2010/2011 LTRC Work Program for your review and approval. You will note that the program is divided into multiple sections reflecting all funding sources.

As delegated by the Secretary, DOTD, I, Harold R. Paul, Director, Louisiana Transportation Research Center, of the State of Louisiana, do hereby certify, that the State is in compliance with all requirements of 23 U. S. C. 505 and its implementing regulations with respect to the research, development, and technology transfer program, and contemplate no changes in statutes, regulations, or administrative procedures which would affect such compliance.

If I can provide additional information, please advise.

Harold R. Paul, P.E. Director

Enclosure

- cc: Mr. Richard Savoie Mr. Mark Morvant Dr. Zhongie Zhang Mr. Chris Abadie
 - Mr. Sam Cooper
 - Ms. Genevieve Smith, FHWA

Abbreviations and Acronyms

<u>Funding</u>

SPR	State Planning and Research
NCHRP	National Cooperative Highway Research Program
TRB	Transportation Research Board
IBRD	Innovative Bridge Research Deployment
LTAP	Local Technical Assistance Program
STP	State Transportation Program
NSF	National Science Foundation
TT-Fed	Transportation Trust – Federal
TT-State	Transportation Trust – State

Project Types

ADM	Administrative
RS	Research Support
CON	Contingencies
GT	Geotechnical
Р	Pavements
В	Bituminous
SS	Special Studies
С	Concrete
ST	Structures
ТТ	Technology Transfer
LTAP	Local Technical Assistance Program
PF	Pooled Fund (Louisiana Lead)
PFE	Poole Fund External (Other Lead State)

Project Status

A	Active
Ρ	Proposed
RFP	Request for Proposal

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FHWA SPR Work Program Part II

FAP Number SPR-0010(34)



FHWA Funding

SPR Research Budget Recap	Total
Administrative Budget	\$765,000
Research Support Studies Budget	\$1,580,000
Active Studies Budget	\$1,655,455
Proposed Studies Budget	\$1,831,117
Pooled Fund Lead State Studies Budget	\$155,000
Total Contingencies Budget	\$100,000
Total SPR Budget	\$6,086,572

SPR External Collaboration Budget Recap	Total
Pool Funded Studies	\$130,000
TRB Correlations	\$125,270
NCHRP	\$715,038
Total SPR External Collaboration Budget	\$970,308

IBRD Budget Recap	Total
Active Studies Budget	\$360,550
Proposed Studies Budget	\$360,000
Total IBRD Budget	\$720,550

FHWA Funding

LTAP Budget Recap	Total
LTAP	\$608,525
LTAP Program Total	\$608,525

STP: Technology Transfer Program Budget Recap	Total
Technology Transfer Program and Operations	\$1,177,807
Workforce Development Program	\$3,833,237
Student Support Programs	\$520,500
Total STP Budget	\$5,531,544

State Funding

State Budget Recap	Total
Active Studies Budget	\$1,382,616
Proposed Studies Budget	\$1,356,130
RFP's	\$500,000
Total State Budget	\$3,238,746

Self-Generated Funding

Self-Generated Budget Recap	Total
Active Studies Budget	\$325,975
Proposed Studies Budget	\$180,000
Total Self-Generated Budget	\$505,975

Other DOTD Sections Funding

Other DOTD Sections Budget Recap	Total
Active Studies Budget	\$320,789
Proposed Studies Budget	\$15,000
Total Other DOTD Sections Budget	\$335,789

SPR: TT-Fed/TT-Reg

FISCAL YEAR 2010-2011

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Administ	rative	9										
SPR: TT-Fed/TT-Reg	А	ADM	736-99-1703	11-1PM	\$765,000	\$765,000	Harold 'Skip' Paul	Program Management	7/1/2010	6/30/2011		C-2
			-	-	\$765,000	\$765,000	ADMINISTRATIVE BUDG	ET TOTALS				-
Project Type: Research	n Sup	port										
SPR: TT-Fed/TT-Reg	А	RS	736-99-1707	11-1EQM	\$300,000	\$300,000	Mark Morvant	Equipment Management	7/1/2010	6/30/2011		C-3
SPR: TT-Fed/TT-Reg	А	RS	736-99-1704	11-1LFT	\$150,000	\$150,000	Mark Morvant	Research Laboratory and Field Test Support	7/1/2010	6/30/2011		C-5
SPR: TT-Fed/TT-Reg	А	RS	736-99-1705	11-1NPE	\$60,000	\$60,000	Mark Morvant	New Products Evaluation	7/1/2010	6/30/2011		C-6
SPR: TT-Fed/TT-Reg	А	RS	736-99-1706	11-1TA	\$385,000	\$385,000	Mark Morvant	Technical Assistance	7/1/2010	6/30/2011		C-8
SPR: TT-Fed/TT-Reg	А	RS	736-99-1709	11-1TRS	\$400,000	\$400,000	Mark Morvant	Technical Research Surveillance	7/1/2010	6/30/2011		C-10
SPR: TT-Fed/TT-Reg	А	RS	736-99-1708	11-1TTRI	\$285,000	\$285,000	Mark Morvant	Technology Transfer and Research Implementation	7/1/2010	6/30/2011		C-11
					\$1,580,000	\$1,580,000	RESEARCH SUPPORT B	SUDGET TOTALS				

Project Type: Contingency

					\$100,000	\$100,000		T TOTALS		
SPR: TT-Fed/TT-Reg	А	CON	736-99-1710	11-1CON	\$100,000	\$100,000	Mark Morvant	Contingencies	6/30/2011	C-13

SPR: TT-Fed/TT-Reg

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Geoted	chnic	al	•	-					·				
SPR: TT-Fed/TT-Reg	А	GT	736-99-1556	05-1GT	\$72,000	\$393,176	LTRC	Murad Abu-Farsakh	Field Demonstration of New Bridge Approach Slab Designs and Performance	8/1/2008	8/1/2011		C-15
SPR: TT-Fed/TT-Reg	А	GT	736-99-1507	08-3GT	\$95,000	\$232,951	LTRC	Murad Abu-Farsakh	Support Study to Structure Health Monitoring of the I-10 Twin Span Bridge Over Lake Pontchartrain	11/1/2007	11/1/2010	7/31/2012	C-17
SPR: TT-Fed/TT-Reg	А	GT	736-99-1101	10-1GERL	\$168,000	\$170,000	LTRC	Murad Abu-Farsakh	LTRC Support for Geotechnical Research at the Geotechnical Engineering Research Laboratory (GERL)		6/30/2011		C-19
					\$335,000	\$796,127	GEOTECH	NICAL BUDGET TOTALS					-
Project Type: Pavem	ents												
SPR: TT-Fed/TT-Reg	A	Р	736-99-1649	07-6P	\$130,400	\$220,192	LTRC	Zhong Wu	Evaluation of Current DOTD Flexible Pavement Structures Using PMS Data and New M-E Pavement Design Guide	7/1/2009	6/30/2011		C-20
SPR: TT-Fed/TT-Reg	А	Р	736-99-1641	09-7P	\$50,500	\$98,850	LTRC	Zhong Wu	Construction and Accelerated Pavement Testing of TTI Pavement Test Sections	10/1/2009	10/1/2011		C-22
					\$180,900	\$319,042	PAVEMEN	TS BUDGET TOTALS					
Project Type: Bitumi	nous												
SPR: TT-Fed/TT-Reg	А	В	736-99-1512	04-6B	\$92,426	\$398,672	LTRC	Louay Mohammad	Characterization of Louisiana Asphalt Mixtures Using Simple Performance Tests and MEPDG	1/1/2008	12/31/2010		C-23
SPR: TT-Fed/TT-Reg	А	В	736-99-1624	07-1B	\$155,000	\$325,420	LTRC	Bill King	Evaluation of Warm Mix Asphalt Technology in Flexible Pavements	3/15/2009	3/15/2011		C-25
SPR: TT-Fed/TT-Reg	А	В	736-99-1652	09-2B	\$87,695	\$144,695	LTRC	Zhong Wu	Development of New Surface Friction Guidelines for LADOTD	7/1/2009	6/30/2010	6/30/2011	C-26
SPR: TT-Fed/TT-Reg	А	В	736-99-1029	10-1EMC	\$176,014	\$2,741,941	LTRC	Louay Mohammad	Pavement Materials Research Using Special Equipment at the Engineering Materials Characterization Research Facility	7/1/2009	6/30/2012		C-27
					\$511,135	\$3,610,728	BITUMINO	US BUDGET TOTALS					
Project Type: Struct	ures												
SPR: TT-Fed/TT-Reg	A	ST	736-99-1619	09-2ST	\$65,000	\$82,410	LTRC	Walid Alaywan	Performance and Analysis of Concrete Bridge Railing Using Conventional and Composite Reinforcement Materials	4/1/2009	9/30/2009	3/31/2011	C-28
			•	•	\$65,000	\$82,410	STRUCTUR	RES BUDGET TOTALS					£
Project Type: Specia	I Stu	dies					1						
SPR: TT-Fed/TT-Reg	A	SS	736-99-1715	06-2SS	\$147,353	\$510,839	LTRC	Chester Wilmot	Development of a Time-Dependent Hurricane Evacuation Model for the New Orleans Area - Phase 2	7/1/2008	6/30/2010	6/30/2012	C-29
SPR: TT-Fed/TT-Reg	А	SS	736-99-1714	10-1PLA	\$110,896	\$4,182,901		Chester Wilmot	LTRC Proposal for the Support of Research and Development in Transportation Planning	7/1/1995	6/30/1996	6/30/2012	C-30
					\$258,249	\$4,693,740	SPECIAL S	TUDIES BUDGET TOTAL	S				
					P								

SPR: TT-Fed/TT-Reg

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Concre	ete												
SPR: TT-Fed/TT-Reg	А	С	736-99-1586	09-2C	\$38,456	\$121,044	LTRC	Tyson Rupnow	Evaluation of Cement and Fly Ash Treated RAP and Marginal Aggregates for Base Construction	3/1/2009	3/1/2011		C-31
SPR: TT-Fed/TT-Reg	А	С	736-99-1587	09-4C	\$123,486	\$233,544	LTRC	Tyson Rupnow	Evaluation of Ternary Cementitious Combinations	3/1/2009	2/28/2011	6/30/2011	C-32
SPR: TT-Fed/TT-Reg	A	С	736-99-1642	09-5C	\$76,351	\$116,351	LTRC	Patrick Icenogle	Evaluation of Non-Destructive Technologies for Construction Quality Control of HMA and PCC Pavements in Louisiana	7/1/2009	9/30/2010	6/30/2011	C-33
SPR: TT-Fed/TT-Reg	A	С	736-99-1661	10-1C	\$66,878	\$102,878		Tyson Rupnow	Evaluation of the Surface Resistivity Measurements as an Alternative to the Rapid Chloride Permeability Test for Quality Assurance and Acceptance	2/1/2010	5/1/2011		C-35
					\$305,171	\$573,817	CONCRETE	BUDGET TOTALS					
					\$1,655,455	\$10,075,864	SPR: TT-FE	D/TT-REG ACTIVE BUDG	ET TOTALS				

SPR: TT-Fed/TT-Reg

FISCAL YEAR 2010-2011

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Geotech	nical												
SPR: TT-Fed/TT-Reg	Ρ	GT			\$64,340	\$150,000	LTRC	Mark Martinez	The Rideability of a Deflected Bridge Approach Slab (LTRC Project 02-2GT Continuation: Phase II)	1/1/2011	12/31/2012		C-37
SPR: TT-Fed/TT-Reg	Р	GT			\$69,000	\$250,000	LTRC	Murad Abu-Farsakh	Accelerated Load Testing of Geosynthetic Base Reinforced Unpaved and Pavement Test Sections	9/1/2010	8/30/2012		C-38
SPR: TT-Fed/TT-Reg	Р	GT			\$91,930	\$91,930	LTRC	Pallavi Bhandari	LTRC Research Software Development and Support	7/1/2010			C-39
SPR: TT-Fed/TT-Reg	Ρ	GT		10-3GT	\$113,000	\$113,000	LTRC	Khalil Hanifa	Design Values of Resilient Modulus of Stabilized and Non-stabilized Base and Subbase	7/1/2010	6/30/2011		C-40
SPR: TT-Fed/TT-Reg	Ρ	GT		10-5GT	\$112,500				Field Instrumentation and Testing to Study Set- Up Phenomenon of Piles Driven into Louisiana Clayey Soils				C-41
SPR: TT-Fed/TT-Reg	Р	GT			\$27,000	\$150,000	LTRC	Murad Abu-Farsakh	Evaluation of Site and Testing Variability on Soil Properties	7/1/2010	12/31/2011		C-43
SPR: TT-Fed/TT-Reg	Ρ	GT		10-4GT	\$123,000	\$250,000	LTRC	Murad Abu-Farsakh	In-Situ Evaluation of Design Parameters and Procedures for Stabilized Subbases from Cyclic Plate Load Tests	7/1/2010	12/31/2012		C-44
SPR: TT-Fed/TT-Reg	Р	GT		06-3GT	\$150,000	\$200,000	LTRC	Gavin Gautreau	Intelligent Compaction Technology	10/1/2010	9/30/2012		C-46
					\$750,770	\$1,204,930	GEOTECHNI	CAL BUDGET TOTALS					
Project Type: Paveme	nts												
SPR: TT-Fed/TT-Reg	Ρ	Р			\$59,064	\$300,000	LTRC	Kevin Gaspard	Prevention of Extensive Desiccation Cracking on Rural Highways	8/2/2010	6/30/2016		C-47
SPR: TT-Fed/TT-Reg	Ρ	Ρ			\$90,550	\$500,000	LTRC	Kevin Gaspard	Assessment of Environmental, Seasonal and Regional Variations in Pavement Base and Subgrade Properties	9/24/2010	6/30/2015		C-48
SPR: TT-Fed/TT-Reg	Ρ	Р		09-5P	\$105,000	\$210,000		Mark Martinez	Development of Improved QA/QC Protocols for Portable WIM Data Collection	7/1/2009			C-49
SPR: TT-Fed/TT-Reg	Р	Р		10-3P	\$99,250	\$352,280	LTRC	Leticia Santos da Rocha Courville	LED Traffic Signal Lifetime Management System	6/1/2010	6/1/2012		C-50
					\$353,864	\$1,362,280	PAVEMENTS	BUDGET TOTALS					-
Project Type: Bitumin	ous			l									
SPR: TT-Fed/TT-Reg	Ρ	В			\$83,485	\$105,106	LTRC		Evaluation of the Validity of Multiple Stress Creep Recovery Test to be included in LADOTD Asphalt Binder Specification	7/1/2010	9/30/2011		C-52
SPR: TT-Fed/TT-Reg	Ρ	В			\$104,479	\$275,688	LTRC	Louay Mohammad	Investigation of In-situ tests in QC/QA Applications for Hot-Mix Asphalt	7/1/2010	6/30/2012		C-53
SPR: TT-Fed/TT-Reg	Р	В			\$63,196	\$430,000	LTRC	Louay Mohammad	Performance Evaluation Of Sustainable Materials in HMA Mixtures Under Accelerated Pavement	7/1/2010	6/30/2013		C-54

Testing

SPR: TT-Fed/TT-Reg

FISCAL YEAR 2010-2011

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
SPR: TT-Fed/TT-Reg	Ρ	В			\$68,580	\$204,032	LTRC	Louay Mohammad	Evaluation Of HMA Mixtures Containing Recycled Asphalt Shingles	7/1/2010	6/30/2012		C-55
SPR: TT-Fed/TT-Reg	Ρ	В			\$68,580	\$275,000	LTRC	Louay Mohammad	Investigation of the Use of High RAP Content in Hot Mix Asphalt Mixtures	7/1/2010	6/30/2012		C-56
					\$388,320	\$1,289,826	BITUMINOUS	BUDGET TOTALS					

Project Type: Special Studies

SPR: TT-Fed/TT-Reg	Ρ	SS		\$25,000	\$200,000	LTRC	Marie Walsh	Louisiana Transportation Safety Center			C-57
SPR: TT-Fed/TT-Reg	Ρ	SS	10-7SS	\$93,163	\$93,163	LTRC	Chester Wilmot	Support Study for Establishing an Intelligent Transportation System (ITS) Lab at LTRC	7/1/2010	6/30/2012	C-58
				\$118,163	\$293,163	SPECIAL STU	JDIES BUDGET TOTALS				

Project Type: Concrete

				\$1,831,117	\$4,800,199	SPR: TT-FED	/TT-REG PROPOSED B	UDGET TOTALS			
				\$220,000	\$650,000	CONCRETE	BUDGET TOTALS				
SPR: TT-Fed/TT-Reg	Ρ	С		\$35,000	\$100,000	LTRC	Patrick Icenogle	Investigation of Air Entrainment Quantities Needed for Pavements and Bridges in Lousiana	10/1/2010	12/31/2011	C-61
SPR: TT-Fed/TT-Reg	Ρ	С		\$35,000	\$250,000	LTRC	Tyson Rupnow	Development of Performance Based, or End Result Specifications	12/1/2010	6/30/2012	C-60
SPR: TT-Fed/TT-Reg	Р	С		\$150,000	\$300,000	LTRC	Tyson Rupnow	Investigation of Roller Compacted Concrete for Low Volume Roads	8/1/2010	6/30/2013	C-59

FHWA

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Pooled Fu	nd Le	ad State	Research									
SPR: Pooled Fund: TT-Fed	А	PF	736-99-1655	09-1PF	\$25,000	\$150,000	Mark Morvant	Southeast Transportation Consortium	9/1/2009	8/30/2012		C-63
					\$25,000	\$150,000	SPR: POOLED FUND: T	I-FED ACTIVE BUDGET TOTALS				
SPR: Pooled Fund: TT-Fed	Ρ	PF			\$130,000	\$500,000		Traffic and Data Preparation for AASHTO MEPDG Analysis and Design	10/1/2010	9/30/2013		C-65
					\$130,000	\$500,000	SPR: POOLED FUND: T	I-FED PROPOSED BUDGET TOTALS				
					\$155,000	\$650,000		T TOTALS				

FHWA

FISCAL YEAR 2010-2011

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Pooled Fu	nd: E	xternal L	ead State Re	search								
SPR: Pooled Fund: TT-Fed	А	PFE		TPF-5(105)	\$20,000	\$100,000	Wisconson DOT	Transportation Library Connectivity	10/1/2005	12/31/2010		C-68
SPR: Pooled Fund: TT-Fed	А	PFE		TPF-5(114)	\$25,000	\$165,000	Washington DOT	Roadside Safety Research Program	7/1/2008	12/31/2011		C-70
SPR: Pooled Fund: TT-Fed	А	PFE		TPF-5(159)	\$5,000	\$25,000	lowa DOT	Technology Transfer Concrete Consortium	2/5/2008	2/4/2012		C-72
SPR: Pooled Fund: TT-Fed	А	PFE		TPF-5(228)	\$20,000	\$60,000	Alabama DOT	Superpave Regional Center				C-74
					\$70,000	\$350,000	POOLED FUND: EXTERN	IAL LEAD STATE BUDGET TOTALS				
					\$70,000	\$350,000	SPR: POOLED FUND: TT	-FED ACTIVE BUDGET TOTALS				
Project Type: Pooled Fu	nd [.] F	xternal I	ead State									

oject Type: Pooled Fund: External Lead State

SPR: Pooled Fund: TT-Fed	Ρ	PFE		\$60,000	\$60,000		Pooled Fund Collaboration Projects		C-76
				\$60,000	\$60,000	POOLED FUND: EXTERN	IAL LEAD STATE BUDGET TOTALS		
				\$60,000	\$60,000	SPR: POOLED FUND: TT	-FED PROPOSED BUDGET TOTALS		

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Structure	es											
IBRD: TT-Fed	А	ST	736-99-1370	05-5ST	\$20,000	\$220,537	Steve C.S. Cai	Bridge Deck Replacement using FRP Materials	11/15/2005	5/14/2008	11/14/2010	D-2
IBRD: TT-Fed	А	ST	736-99-1437	07-1ST	\$115,550	\$565,550	Murad Abu-Farsakh	Structure Health Monitoring of the I-10 Twin Span Bridge Over Lake Pontchartrain	11/1/2007	10/31/2010	7/31/2012	D-4
IBRD: TT-Fed	А	ST	736-99-1438	07-3ST	\$65,000	\$200,000	Steve C.S. Cai	Repairing/Strengthening of Bridges with Post- Tensioned FRP Strands and Performance Evaluation	10/1/2007	4/1/2010	3/31/2011	D-6
IBRD: TT-Fed	А	ST	736-99-1439	07-4ST	\$90,000	\$400,000	George Z. Voyiadjis	Integral Abutment Bridge for Louisiana's Soft and Stiff Soils	10/1/2007	8/31/2011		D-7
IBRD: TT-Fed	А	ST	736-99-1573	08-2ST	\$70,000	\$199,999	Steve C.S. Cai	Monitoring Bridge Scour Using Fiber Optic Sensors	1/1/2009	7/1/2011		D-9
				-	\$360,550	\$1,586,086	STRUCTURES BUDGET	TOTALS		-		
					\$360,550	\$1,586,086	IBRD: TT-FED ACTIVE B	UDGET TOTALS				
Project Type: Structure	es											

				\$360,000	\$770,000	IBRD: TT-FED PROF	POSED BUDGET TOTALS			
				\$360,000	\$770,000	STRUCTURES BUD	GET TOTALS			
IBRD: TT-Fed	Ρ	ST	10-3ST	\$125,000	\$270,000	Aziz Saber	Elimination of Deck Joints using a Corrosion Resistant FRP Grid	7/1/2010	6/30/2012	D-15
IBRD: TT-Fed	Ρ	ST	10-2ST	\$125,000	\$250,000	Aziz Saber	Use of Geosynthetic Reinforced Soil for Bridge Abutments	7/1/2010	6/30/2012	D-14
IBRD: TT-Fed	Ρ	ST	10-1ST	\$110,000	\$250,000	Aziz Saber	Monitoring System for Bridges Subject to Heavy Loads	7/1/2010	6/30/2012	D-12

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.	
Project Type: LTAP													
LTAP: TT-Fed/TT-Reg	А	LTAP	736-99-1497	10-LTAP	\$608,525	\$608,525	Marie Walsh	Local Technical Assistance Program (LTAP)		12/31/2010		E-2	
					\$608,525	\$608,525	LTAP BUDGET TOTALS						
					\$608,525	\$608,525	LTAP: TT-FED/TT-REG A	ACTIVE BUDGET TOTALS					
Project Type: Technol	ogy T	ransfer a	nd Training										
STP: TT-Fed	А	тт	736-99-1484	08-1TSQ	\$340,917	\$340,917	Sam Cooper	Technology Transfer Program and Operations		6/30/2011		F-2	
STP: TT-Fed	А	π	701-65-1402	10-1SS	\$169,607	\$274,475		Evaluation of Knowledge Transfer in an Immersive Virtual Learning Environment for the Transportation Community	1/1/2010	12/31/2010		F-4	
STP: TT-Fed	А	TT	736-99-1701	11-1TSQ	\$567,283	\$567,283	Sam Cooper	Technology Transfer Program and Operations	7/1/2010	6/30/2011		F-6	
STP: TT-Fed	А	TT	736-99-1702	11-1WD	\$1,233,237	\$1,233,237	Sam Cooper	Workforce Development	7/1/2010	6/30/2011		F-8	
STP: TT-Fed	А	TT	701-65-1481	11-2AD	\$37,500	\$37,500		Support for Senior Project Courses for Retainer Contract for 11-WDC 736-99-1698	7/1/2010	6/30/2011		F-9	
STP: TT-Fed	А	TT	701-65-1482	11-3AD	\$147,000	\$147,000	Harold 'Skip' Paul	LTRC Student Program	7/1/2010	6/30/2011		F-10	
STP: TT-Fed	А	TT	736-99-1657	11-4AD	\$36,000	\$110,000	Mark Morvant	Technology Transfer & Research Implementation Support for Louisiana Universities	1/1/2010	12/31/2013		F-11	
STP: TT-Fed	А	тт	736-99-1700	11-COOP	\$300,000	\$400,000	Sam Cooper	LaDOTD Co-Op Program	7/1/2010	6/30/2011		F-13	
STP: TT-Fed	А	TT	736-99-1699	11-TTRF	\$100,000	\$100,000	Sam Cooper	Technology Transfer Registration Fees	7/1/2010	6/30/2011		F-14	
STP: TT-Fed	А	тт	736-99-1698	11-WDC	\$2,600,000	\$2,600,000	Sam Cooper	Workforce Development Contracts	7/1/2010	6/30/2011		F-15	
	-	•	•	•	\$5,531,544	\$5,810,412	0,412 TECHNOLOGY TRANSFER AND TRAINING BUDGET TOTALS						
					\$5,531,544	\$5,810,412	,412 STP: TT-FED ACTIVE BUDGET TOTALS						

State: TT-Reg

								140.	
			1						
GT \$62,054	\$193,054	WPI	Minjiang Tao	Update LADOTD Policy on Pile Driving Vibration Management	6/1/2009	12/31/2010	5/31/2011	G-2	
\$62,054	\$193,054	GEOTECHN	IICAL BUDGET TOTAL	S					
1P \$41,940	\$165,444	LSU	Mostafa Elseifi	Cost Effective Prevention of Reflective Cracking of Composite Pavement	6/15/2008	6/14/2010	2/14/2011	G-4	
2P \$77,950	\$112,952	LTRC	Mostafa Elseifi	Implementation of the Rolling Wheel Deflectometer (RWD) in PMS and Pavement Preservation	7/1/2009	9/30/2010	6/30/2011	G-5	
ALF \$693,800	\$2,977,050	LTRC	Zhong Wu	Management and Operation of the Pavement Research Facility	7/1/2009	6/30/2012		G-6	
\$813,690	\$3,255,446	PAVEMENT	S BUDGET TOTALS						
IST \$21,211	\$249,578	LSU	Ayman Okeil	Evaluation of Continuity Details for Precast Prestressed Girders	12/10/2007	11/30/2009	8/31/2010	G-7	
3ST \$100,004	\$200,004	LSU	Gouping Zhang	Evaluation of Design Methods to Determine Scour Depths for Bridge Structures	4/1/2009	4/1/2011		G-8	
5ST \$42,750	\$72,750	LTRC	Guoqiang Li	Support Study for A Shape Memory Polymer Based Self-healing Sealant for Expansion Joint	5/1/2009	11/1/2010		G-9	
\$163,965	\$522,332	STRUCTUR	ES BUDGET TOTALS						
ISS \$5,864	\$185,988	Southern University	Sharon Parsons	LADOTD Customer Service Process and Outcome Evaluation	5/1/2007	4/30/2010	12/31/2010	G-10	
3SS \$91,859	\$178,087	ULL	Xiaoduan Sun	Developing Louisiana Crash Reduction Factors	11/1/2009	10/31/2011		G-11	
\$97,723	\$364,075	SPECIAL S	TUDIES BUDGET TOTA	LS					
6C \$15,271	\$99,271	LSU	Hak-Shul Shin	Support Study on the Characterization of Ternary Mixes with Various SCMs	7/1/2009	6/30/2010	12/31/2010	G-12	
\$15,271	\$99,271	CONCRETE	BUDGET TOTALS	-		-			
AD \$229,913	\$1,088,594	LTRC	Vijaya Gopu	Research Expansion Program	11/1/2006	11/1/2009	6/30/2012	G-13	
\$229,913	3 \$1,088,594 OTHER BUDGET TOTALS								
\$1,382,616	16 \$5,522,772 STATE: TT-REG ACTIVE BUDGET TOTALS								
	1GT \$62,054 \$62,054 \$62,054 \$-1P \$41,940 P \$77,950 1ALF \$693,800 \$813,690 \$813,690 .1ST \$21,211 .3ST \$100,004 .5ST \$42,750 \$163,965 \$163,965 .4SS \$5,864 .3SS \$91,859 \$97,723 \$15,271 .1AD \$229,913 \$1,382,616 \$1,382,616	1GT \$62,054 \$193,054 \$62,054 \$193,054 \$62,054 \$193,054 \$-1P \$41,940 \$165,444 \$-2P \$77,950 \$112,952 1ALF \$693,800 \$2,977,050 \$813,690 \$3,255,446 .1ST \$21,211 \$249,578 .3ST \$100,004 \$200,004 .5ST \$42,750 \$72,750 \$163,965 \$522,332 .4SS \$5,864 \$185,988 .3SS \$91,859 \$178,087 .4SS \$15,271 \$99,271 .4SS \$15,271 \$99,271 .1AD \$229,913 \$1,088,594 \$1,382,616 \$5,522,772	1GT \$62,054 \$193,054 WPI \$62,054 \$193,054 GEOTECHN \$1-1P \$41,940 \$165,444 LSU \$2P \$77,950 \$112,952 LTRC 1ALF \$693,800 \$2,977,050 LTRC \$813,690 \$3,255,446 PAVEMENT .1ST \$21,211 \$249,578 LSU .3ST \$100,004 \$200,004 LSU .5ST \$42,750 \$72,750 LTRC .4SS \$5,864 \$185,988 Southern University .3SS \$91,859 \$178,087 ULL .4SS \$5,864 \$185,988 Southern University .3SS \$91,859 \$178,087 ULL .4SS \$5,864 \$185,988 Southern University .3SS \$91,859 \$178,087 ULL .4SS \$15,271 \$99,271 LSU .4GC \$15,271 \$99,271 LSU .1AD \$229,913 \$1,088,594 UTRC	1GT \$62,054 \$193,054 WPI Minjiang Tao \$62,054 \$193,054 GEOTECHNICAL BUDGET TOTALS i-1P \$41,940 \$165,444 LSU Mostafa Elseifi i-2P \$77,950 \$112,952 LTRC Mostafa Elseifi 1ALF \$693,800 \$2,977,050 LTRC Zhong Wu \$813,690 \$3,255,446 PAVEMENTS BUDGET TOTALS -1ST \$21,211 \$249,578 LSU Ayman Okeil -3ST \$100,004 \$200,004 LSU Gouping Zhang -5ST \$42,750 \$72,750 LTRC Guoqiang Li \$163,965 \$522,332 STRUCTURES BUDGET TOTALS -4SS \$5,864 \$185,988 Southern University Sharon Parsons -3SS \$91,859 \$178,087 ULL Xiaoduan Sun -4SC \$15,271 \$99,271 LSU Hak-Shul Shin -1AD \$229,913 \$1,088,594 LTRC Vijaya Gopu -1AD \$229,913 \$1,088,594 OTHER B	1GT \$62,054 \$193,054 WPI Minjang Tao Management Weil Minjang Tao Mostafa Elselfi Cost Effective Prevention of Reflective Cracking of Composite Pavement 1-1P \$41,940 \$165,444 LSU Mostafa Elselfi Cost Effective Prevention of Reflective Cracking of Composite Pavement 1-2P \$77,950 \$112,952 LTRC Mostafa Elselfi Implementation of the Rolling Wheel Deflectometer (RWD) in PMS and Pavement Preservation 1ALF \$693,800 \$2,977,050 LTRC Zhong Wu Management and Operation of the Pavement Research Facility \$813,690 \$3,255,446 PAVEMENTS BUDGET TOTALS Evaluation of Continuity Details for Precast Prestressed Girders 1ST \$21,211 \$249,578 LSU Ayman Okeil Evaluation of Design Methods to Determine Scour Depths for Bridge Structures 3ST \$100,004 \$2200,004 LSU Gouping Zhang Support Study for A Shape Memory Polymer Based Self-healing Sealant for Expansion Joint \$16	16T \$62,054 \$193,054 WPI Minjang Tao Management Manag	16T S62.054 \$193.064 WPI Minjang Tao Management Krizzus Krizus Krizus	16T S62,054 \$193,054 WPI Minjang Tao Management Kind and the second secon	

State: TT-Reg

FISCAL YEAR 2010-2011

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Geotec	hnica	1											

Project Type: Geotechnical

					\$194.912	\$429.912	GEOTECHN	ICAL BUDGET TOTAL	S	-		-	
State: TT-Reg	Ρ	GT	736-99-1695	10-2TIRE	\$29,912	\$29,912	McNeese University	Stanley Klemetson	Evaluation of Erosion Control Methods for Coastal Highways	7/1/2010			G-19
State: TT-Reg	Ρ	GT		10-2GT	\$105,000	\$200,000			Geotechnical Information Database – Phase 2	7/1/2010	6/30/2012		G-18
State: TT-Reg	Ρ	GT			\$60,000	\$200,000			Bridge Data Management Tool and Support	7/1/2010	6/30/2012		G-17

Project Type: Pavements

				\$375,000	\$950,000	PAVEMENT	S BUDGET TOTALS				
State: TT-Reg	Ρ	Р		\$175,000	\$350,000	ULL	Mohammad Jamal Khattak	Life Cycle Cost Analysis and Performance Evaluation of Existing Pavement Treatments	6/30/2010	6/30/2012	G-23
State: TT-Reg	Ρ	Ρ		\$50,000	\$250,000			Project Level Transportation Asset Management Methods Utilizing PMS Datasets and Engineering Economics	1/7/2011	6/30/2013	G-22
State: TT-Reg	Ρ	Ρ		\$80,000	\$150,000	LTRC	Sherif Ishak	Addressing Traffic Data Requirements for Development of Axle Load Spectra and Implementation of MEPDG in Louisiana (Phase II)	7/1/2010	3/31/2012	G-21
State: TT-Reg	Ρ	Ρ		\$70,000	\$200,000			Safety Benefit of Shredded Tires in Hazardous Roadside Ditches	9/1/2010	8/30/2012	G-20

Project Type: Bituminous

					\$289,535	\$345,594	BITUMINOL	IS BUDGET TOTALS				
State: TT-Reg	Ρ	В	736-99-1694	10-1TIRE	\$29,986	\$29,986	ULL	Ahmed Khattab	Application of NanoTechnology to Develop Smart Hot Mix Asphalt (HMA) Mixtures	7/1/2010		G-26
State: TT-Reg	Ρ	В			\$50,170	\$60,170	LTRC		Evaluation of the Validity of Multiple Stress Creep Recovery for Emulsions.	8/1/2010	12/31/2011	G-25
State: TT-Reg	Ρ	В			\$209,379	\$255,438	LSU	William H. Daly	Implementation of GPC Characterization of Asphalt Binders at Louisiana Materials Laboratory			G-24

Project Type: Structures

				\$165,000	\$600,000	STRUCTUR	ES BUDGET TOTALS				
State: TT-Reg	Ρ	ST	10-6ST	\$40,000	\$50,000	Henry G Russell Inc.	Henry Russell	Design of High Performance Concrete Bridges in Louisiana	8/2/2010	11/1/2011	G-29
State: TT-Reg	Ρ	ST	10-5ST	\$50,000	\$250,000			Developing Prestressed Girder Transportation Guidelines	8/1/2010	7/31/2012	G-28
State: TT-Reg	Ρ	ST	10-4ST	\$75,000	\$300,000			Development of Wave and Surge Atlas for the Design and Protection of Coastal Bridges in South	8/1/2010	7/31/2012	G-27

State: TT-Reg

FISCAL YEAR 2010-2011

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Special	Studi	ies											

					\$266,809	\$447,474	SPECIAL S	TUDIES BUDGET TOT	ALS			
State: TT-Reg	Ρ	SS		10-6SS	\$71,809	\$87,474	LSU	Sherif Ishak	Establishing an Intelligent Transportation Systems (ITS) Lab at LTRC (Phase II)	7/1/2010		G-34
State: TT-Reg	Ρ	SS	736-99-1697	10-4TIRE	\$30,000	\$30,000	ULL	Vijay Raghavan	Mining Potentially Interesting Positive and Negative Association Patterns from Traffic Safety Data	7/1/2010		G-33
State: TT-Reg	Ρ	SS			\$50,000	\$100,000			Developing Inexpensive Crash Countermeasures for Louisiana Local Roads	7/1/2010	6/30/2012	G-32
State: TT-Reg	Ρ	SS			\$65,000	\$130,000			Truck Facility Access Design Standards	7/1/2010	6/30/2012	G-31
State: TT-Reg	Ρ	SS			\$50,000	\$100,000			Automatic Enforcement and Highway Safety	7/1/2010	6/30/2012	G-30

Project Type: Concrete

					\$1,356,130	\$2,837,854	STATE: TT-	REG PROPOSED BUI	OGET TOTALS			
					\$64,874	\$64,874	CONCRETE	BUDGET TOTALS				
State: TT-Reg	Ρ	С	736-99-1696	10-3TIRE	\$29,891	\$29,891	LSU	Hak-Shul Shin	Performance Evaluation of Recycled PET Fiber Reinforced Concrete	7/1/2010		G-36
State: TT-Reg	Ρ	С			\$34,983	\$34,983	LSU	Hak-Shul Shin	Validation of Correction Factors for Concrete Coefficient of Thermal Expansion	7/1/2010	12/31/2010	G-35

Self-Generated

FISCAL YEAR 2010-2011

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.

Project Type: Bituminous

NCHRP	А	В	736-99-1360	06-4B	\$28,000	\$428,000	LTRC	Louay Mohammad	Optimization of Tack Coat for HMA Placement	7/1/2005	6/30/2009	12/31/2010	H-2
NCHRP	А	В	736-99-1625	10-1B	\$148,337	\$500,000	LTRC	Louay Mohammad	Field versus Laboratory Volumetrics and Mechanical Properties	8/1/2009	2/29/2012		H-3
Shell Oil Company	А	В	736-99-1653	10-5B	\$85,000	\$125,000	LTRC	Louay Mohammad	Laboratory Evaluation of the Performance of Sulfur- Enhanced Asphalt Treated Base Mixtures	7/1/2009	6/30/2010		H-4
					\$261,337	\$1,053,000	BITUMINO	US BUDGET TOTALS					

Project Type: Structures

NCHRP	A	ST	736-99-1622	09-4ST	\$45,000	\$135,000	LSU	Guoqiang Li	A Shape Memory Polymer based Self-healing Sealant for Expansion Joint	5/1/2009	11/1/2010	H-5
					\$45,000	\$135,000	STRUCTU	RES BUDGET TOTALS				

Project Type: Special Studies

NSF	А	SS	736-99-1575	09-2SS	\$19,638	\$50,050	LTRC	Chester Wilmot	Enhancing Calibrated Peer Review for Improved Engineering Communication Education	9/1/2008	9/1/2011	H-6
-			\$19,638 \$50,050 SPECIAL STUDIES BUDGET TOTALS									
					\$325,975	\$1,238,050	50 SELF-GENERATED ACTIVE BUDGET TOTALS					

Project Type: Geotechnical

Geosynthetic Manufacturers	Ρ	GT			\$180,000	\$200,000	LTRC	Murad Abu-Farsakh	Support for Accelerated Load Testing of Geosynthetic Base Reinforced Unpaved and Pavement Test Sections	9/1/2009	8/30/2011	H-8
					\$180,000	\$200,000	GEOTECH	NICAL BUDGET TOTALS	3			
					\$180,000	\$200,000	SELF-GEN	ERATED PROPOSED BU	JDGET TOTALS			

Other DOTD Sections

Funding	A/P	Project Type	State Project Number	Research No.	FY Budget	Total Cost	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Special St	tudie	s										
LOOP	А	SS	766-99-1510	08-2SS	\$43,965	\$140,858	Dan Strecker	LOOP Environmental Monitoring: 2008-2010 Beach Elevation, Beach Vegetation, and Land Loss and Habitat Change Surveys	1/1/2008	12/31/2010		I-2
					\$43,965	\$140,858	SPECIAL STUDIES BUD	GET TOTALS				
Project Type: Geotechn	ical			-								
Public Works	А	GT	751-99-0073	10-1GT	\$48,982	\$163,982	Wesley Palmer	Measuring Levee Elevation Heights in North Louisiana	12/1/2009	11/30/2010		I-3
					\$48,982	\$163,982	GEOTECHNICAL BUDGE	ET TOTALS				
Project Type: Pavement	ts											
Safety	A	Р	736-99-0878	07-7P	\$27,842	\$107,060	Xiaoduan Sun	Safety Improvement from Edge Lines of Rural Two- Lane Highway	9/1/2007	8/31/2010	8/31/2011	I-4
					\$27,842	\$107,060	PAVEMENTS BUDGET T	OTALS				-
Project Type: Other				-								
Safety	А	Other	737-99-0787	Safety	\$200,000	\$200,000	Marie Walsh	Implementation and Project Management of the New Louisiana Local Road Safety Program		12/31/2010		I-5
					\$200,000	\$200,000	OTHER BUDGET TOTAL	s				
					\$320,789	\$611,900	OTHER DOTD SECTIONS	S ACTIVE BUDGET TOTALS				
Project Type: Special S	tudie	S.		-								
LOOP	Ρ	SS			\$15,000	\$150,000		LOOP Environmental Monitoring: 2011-2013 Beach Elevation, Beach Vegetation, Land Loss and Habitat Changes Surveys	1/1/2011	12/31/2013		I-6
					\$15,000	\$150,000	SPECIAL STUDIES BUD	GET TOTALS				
					\$15,000	\$150,000	OTHER DOTD SECTIONS	S PROPOSED BUDGET TOTALS				

FHWA

Part II SPR Funded Research Program

ADMINISTRATIVE LINE ITEMS AND RESEARCH SUPPORT STUDIES

LTRC Annual Research Program Fiscal Year 2010-2011

Title:	Progr	am N	lanagemer	nt			Project S	tatus:	Ongoing		
Fundin	ig Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA		
				700.00.4700						7/4/00/40	
State P	roject N		er:	/36-99-1/03		Project Start	Date:			7/1/2010	
Resear			umber:	11-1PM		Completion	Date Date	(original)		6/30/2011	
Princip		tioote		Mr. Harold 'Skip' Br		Completion	Date	(revised)			
Fincip	ai irives	uyau	Л.			STATUS					
		т	otal Rudgot	BUDG		STATUS	Ectimat	od 2010-201	1 Budgo		
Total C	oot	(orig		\$765.000		Total	LSUIIIat	eu 2010-201	Buuge	¢765.000	
Total C	ost	(orig		\$765,000		Total				\$765,000	
Ect Ex	nondod	to D	ato			Salarias				\$765.000	
LSI. LA	penueu		00 - 2010 B	idaot		Equipment	(oxpop)			\$705,000	
		-1 20	09 - 2010 Bl	Juget		Equipment	(expend				
FTFUN	us	(ong									
Ect EV	Est. FY Expenditure Other										
	St. FY Expenditure Other										
To cove prograr includir	PURPOSE AND SCOPE										
				FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENTS	;			
• • •	 FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS Managed the LTRC research program including administrative duties, financial responsibilities, and personnel supervision; Conducted LTRC 2009 Research Project Identification Committee (RPIC) activities; Participated in Transportation Research Board Activities; and Participated on region and national RAC task groups. 										
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES										
• • •	 Implement LTRC 2009 RPIC results; Conduct LTRC 2011 RPIC process; Continue to manage the SPR Research Program; Staff participation in External Peer Exchanges; Continued support for Transportation Research Board Activities; and Continued support for region and national RAC task group activities. 										

LTRC Annual Research Program Fiscal Year 2010-2011

Title:	Equip	men	t Managen	nent			Project S	tatus:	Ongoing		
Fundin	ig Sour	ce:	SPR: TT-	Fed/TT-Reg	E	Budget	Category:	FHWA			
State P	roiect N	lumb	er:	736-99-1707	Project Star	t Date:			7/1/2010		
Resear	ch Proj	ect N	umber:	11-1EQM	Completion	Date	(original)		6/30/2011		
Resear	ch Age	ncy:		LTRC	Completion	Date	(revised)				
Princip	al Inves	tigato	or:	Mr. Mark Morvant				L			
				BUDGE	T STATUS						
		Т	otal Budge	t		Estima	ted 2010-201	1 Budget	:		
Total C	ost	(orig	inal)	\$300,000	Total				\$300,000		
		(revi	sed)								
Est. Ex	pended	to D	ate		Salaries				\$240,000		
	F	FY 20	09 - 2010 Bi	udget	Equipment	(expen	dable)				
FY Fun	lds	(orig	inal)		Equipment	(non-e	xpendable)		\$60,000		
	(revised) Travel										
Est. FY	Expen	diture	9		Other						
				PURPOSE	AND SCOPE						
To cove rolling e in stand be on a	Purpose AND Scope To cover costs incurred to provide support for the purchase, fabrication, evaluation, and maintenance of olling equipment, special equipment, and instrumentation for research projects. To provide for participation in standardized testing programs for laboratory certification (Co-Op, AMRL, CRRL). Special emphasis will be on automation of instrumentation systems used for data collection.										
				FISCAL YEAR 2009 - 2	010 ACCOMPLIS	HMENT	S				
• • • • • •	 Maintained LTRC research laboratory and field equipment; Calibration of Profiler, FWD, Dynaflect, and Friction Tester; Troubleshooting, testing and implementation of prototype laser profiler (LRI prototyping); Ran Sites in support of inquiries into rutting accuracy (scanning laser vs 5-point laser vs A-frame); Participated in AMRL laboratory proficiency testing; Participated in State Cooperative Testing Program (Co-Op); Maintained AMRL accreditation of asphalt laboratory; Maintained AMRL accreditation of concrete laboratory; CCRL Certification submittal and Technician Certification through ACI; Calibration of Mobile Imaging System; and Refurbish LWT. 										

Fiscal Year 2010-2011

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Maintain AMRL laboratory accreditations;
- Perform routine and unscheduled maintenance of LTRC research laboratory and field equipment;
- Developed plans and prepared specifications for new lab equipment need to maintain state-of-the art laboratory facilities;
- Participate in State Coop and CRRL testing programs;
- Safety Training and Reporting Duties;
- Calibration of Profiler, FWD, Dynaflect, and Friction Tester;
- Calibration of Mobile Imaging System;
- Equipment controller and data acquisition for Cox and Sons;
- Calibration of Profiler, FWD, Dynaflect, and Friction Tester Development of calibration and troubleshooting procedures for the LRI prototype; and
- Perform routine and unscheduled maintenance of LTRC research laboratory and field equipment.

LTRC Annual Research Program Fiscal Year 2010-2011

Title:	Resea	arch	Laboratory	/ and Field Test Sup		Project S	tatus:	Ongoing			
Fundir	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA		
State P	Project N	lumb	er:	736-99-1704		Project Start	Date:			7/1/2010	
Resear	rch Proj	ect N	umber:	11-1LFT		Completion	Date	(original)		6/30/2011	
Resear	rch Age	ncy:		LTRC		Completion	Date	(revised)			
Princip	al Inves	tigato	or:	Mr. Mark Morvant							
				Budgi	et S	STATUS					
		Т	otal Budge	t			Estimat	ed 2010-201	1 Budge	t	
Total C	ost	(orig	inal)	\$150,000		Total				\$150,000	
		(revi	sed)						•		
Est. Ex	pended	l to D	ate			Salaries				\$150,000	
	I	FY 20	09 - 2010 Bi	udget		Equipment	(expen	dable)			
FY Fur	nds	(orig	inal)			Equipment	(non-e	xpendable)			
(revised) Travel											
Est. FY	Est. FY Expenditure Other										
	PURPOSE AND SCOPE										
The bro studies materia modifie	The broad objectives of this study are to provide support to the department's request for investigative studies on new materials and/or techniques in the laboratory and/or field. The effort will be confined to materials and/or techniques considered new or unique and those of the generic type such as admixtures, modified asphalts, etc.										
• • • •	 FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS Aided Districts in the collection and analysis of data derived from FWD, High-Speed Profiler, Dynatest and Skid; Assessment of LA 1 By-Pass; Development of Best Practices guidelines for Polyurethane Usage; Shrinkage crack mitigation for soil cement base courses; Forensics, BTR runway 31, US 61, LA 18, LA 48 and LA 27; Collaboration with Transtek Company in evaluating continuous roughness algorithm used in high-speed pavement profiling; Comparative evaluation of the RWD versus FWD in Districts 05 and 58; and Comparative evaluation of the prototype Grip-Tester versus conventional Skid-Tester. 										
				FISCAL YEAR 2010-20	011		CTIVITIE	S			
•	Co an an FH TF	ontinu alysi nount IWA RB or	ue to respor s on DOTD t of time and Continuous ASCE.	nd to request for techr projects not related to d Laboratory effort; ar s friction testing correl	nica o a nd atio	l assistance f formal resear n to Lock Wh	or labo ch proj eel Te	pratory, field ject that requ ster report a	work, ar uire a su nd pape	nd forensic bstantial r for either	

LTRC Annual Research Program Fiscal Year 2010-2011

Title:	New P	rodı	ucts Evalu	ation			Project S	tatus:	Ongoing		
Fundir	ng Sourc	e:	SPR: TT-	Fed/TT-Reg	E	Budget	Category:	FHWA			
State F	Project Nu	umb	er:	736-99-1705	Project Start	t Date:			7/1/2010		
Resear	rch Proje	ct N	umber:	11-1NPE	Completion	Date	(original)		6/30/2011		
Resear	rch Agen	cy:		LTRC	Completion	Date	(revised)				
Princip	al Investi	igato	or:	Mr. Mark Morvant	•						
				BUDGET	r S tatus						
		Т	otal Budge	t		Estima	ted 2010-201	1 Budget	t		
Total C	Cost	(orig	inal)	\$60,000	Total				\$60,000		
		(revi	sed)								
Est. Ex	pended t	to D	ate		Salaries				\$60,000		
	F	Y 20	09 - 2010 B	udget	Equipment	(exper	idable)				
FY Fur	nds	(orig	inal)		Equipment (non-expendable)						
	(revised) Travel										
Est. FY	' Expend	iture	9		Other						
				PURPOSE	AND SCOPE						
To sup evaluat	port eval tion of ne	uatio	on of produ roducts or	icts for LADOTD New F technologies not assoc	Products Evalua iated with a res	ation C earch	ommittee. To project.	o provide	e general		
				FISCAL YEAR 2009 - 2	010 ACCOMPLIS	HMENT	s				
The ex	 The examples for LADOTD New Products Evaluation include: Material Transfer Vehicle review; Trackless Tack Coat Specifications; Stargrid pavement reinforcing fabric construction and performance review; Implementation of new Tack Coat Specifications for roadway reinforcing mesh; 										
• • • • • •	 Evaluation of Polycon Overlay System; Evaluation of TyreGrip Overlay System; Evaluation of joint bond; Evaluation of skidabrador and fog seal system for preservation; TerraCem, Lafarge, Phase 1, 2 & 3; Lime Kiln Dust, Omni Materials, Phase 1 & 2; Nen Dry Powder, Georgia Pacific, Phase 1 & 2; Super Slurry, TXI, Phase 1 & 2 construction and performance review; and TerraFusion, EcoRoads, Phase 1 & 2. 										

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

Continue managing the necessary evaluations of new products submitted to LTRC by the LADOTD new product evaluation committees such as:

- Evaluate environmentally friendly prime coats; Evaluation of joint bond; and •
- •
- Evaluation of skidabrador and fog seal system for preservation. •

LTRC Annual Research Program Fiscal Year 2010-2011

Title:	Techr	nical	Assistance	9				Project St	tatus:	Ongoing
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
State P	roject N	lumb	er:	736-99-1706		Project Start	Date:			7/1/2010
Resear	ch Proj	ect N	umber:	11-1TA		Completion	Date	(original)		6/30/2011
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Inves	tigato	or:	Mr. Mark Morvant						
				Budg	ЕТ 🕄	Status				
		Т	otal Budget	t			I Budget	:		
Total C	I Cost (original) \$385,					Total		\$385,000		
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$380,000
	F	TY 20	09 - 2010 Bi	udget		Equipment	(expend	lable)		
FY Fun	nds	(orig	inal)			Equipment	(non-ex	pendable)		
		(revi	sed)			Travel				\$5,000
Est. FY	'Expen	diture	;			Other				
Purpo						ND SCOPE				
To cove departr provide by LTR	To cover costs incurred in providing laboratory, field testing and forensic analysis in direct response to departmental inquiries for assistance on DOTD projects which are not related to formal research studies. To provide assistance to state university requests for laboratory or field testing on research projects not funded by LTRC.									

LTRC Annual Research Program

Fiscal Year 2010-2011

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

Responded to technical assistance requests from DOTD. Examples include:

- Permeability Testing of Concrete for bridge structures: LA 1, Twin Span and Rigolets Bridges;
- Concrete mix design verification testing for Audubon Bridge;
- Forensic assistance for asphalt pavement on Hwy 659;
- Providing assistance for miscellaneous questions of mix design;
- Pre-design structural information, FWD, Dynaflect, etc. for district design units;
- Pre design DCP analysis;
- Help LADOTD instrument a pile at LA1 for lateral load test;
- Evaluation of aggregate materials for use as base layer in pavements;
- Rapid Chloride Permeability testing for HPC (Lab);
- Responded to various questions concerning concrete paving;
- Failure investigation on LA 3144 for District;
- I-49 analysis in response to a request from legislator to compare PCC and asphalt performance;
- Skid testing on LA20 in Lafourche Parish for District;
- Baton Rouge airport evaluation;
- I-210 polyurethane foam specification revisions;
- Submergence of Roads with Corp of Engineers;
- La 9 Pavement failures; and
- US 165 pavement evaluation.

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Respond to requests for laboratory, field work, and forensic analysis on DOTD projects not related to a formal research project. Field testing (Skid, FWD, Profiler, etc ...) in support of District requests;
- Respond to requests for laboratory, field work, and analysis for university requests not related to an LTRC formal research project; and
- Provide general assistance to other public entities not related to research.

LTRC Annual Research Program Fiscal Year 2010-2011

Title:	Technie	cal	Research	Surveillance			Project S	tatus:	Ongoing		
Fundin	g Sourc	e:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA		
State P	roject Nu	ımb	er:	736-99-1709		Project Start	Date:			7/1/2010	
Resear	ch Projec	ct N	umber:	11-1TRS		Completion	Date	(original)		6/30/2011	
Resear	ch Ageno	cy:		LTRC		Completion	Date	(revised)			
Principa	al Investi	gato	or:	Mr. Mark Morvant				1			
				Budg	ЕТ 🕄	Status					
		Т	otal Budge	t			Estima	ted 2010-201	1 Budge	t	
Total C	ost	(orig	inal)	\$400,000		Total				\$400,000	
	((revi	sed)						1		
Est. Ex	pended to	o D	ate			Salaries				\$400,000	
	FY	′ 20	09 - 2010 Bi	udget		Equipment	(expen	dable)			
FY Fun	ds	(orig	inal)			Equipment	(non-e	xpendable)			
	(revised) Travel										
Est. FY	Expendi	ture)			Other					
				PURPOS	E A	ND SCOPE			-		
To cove researc Review funded	PURPOSE AND SCOPE o cover costs incurred in providing Administration of LTRC Research Project Contracts, preparation of esearch proposals, participation on LTRC Project Review Committees and participation on LTRC Report eview Committees. To provide laboratory and field assistance to LTRC contract researchers on projects inded by LTRC.										
				FISCAL YEAR 2009 -	20′	10 ACCOMPLIS	HMENT	S			
• •	 Managed the research projects for over 7 external University contracts; Prepared RFP's for initiation of new projects; and Provided review for draft reports on completed research projects. 										
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES										
•	Prov Prep hou: Part Part	vide bare se p icip icip	e managem e new resea orojects as ation on LT ation on LT	ent of LTRC research arch proposals for init approved in this annu RC Project Review C RC Report Review C	iati iati ial Com	oject contracts on of new proj work program nmittees; and mittees.	s; ects in docum	accordance nent;	with pro	oposed in-	

LTRC Annual Research Program Fiscal Year 2010-2011

Title: Tech	nology Tra	ansfei	r and Research Imp	lem	entation		Project St	tatus:	Ongoing
Funding Sou	rce: SPF	א: דד-	Fed/TT-Reg		E	Budget	Category:	FHWA	
State Project	Number:		736-99-1708		Project Start	Date:			7/1/2010
Research Proj	ect Numbe	er:	11-1TTRI		Completion	Date	(original)		6/30/2011
Research Age	ncy:		LTRC		Completion	Date	(revised)		
Principal Inves	stigator:		Mr. Mark Morvant						
			Buda	SET \$	Status				
	Total I	Budge	t			Estimat	ed 2010-2011	I Budget	t
Total Cost	(original)		\$285,000		Total \$285				
	(revised)								
Est. Expended	to Date				Salaries			\$270,000	
	FY 2009 - 2	010 B	udget		Equipment (expendable)				
FY Funds	(original)				Equipment	(non-ex	pendable)		
	(revised)				Travel			\$15,000	
Est. FY Expen	diture				Other				
			PURPOS	SE AI	ND SCOPE				
To cover costs participation ir conferences, a	To cover costs incurred in providing research implementation activities, technology transfer seminars and participation in external research/training activities (NCHRP/FHWA panels, TRB meetings, technical conferences, and research review committees).								
LTRC Annual Research Program

Fiscal Year 2010-2011

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

- TRB, Transportation Research Board Annual Meeting, Washington, DC; attendance and committee participation, three committee chairs, and thirteen committee members, several presentations given. Participate on NCHRP research advisory panels (two);
- Host CRCP workshop;
- Developed Implementation items (Costs benefits analysis for DCP, TR procedure, EDSM, Training Video, and Computer program) for DCP;
- Developed Research Implementation and Assessment Reports;
- Began Implementation plan for new overlay design procedure;
- Attended and presented at American Concrete Institute Spring Convention;
- Intelligent Compactor Showcase *LTRC Project Review Committee Meetings;
- Southeast new MEPDG User Group Meeting;
- Development and hosted of Technology Transfer Seminars: Concrete Seminar and 2011 TRB paper presentation'
- Presented at Louisiana Transportation Conference;
- Development of Specifications for Polyurethane Usage;
- Delivered Warm Mix Showcase;
- Prepared video to promote CRM modified asphalt and I-10 Twin Span health monitoring system;
- Presentations at several regional and National venues, TRB, SEAUPG, AMAP, LAPA, NCUPG, World of Asphalt, AAPT; and
- Attended two National Concrete Consortium (NCC) Meetings.

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Continue Research Implementation Activities;
- Began development of program for 2011 Transportation Conference;
- Development and hosting of Technology Transfer Seminars;
- Participation in external research/training activities: NCHRP/FHWA panels, TRB meetings, technical conferences); and
- Continue to seek venues for our presentations that effectively communicate LTRC's vision.

Title:	Conti	ngen	icies					Project St	tatus:	Ongoing
Fundir	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
State F	Project N	lumb	er:	736-99-1710		Project Start	t Date:			7/1/2010
Resear	rch Proje	ect N	lumber:	11-1CON		Completion	Date	(original)		6/30/2011
Resear	rch Agei	ncy:		LTRC		Completion	Date	(revised)		
Princip	al Inves	tigato	or:	Mr. Mark Morvant		I				
				Budg	ЕТ \$	Status				
		Т	otal Budge	t			Estimat	ed 2010-201	I Budget	t
Total C	Cost	(orig	inal)	\$100,000		Total				\$100,000
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries	-			\$100,000
	F	FY 20	09 - 2010 Bi	udget		Equipment	(expen	dable)		
FY Fur	FY Funds (original) Equipment (non-expendable)									
		(revi	sed)			Travel				
Est. FY	/ Expend	diture	Э			Other				
				PURPOS	E AI	ND SCOPE				
The pu project work pi	rpose is s and fo rogram.	s to p or initi	rovide cont iation of nev	ingency funding for u w research studies no	nfoi ot p	reseen budge rogrammed as	t increa s individ	ases on on-g dual line iten	oing res ns in the	earch current
				FISCAL YEAR 2009 -	201	O ACCOMPLIS	HMENTS	3		
Provide	Provided funding adjustments to work program as needed.									
				FISCAL YEAR 2010-20	011	PROPOSED A	CTIVITIE	S		
Provide	e fundin	g adj	ustments to	o work program as ne	ede	ed.				

FHWA

Part II SPR Funded Research Program

CONTINUING RESEARCH

Title:	Field and P	Dem erfoi	onstration mance	of New Bridge App	roa	ch Slab Desi	gns	Project St	tatus:	Ongoing
Fundin	ig Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
				1 1		T				
State P	roject N	lumb	er:	736-99-1556		Project Star	t Date:			8/1/2008
Resear	ch Proj	ect N	umber:	05-1GT		Completion	Date	(original)		8/1/2011
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Inves	tigate	or:	Dr. Murad Abu-Far	sak	h				
				Budg	ET \$	Status				
		٦	otal Budge	t			Estimat	ed 2010-2011	1 Budget	
Total C	ost	(orig	inal)	\$393,176		Total				\$72,000
		(revi	sed)							
Est. Ex	pended	to D	ate	\$139,500		Salaries				\$42,000
	F	TY 20	09 - 2010 Bi	udget		Equipment	(expend	dable)		\$30,000
FY Fun	lds	(orig	inal)	\$77,500		Equipment	(non-ex	pendable)		
		(revi	sed)			Travel				
Est. FY	Expen	diture	9	\$77,500		Other				
				PURPOS	E AI	ND SCOPE			-	
This pro Approa Emban collaps emban project, approa recomm tested a the two	oject im ch Slab kment S ive beha kment, t lab and ch slabs nendatio are base finishe	plem " (02 Settle avior the se d field s will on ca ed or d res	ents the fin -2GT) and of embank ettlement o d tests will b be built and n be made n new desig earch proje	dings from two LTRC "Determination of Inte 4GT). It will also stud ment soils and its rela f native ground as en be conducted for soil d their performance w to DOTD on the burn on from the Bridge Detects.	C Pr erac y su atio nbai def vill b np is esigi	ojects: "The F ction between uch major cau n with constru- nkment found ormation. Fiel be monitored ssue at bridge n Section in c	Rideabili Bridge Ises of e Inction m lation ar Id-testin and ana e ends. omply w	ty of a Defle Concrete Ap extra settlem ethods, the nd its control g sections o alyzed so tha These bridg with the reco	ected Bri oproach nent fron erosion I, and et of bridge at final ge appro mmenda	dge Slab and n the control of c. In this concrete ach slabs ations from
				FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS	5		
•	Condu reinfor Desigr	cted ceme	literature re ent, instrum nd develop	eview on relevant res entation, and monitor ed the instrumentatic	earo ring	ch projects or ; esting plan for	n field te [.] Bayou	sting, geogr Courtableau	id soil u Bridge	approach

- slab; Installed the geogrid reinforcement layers and other instrumentations beneath the approach slab at
- Bayou Courtableau Bridge; Install sister bar strain gauges within the approach slab structure; and
- •
- Monitored the performance of approach slab at Bayou Courtableau Bridge and collect data for all • instrumentations during truck load test.

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Analyze the collected data from approach slab at Bayou Courtableau Bridge during truck load test; Look for new bridge approach slab embankment sites for instrumentation and monitoring; and ٠
- •
- Develop instrumentation and testing plan for the new identified approach slab embankment. •

Title:	Suppo Span B	ort St Bridg	tudy to Str ge Over La	ucture Health Moni ke Pontchartrain	tori	ng of the I-10	Twin	Project S	tatus:	Ongoing
Fundin	g Sourc	e:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	L
State P	roject N	umb	er:	/36-99-150/		Project Start	Date:	/ · · · · ·		11/1/2007
Resear	ch Proje	ect N	umber:	08-3G1		Completion	Date	(original)		11/1/2010
Resear	ch Agen	icy:		LIRC Dr. Murad Abu Fai		Completion	Date	(revised)		7/31/2012
Principa	ai invest	igaid	л.	DI. MUIAU ADU-FAI	Sak	STATUC				
		т	otal Budget	H BUDG	jE I 4	STATUS	Estimat	ed 2010-201	1 Budget	•
Total C	ost	(orig	inal)	\$88 776		Total	Lotinat		Buuge	\$95,000
Total O	031	(revi	sed)	\$232 951		Total				ψ33,000
Est. Ex	pended	to Da	ate	\$153.600		Salaries				\$95.000
	F	Y 20	09 - 2010 Bi	udget		Equipment	(expend	dable)		+;
FY Fun	ds	(orig	inal)	\$81,000		Equipment	(non-ex	(pendable)		
		(revi	sed)			Travel				
Est. FY	Expend	liture	;	\$81,000		Other				
				Purpos	SE A	ND SCOPE			<u>.</u>	
The obj cost rec objectiv Span b monitor instrum Static la monitor applica lateral l conditio The lon caused	ective o quired to re of the ridge thr ing purp ent pile- ateral loa ing syst bility of t oading; ons. g-term r by sele	f this o inst prim ougl ooses cap ad te em i he F and moni cted	s proposal i rument the hary resear- n instruments. This inclu- with acceler st will be print the Eastb B-MultiPier to develop toring will be events (wir	s to provide additional I-10 Twin Span Brid ch project is to estab itation of the M19 Ea udes instrument sele erometers and tilt me erformed by LADOTI bound pier M19. The r analysis for predicti (or back-calculated) be used to evaluate the nds, waves, and vess	al fu ge f lish stbo ctecs ters D in sho ng t the	a structure he ound pier for u a structure he ound pier for u piles with inc , and instrume mediately after t-term monito he performanc p-y multipliers behavior of pile collision).	earch pr and lon ealth mo use in th linomet ent colu er comp oring wil ce of ba s for bat e group	oject No. 07 g-term moni ponitoring system the short-term ters and strate mn with wat bleting the in l be used to attered pile gittered pile g	7-1ST to itoring. T stem of t n and lon ain gaug- er press stallatio validate group sy roups in	cover the The he I-10 Twin ng-term es, sure cells. n of the e the stem under similar soil amic loads
				FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENTS	5		
• • •	Conductor load test Complet Installe Started Started similar	cted sts o eted d an ana bac soil o	literature re f single and the supersi d calibrated lyzing the l k-calculatin conditions.	eview on pile instrum d group of piles; tructure instrumentat d the OSMOS WIM s ateral load test data; ng the p-y multipliers	enta ion yste and for	ation, substruc (columns, cap em; J FB-MultiPier a	ture mo bent, c analysis	onitoring sys deck); of battered	stems, a pile gro	nd lateral ups in

Fiscal Year 2010-2011

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Use the FB-multi pier program to analyze the lateral load test at M19 Eastbound pier of Twin Span bridge;
- Compare between the measured and predicted values from FB-MultiPler Analysis;
- Continue analyzing the measured lateral load test data;
- Continue working on back-calculating the p-y multipliers for FB-MultiPier analysis of battered pile groups in similar soil conditions;
- Coordinate with the subcontractor to setup the long-term monitoring system; and
- Prepare a draft report.

Title:	LTRC S Engine	Sup erin	port for Ge	eotechnical Researc h Laboratory (GER	⊧h a L)	t the Geotecl	hnical	Project S	tatus:	Ongoing
Funding	g Sourc	e:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
									1	
State Pr	oject Nu	umb	er:	736-99-1101		Project Start	Date:			7/1/2010
Researc	ch Proje	ct N	umber:	10-1GERL		Completion	Date	(original)		6/30/2011
Researc	ch Agen	cy:		LTRC		Completion	Date	(revised)		
Principa	l Investi	gato	or:	Dr. Murad Abu-Far	sak	h				
				Budg	ET \$	STATUS				
		Т	otal Budget	t			Estimat	ed 2010-201 ⁻	1 Budget	
Total Co	ost	(origi	inal)	\$170,000		Total				\$168,000
		(revi	sed)							
Est. Exp	ended t	to Da	ate			Salaries				\$78,000
	F۲	Y 20	09 - 2010 Bu	udget		Equipment	(expend	dable)		\$50,000
FY Fund	ds	(origi	inal)	\$160,900		Equipment	(non-ex	pendable)		\$20,000
		(revi	sed)			Travel				\$15,000
Est. FY	t. FY Expenditure \$160,900 Other \$5,000									
				PURPOS	E A	ND SCOPE				
This pro	ject is a Perform testing, Advanc Provide equipme	i cor sup tech e the dev ent f	ntinuation o oport studie nnical assis e state-of-tl velopment, for advanci	f the work of the GEF es to meet the benefic tance and research; he art in geotechnica support and training ng the performance o	RL. ciar l an of n of th	The objective y requirements d geosyntheti ew and innov e transportatio	es of the s for ge c resea ative te on syste	e research a otechnical a rch; and chniques, so em.	re to: and geos oftware a	ynthetic and
				FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS	5		
• • •	 Provided geotechnical testing support and technical assistance for DOTD; Published several technical papers/reports on LTRC research results; Develop potential ideas and problem statements for future LTRC research project; Developed a research proposal on Field Instrumentation and Testing of Pile Setup; and Maintained and upgraded software's related to CPT application. 									
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S		
• • • •	Provide Provide Develop Publish Maintain	e geo sup res rese n CF	otechnical a oport and trasearch prop earch findin PT software	and geosynthetic testi aining for implementa posals and problem s ngs on technical pape s's.	ng atior tate ers a	support and tend to the search is the search	echnica results; ire activ nd	l assistance ⁄ities;	for DOT	D;

Title:	Evaluation of Current DOTD Flexible Pavement Structures Project Status: Ongoing Using PMS Data and New M-E Pavement Design Guide Project Status: Ongoing												
Fundin	g Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA				
State P	roject N	lumb	er:	736-99-1649		Project Start	Date:			7/1/2009			
Resear	ch Proj	ect N	umber:	07-6P		Completion	Date	(original)		6/30/2011			
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)					
Principa	al Inves	tigato	or:	Dr. Zhong Wu									
				Budg	ET \$	Status							
		Т	otal Budget	t		I	Estimat	ed 2010-201	1 Budget	:			
Total C	ost	(orig	inal)	\$220,192		Total				\$130,400			
		(revi	sed)										
Est. Ex	pended	to D	ate	\$89,750		Salaries				\$129,400			
	FY 2009 - 2010 Budget Equipment (expendable) Y Funds (original) \$122,624 Equipment (non-expendable)												
FY Fun	Y Funds (original) \$122,624 (revised) Equipment (non-expendable) Travel \$1,000												
	(revised) Travel \$1,000												
Est. FY	Est. FY Expenditure \$89,750 Other												
				PURPOS	E AI	ND SCOPE			÷				
Image: constraint of the second se													
	FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS												
• • •	Literat Total 5 based streng Detaile to colle selecte Prelim perforr	ure S 53 pa on ths; ed de ect fro ed pro inary manc	earch and vement stru the classifi sign/constr om available ojects has t analysis wa e for severa	Fact-gathering on M- uctures have been pro- cation of three traffic uction material inform e DOTD database. A been collected and st as performed, in whice al selected projects a	E P leve nation t the ore ch the nd t	PDG and PMS elected for this els, three clim on as well as l e current stag d in a table for he M-E PDG p the results wa	; ate regi PMS pe e, inforr rmat; ar program s comp	The project ions, and dif erformance of mation data nd n was used t ared to the	selectic ferent si data wer for half to compu	on was ub grade e planned of those ute the ta.			

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- •
- Develop Input Files for New M-E PDG; Collect Additional Input Data and Field Testing Data; Validate New M-E PDG with Recommendations; •
- •
- Perform Cost-Benefit Analyses; and Prepare Final Report. •
- •

Title:	e: Construction and Accelerated Pavement Testing of TTI Pavement Test Sections Project Status: Ongoing										
Fundin	g Sour	ce:	SPR: TT-	Fed/TT-Reg		В	Budget	Category:	FHWA		
						Ι			1		
State P	roject N	lumb	er:	736-99-1641		Project Start	Date:			10/1/2009	
Resear	ch Proj	ect N	umber:	09-7P		Completion	Date	(original)		10/1/2011	
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)			
Principa	al Inves	tigato	or:	Dr. Zhong Wu							
				Budgi	ЕТ	Status					
		Т	otal Budget	t			Estimat	ed 2010-201 ²	I Budget		
Total C	ost	(orig	inal)	\$98,850		Total				\$50,500	
		(revi	sed)								
Est. Ex	pended	to D	ate	\$48,373		Salaries				\$50,000	
	F	TY 20	09 - 2010 Bu	udget		Equipment	(expend	dable)			
FY Fun	ds	(orig	inal)	\$48,373		Equipment	(non-ex	(pendable)			
		(revi	sed)			Travel				\$500	
Est. FY	Expen	diture	9	\$48,373	\$48,373 Other						
				Purposi	e ai	ND SCOPE					
The pure 6132, " testing Specific construe Institute Louisia	rpose o Develop of this p cally, th ction pl e (TTI), na DOT	f this omen orojec e PIs an & provi D.	study is to t and Field ct include 8 will perforr specificatic ding techni	provide special paver Evaluation of the Nex test sections and tota n duties in project coo ons, conducting field a cal assistance as nee	mei at G al n ordi and	nt testing serv Generation of H umber of ALF nation and pro laboratory tes d and evaluati	ices in HMA M loading oject ma sts as ro ing resu	relation to T ix Design Pr g up to 2,000 anagement, equired by T ults for possi	xDOT P ocedure 0,000 pa develop exas Tr ble use	roject 0- es". The sses. bing ALF ansportation by	
				FISCAL YEAR 2009 -	201	O ACCOMPLIS	HMENTS	;			
•	 Completed the construction of three 215-ft long by 13-ft wide test lanes with 8 test sections as shown in the construction specification; Completed Loading on sections 1, 2, 3, 4; Partially Completed Loading on sections 7 & 8; and Collected and provided all performance data as required by TTI. 										
				FISCAL YEAR 2010-20)11	PROPOSED A	CTIVITIE	S			
•	Contin Loadir	ue te Ig on	esting on se section 5 8	ctions 7 & 8; and 6 (during Fall 2010).							

Title: Chara	acteri rman	zation of L ce Tests a	ouisiana Asphalt Mi Ind MEPDG	ixtı	ures Using Si	imple	Project St	tatus:	Ongoing
Funding Sou	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
State Project	lumb	er:	736-99-1512		Project Star	t Date:			1/1/2008
Research Proj	ect N	umber:	04-6B		Completion	Date	(original)		12/31/2010
Research Age	ncy:		LTRC		Completion	Date	(revised)		
Principal Inves	tigato	or:	Dr. Louay Mohamm	nad					
			Budgi	ЕТ	Status				
	Т	otal Budge	t			Estimat	ed 2010-2011	I Budget	
Total Cost	(orig	inal)	\$398,672		Total				\$92,426
	(revi	sed)							
Est. Expended	l to D	ate	\$306,246		Salaries				\$90,573
	FY 20	09 - 2010 Bi	udget		Equipment	(expend	dable)		
FY Funds	(orig	inal)	\$84,246		Equipment	(non-ex	pendable)		
	(revi	sed)			Travel				\$1,853
Est. FY Expen	diture	9	\$84,246		Other				
			PURPOSE	E AI	ND SCOPE				
The primary objective of this research is to characterize common Louisiana hot mix asphalt mixtures as defined by the SPTs protocols for QA and to create a catalog for dynamic modulus values inputs in the MEPDG software. The secondary objective is to evaluate the sensitivity of rut prediction models from MEPDG software using the dynamic modulus E* test results. In addition, the Witczak and Hirch models wil be evaluated, for the prediction of dynamic modulus E* values for the asphalt mixtures. Field performance parameters will also be measures and compared to the ones predicted from the MEPDG software.									ures as s in the from n models will performance re.

Fiscal Year 2010-2011

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

- Five field projects were selected. Those projects were selected in consultation with LADOTD researchers and design and construction personnel;
- A complete record of the job mix formula (JMF) development was secured. In addition, sufficient loose mixtures were collected from the plant production facility and transported to the laboratory for testing;
- Samples were fabricated for materials characterization of Task 5 "Conducting Laboratory Tests." Samples were compacted to their designed gyration and density. The Simple performance test samples were fabricated by coring a 100mm diameter by 150mm tall cylindrical specimens from the center of Superpave gyratory compactor compacted samples of 150 mm in diameter and 170 mm in height. The target air voids of those samples were 7.0±0.5. The Hamburg wheel tracking test slabs, 320 mm long, 260 mm wide, and 80 mm thick, were produced using a kneading compactor. The target air voids for all test samples were also 7.0 ± 0.5. Triplicate samples were prepared for each test, except the Hamburg wheel tracking test where two slabs were tested;
- The dynamic modulus in axial mode, flow time, flow number, and Hamburg wheel tracking test were performed on the mixtures from the three field projects of Task 3;
- Initial field performances of the projects selected were measured using the DYNATEST 5051 Road Surface Profiler. The evaluation included rutting, cracking, and IRI; and
- Preliminary statistical and analytical data of the results of the laboratory and in-situ tests were
 performed and presented to the PRC.

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Continue selection of field project as per test factorial;
- Continue fabrication of samples as per test factorial;
- Continue laboratory materials characterization of field performance evaluation; and
- Conduct Preliminary data analysis; and
- Prepare Draft Final Report.

Title:	Evalua Pavem	ation nents	of Warm s	Mix Asphalt Technol	og	y in Flexible		Project St	tatus:	Ongoing	
Fundin	g Sourc	e:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA		
State P	roject N	umb	er:	736-99-1624		Project Start	Date:			3/15/2009	
Resear	ch Proje	ect N	umber:	07-1B		Completion	Date	(original)		3/15/2011	
Resear	ch Agen	icy:		LTRC		Completion	Date	(revised)			
Principa	al Invest	igato	or:	Mr. Bill King							
				Budge	ET \$	STATUS					
		Т	otal Budge	t			Estimat	ed 2010-201 ²	1 Budget	:	
Total C	ost	(orig	inal)	\$325,420		Total				\$155,000	
		(revi	sed)								
Est. Ex	pended	to D	ate	\$221,000		Salaries	I			\$154,000	
	F	Y 20	09 - 2010 B	udget		Equipment	(expend	dable)			
FY Fun	ds	(orig	inal)	\$191,000		Equipment	(non-ex	pendable)			
		(revi	sed)		Travel \$1,000						
Est. FY	Expend	liture	e	\$191,000		Other					
				PURPOSE	E AI	ND SCOPE			-		
The ob compace without paving conven propert evaluat differen will be	jective o ction ten compro tempera tional m ies and ies and ied using it levels aimed at	f this npera iture ix de engi g sta of ac t cha	s research i atures of as ng the perfors would ha esigns to ex neering (rh ndard analy dditives will <u>tracterizing</u>	s to evaluate existing sphalt mixtures and ult ormance and durability ve beneficial environm tisting Warm-Mix techr eological) properties o ytical method and Sup be characterized by a the stability and durat	teo tim y o ner nol of ti per a si	chnologies that ately develop of the resulting ntal and econo logies will be of he modified as pave binder te uite of fundam ty of the aspha	at allow an inno mixture omic eff conduct sphalt b ests. As iental e alt mixtu	the reduction ovative appreses. Reduced ects. A complete on Field binder in this sphalt mixturingineering to ures.	on of mix oach to d produc parison mixtures study w res that ests. Th	ing and achieve that ction and of s. Chemical rill be contain nose tests	
				FISCAL YEAR 2009 - 2	201	10 ACCOMPLIS	HMENTS	;			
• • • •	 Development of special provisions to use on specific projects using WMA technologies; Conducted complete test factorial on three total projects; Three additional projects completed under district controls; A draft permissive special provisions was developed and sent for comments and direction; Conducted fundamental materials characterization on the three projects and evaluate; Construction of field projects; and Permissive WMA specifications approved and ready for inclusion into future construction projects. 										
				FISCAL YEAR 2010-20	11	PROPOSED A	CTIVITIE	s			
•	Continu Schedu the stat Conduc three c	ue da ule a te; au ct fur onsti	ata analysis nd construc nd ndamental ructed proje	s and evaluation; ct at least three additic materials characteriza ects.	ona tio	al field projects n tests based	s, prefe on the	rably in the s	southerr est facto	region of brials for the	

Title: De	velopm	ent of New	Surface Friction G	uid	elines for LA	DOTD	Project S	tatus:	Ongoing	
Funding Se	ource:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA		
State Proje	ct Num	per:	736-99-1652		Project Start	t Date:			7/1/2009	
Research F	roiect N	lumber:	09-2B		Completion	Date	(original)		6/30/2010	
Research A	gency:		LTRC		Completion	Date	(revised)		6/30/2011	
Principal In	/estigat	or:	Dr. Zhong Wu				<u> </u>			
			Budo	SET (STATUS					
	•	Total Budge	t			Estimat	ed 2010-201 ²	1 Budget		
Total Cost	(ori	ginal)	\$99,695		Total				\$87,695	
	(rev	ised)	\$144,695							
Est. Expend	led to D	Date	\$57,000		Salaries				\$86,695	
	FY 20	009 - 2010 B	udget		Equipment	(expend	dable)			
FY Funds	(ori	ginal)	\$95,000		Equipment	(non-ex	pendable)			
	(revised) \$57,000 Travel \$1,000									
Est. FY Exp	Est. FY Expenditure \$57,000 Other									
			PURPOS	SE A	ND SCOPE					
Existing des based on th that affect th parameters influence su Louisiana, a aggregate s The objecti use in Louis	sign gui ne polish ne safet NCHR urface fr a syster supply fo ve of th siana Do	delines for s n value, or E ty of the hig P 1-43 draf iction. Give n that utilize or our aspha is research OTD and to	selecting aggregates BPN, obtained using hway surfaces and N t report by Jim Hall of en the fact that only t es more information v alt surface mixtures. will be to develop Pa also validate NCHR	for the licro of AF wo he whe vhe P 1-	asphalt mixtur British Pendul p-texture, relat RA on this topi nigh friction ag n qualifying ag nent Surface I 43 findings us	res used um Tes ted the c exam ggregate ggregate Friction sing Lou	d in the surfa at. There are BPN being of ines many p e sources ar es may incre Manageme iisiana data.	ace cour e many p only one paramete re availa ease the nt Guide	rse are parameters of these ers that ble in sources of lines for	
			FISCAL YEAR 2009	• 20 [°]	10 ACCOMPLIS	HMENTS	;			
 Per Ana skio bet Sta 	 Performed further literature review on friction resistance of surface HMA mixtures; Analyzed field measured friction resistance data and developed preliminary relationship between skid number(SN)and mixture/aggregate properties using data from 100 plus projects and collected between 1984 and 2008; and Started to prepare laboratory mixtures used for the friction testing at NCAT. 									
			FISCAL YEAR 2010-2	2011	PROPOSED A	CTIVITIE	S			
Cor Per Initi Pre	 Conduct laboratory friction test at NCAT; Perform data analysis; Initiate Specification Changes as needed; and Prepare draft final report. 									

Funding Source: SPR: TT-Fed/TT-Reg Budget Category: FHWA State Project Number: 736-99-1029 Project Start Date: 7/1/200 Research Project Number: 10-1EMC Completion Date (original) 6/30/200 Research Agency: LTRC Completion Date (original) 6/30/200 Principal Investigator: Dr. Louay Mohammad Completion Date (original) 6/30/200 Total Budget Start S State 2010-2011 Budget Total Foreid State S	Title: Pave Engi	ment neerii	Materials ng Material	Research Using Sp	ecia Res	al Equipment search Facilit	at the y	Project S	tatus:	Ongoing
State Project Number: 736-99-1029 Project Start Date: 7/1/200 Research Agency: LTRC Completion Date foriginal) 6/30/20 Principal Investigator: Dr. Louay Mohammad Investigator: <	Funding Sou	rce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
Content of open region Project Number: 10-1EMC Completion Date 0/10/10/10/10/10/10/10/10/10/10/10/10/10	State Project	Numh	er.	736-99-1029		Project Start	Date:			7/1/2009
Research Agency: LTRC Completion Date (revised) Principal Investigator: Dr. Louay Mohammad Buoget Status Total Budget Total Cost (original) \$2,741,941	Research Pro	iect N	lumber:	10-1FMC			Date	(original)		6/30/2012
Principal Investigator: Dr. Louay Mohammad Bubdet Status Total Budget Total Cost (original) \$2,741,941 [ctrophysics] \$2,741,941 Total \$176,0' Est. Expended to Date \$129,863 Salaries \$160,0' FY Funds (original) \$129,863 Equipment (expendable) \$10,0' Funds (original) \$129,863 Cheve \$160,0' Funds (original) \$129,863 Cheve \$160,0' Funds (original) \$129,863 Cheve \$160,0' Fury Expenditure \$129,863 Cheve \$160,0' PurPose AND Scope The Engineering Materials Characterization and Research Facility, EMCRF, provides a multi-disciplinary expertise and state-of-the-art research capabilities to assess the fundamental engineering properties of materials used in the LTRC's regional pavement testing facility, ALF. In addition, EMCRF provides specialized analytical expertise for on-going as well as newly initiated in-house research projects; develops new software to be used by DOTD engineers; provides experimental design and analysis; provide training for DOTD employees for the purpose of adopting newly developed technolog and implementation methodology into the daily	Research Age	encv:		LTRC		Completion	Date	(revised)		0,00,2012
Budget Status Estimated 2010-2011 Budget Total Cost (original) \$2,741,941 Total \$176,0 (revised) \$2,741,941 Salaries \$160,0 Est. Expended to Date \$129,863 Salaries \$160,0 FY 2009 - 2010 Budget Equipment (expendable) \$10,00 FY Funds (original) \$129,863 Other \$10,00 Est. FY Expenditure \$129,863 Other \$10,00 Est. FY Expenditure \$129,863 Other \$10,00 Travel \$8,000 \$10,00 \$10,00 Travel \$129,863 Other \$10,00 PurPose AND Scope Dther \$10,00 Travel \$10,00 \$10,00 \$10,00 research projects; develops new software to be used NCRF plays an important role in the evaluatio of the engineering properties of materials used in the LTRC's regional pavement testing facility, ALF. In addition, EMCRF plays an important role in the evaluatio of DOTD employees for the purpose of adopting newly developed technolog and implementation methodology into the daily operations of DOTD, and, assists in-house LTRC investigators to develop thorough research programs.	Principal Inve	stigat	or:	Dr. Louay Moham	mad			· · · ·		
Total Budget Estimated 2010-2011 Budget Total Cost (original) \$2,741,941 Est. Expended to Date \$129,863 FY 2009 - 2010 Budget Equipment (expendable) FY Funds (original) \$129,863 (revised) (revised) Travel \$6,00 Est. FY Expenditure \$129,863 Other \$6,00 Est. FY Expenditure \$129,863 Other \$6,00 Travel \$6,00 \$6,00 \$6,00 Est. FY Expenditure \$129,863 Other \$6,00 The Engineering Materials Characterization and Research Facility, EMCRF, provides a multi-disciplinary expertise and state-of-the-art research capabilities to assess the fundamental engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the LTRC's regional pavement testing facility, ALF. In addition, EMCRF provides specialized analytical expertise for on-going as well as newly initiated in-house research projects; develops new software to be used by DOTD engineers; provides experimental design and analysis; provide training for DOTD employees for the purpose of adopting newly developed technolog and implementation methodology into the d	•			Budo	SET \$	STATUS				
Total Cost (original) \$2,741,941 (revised) \$2,741,941 Est. Expended to Date \$129,863 FY 2009 - 2010 Budget Equipment FY Funds (original) \$129,863 Salaries Y 2009 - 2010 Budget Equipment FY Funds (original) (revised) Travel (revised) \$129,863 PurPose AND SCOPE The Engineering Materials Characterization and Research Facility, EMCRF, provides a multi-disciplinary expertise and state-of-the-art research capabilities to assess the fundamental engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluation of the engineering properties of materials used in the transportation of DD D puppoyees for the purpose of adopting newly developed technolog and implementation methodology into the daily operations of DOTD, and, assists in-house LTRC investigators to develop thorough research projects. Fiscal YEAR 2009 - 2010 Accomplication Committee and Louisiana DOTD Superpave Implementation Committee; and Participated in the Louisiana DOTD Asphaltic Concrete Specification Committee; and Participated in the Louisiana DOTD Asphaltic Concrete Specification Committee; and Participated in several technical assistance Projects.		1	Fotal Budget	t			Estimat	ed 2010-201	1 Budget	:
(revised) \$2,741,941 Est. Expended to Date \$129,863 FY 2009 - 2010 Budget Equipment FY Funds (original) \$129,863 (revised) \$129,863 (revised) \$129,863 (revised) \$129,863 (revised) \$129,863 Description \$129,863 Other \$6,00 Purpose AND Scope The Engineering Materials Characterization and Research Facility, EMCRF, provides a multi-disciplinary expertise and state-of-the-art research capabilities to assess the fundamental engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the transportation properties for on-going as well as newly initiated in-house research projects; develops new software to be used by DOTD engineers; provides experimental design and analysis; provide training for DOTD employees for the purpose of adopting newly developed technolog and implementation methodology into the daily operations of DOTD, and, assists in-house LTRC investigators to develop thorough research programs. Fiscal YEAR 2009 - 2010 Accomplishments Participated in the Louisiana DOTD Asphaltic Concrete Specification Committee; and Participated in several technical assistance Projects. <	Total Cost	(orig	jinal)	\$2,741,941		Total				\$176,014
Est. Expended to Date \$129,863 FY 2009 - 2010 Budget Equipment FY Funds (original) \$129,863 Equipment (revised) Travel Est. FY Expenditure \$129,863 Other Other PurPose AND Scope The Engineering Materials Characterization and Research Facility, EMCRF, provides a multi-disciplinary expertise and state-of-the-art research capabilities to assess the fundamental engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the LTRC's regional pavement testing facility, ALF. In addition, EMCRF provides specialized analytical expertise for on-going as well as newly initiated in-house research projects; develops new software to be used by DOTD engineers; provides experimental design and analysis; provide training for DOTD employees for the purpose of adopting newly developed technolog and implementation methodology into the daily operations of DOTD, and, assists in-house LTRC investigators to develop thorough research projects. Fiscal YEAR 2009 - 2010 AccompListments Fiscal YEAR 2010-2011 Proposed Activities Other Eiscal Year 2010-2011 Proposed Activities Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; <td colspan="2</td> <td></td> <td>(rev</td> <td>ised)</td> <td>\$2,741,941</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		(rev	ised)	\$2,741,941						
FY 2009 - 2010 Budget FY Funds (original) \$129,863 Icrevised) Icrevised) Icrevised) Est. FY Expenditure \$129,863 PurPose AND Scope PurPose AND Scope The Engineering Materials Characterization and Research Facility, EMCRF, provides a multi-disciplinary expertise and state-of-the-art research capabilities to assess the fundamental engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the LTRC's regional pavement testing facility, ALF. In addition, EMCRF provides specialized analytical expertise for on-going as well as newly initiated in-house research projects; develops new software to be used by DOTD engineers; provide experimental design and analysis; provide training for DOTD employees for the purpose of adopting newly developed technolog and implementation methodology into the daily operations of DOTD, and, assists in-house LTRC investigators to develop thorough research programs. Fiscal Year 2009 - 2010 Accomplishments • Participated in the Louisiana DOTD Asphaltic Concrete Specification Committee and Louisiana DOTD Superpave Implementation Committee; and • Participated in several technical assistance Projects. Fiscal Year 2010-2011 Proposed Activities • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue participation in t	Est. Expende	d to D	ate	\$129,863		Salaries				\$160,014
FY Funds (original) \$129,863 Equipment (non-expendable) \$10,00 Est. FY Expenditure \$129,863 Other \$6,00 PURPOSE AND SCOPE The Engineering Materials Characterization and Research Facility, EMCRF, provides a multi-disciplinary expertise and state-of-the-art research capabilities to assess the fundamental engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the transportation analysis; provides specialized analytical expertise for on-going as well as newly initiated in-house research projects; develops new software to be used by DOTD engineers; provides experimental design and analysis; provide training for DOTD employees for the purpose of adopting newly developed technolog and implementation methodology into the daily operations of DOTD, and, assists in-house LTRC investigators to develop thorough research projects. FISCAL YEAR 2009 - 2010 AccompLishments Participated in the Louisiana DOTD Asphaltic Concrete Specification Committee and Louisiana DOTD Superpave Implementation Committee; and Participated in several technical assistance Projects. Fiscal YEAR 2010-2011 PROPOSED ACTIVITIES Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; Continue participation in technical assistance projects; and Continue participation in technical assistance pro		FY 20	09 - 2010 Bi	udget		Equipment	(expend	dable)		
Image: revised Travel \$6,00 Est. FY Expenditure \$129,863 Other Image: revised \$6,00 PURPOSE AND Scope The Engineering Materials Characterization and Research Facility, EMCRF, provides a multi-disciplinary expertise and state-of-the-art research capabilities to assess the fundamental engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the LTRC's regional pavement testing facility, ALF. In addition, EMCRF provides specialized analytical expertise for on-going as well as newly initiated in-house research projects; develops new software to be used by DOTD engineers; provides experimental design and analysis; provide training for DOTD employees for the purpose of adopting newly developed technolog and implementation methodology into the daily operations of DOTD, and, assists in-house LTRC investigators to develop thorough research programs. FISCAL YEAR 2009 - 2010 AccompLishments • Participated in the Louisiana DOTD Asphaltic Concrete Specification Committee and Louisiana DOTD Superpave Implementation Committee; and • Participated in several technical assistance Projects. Fiscal YEAR 2010-2011 Proposed Activities • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue participation in technical assistance projects; and • Continue participation in technical ass	FY Funds	(orig	jinal)	\$129,863		Equipment	(non-ex	pendable)		\$10,000
Est. FY Expenditure \$129,863 Other PurPose AND Scope The Engineering Materials Characterization and Research Facility, EMCRF, provides a multi-disciplinary expertise and state-of-the-art research capabilities to assess the fundamental engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the LTRC's regional pavement testing facility, ALF. In addition, EMCRF provides specialized analytical expertise for on-going as well as newly initiated in-house research projects; develops new software to be used by DOTD engineers; provide experimental design and analysis; provide training for DOTD employees for the purpose of adopting newly developed technolog and implementation methodology into the daily operations of DOTD, and, assists in-house LTRC investigators to develop thorough research programs. FISCAL YEAR 2009 - 2010 AccompLishments • Participated in the Louisiana DOTD Asphaltic Concrete Specification Committee and Louisiana DOTD Superpave Implementation Committee; and • Participated in several technical assistance Projects. • FISCAL YEAR 2010-2011 PROPOSED Activities • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue participation in technical assistance projects; and • Continue participation in technical assistance projects; and • Conduct workshops		(rev	ised)			Travel				\$6,000
PURPOSE AND SCOPE The Engineering Materials Characterization and Research Facility, EMCRF, provides a multi-disciplinary expertise and state-of-the-art research capabilities to assess the fundamental engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the LTRC's regional pavement testing facility, ALF. In addition, EMCRF provides specialized analytical expertise for on-going as well as newly initiated in-house research projects; develops new software to be used by DOTD engineers; provides experimental design and analysis; provide training for DOTD employees for the purpose of adopting newly developed technolog and implementation methodology into the daily operations of DOTD, and, assists in-house LTRC investigators to develop thorough research programs. FISCAL YEAR 2009 - 2010 AccompLishments Fiscal YEAR 2009 - 2010 AccompLishments • Participated in the Louisiana DOTD Asphaltic Concrete Specification Committee and Louisiana DOTD Superpave Implementation Committee; and • Participated in several technical assistance Projects. • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue particip	Est. FY Exper	nditure	Э	\$129,863		Other				
The Engineering Materials Characterization and Research Facility, EMCRF, provides a multi-disciplinary expertise and state-of-the-art research capabilities to assess the fundamental engineering properties of materials used in the transportation industry in Louisiana. EMCRF plays an important role in the evaluatio of the engineering properties of materials used in the LTRC's regional pavement testing facility, ALF. In addition, EMCRF provides specialized analytical expertise for on-going as well as newly initiated in-house research projects; develops new software to be used by DOTD engineers; provides experimental design and analysis; provide training for DOTD employees for the purpose of adopting newly developed technolog and implementation methodology into the daily operations of DOTD, and, assists in-house LTRC investigators to develop thorough research programs. Fiscal YEAR 2009 - 2010 AccompLishments • Participated in the Louisiana DOTD Asphaltic Concrete Specification Committee and Louisiana DOTD Superpave Implementation Committee; and • Participated in several technical assistance Projects. • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue participation in technical assistance projects; and • Conduct workshops and seminars.				PURPOS	SE AI	ND SCOPE				
FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS • Participated in the Louisiana DOTD Asphaltic Concrete Specification Committee and Louisiana DOTD Superpave Implementation Committee; and • Participated in several technical assistance Projects. FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; • Continue participation in technical assistance projects; and • Conduct workshops and seminars.	The Engineer expertise and materials use of the engineer addition, EMC research proje and analysis; and implement investigators to	ing Ma state d in the ring p RF p ects; c provid tation to dev	aterials Cha -of-the-art m he transport properties o rovides spe develops ne de training f n methodolo relop thorou	aracterization and Re esearch capabilities ation industry in Loui of materials used in the cialized analytical ex- ew software to be use for DOTD employees ogy into the daily ope ugh research program	esea to a isiar ne L cperi ed b for rations.	arch Facility, E ssess the func- na. EMCRF p TRC's regiona tise for on-goi y DOTD engir the purpose c ons of DOTD,	MCRF, damenta lays an al paver ng as w neers; p of adopt and, as	provides a al engineeri important ro nent testing rell as newly rovides exp ing newly do ssists in-hou	multi-dis ng prope ble in the facility, r initiated erimenta eveloped se LTRC	ciplinary erties of e evaluation ALF. In d in-house al design d technology
 Participated in the Louisiana DOTD Asphaltic Concrete Specification Committee and Louisiana DOTD Superpave Implementation Committee; and Participated in several technical assistance Projects. FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; Continue participation in technical assistance projects; and Conduct workshops and seminars. 				FISCAL YEAR 2009	• 20′	10 ACCOMPLIS	HMENTS	5		
 FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; Continue participation in technical assistance projects; and Conduct workshops and seminars. 	Partic DOTEPartic	ipateo) Sup ipateo	d in the Lou erpave Imp d in several	isiana DOTD Asphal lementation Commit technical assistance	ltic (tee; e Pro	Concrete Spec and bjects.	cification	n Committee	e and Lo	uisiana
 Continue participation in the Louisiana DOTD Asphaltic Concrete Specification Committee; Continue participation in technical assistance projects; and Conduct workshops and seminars. 				FISCAL YEAR 2010-2	2011	PROPOSED A	CTIVITIE	s		
	ContiContiCond	nue p nue p uct wo	articipation articipation orkshops ar	in the Louisiana DO in technical assistan nd seminars.	TD / ce p	Asphaltic Cono projects; and	crete Sp	pecification	Committ	ee;

Title:	Perforr Conver	nan ntioi	ce and An nal and Co	alysis of Concrete Br omposite Reinforcem	ridge Railing U ent Materials	lsing	Project S	tatus:	Ongoing
Fundin	ig Sourc	e:	SPR: TT-	Fed/TT-Reg	I	Budget	Category:	FHWA	
Otata D	and a st Ni	unala		726 00 4640	Droiget Stor	t Data:			4/4/2000
State P	roject Nu		er:	730-99-1019	Completion	t Date:	(original)		4/1/2009
Resear			umber.	09-251	Completion	Date			9/30/2009
Princip	al Investi	asto	.r.	Mr Walid Alaywan	Completion	Dale	(Tevised)		3/31/2011
ттпор		gaio	.	Bunger	T STATUS				
		Т	otal Budget	t		Estimat	ed 2010-201	1 Budget	t
Total C	ost	(origi	nal)	\$82.410	Total				\$65.000
		(revis	sed)	· · · · · ·					<i>,</i>
Est. Ex	pended t	o Da	ate	\$17,400	Salaries				\$30,000
	F١	1 200)9 - 2010 Bi	udget	Equipment	(expen	dable)		\$31,000
FY Fun	lds	(origi	nal)	\$10,500	Equipment	(non-e)	(pendable)		\$3,000
		(revis	sed)		Travel				\$1,000
Est. FY	Expendi	iture	!	\$10,000	Other				
				PURPOSE	AND SCOPE			<u>.</u>	
Bridge "Recom levels o DOTD) There w reevalu	Barriers a nmended of test vel uses the were seven nate the p	are (Pro hicle F-S eral perfo	designed to cedures fo is for differe Shape cond approved o rmance of	o resist accidental impa or the Safety Performar ent applications. The L crete railing over many changes to the current the new detail.	act of a standar nce Evaluation A Department of its highway NCHRP Repor	d test vo of Highv of Trans bridges. t 350. B	ehicle. NCH way Feature sportation ar ased on tha	RP 350 s," spec nd Devel nt, it is ne	ifies various opment (LA ecessary to
				FISCAL YEAR 2009 - 2	010 ACCOMPLIS	SHMENTS	3		
• • • •	Instrume A 20 ft-I testing; Slab and Section Analytic	enta ong d rai was al co	tion plan w concrete b ling were r s tested in a computation	vas developed; pridge railing and slab v nounted to a strong flo a middle region to failu s were performed and	were cast and s or system. Brid re; and compared to c	hipped ge railir ollected	to LA Tech ng was instru data.	Universi umented	ty for ;
				FISCAL YEAR 2010-201	11 PROPOSED A	CTIVITIE	S		
•	Due to b and test Data wil Strength IF the P 32 inch will be c	barri ted a ll be n of RC curr comp	er collapse at the end r collected a the section requests a ently used bared with a	e at the middle and the region; and compared to analy will be assessed and 36 in F-shape barrier section, two barriers w analytical computation	end region, a r rtical computation a draft final rep be tested at the vill have to be c s.	new sec on; ort will t e middle ast, inst	tion will be o be submitted and end rea rumented, to	cast, inst d; and gions ins ested, a	rumented, stead of a nd results

Devel Model	opm for	ent of a Ti the New O	me-Dependent Hurric rleans Area - Phase 2	ane Evacuation	n	Project S	tatus:	Ongoing
g Sour	ce:	SPR: TT-	Fed/TT-Reg	E	Budget	Category:	FHWA	
roject N	lumb	er:	736-99-1715	Project Start	Date:			7/1/2008
ch Proje	ect N	umber:	06-2SS	Completion	Date	(original)		6/30/2010
ch Ager	ncy:		LTRC	Completion	Date	(revised)		6/30/2012
al Inves	tigato	or:	Dr. Chester Wilmot	•				
			BUDGE	T STATUS				
	Т	otal Budge	t		Estima	ted 2010-201	1 Budget	:
ost	(orig	inal)	\$211,266	Total				\$147,353
	(revi	sed)	\$510,839				1	
pended	to D	ate	\$211,266	Salaries				\$145,877
F	Y 20	09 - 2010 B	udget	Equipment	(exper	idable)		
ds	(orig	inal)	\$127,553	Equipment	(non-e	xpendable)		
	(revi	sed)		Travel				\$1,230
Expend	diture	9	\$127,553	Other				\$24
			PURPOSE	AND SCOPE			-	
elop a n lop a ne	ew h ew dy	urricane e namic trip	vacuation demand mod assignment method su	lels based on im uited to hurricand	nprove e evac	d theoretical uation mode	principle ling.	es as well as
			FISCAL YEAR 2009 - 2	010 ACCOMPLIS	HMENT	s		
Develo Collect area; a Develo	ped ed re ind ped	a time-dep evealed pre a time-dep	endent, audio-visual st eference and stated cho endent hurricane evac	ated choice met oice data from 3 uation destinatio	thod of 00 res	data collecti pondents in ce model.	ion; the New	Orleans
			FISCAL YEAR 2010-20	11 PROPOSED A	CTIVITIE	ES		
Investi estima Develo	gate tion i p an	TRANSIM n the New alternative	S and other alternative Orleans metropolitan a hurricane evacuation	approaches to l area; and trip assignment	hurrica proces	ne evacuatio ss.	on dema	nd
	Develo Model Model g Source roject N ch Proje ch Ager al Invest ch Ager al Invest pended f ds f Expend elop a n lop a ne lop a ne	Developmend Model for Model for g Source: roject Numb ch Project N ch Agency: al Investigate ost (orig pended to D FY 20 ds (orig i (revi pended to D FY 20 ds (orig i (revi Expenditure elop a new dy Developed Collected re area; and Developed Investigate estimation i Develop an	Development of a Ti Model for the New O g Source: SPR: TT- roject Number: SPR: TT- ch Project Number: ch Agency: ch Agency: al Investigator: al Investigator: Total Budge ost (original) (revised) pended to Date FY 2009 - 2010 B ds (original) (revised) fexpenditure People a new hurricane e lop a new dynamic trip Developed a time-dep calea; and Developed a time-dep calea; and Developed a time-dep Stimation in the New Develop an alternative	Development of a Time-Dependent Hurric Model for the New Orleans Area - Phase 2 g Source: SPR: TT-Fed/TT-Reg roject Number: 736-99-1715 ch Project Number: 06-2SS ch Agency: LTRC al Investigator: Dr. Chester Wilmot Bubge Bubge ost (original) (revised) \$510,839 pended to Date \$211,266 FY 2009 - 2010 Budget 4 ds (original) (revised) \$127,553 Expenditure \$127,553 Elop a new hurricane evacuation demand model of a new dynamic trip assignment method sufficience and stated chararea; and Developed a time-dependent, audio-visual st Collected revealed preference and stated chararea; and Developed a time-dependent hurricane evacuation demand model of area; and Developed a time-dependent hurricane evacuation demand model of area; and Developed a time-dependent preference and stated chararea; and Developed a time-dependent hurricane evacuation area; and Developed a time-dependent hurricane evacuation	Development of a Time-Dependent Hurricane Evacuation Model for the New Orleans Area - Phase 2 g Source: SPR: TT-Fed/TT-Reg E roject Number: 736-99-1715 Project Start Completion ch Project Number: 06-2SS Completion ch Agency: LTRC Completion al Investigator: Dr. Chester Wilmot Completion BUDGET STATUS Total Budget Total ost (original) \$211,266 Salaries FY 2009 - 2010 Budget Equipment Equipment ds (original) \$127,553 Other Expenditure \$127,553 Other Developed a time-dependent, audio-visual stated choice met Collected revealed preference and stated choice data from 3 area; and Developed a time-dependent, audio-visual stated choice data from 3 area; and Developed a time-dependent hurricane evacuation destination Investigate TRANSIMS and other alternative approaches to lestimation in the New Orleans metropolitan area; and Develop an alternative hurricane evacuation trip assignment	Development of a Time-Dependent Hurricane Evacuation Model for the New Orleans Area - Phase 2 g Source: SPR: TT-Fed/TT-Reg Budget roject Number: 736-99-1715 Project Start Date: Completion Date ch Argency: LTRC Completion Date al Investigator: Dr. Chester Wilmot Completion Date BUDGET STATUS Total Budget Estima ost (original) \$211,266 Investigator: Salaries Equipment (revised) Project Number: Other Status Total Budget Estima Total Budget Salaries Equipment (revised) Salaries FY 2009 - 2010 Budget G (original) \$127,553 PurPose AND Scope Elop a new hurricane evacuation demand models based on improvelop a new dynamic trip assignment method suited to hurricane evacuation demand models based on improvelop a new dynamic trip assignment method suited choice method of Collected revealed preference and stated choice data from 300 res area; and Developed a time-dependent hurricane evacua	Project S Project S g Source: SPR: TT-Fed/TT-Reg Budget Category: roject Number: 06-2SS Completion Date (original) ch Agency: LTRC Completion Date (original) al Investigator: Dr. Chester Wilmot Estimated 2010-201 Total Budget Total Budget (original) \$\$211,266 Equipment (expendable) Equipment (expendable) Equipment (non-expendable) Travel Other Other Equipment (non-expendable) Fiscal YEAR 2009 - 2010 Accompliation of data collection colspan="2">Completion data collection colspan="2">Completion data collection colspan="2">Completion data collection colspan="2">Completion Date fiscal YEAR 2009 - 2010 Budget Equipment (expendable) Equipment (non-expendable) Equipment (non-expendable) Equipment (non-expendable) Equipment Completion mode Purpose AND Scope Elop a new hurricane evacuation demand models based on improved theoretical lop a new dynamic trip assignment method suited to hurricane evacuatio	Project Status: Project Status: g Source: SPR: TT-Fed/TT-Reg Budget Category: FHWA roject Number: 736-99-1715 Project Start Date: Completion Date (original) ch Agency: LTRC Completion Date (original) Completion Date (original) al Investigator: Dr. Chester Wilmot Completion Date (revised) Salaries Image: Completion Date Completion Cate Completion Cate Completion Date Completion Date

Title:	LTRC in Tra	Proj nspo	oosal for th ortation Pla	ne Support of Resea anning	arch	n and Develo	pment	Project S	tatus:	Ongoing	
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg	Budget Category: FHWA						
						1			1		
State P	roject N	lumb	er:	736-99-1714		Project Start	Date:			7/1/1995	
Resear	ch Proje	ect N	umber:	10-1PLA		Completion	Date	(original)		6/30/1996	
Resear	ch Ager	ncy:				Completion	Date	(revised)		6/30/2012	
Princip	al Invest	tigato	or:	Dr. Chester Wilmo	t	-					
				BUDG	ET \$	STATUS					
		Т	otal Budge	t			Estimat	ed 2010-201	1 Budget		
Total C	ost	(orig	inal)	\$123,199		Total				\$110,896	
		(revi	sed)	\$4,182,901						* 40 7 400	
Est. Ex	pended	to D	ate	\$256,306		Salaries				\$107,196	
	F	Y 20	09 - 2010 Bi	udget		Equipment	(expend	dable)		\$1,500	
FY Fun	nds	(orig	inal)	\$329,978		Equipment	(non-ex	pendable)		.	
		(revi	sed)			Travel				\$2,000	
Est. FY	' Expend	diture)	\$329,000		Other				\$200	
researce areas co on worl program Investig researce issues	cher in th of interes k schedu m and at gator of ch progra proposa	ne pl st to ule. S ffords this p am, t am, t	anning area DOTD. The Such expos s LTRC the project repo technical as n.	a. The primary respon- e teaching of courses ure encourages grad opportunity to suppo- orts to the Director, L ⁻ ssistance requests fro	nsib at I luat ort tl TRC om I	ility is to deve _SU is permitt e students to he enhanceme C. Research is DOTD, and ex	lop pro ed on a particip ent of h conduct ternal r	posals an co case by ca ate in the L1 igher educa cted on topic research sol	Fonduct reserved to the se basis FRC reserved to the second to the seco	esearch in depending earch Principal _TRC's s that LTRC	
				FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS	5			
•	Comple Restric Assista M.S. th pavem Comple Conduc Infrastr Manag	eted ance ance esis ents eted cted ructu ed S	a technical Strategies of Report 09- "Estimated using M-EF draft final re research of re, and Em special Stud	assistance request f on multilane highway 1TA. Further researc impact of a hypothe PDG" by M. Radhakri eport on "Factors Affor n Department of Hon ergency Managemer lies section at LTRC.	rom s in h or tica ishr ectionela nt; a	DOTD invest Louisiana. Fi In the pavement left lane truch an; Ing Traffic Safe and Security prind	tigating ndings nt dama k restric ety in Lo roject o	the use of T documented age that TLF tion on Loui puisiana"; n Natural Di	Truck La d in Teck S may o isiana hi sasters,	ne nnical cause led to ghway Coastal	
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S			
•	 FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES Conduct research into hurricane evacuation demand modeling; Continue with Department of Homeland Security Project on modeling of evacuation response to disasters; Conduct technical assistance investigations for DOTD on request; and Manage Special Studies section at LTRC. 										

Title: Evalu	Evaluation of Cement and Fly Ash Treated RAP and Marginal Aggregates for Base Construction Project Status: Ongoing										
Funding Sou	rce:	SPR: TT-	Fed/TT-Reg		B	Budget	Category:	FHWA			
State Project	Numb	er:	736-99-1586		Project Start	Date:			3/1/2009		
Research Pro	ject N	lumber:	09-2C		Completion	Date	(original)		3/1/2011		
Research Age	ency:		LTRC		Completion	Date	(revised)				
Principal Inve	stigate	or:	Dr. Tyson Rupnow								
			Budge	ET S	Status						
	1	Total Budget	t		I	Estimat	ed 2010-201 [,]	1 Budget			
Total Cost	(orig	jinal)	\$121,044		Total				\$38,456		
	(revi	ised)									
Est. Expende	d to D	ate	\$82,500		Salaries				\$38,456		
	FY 20	09 - 2010 Bi	udget		Equipment	(expend	dable)				
FY Funds	(orig	jinal)	\$84,760		Equipment	(non-ex	pendable)				
	(revi	ised)			Travel						
Est. FY Exper	nditure	9	\$55,000		Other						
			PURPOSE	AN	ND SCOPE						
The purpose aggregates th systems. Fly are suitable a performance testing facility	of this at will ash tr Iterna of a m (ALF)	study is to prove acce reated RAP tives to cen ixture to be).	determine mixtures of eptable for both Portlar (FTRAP) and other ag nent treated materials. e determined upon furt	r ce nd ggr T hei	ement treated cement concr regates will als he respective r testing will be	rap (C ⁻ ete and so be ir mixture e evalu	TRAP) and p d hot mix as nvestigated t es will be ch ated in the a	possible phalt pa to deterr aracteri: accelera	marginal vement nine if they zed and the ted load		
			FISCAL YEAR 2009 - 2	201	0 ACCOMPLIS	HMENTS	5				
 Ceme The li The r of the A wor 	entition mesto eferer mate king o	us materials one based a nce material rial for the s outline of the	s were characterized a and gravel based RAP I has been obtained. (study; and e final report was deve	ncc mi Coi eloj	ording to their xtures have b ntacts have bo ped.	respec been pro een dev	ctive ASTM oduced and veloped to o	standaro tested; btain the	ds; e remainder		
			FISCAL YEAR 2010-20	11	PROPOSED A	CTIVITIE	s				
 Conti mixtu Provi Cond 	 Continue with the testing matrix producing and testing the reference mixtures, limestone screenings mixtures, and blended calcium sulfate mixtures; Provide interim results for possible ALF construction; and Conduct a statistical analysis of the results and continue preparing the final report. 										

Title: Evaluation of Ternary Cementitious Combinations Project Status: Ongoing									
Funding Sour	ce:	SPR: TT-	Fed/TT-Reg		E	FHWA	FHWA		
State Project N	Jumh	er.	736-99-1587		Project Start	Date:			3/1/2009
Research Proi	ect N	umber:	09-4C			Date	(original)		2/28/2011
Research Age	ncv:				Completion	Date	(revised)		6/30/2011
Principal Inves	tigato	or:	Dr. Tyson Rupnow				· /		
•			BUDG	ЕТ 🕄	Status				
	т	otal Budge	t			Estimat	ed 2010-201	1 Budget	<u>.</u>
Total Cost	(orig	inal)	\$202,343		Total				\$123,486
	(revi	sed)	\$233,544					I	
Est. Expended to Date \$110,058 Salaries \$121,486									
	FY 20	09 - 2010 B	udget		Equipment	(expen	dable)		\$2,000
FY Funds	(orig	inal)	\$101,171		Equipment	(non-e)	(pendable)		
	(revi	sed)			Travel				
Est. FY Expen	diture	Э	\$75,000		Other				
			PURPOS	E AI	ND SCOPE			-	
The purpose or state of Louisian the use of both combinations.	f this ana. n fly a	study is to Mixtures w ash and sla	determine the proper ill be evaluated in the g, and the results fron	ties fre h th	s of various te sh and harder is research wi	rnary co ned sta ill provi	ementitious te. Current de guidance	combina specifica on posa	ations for the ations allow sible ternary
			FISCAL YEAR 2009 -	20′	10 ACCOMPLIS	HMENTS	3		
The cementitic sand was also results are cur produced. An the project.	ous m obtai rently interi	naterials we ined and cl / being stat im PRC me	ere procured and chen naracterized. Thirty p ically analyzed and co eeting was held in Feb	nica erc omp orua	ally characterizent of the test bared. A work ary to update t	zed. Tl matrix ing out he PR(he raw coars was produc tline of the fi C members o	se aggre ed and t nal repo on the p	egate and ested. The rt was rogress of
			FISCAL YEAR 2010-20)11	PROPOSED A	CTIVITIE	S		
FinishAnalyzFinish	 Finish the remainder of the test matrix; Analyze the results; and Finish and publish the final report. 								

Title:	tle: Evaluation of Non-Destructive Technologies for Construction Quality Control of HMA and PCC Pavements in Louisiana Project Status: Ongoing									
Fundir	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
				1		1			1	
State F	Project N	umb	er:	736-99-1642		Project Start	Date:			7/1/2009
Resear	rch Proje	ect N	umber:	09-5C		Completion	Date	(original)		9/30/2010
Resear	rch Ager	ncy:		LTRC		Completion	Date	(revised)		6/30/2011
Princip	al Invest	igato	or:	Mr. Patrick Icenog	е					
				Budg	ET \$	Status				
		Т	otal Budge	t			Estimat	ed 2010-201 ⁻	1 Budget	:
Total C	Cost	(orig	inal)	\$116,351		Total				\$76,351
		(revi	sed)							
Est. Ex	pended	to D	ate	\$40,000		Salaries				\$46,351
	FY 2009 - 2010 Budget Equipment (expendable)									
FY Fur	nds	(orig	inal)	\$85,447		Equipment	(non-ex	pendable)		\$30,000
		(revi	sed)			Travel	1			
Est. FY	/ Expend	diture	9	\$40,000		Other				
				PURPOS	E A	ND SCOPE			<u>I</u>	
The pu Pavem data co rugged will be location	Irpose of lent Ana bllected f lness an develop ns.	this yzer rom d col ed a	study is to (PSPA) for the devices nsistency o nd the in-sit	evaluate the Light W r use as non-destruct s on three hot-mix as f each device indepe tu measurements wil	eigl tive pha nde I be	nt Deflectome in-situ quality It and three co ently. Also, an compared to	ter (LW control oncrete operat lab sam	D) and Port tools. This jobs to dete ing procedu nples from th	able Sei researc ermine th re for ea ne same	smic h will use ne ich device roadway
				FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENTS	5		
Literatu Comple Comple Ongoin	FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS Literature Review: Completed Data Collection on 4 out of 6 test sections: • Asphalt projects: LA116, LA3191, LA3121; and • Concrete projects: Ambassador Caffery. • Completed Data Analysis on 3 out of 6 test sections: • Projects: LA3191, LA3121, Ambassador Caffery. • Ongoing Data Collections: • LA171 = Ended early due to equipment malfunctions, planning return trip; • US61 = Advised paving will continue in June; and • ALF = Extra.									
Equipn parts. F	nent mal PSPA is	func func	tions cause tional.	many delays. After	moi	nths of workin	g with r	nanufacture	r and re	placement

Fiscal Year 2010-2011

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

Purchase new PSPA and recheck a few of the previously collected test sections; and

Purchase replacement pieces for LWD (pads, screws, and rod);

Complete data collection:

- Finish collection of ongoing projects: LA171, US61, ALF;
- Plan to use US61 as field to lab comparison;
- Locate one additional concrete section; and
- Assist and include other LTRC projects that require PSPA and LWD data collection.

Write final report.

Evaluation of the Surface Resistivity Measurements as an Title: Alternative to the Rapid Chloride Permeability Test for Quality Projec Assurance and Acceptance Image: Comparison of Chloride Permeability Test for Quality Projec									Ongoing		
Funding Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA			
State Project N	lumb	er:	736-99-1661		Project Start	t Date:			2/1/2010		
Research Proj	ect N	umber:	10-1C		Completion	Date	(original)		5/1/2011		
Research Age	ncy:				Completion	Date	(revised)				
Principal Inves	tigato	or:	Dr. Tyson Rupnow	'							
			Budg	ET	STATUS						
	Т	otal Budget	t			Estimat	ed 2010-201	I Budget			
Total Cost	(orig	inal)	\$102,878		Total				\$66,878		
	(revi	sed)									
Est. Expended	Est. Expended to Date\$36,000Salaries\$64,878										
I	FY 20	09 - 2010 Bi	udget		Equipment	(expen	dable)		\$2,000		
FY Funds	(orig	inal)	\$36,000		Equipment	(non-ex	kpendable)				
	(revi	sed)			Travel						
Est. FY Expen	diture)	\$36,000		Other						
			PURPOS	SE A	ND SCOPE						
The purpose o permeability te measurements terms of time a	f this st. T in lie and m	study is to he results o eu of rapid o oney.	evaluate a surface re of this study will aid in chloride permeability	esis n a res	tivity device in decision to im ults leading to	o conjur plemer o a cost	nction with th at surface res savings to t	ne rapid sistivity he Depa	chloride Irtment in		
			FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENT	6				
This study has been testing a on ternary cen	beer nd ree nentiti	n started. T ceived sam ous combir	he Wenner Probe ha ples from ready-mix nations.	as b sup	een obtained pliers and sar	and is nples p	currently in u produced from	use. The m the 09	e study has I-4C study		
			FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S				
Completion of	the te	est matrix:									
PrepaPrepa	 Preparation and publication of a final report; and Preparation of an implementation statement and plan. 										

FHWA

Part II SPR Funded Research Program

PROPOSED RESEARCH

Title:	The R Proje	idea ct 02	bility of a I -2GT Conti	Deflected Bridge Ap inuation: Phase II)	pro	oach Slab (LT	RC	Project S	tatus:	Proposed
Fundin	g Sour	ce:	SPR: TT-	Fed/TT-Reg		В	Budget	Category:	FHWA	
						-				
State P	roject N	lumb	er:			Project Start	Date:			1/1/2011
Resear	ch Proj	ect N	umber:			Completion	Date	(original)		12/31/2012
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Inves	tigato	or:	Mr. Mark Martinez						
				Buda	ET	STATUS				
		Т	otal Budge	t		I	Estima	ted 2010-201 ⁻	1 Budge	t
Total C	ost	(orig	inal)	\$150,000		Total				\$64,340
		(revi	sed)							
Est. Ex	Est. Expended to Date \$58,340									
	FY 2009 - 2010 BudgetEquipment(expendable)\$5,000									
FY Funds (original) Equipment (on-expendable) \$1,000										
		(revi	sed)			Travel				
Est. FY	Expen	diture	Э			Other				
				Purpos	SE A	ND SCOPE			<u></u>	
This pro- Initiative to deve 2GT we on a ve Transla date, it carry of bridges	oject is e (LQI) elop a m ere achi try limite ttional V has not ut this p	a cor entitl eans eved ed da /ehic t bee protot	ntinuation o ed "Preserv of evaluati l in that a Lo tabase (onl ular Transfe n yet been yping/testin	f LTRC Project 02-20 vation of Bridge Appr ng bridge approache ocalized Roughness ly 14 bridges were te er Function (TVTF) c prototyped or tested. ng and to undertake a	GT oac es in Inde stee ircu The a mo	which was initi th Rideability." terms of ridea ex (LRI) was d d). Project 02-2 it be develope e principal focto pre compreher	ated ir The p ability. levelop 2GT al d. The us of th nsive fi	n response to rimary object The principa bed. But, the so required to TVTF was on his Phase II r eld analysis	a Louis tive of 0 I objecti findings that a so levelope research (utilizing	siana Quality 2-2GT was ves of 02- were based p-called ed. But, to will be to more
				FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENT	s		
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	ES		
Task 1 Task 2 Task 3 Task 4	 ask 1: Examine literature to help with refinement of TVTF circuit and develop a calibration procedure to ensure vehicular cross-compatibility; ask 2: Build and retrofit a series of TVTF devices (attach to test vehicles) and carry out preliminary testing; ask 3: Develop TVTF calibration procedure and test effectiveness; and ask 4: Begin LRI indexing of bridges across state (comprehensive testing). 									

Title:	Accele Unpav	erate ved a	ed Load Te and Pavem	sting of Geosynthe ent Test Sections	tic I	Base Reinfor	ced	Project S	tatus:	Proposed
Funding	g Sourc	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
				1 1		1			1	
State Pr	oject N	umb	er:			Project Start	Date:			9/1/2010
Researc	h Proje	ect N	umber:			Completion	Date	(original)		8/30/2012
Researc	h Ager	ncy:		LTRC		Completion	Date	(revised)		
Principa	l Invest	tigato	or:	Dr. Murad Abu-Far	sak	h				
				Budg	ET \$	Status				
		Т	otal Budge	t		I	Estimat	ed 2010-201 ⁻	1 Budge	t
Total Co	ost	(orig	inal)	\$250,000		Total				\$69,000
		(revi	sed)							
Est. Exp	ended	to D	ate			Salaries				\$64,500
	FY 2009 - 2010 BudgetEquipment(expendable)\$2,500									
FY Fund	ls	(orig	inal)			Equipment	(non-ex	(pendable)		
-		(revi	sed)			Travel				\$2,000
Est. FY	Expend	diture	9			Other				
				PURPOS	E AI	ND SCOPE			÷	
The use pavemen roadway geosynth limited to The obje aggrega extensiv construct reinforce	of geo nt secti vs. Man hetic re to the co te laye e accel te dat ements	syntl on h iy ex infor ondit of this r in fl lerat ALF	hetic materi as been us perimental cement to t ions associ s research s lexible pave ed load tes site. Differe	ials, such as geogrids ed for many years to and numerical studie the base course laye ated with the experin study is to evaluate th ements built on a soft ting on geosynthetic ent types and configu	s, to imp s w r, an ne b sul rein ratio	o reinforce the prove the perfe- rere conducted nd several des tal test section benefits of geo bgrade. This v forced unpave ons of geogrid	base a ormano d to eva sign me ns of the osynthe vill be a ed and ls and g	aggregate la e of paved a aluate the be thods were eir study. tic reinforcen achieved thro pavement te geotextiles w	yers with and unpa- enefits of propose ment of ough cou- est section vill be us	hin the aved f applying to that are base hducting bons to be red for base
				FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS	6		
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S		
•	 FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES Perform literature review on geosynthetic reinforced base aggregates; Design and supervise construction of the support platform needed to extend the ALF site for additional test sections; Prepare a detailed plan of the proposed geosynthetic reinforced unpaved and paved test sections; and Supervise construction of experimental lanes and begin testing. 									

Title:	e: LTRC Research Software Development and Support Project Status: Proposed										
Fundin	ig Sour	ce:	SPR: TT-	Fed/TT-Reg		Budget Category: F					
State P Resear Resear Principa	Project N rch Proje rch Agei al Inves	lumb ect N ncy: tigato	er: umber: pr:	LTRC Ms. Pallavi Bhand	ari	Project Start Completion Completion	7/1/2010				
				Budo	SET (STATUS					
		Т	otal Budge	t			Estimat	ed 2010-2011	Budget		
Total C	ost	(orig	inal)	\$91,930		Total				\$91,930	
		(revi	sed)			Coloriao				¢04.020	
EST. EX	penaea		ate	udaet		Salaries		dabla)		\$91,930	
EV Eur	- de	(orig	inal)			Equipment	(non-ex				
1 I I UI	103	(revi	sed)			Travel	(11011-05				
Est. FY	Expen	diture	eeu, e			Other					
			-	PURPOS	SE A						
•	Perfor require Create Java S Perfor	m da e; e and Script m oth	tabase mai l manage m t, Visual Ba ner outreac	nagement. Program hultiple web sites and sic, .NET, XML, and h tasks as directed.	min d wir oth	g may include ndows applica ers as require	SQL S tion. Pr d; and	erver, ESRI	SDE ar may inc	id others as lude Java,	
				FISCAL YEAR 2009	· 20′	10 ACCOMPLIS	HMENTS	3			
				FISCAL YEAR 2010-2	2011	PROPOSED A	CTIVITIE	S			
•	 Perform database management. Programming may include SQL Server, ESRI SDE and others as required; Create and manage multiple web sites and windows application. Programming may include Java, Java Script, Visual Basic, .NET, XML, and others as required; and Perform other outreach tasks as directed. 										

Title:	Design Values of Resilient Modulus of Stabilized and Non- stabilized Base and Sub-baseProject Status:Proposed									
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		Budget Category:			FHWA	
				1					1	
State P	roject N	lumb	er:			Project Start	Date:			7/1/2010
Resear	ch Proj	ect N	umber:	10-3GT		Completion	Date	(original)		6/30/2011
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Inves	tigate	or:	Mr. Khalil Hanifa						
				Budg	ЕТ \$	Status				
		٦	otal Budge	t		I	Estimat	ed 2010-201 [,]	1 Budget	:
Total C	ost	(orig	inal)	\$113,000		Total				\$113,000
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$113,000
	F	TY 20	09 - 2010 Bi	udget		Equipment	(expend	dable)		
FY Fun	lds	(orig	inal)			Equipment	(non-ex	pendable)		
		(revi	sed)			Travel				
Est. FY	Expen	diture	Э			Other				
				PURPOS	E AI	ND SCOPE			-	
The pu specific paveme	rpose o ed by LA ent desi	f this \DOT gn gi	research s ID through uides.	tudy is to determine t lab tests with respect	he to	design values resilient modu	of regu Ilus and	ılar base an d other para	d sub ba meters u	ise Ised by
				FISCAL YEAR 2009 -	20′	10 ACCOMPLIS	HMENTS	5		
				FISCAL YEAR 2010-20	011	PROPOSED A	CTIVITIE	S		
• • • •	Perford Develo Louisia Condu Analyz Make f Write f	m lite op tes ana; ct lal ce the recor inal r	erature revie sting factori o tests acco data using nmendatior report.	ew; als of Lab testing prop ordingly; g statistical approach; n of design values tha	gra t ao	m for typical b ccommodate f	ase an ield var	d sub base riation during	material: g constru	s used in uction; and

Title: Field Phen	Instr omer	umentatio non of Pile	n and Testing to Stu s Driven into Louisia	dy ana	Set-up Clayey Soils	5	Project S	tatus:	Proposed
Funding Sou	rce:	SPR: TT-	Fed/TT-Reg		E	Budge	t Category:	FHWA	
State Project I	Numb	er:			Project Start	t Date:			7/1/2010
, Research Pro	ect N	lumber:	10-5GT		Completion	Date	(original)		6/30/2013
Research Age	ncy:		LTRC		Completion	Date	(revised)		
Principal Inves	stigate	or:	Dr. Murad Abu-Fars	sak	h			1	
			BUDG	ЕТ \$	Status				
	٦	otal Budge	t			Estima	ted 2010-201	1 Budget	
Total Cost	(orig	inal)	\$400,000		Total				\$112,500
	(revi	sed)							
Est. Expended	l to D	ate			Salaries				\$62,500
	FY 20	09 - 2010 B	udget		Equipment	(exper	ndable)		\$50,000
FY Funds	(orig	inal)			Equipment	(non-e	xpendable)		
	(revi	sed)			Travel				
Est. FY Exper	diture	e			Other				
			PURPOSI	E AI	ND SCOPE				
Piles driver in pile capacity observations of An increase in many factors in resulting from during installa design will result the size of drive A research pro- properties obtore reported restri- model. The main of instrumented poly clayey soils. The	n into /, kno showe pile o nclud dissip tion, a ult in ving e oject v ained ke dy bjection bj	saturated of own as pile ed that pile capacity of ling the incre- pation of ex- and the agi reducing the equipment; was perform from tradit mamic tests ive of this p and surroup sting program	cohesive soils (clays a set-up, which can cor set-up is significant an up to 12 times has be rease in soil strength a cess pore pressure w ng effect. An accurate he pile lengths, reducin Hence, reducing the c ned to develop a simp ional subsurface explo s after 14 days of insta	and htrik nd en arou ith e es cost ora alla d po e so	silts) usually oute to the lon continues to d reported. The und the pile du time, the effec- timation and i pile sections, f of highway p empirical mod tion program. tion, it was dif erform field ter- et-up phenom	experie g-term levelop e pile s uring th ct of th ncorpo reducin rojects lel to e Howey ficult to sting p ena of	ence a time-o capacity of i o for long tim- et-up phenor ne consolidation ixotropy in di- pration of pile- ng number of a. stimate pile s ver, due limit o develop a r piles driven	dependa the piles e after ir menon d tion proc sturbed e set-up ba e set-up ba ed numb ational s our fully- into Lou	Int increase Field Installation. Installatio

includes investigating the possibility of evaluating pile set-up from traditional soil boring data, and using data from in-situ testing such as piezocone penetration/dissipation tests and SPT-torque tests. Correlation will be made to develop a model for the static pile capacity-time relationship using data obtained from dynamic monitoring with time

LTRC Annual Research Program

Fiscal Year 2010-2011

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES • Perform literature review on the experimental and theoretical researches related to pile setup phenomenon in clayey soils; • Develop an instrumentation testing plan for piles and the surrounding soils to capture the pile set-up phenomenon with time; • Identify potential sites/bridges for performing the field instrumentation pile set-up tests; • Identify new sites/bridges that have pile load tests. Conduct static load tests, dynamic load tests, and PCPT tests at different times after pile driving; and • Start finite element numerical modeling to understand the pile set-up phenomenon.

Title:	Evalu	ation	of Site an	d Testing Variabilit	y or	n Soil Propert	ties	Project S	tatus:	Proposed
Fundin	g Sour	ce:	SPR: TT-	Fed/TT-Reg		В	Budget	Category:	FHWA	
						1			1	
State P	roject N	lumb	er:			Project Start	Date:			7/1/2010
Resear	ch Proj	ect N	umber:			Completion	Date	(original)		12/31/2011
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Inves	tigato	or:	Dr. Murad Abu-Fa	rsak	ĥ				
				Budg	SET \$	STATUS				
		Т	otal Budge	t		I	Estimat	ed 2010-201 ⁻	1 Budget	:
Total C	ost	(orig	inal)	\$150,000		Total				\$27,000
		(revi	sed)							
Est. Ex	Est. Expended to Date Salaries \$27,000									
	FY 2009 - 2010 Budget Equipment (expendable)									
FY Fun	FY Funds (original) Equipment (non-expendable)									
		(revi	sed)			Travel				
Est. FY	Expen	diture	9			Other				
				PURPOS	SE AI	ND SCOPE			L	
The pure estimat laborate variatio control, and con Reliabil researc and des	rpose o ing the ory tests n in lab and tes nsultant ity statis ch proje sign for	f this differ s, und orato sting labs stical ct will differ	research s rent soil pro drained she ory test resu procedure analysis w I help us ide rent geotec	tudy is to evaluate the perties. This include ar strength, and results between different will be investigated the ill be conducted on contify site and labora hnical engineering a	e ef s stu lts lab hrou colle tory	ffect of site an udying the var of some in-situ s due to samp ugh extending cted database variation for in cations.	d labora iation o u testing le hand a coop e. It is e nclusion	atory/in-situ f soil classif g within a sp dling, prepar similar prog xpected tha n in LRFD re	testing v ication, to cecified a ration, qu gram to i gram to i t the out eliability	variability on traditional site. The uality nclude state come of this analysis
				FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS	5		
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S		
• • •	 Perform literature review on relevant research topics; Identify ten sites for studying the effect of site variability on estimating the different soil properties; Identify several state and consultant laboratory to participate in evaluating the variability of laboratory testing; and Start collecting field samples for laboratory testing. 									

Title: In-Site Stabil	u Eva ized	aluation of Sub-bases	Design Parameters s from Cyclic Plate L	an .oa	d Procedure d Tests	s for	Project St	tatus:	Proposed			
Funding Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA				
State Proiect N	lumb	er:			Proiect Star	t Date:			7/1/2010			
Research Proje	ect N	umber:	10-4GT		Completion	Date	(original)		12/31/2012			
Research Age	ncy:		LTRC		Completion	Date	(revised)					
Principal Inves	tigato	or:	Dr. Murad Abu-Fars	sak	h							
			Budge	ЕТ 🕄	Status							
-	Т	otal Budget	t			Estimat	ed 2010-201	1 Budge	t			
Total Cost	(orig	inal)	\$250,000		Total				\$123,000			
	(revised)											
Est. Expended to Date Salaries \$103,000												
F	FY 20	09 - 2010 Bi	udget		Equipment	(expen	dable)		\$20,000			
FY Funds	(orig	inal)			Equipment	(non-e)	(pendable)					
	(revi	sed)			Travel							
Est. FY Expen	diture	9			Other							
			PURPOSE		ND SCOPE							
The purpos subbase. This stabilized sub I A sub base the performand stabilized sub I (ai) is a key inp "strength" of co modulus is a key pavement geor cementitious si to site condition The work pu load tests in a addition, Dyna Portable Seism	e of t inclue base cour ce of base base but in ompo ey in mate tabiliz ns ar rogra steel mic C nic Pa	his researc des structur materials. se construct the paveme is necessa the 1993 A nent layers put property rials. There zed sub bas nd projected m includes test box wi Cone Penet avement Ar	th study is to evaluate ral layer coefficient (ai eted of cementitious st ent. As such, an adeq ry in pavement structur ASHTO Guide for De and are used to dete y in the new Mechanis fore, the determination se which can provide a d loading is crucial in p conducting resilient n th inside dimensions of rometer (DCP), Light halyzer (PSPA) tests, a	the i) a tabi uat ural esig rmi stic n o a m pav of 6 Fal and	e design para nd resilient m ilized soil has te evaluation l analysis and in of Pavement required t -Empirical Pa f resilient mo- nore suitable rement design dulus, single-s 5.5 ft (length) ling Weight D d repeated tria	meters odulus of design of design t Struc hicknes vement dulus/st pavement stage ar x 6.5 ft Deflector axial loa	of cementitio (Mr) of vario characteristion in parameter tures, which ses of layers tructural layers of multi-stag (width) × 5.5 meter (LFWI ad tests will l	ous stab ous cem cs that c rs of cer ural laye express s; while de (MEF de (MEF er coeffic design ges repe 5 ft (heig D), Geo be cond	vilized entitious contribute to mentitious r coefficient s relative the resilient PDG) for cient of responsive ated plate ght). In gauge, ucted.			
			FISCAL YEAR 2009 - 2	201	O ACCOMPLIS	HMENTS	6					

Fiscal Year 2010-2011

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Perform literature review on the soil-type dependent cementitious stabilization techniques (including the determination of dosage and type of cementitious materials) and in-situ evaluation of resilient modulus/structural layer coefficient of cementitious sub base layer;
- Identify the different types of soil in Louisiana and appropriate stabilization schemes for those soils;
- Start modifying the repeated plate load testing facility and purchasing instrumentation needed for this research; and
- Start conducting repeated plate load tests.

Title:	Intelli	Intelligent Compaction Technology						Project Status:		Proposed
Funding Source: SPR: TT-Fed/TT-Reg						Budget Category:			FHWA	
State P	lumb	er:			Project Start Date:			10/1/2010		
Research Project Number:				06-3GT		Completion Date (original)		(original)		9/30/2012
Research Agency:				LTRC		Completion Date (revised)		(revised)		
Principa	al Inves	tigato	or:	Mr. Gavin Gautrea	u					
BUDGET STATUS										
Total Budget						Estimated 2010-2011 Budget				
Total Cost		(original)		\$200,000		Total			\$150,000	
		(revised)								
Est. Ex	pended	to D	ate			Salaries				\$130,000
FY 2009 - 2010 Budge				udget		Equipment	quipment (expendable)			\$20,000
FY Fun	nds	(orig	inal)			Equipment	(non-ex	pendable)		
		(revi	sed)			Travel				
Est. FY Expenditure					Other					
PURPOSE AND SCOPE										
Intelligent compaction refers to the use of instrumented rollers that record soil stiffness (vibration load/soil displacement) and GPS position. These measurements are used to create a stiffness index. Once calibrated, subsequent passes are compared against target values. The roller receives feedback from the soil based on the resistance encountered; the intelligent roller then automatically and "instantaneously" modifies its settings (force amplitude, frequency) to meet the target modulus. The on-board computer is used to help the operator avoid over and under compaction. The goal of the technology is to ensure proper compaction is achieved while reducing delays and "pumping" problems.										
FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS										
Discussions have begun with SHRP2 representatives to conduct a demo project in the spring of 2011. The intelligent rollers will shadow the normal data collection process throughout the test section. The results (collected on soil and asphalt) will be used to help develop a performance specification.										
FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES										
Coordination of the test section with the intelligent compaction rollers will continue, with construction and testing scheduled for spring 2011.										
Title:	Preve Highw	ntior /ays	n of Extens	sive Desiccation Cr	acki	ing on Rural		Project S	tatus:	Proposed
--	--	-------------------------	--	--	------------	---------------	-----------	--------------------------	----------	-----------
Fundin	g Sour	ce:	SPR: TT-	Fed/TT-Reg		B	Budget	Category:	FHWA	
				Ι	1	1				
State P	roject N	lumb	er:			Project Start	Date:			8/2/2010
Resear	ch Proje	ect N	umber:			Completion	Date	(original)		6/30/2016
Resear	ch Agei	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Inves	tigato	or:	Mr. Kevin Gasparo	k	-				
				Budo	GET \$	STATUS				
		Т	otal Budge	t .			Estimate	ed 2010-201 [,]	1 Budget	
Total C	ost	(orig	inal)	\$300,000		Total				\$59,064
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$59,064
	F	Y 20	09 - 2010 Bi	udget		Equipment	(expend	lable)		
FY Fun	ds	(orig	inal)			Equipment	(non-ex	pendable)		
		(revi	sed)			Travel				
Est. FY Expenditure Other										
				PURPOS	SE AI	ND SCOPE				
Paveme Louisia change Water t particul swelling While re soil cha appropi provide	Pavement surface and foundation distresses due to shrinking and swelling soils are an issue on certain Louisiana Highways which is the focus of this study. Desiccation is a common phenomena due to diurnal changes in soil moisture content and be caused by three primary sources (Evaporation, Transpiration, Water table fluctuations), hereafter referred to as Evapotranspiration . Expansive clay soils (PI>20) are particularly vulnerable to changes in moisture content; shrinking during the drying cycles (desiccation) and swelling during wetting cycles (recharge). While research has been conducted in these areas, though sometimes sparingly, assessment guidelines for soil characterization, environmental factors, and the stress state of the pavement system coupled with appropriate cost effective mitigation methods for Evapotranspiration Distresses on Highways will be provided through a comprehensive report and technical assistance to the Districts.									
				FISCAL YEAR 2009	- 20′	10 ACCOMPLIS	HMENTS			
				FISCAL YEAR 2010-2	2011	PROPOSED A	CTIVITIES	S		
•	Invest Devel Const	igate op a ruct o	sites in Dis research pl desiccation	stricts 08, 58, and 05 an for selected sites monitoring sites.	; ; and	d				

Title:	Asses Variat	sme ions	nt of Envir in Paveme	onmental, Seasona ent Base and Sub-g	l ar rad	nd Regional e Properties		Project S	tatus:	Proposed
Fundir	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
State F	Project N	lumb	er:			Project Start	Date:			9/24/2010
Resear	rch Proi	ect N	umber:			Completion	Date	(original)		6/30/2015
Resear	rch Age	ncv:		LTRC		Completion	Date	(revised)		0,00,20.0
Princip	al Inves	tigato	or:	Mr. Kevin Gaspard				, , ,		
•		0		BUDG	ЕТ \$	Status				
		т	otal Budget	t			Estimat	ed 2010-201	1 Budge	t
Total C	Cost	(orig	inal)	\$500,000		Total				\$90,550
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$78,550
	F	TY 20	09 - 2010 Bu	udget		Equipment	(expen	dable)		
FY Fur	nds	(orig	inal)			Equipment	(non-e	xpendable)		\$12,000
		(revi	sed)			Travel				
Est. FY	/ Expen	diture)			Other				
				Purpos	E A	ND SCOPE			<u>.</u>	
The pu develop AASHT upon g and FV predict	Irpose o p labora FO MEP eologica VD asse ion mod	f this tory s DG v al and essme els w	project is d shrink/swell which will be d climatic co ents will be <i>i</i> ll be correl	levelop a Sub grade i prediction models the implemented by DC onditions, instrumente conducted seasonall lated between labora	resi at ()TD ed, y fo tory 20	lient modulus can be used ir) in the future. and assessed or 3 years. Sa r testing and fi 10 ACCOMPLIS	season o the En Over I by the mples eld tes	nal variation nvironmenta 12 sites will FWD. In-sit will be taken ting.	model a l module be selec a moistu n from ea	s well as of the cted based ure testing ach site and
•	Select Begin Begin	and moni Labo	instrument toring; and ratory prog	FISCAL YEAR 2010-2 assessment sites; ram.	011	PROPOSED A	CTIVITIE	S		

Title:	Title: Development of Improved QA/QC Protocols for Portable WIM Project Status: Proposed Data Collection SPR: TT-Fed/TT-Reg Budget Category: EHWA										
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		В	Budget	Category:	FHWA		
						1			1		
State P	Project N	lumb	er:			Project Start	Date:	I		7/1/2009	
Resear	ch Proj	ect N	umber:	09-5P		Completion	Date	(original)			
Resear	ch Age	ncy:				Completion	Date	(revised)			
Principa	al Inves	tigato	or:	Mr. Mark Martinez							
				Budg	ET	STATUS					
		Т	otal Budge	t		I	Estima	ted 2010-201	1 Budge	t	
Total C	ost	(orig	inal)	\$210,000		Total				\$105,000	
		(revi	sed)						-		
Est. Ex	pended	to D	ate			Salaries				\$105,000	
	I	FY 20	09 - 2010 Bi	udget		Equipment	(expen	dable)			
FY Fun	nds	(orig	inal)			Equipment	(non-e	xpendable)			
	(revised) Travel										
Est. FY	Est. FY Expenditure Other										
				PURPOS	E A	ND SCOPE			<u>.</u>		
To facil Departr charact Louisia that ma with the the cau might b develop more ei	To facilitate implementation of the Mechanistic-Empirical Pavement Design Guide (MEPDG), the Louisiana Department of Transportation (LADOTD) funded LTRC Project 07-2P to examine current traffic characterization techniques used in Louisiana. A component part of Project 07-2P required that data from Louisiana's portable WIM data collection program be evaluated. It was discovered during this evaluation that many of the sites examined could not pass QA\QC tests because the piezoelectric sensors associated with the problem WIM sites were either out of calibration or had failed. This project proposes to investigate the causes behind the failures as well as underlying causes. The project will also seek to determine what might be done to improve the quality of data derived from portable WIM equipment and will attempt to develop a procedural flowchart or checklist to aid field personnel in carrying out and maintaining calibration										
				FISCAL YEAR 2009 -	20 ⁻	10 ACCOMPLIS	HMENT	S			
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES										
Task 1: Task 2: Task 3: Task 4: Task 5:	 Task 1: Examine literature and consult with OEMs to develop an understanding of project requirements; Task 2: Consult with field personnel to help determine mechanism behind equipment failure; Task 3: Develop procedural approach to improving QA\QC; Task 4: Develop a training program and QA\QC policy that can be used by field personnel in WIM setup; and Task 5: Begin attempting to automate processes to aid field personnel in quickly assessing equipment performance. 										

Title:	LED T	raffi	c Signal Li	fetime Managemen	t Sy	rstem		Project St	tatus:	Proposed
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
State P	Project N	lumb	er:			Project Start	Date:			6/1/2010
Resear	ch Proj	ect N	umber:	10-3P		Completion	Date	(original)		6/1/2012
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)		
Princip	al Inves	tigato	or:	Dr. Leticia Santos	da R	ocha Courvill	е		1	
				Bude	GET \$	Status				
		Т	otal Budge	t			Estimat	ted 2010-201	1 Budget	
Total C	ost	(orig	inal)	\$352,280		Total				\$99,250
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$54,270
	F	FY 20	09 - 2010 Bi	udget		Equipment	(expen	dable)		
FY Fun	Funds (original) Equipment (non-expendable) \$15,600									
	(revised) Travel \$3,390									
Est. FY	ist. FY Expenditure Other \$25,990									
				PURPOS	SE AI	ND SCOPE			-	
The based of the proo Institute In the signal s intensit measur diagran both the degrad designe is Louis strategi	The purpose of this research is to provide Louisiana State with LED traffic signals that are replaced based on service time estimate rather than the warranty period stated by manufacturers. The objectives of this research are to develop LED traffic signal lifetime curves, and to design and test the prototype of a circuit that cuts off LED traffic signal light at the time that the threshold published by Institute of Transportation Engineers occurs in these lifetime curves. In this research, AllnGaP LED traffic signals operating in Baton Rouge will be identified. LED traffic signal samples which involve different service time will be collected from the streets of this city. Luminous intensity will be measured in laboratory and in the field. Voltage, current, and power factor will also be measured. Average high and low temperature in Baton Rouge will be identified. Cylindrical sun path diagram for Baton Rouge will also be identified. Such measurements and data will assist in investigating both the current effect in luminous intensity degradation, and the temperature effect in luminous intensity degradation. LED traffic signal lifetime curves will be developed. The prototype of the cutoff circuit will designed and tested. The technical audience who will use LED traffic signal lifetime curves and cutoff circuit is Louisiana DOTD's Districts. An evaluation of implementing such lifetime report.									
				FISCAL YEAR 2009	- 20′	O ACCOMPLIS	HMENT	5		

Fiscal Year 2010-2011

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

The activities that will be done during the 2010-2011 fiscal year are:

- To search literature about accelerated life testing of LEDs, and electronics components;
- To do acquisition of data acquisition system, data sensors, laptop, handheld light tester;
- To collect samples of AlInGaP LED traffic signals operating in Baton Rouge;
- To measure luminous intensity using goniophotometer system;
- To measure luminous intensity using handheld light tester;
- · To compare luminous intensity from laboratory measurement and field measurement;
- To measure voltage AC and DC, current AC and DC, and power factor;
- To integrate luminous intensity degradation, service life, voltage, current, power factor, temperature, and cylindrical sun path diagram information; and
- To develop LED traffic signal lifetime curves.

Title: Eval	uatior to be	n of the Val included i	lidity of Multiple Str n LADOTD Asphalt	ess Bin	Creep Recov der Specifica	very tion	Project S	tatus:	Proposed	
Funding Sou	rce:	SPR: TT-	Fed/TT-Reg		В	udget	Category:	FHWA		
State Draiget	Numb	ori			Droject Start	Data			7/1/2010	
Research Project		lumber:				Date.	(original)		9/30/2011	
Research Age	ancv.		LTRC		Completion [Date	(revised)		3/30/2011	
Principal Inve	stigat	or:	Md. Sharear Kabi	r			()			
•			Budg	ET \$	Status					
	٦	Fotal Budge	t		E	Estimat	ed 2010-201 ²	1 Budget		
Total Cost	(orig	jinal)	\$105,106		Total				\$83,485	
	(rev	ised)						1		
Est. Expende	d to D	ate			Salaries				\$82,485	
	FY 20	09 - 2010 B	udget		Equipment	(expend	dable)			
FY Funds	(orig	jinal)			Equipment	(non-ex	pendable)			
	(revised) Travel \$1,000									
Est. FY Expe	Est. FY Expenditure Other									
			PURPOS	SE AI	ND SCOPE					
Multiple Stres binder at diffe has already b study is to co characterize t recommendat	s Cre rent s een a lect a heir e ions t	ep Recover tress levels dded to the sphalt binde lastic respo o the currer	ry (MSCR) test has b and can be used to AASHTO specificati ers from various sour onses with regard to t tht LADOTD asphalt b	een dete on f ces he p inde	used extensivermine the pre or PG graded listed in the Q oresent AASH ⁻ er specificatior	vely to i sence o binder. Qualifieo TO bino n will be	dentify the e of polymer in The main c d Product Lis der specifica e developed	elastic re n a binde bjective st of LAE ation. In a	esponse in a er. This test of this DOTD and addition,	
			FISCAL YEAR 2009 -	201	O ACCOMPLISH	HMENTS	;			
			FISCAL YEAR 2010-2	011	PROPOSED AC	CTIVITIE	S			
 Cond Colle Perfo Start Start 	uct lite ct bind rm lat data a writing	erature revi der samples poratory exp analysis; an g up the dra	ew; s from various asphal beriments; d aft final report.	t su	ppliers;					

Title:	Invest Mix As	igati spha	on of In-si	tu tests in QC/QA A	ppl	ications for H	lot-	Project S	tatus:	Proposed
Fundin	g Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
						1			I	
State P	roject N	lumb	er:			Project Start	Date:	I		7/1/2010
Resear	ch Proje	ect N	umber:			Completion	Date	(original)		6/30/2012
Resear	ch Ager	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Inves	tigato	or:	Dr. Louay Moham	nad					
				Budg	SET \$	STATUS				
		Т	otal Budge	t			Estima	ted 2010-201	1 Budget	:
Total C	ost	(orig	inal)	\$275,688		Total				\$104,479
		(revi	sed)						1	
Est. Ex	pended	to D	ate			Salaries	r			\$104,479
	F	Y 20	09 - 2010 Bi	udget		Equipment	(expen	dable)		
FY Fun	lds	(orig	inal)			Equipment	(non-e	xpendable)		
		(revi	sed)			Travel				
Est. FY	Expend	diture	9			Other				
				PURPOS	SE A	ND SCOPE			-	
Adequa paveme constru laborate Deflect QC/QA achieve is to ev of field from the	Adequate QA practices are the key to obtain a satisfactory product and to ensure that an installed HMA pavement is what the designer specified. Years of experience support that deviation from either material or construction specifications often lead to premature pavement distress or even failure. While volumetric and laboratory properties are widely used in current specifications, in-situ tests such as light falling weight Deflectometer, Portable Pavement Seismic Analyzer (PSPA), ground penetrating radar can be used in QC/QA activities. These tests may be used to complement current volumetric specifications in order to achieve better construction practices of asphalt construction. The main objective of the proposed research is to evaluate these in-situ tests in the field in order to complement current QC/QA specifications. A number of field projects will be selected for evaluation and for establishing correlations to predict field performance from the results of these tests.									
				FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENT	S		
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S		
• • •	Condu Develc Select Condu	ct a t p a r field ct fie	horough lite ational test project; an Id NDT and	erature review; factorial; d I laboratory tests.						

Title:	Perfo Mixtu	rman res L	ice Evaluat Inder Acce	tion Of Sustainable elerated Pavement 1	Ma Fest	terials in HM/ ting	A	Project S	tatus:	Proposed
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
State P	Project N	lumb	er:			Project Start	Date:			7/1/2010
Resear	rch Proj	ect N	lumber:			Completion	Date	(original)		6/30/2013
Resear	rch Age	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Inves	tigato	or:	Dr. Louay Moham	mad					
				Bude	SET (STATUS				
		٦	Total Budge	t			Estimat	ed 2010-201	1 Budget	t
Total C	ost	(orig	inal)	\$430,000		Total				\$63,196
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$61,196
	I	FY 20	09 - 2010 B	udget		Equipment	(expend	dable)		
FY Fun	nds	(orig	inal)			Equipment	(non-ex	pendable)		
		(revi	sed)			Travel	1			\$2,000
Est. FY	Est. FY Expenditure Other									
				Purpos	SE A	ND SCOPE			<u>r</u>	
The ob Thiopa Testing trafficke perform rutting	The objective of this study is to evaluate the overall performance of hot mix asphalt mixtures containing Thiopave additives as compared to similar mixtures with conventional HMA under Accelerated Pavement Testing (APT) at the Louisiana Pavement Research Facility. Test lanes will be designed, constructed, and trafficked using the accelerated loading device at the LADOTD Pavement Research Facility. The field performance will be monitored using Falling Weight Deflectometer (FWD) and DYNAFLECT tests as well as rutting and surface cracking measurements.									
				FISCAL YEAR 2009 -	· 20′	10 ACCOMPLIS	HMENTS	5		
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES									
This re Task 1 Task 2 Task 3 Task 4 Task 5 Task 6	search Cond Desig Devel Perfo Apply Perfo	will b uct L op C rm La APT rm Fi	e conducte iterature Re st Lanes; onstruction ane Constru Loading; a eld Perform	d according to the for eview; and Bid Specificatio uction; and hance Tests.	llow n;	ing tasks:				

Title:	Evalu Shing	atior les	n of HMA N	lixtures Containing	Re	cycled Aspha	alt	Project S	tatus:	Proposed
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		В	Budget	Category:	FHWA	
				1		1				
State P	Project N	lumb	er:			Project Start	Date:			7/1/2010
Resear	ch Proje	ect N	lumber:			Completion	Date	(original)		6/30/2012
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Inves	tigate	or:	Dr. Louay Moham	mad					
				Bude	SET \$	STATUS				
		٦	Total Budge	t			Estimat	ed 2010-201 [,]	1 Budget	t
Total C	ost	(orig	inal)	\$204,032		Total				\$68,580
		(revi	ised)						0	
Est. Ex	pended	to D	ate			Salaries				\$68,580
	F	TY 20	09 - 2010 B	udget		Equipment	(expend	dable)		
FY Fun	nds	(orig	inal)			Equipment	(non-ex	(pendable)		
		(revi	sed)			Travel				
Est. FY	Est. FY Expenditure Other									
				Purpos	SE AI	ND SCOPE			<u>P</u>	
The pri concret which t the agg mechar Recycle binder a mechar Rheolo contras mixture	The primary objective of this research project is to evaluate the potential use of roofing shingle in asphalt concrete mixtures. The roofing shingles may be blended with asphalt binder through a wet process, in which the ground recycled material is blended with a virgin binder at high temperature prior to mixing with the aggregates. To achieve this objective, this research will measure experimentally the rheological and mechanical properties of asphalt binders and aggregates extracted from three contrasting sources of Recycled Asphalt Shingles (RAS). The ground recycled material will then be blended with virgin asphalt binder at high temperature and at different RAS content levels. The chemical and physical interaction mechanisms taking place in the blending process will be characterized using rheological testing and GPC. Rheological and mechanical characterization of asphalt binders and aggregates extracted from three contrasting sources of RAS will be performed. In addition, the mechanical properties of asphalt/aggregate mixtures with and without RAS will be evaluated at high, intermediate and low temperatures.									
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES									
•	Charac extract Prepar proper Detern	cteriz ed fr e RA ties o nine	te the rheol om three co S modified of prepared the mechar	ogical and mechanic ontrasting sources of asphalt binder blend asphalt blends; and nical properties of asp	al p RA ds u ohal	roperties of as S; sing a wet pro t/aggregate m	sphalt b cess ai ixtures	inders and a nd measure with and wi	aggrega the rheo thout RA	tes blogical AS.

Title:	Inves Aspha	tigati alt M	ion of the l ixtures	Jse of High RAP Co	onte	nt in Hot Mix		Project S	tatus:	Proposed	
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA		
State P	roject N	lumb	er:			Project Start	Date:	I		7/1/2010	
Resear	ch Proj	ect N	umber:		-	Completion	Date	(original)		6/30/2012	
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)			
Principa	al Inves	tigate	or:	Dr. Louay Moham	mad						
				Budo	GET	STATUS					
		٦	otal Budget	t			Estima	ted 2010-201	1 Budget	t	
Total C	ost	(orig	inal)	\$275,000		Total				\$68,580	
		(revi	sed)								
Est. Ex	pended	to D	ate			Salaries				\$68,580	
•	I	TY 20	09 - 2010 Bu	udget		Equipment	(expen	dable)			
FY Fun	lds	(orig	inal)			Equipment	(non-e	xpendable)			
	(revised) Travel										
Est. FY	Est. FY Expenditure Other										
				Purpos	SE A	ND SCOPE			<u>.</u>		
Many s (HMA) some a use of I interact of RAP highwa perform content anticipa recomn asphalt environ	PURPOSE AND SCOPE Many state agencies are considering increasing the allowable percentages of RAP in hot-mix asphalt (HMA) to take full advantages of this promising technology. For instance, up to 50% RAP has been used in some asphalt mixtures, which produced an acceptable level of performance. However, to ensure successful use of RAP, confidences in the mixture design procedure require addressing many concerns related to the interaction between virgin and recycled materials and durability of the produced mixture. In addition, the use of RAP allows decreasing the amount of produced waste and helps to resolve the disposal problems of highway construction materials. The main objective of the proposed research is to evaluate the laboratory performance of HMA produced with various levels of high RAP contents. The optimum level of RAP contents to achieve the required high, intermediate, and low temperature properties will be examined. It is anticipated that the proposed research activities will provide the LDOTD with specifications, recommendations for the use of HMA mixtures containing high RAP contents. With the increasing costs of asphalt, coupled with the scarcity of quality aggregates and the pressuring need to preserve the environment, the use of RAP has a strong potential to provide the State with significant savings. FISCAL YEAR 2009 - 2010 AccompLISHMENTS										
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES										
•	 Conduct a thorough literature review; Develop a laboratory and field experiments; and Conduct laboratory experiment. 										

Funding Source: SPR: TT-Fed/TT-Reg Budget Category: FHWA State Project Number: Project Start Date: Completion Date (original) Research Agency: LTRC Completion Date (original) Principal Investigator: Dr. Marie Walsh Budget Start Date: Completion Date (revised) Total Cost (original) \$200,000 (revised) Salaries \$22 FY 2009 - 2010 Budget Salaries \$22 \$22 FY 2009 - 2010 Budget Equipment (on-expendable) \$2 FY Funds (original) Equipment (on-expendable) \$2 FY Funds (original) Equipment (on-expendable) \$2 FY Funds (original) Equipment (on-expendable) \$2 Travel Other Other Bavalable Bavalable PurPose AND SCope Fiscal YEAR 2010-2011 Propose Activeries Fiscal YEAR 2010-2011 Propo	Title:	Louis	iana	Transport	ation Safety Center				Project S	tatus:	Proposed
State Project Number: Project Start Date: Completion Date (original) Research Agency: LTRC Completion Date (original) Principal Investigator: Dr. Marie Walsh Estimated 2010-2011 Budget Total Budget Estimated 2010-2011 Budget \$220 Total Cost (original) \$200,000 Total \$22 (revised) Est. Expended to Date Salaries \$22 FY 2009 - 2010 Budget Equipment (expendable) \$2 FY Funds (original) Equipment (ron-expendable) \$2 irevised) Travel Other \$2 Purpose AND Scope Purpose AND Scope \$2 The Center will provide a structure for Louisiana's research universities to collaborate on safety related projects and leverage resources. Supported by research and technology transfer, the center will provide and regional needs. An expanded training and education program which inclub the new multi-disciplinary highway safety professional curriculum being developed by TRB will be made available to transportation professionals on a national basis. DOTD, LTRC and the TTEC in Baton Rou LA will serve as the nucleus for these activities. Fiscal YEAR 2009 - 2010 AccompLishments Evelopment of Proposal to Establish the Louisiana Transportation Safety Center;	Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
State Project Number: Project State Date: Research Agency: LTRC Completion Date (original) Principal Investigator: Dr. Marie Walsh Bubget Status Total Budget Total Cost (original) \$200,000 (revised) Total State Date: State Date: Completion Date Total Budget Total Cost (original) State Date: State Date: Total Cost (revised) Total Equipment (revised) Travel Colspan="2">Colspan="2">Colspan= 2" PurPose AND Scope The Center will provide a structure for Louisiana's research universities to collaborate on safety related projects and leverage resources. Supported by research and technology transfer, the center will provide a structure for Louisiana's research universities to collaborate on safety related projects and leverage resources. Supported by research and technology transfer, the center will provide enhanced technical assist	Otata D						Ducie et Oterr	Data			
Research Agency: LTRC Completion Date (mgma) Principal Investigator: Dr. Marie Walsh Completion Date (revised) BubGET STATUS Total Budget Estimated 2010-2011 Budget Total Cost (original) \$220,000 Total \$22 (revised)	State P			er:			Project Start	Date:	(original)		
Principal Investigator: Dr. Marie Walsh Budget Status Total Budget Total Budget Total Budget Total Cost (original) (revised) \$200,000 (revised) Est. Expended to Date Salaries \$220 FY 2009 - 2010 Budget Equipment (expendable) \$200 FY Funds (original) Equipment (revised) \$220 Other Colspan="2">Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan	Resear			umper.			Completion	Date			
Budget Watch Budget Status Budget Status Total Budget Total Cost (original) \$200,000 (revised) Salaries \$20 Est. Expended to Date Salaries \$20 FY 2009 - 2010 Budget Equipment (expendable) \$20 FY Funds (original) Equipment (non-expendable) \$20 Travel Other Other Salaries \$20 PurPose AND Scope The Center will provide a structure for Louisiana's research universities to collaborate on safety related projects and leverage resources. Supported by research and technology transfer, the center will provide enhanced technical assistance to federal, state and local transportation agenes and will be available to transportation professional curriculum being developed by TRB will be made available to transportation professional curriculum being developed by TRB will be made available to transportation professionals on a national basis. DOTD, LTRC and the TTEC in Baton Rou LA will serve as the nucleus for these activities. Fiscal YEAR 2009 - 2010 AccompLISHMENTS Evelopment of Proposal to Establish the Louisiana Transportation Safety Center; Develop Business Plan for the center; and	Princip	al Inves	tiaata	or:	Dr. Marie Walsh		Completion	Dale	(Tevised)		
Total Budget Estimated 2010-2011 Budget Total Cost (original) \$200,000 (revised) (revised) \$220 Est. Expended to Date Salaries \$200 FY 2009 - 2010 Budget Equipment (expendable) \$200 FY Funds (original) Equipment (expendable) \$200 FY Funds (original) Equipment (non-expendable) \$200 Est. FY Expenditure Other Development \$200 \$200 Travel Other \$200 \$200 \$200 \$200 \$200 \$200 \$200 Est. FY Expenditure Other Other \$200 \$2	ТПЮР		igui	51.	Bubg	ET \$	Status				
Total Cost (original) \$200,000 (revised) (revised) Est. Expended to Date Salaries \$20 FY 2009 - 2010 Budget Equipment (expendable) FY Funds (original) Equipment (expendable) (revised) Equipment (non-expendable) \$2 Est. FY Expenditure Other Other Salaries \$20 PurPose AND Scope PurPose AND Scope Travel Salaries Salaries Salaries \$20 The Center will provide a structure for Louisiana's research universities to collaborate on safety related projects and leverage resources. Supported by research and technology transfer, the center will provide enhanced technical assistance to federal, state and local transportation agencies and will be available to work to meet other state and regional needs. An expanded training and education program which inclu the new multi-disciplinary highway safety professional curriculum being developed by TRB will be made available to transportation professionals on a national basis. DOTD, LTRC and the TTEC in Baton Rou LA will serve as the nucleus for these activities. Fiscal Year 2009 - 2010 AccompLishments Evelopment of Proposal to Establish the Louisiana Transportation Safety Center; Develop Business Plan for the center; and Develop Business Plan for the center; and			T	otal Budge	t			Estimat	ed 2010-201	1 Budget	
Image: constraint of the second se	Total C	ost	(oria	inal)	\$200.000		Total			J	\$25.000
Est. Expended to Date Salaries \$20 FY 2009 - 2010 Budget Equipment (expendable) \$20 FY Funds (original) Equipment (non-expendable) \$20 Est. FY Expenditure Other Other Salaries \$20 PURPOSE AND SCOPE The Center will provide a structure for Louisiana's research universities to collaborate on safety related projects and leverage resources. Supported by research and technology transfer, the center will provide enhanced technical assistance to federal, state and local transportation agencies and will be available to work to meet other state and regional needs. An expanded training and education program which inclu the new multi-disciplinary highway safety professional curriculum being developed by TRB will be made available to transportation professionals on a national basis. DOTD, LTRC and the TTEC in Baton Rou LA will serve as the nucleus for these activities. FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES • Development of Proposal to Establish the Louisiana Transportation Safety Center; • Develop Business Plan for the center; and			(revi	sed)	+_00,000						+_0,000
FY 2009 - 2010 Budget Equipment (expendable) FY Funds (original) Equipment (non-expendable) \$8 (revised) Travel Other Equipment (non-expendable) \$8 Est. FY Expenditure Other Other Image: State of the context of the con	Est. Ex	pended	to D	ate			Salaries				\$20.000
FY Funds (original) Equipment (non-expendable) \$\$ Image: transmission of the context of the			FY 20	09 - 2010 Bi	udget		Equipment	(expend	dable)		+ -,
Image: Control of the second secon	FY Fun	nds	(orig	inal)			Equipment	(non-ex	(pendable)		\$5.000
Est. FY Expenditure Other PURPOSE AND Scope The Center will provide a structure for Louisiana's research universities to collaborate on safety related projects and leverage resources. Supported by research and technology transfer, the center will provide enhanced technical assistance to federal, state and local transportation agencies and will be available t work to meet other state and regional needs. An expanded training and education program which inclu the new multi-disciplinary highway safety professional curriculum being developed by TRB will be made available to transportation professionals on a national basis. DOTD, LTRC and the TTEC in Baton Rou LA will serve as the nucleus for these activities. FISCAL YEAR 2009 - 2010 AccompLishments Fiscal YEAR 2010-2011 Proposed Activities Development of Proposal to Establish the Louisiana Transportation Safety Center; Develop Business Plan for the center; and			(revi	sed)			Travel	`	. ,		+ - ,
Purpose AND Scope The Center will provide a structure for Louisiana's research universities to collaborate on safety related projects and leverage resources. Supported by research and technology transfer, the center will provide enhanced technical assistance to federal, state and local transportation agencies and will be available t work to meet other state and regional needs. An expanded training and education program which inclu the new multi-disciplinary highway safety professional curriculum being developed by TRB will be made available to transportation professionals on a national basis. DOTD, LTRC and the TTEC in Baton Rou LA will serve as the nucleus for these activities. FISCAL YEAR 2009 - 2010 AccompLishments EVENDSE Development of Proposal to Establish the Louisiana Transportation Safety Center; Develop Business Plan for the center: and	Est. FY	Est. FY Expenditure Other									
The Center will provide a structure for Louisiana's research universities to collaborate on safety related projects and leverage resources. Supported by research and technology transfer, the center will provide enhanced technical assistance to federal, state and local transportation agencies and will be available to work to meet other state and regional needs. An expanded training and education program which inclut the new multi-disciplinary highway safety professional curriculum being developed by TRB will be made available to transportation professionals on a national basis. DOTD, LTRC and the TTEC in Baton Rou LA will serve as the nucleus for these activities. FISCAL YEAR 2009 - 2010 AccompLishments EVENDS Development of Proposal to Establish the Louisiana Transportation Safety Center; Develop Business Plan for the center; and					PURPOS	E AI	ND SCOPE			-	
FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES Development of Proposal to Establish the Louisiana Transportation Safety Center; Develop Business Plan for the center; and	The Ce projects enhanc work to the nev availab LA will	enter wil s and le ced tech o meet c v multi-c le to tra serve a	l prov veraç inical ther discip nspo s the	vide a struc ge resource assistance state and re plinary high rtation profe nucleus fo	ture for Louisiana's rest. Supported by rest to federal, state and egional needs. An exway safety profession essionals on a nation r these activities.	esea earo l loc (par nal c nal b	arch universiti ch and techno al transportati nded training a curriculum bei pasis. DOTD,	es to co ology tra on age and edu ng deve LTRC	ollaborate or ansfer, the c ncies and w ucation prog eloped by Tf and the TTE	n safety enter wil ill be ava ram whi RB will b C in Ba	related Il provide ailable to ch includes e made ton Rouge,
FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES Development of Proposal to Establish the Louisiana Transportation Safety Center; Develop Business Plan for the center; and					FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS	3		
 Transfer all LTRC safety related programs and projects to the center. 	•										

Title:	Support Study for Establishing an Intelligent Transportation Project Status: Proposed Funding Source: SPR: TT-Fed/TT-Reg Budget Category: FHWA									
Fundin	ig Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
State P	roject N	lumb	er:			Project Start	Date:			7/1/2010
Resear	ch Proj	ect N	umber:	10-7SS		Completion	Date	(original)		6/30/2012
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)		
Princip	al Inves	tigate	or:	Dr. Chester Wilmo	t					
				Budo	SET \$	Status				
		T	otal Budge	t			Estimat	ed 2010-201	1 Budget	
Total C	ost	(orig	inal)	\$93,163		Total				\$93,163
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$25,403
	F	FY 20	09 - 2010 Bi	udget		Equipment	(expend	dable)		\$50,400
FY Fun	lds	(orig	inal)			Equipment	(non-ex	pendable)		\$17,360
		(revi	sed)			Travel				
Est. FY	Est. FY Expenditure Other									
	PURPOSE AND SCOPE									
This pro- the ITS foundar serve a (e.g. vio weigh-i agencie that car	This project provides the internal funding and staff support for LTRC project 10-6SS. The establishment of the ITS lab will address the needs of DOTD, other agencies, and the public, as well as serve as a foundation to conduct "bleeding edge" research and training of graduate students. The lab will primarily serve as a catalyst to collect and store data from various ITS sources such as traffic monitoring systems (e.g. video detectors and cameras), as well as other sources of data such as crash data, planning data, weigh-in-motion data, etc. The ITS lab will also process this data and make it available to the interested agencies for use in applications of their needs. The ultimate goal is to create a centralized location for data that can effectively support applications of immediate and long-term needs.									
				FISCAL YEAR 2009	201	10 ACCOMPLIS	HMENTS	5		
Phase prelimir	Phase 1 of investigation is complete which included preparation of a final report documenting the preliminary investigation into the feasibility and desirability of establishing an ITS Lab at LTRC.									
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES									
• • • •	 Develop specifications for equipment purchase and install ITS lab equipment; Develop plans and specifications for modifying existing LTRC building to accommodate the ITS lab; Award contract to modify building; Award contract to purchase and install ITS equipment; Develop operational guidelines; and Begin operations of ITS lab. 									

Title:	Invest Roads	tigati s	on of Rolle	er Compacted Con	cret	e for Low Vol	ume	Project St	tatus:	Proposed
Fundin	ig Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
Ctata D	raia at N		<u></u>			Ducie et Cteut	Data			0/1/2010
State P						Project Start	Date:	(original)		8/1/2010
Resear			umper:			Completion	Date Date	(onginal)		6/30/2013
Princing	al Inves	tiaata	r.	Dr Tyson Ruppov		Completion	Dale	(Tevised)		
ТППОР		igui	JT.	Bud	GET	STATUS				
		Т	otal Budget	t			Estimat	ed 2010-201 ²	1 Budget	t
Total C	ost	(orig	inal)	\$300,000		Total			_	\$150,000
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$65,000
	F	TY 20	09 - 2010 Bu	udget		Equipment	(expend	dable)		\$3,000
FY Fun	ds	(orig	inal)			Equipment	(non-ex	pendable)		
		(revi	sed)			Travel				
Est. FY	Expen	diture	9			Other				\$82,000
				PURPO	SE A	ND SCOPE			•	
Develo mixture would a	p a met design also be	hodo s and cond	logy for roll d determine ucted to de	er compacted concr suitable mixtures fo termine optimal thicl	ete (or us knes	(RCC). This s ie in LADOTD is for paving a	tudy wo roadwa pplicati	ould also inv ay applicatio ons.	restigate ns. ALF	various testing
				FISCAL YEAR 2009	- 20′	10 ACCOMPLIS	HMENTS	5		
Prepare and cor	e the pr	opos the la	al, procure nes at ALF	FISCAL YEAR 2010-2 funding, and procure . Note that the "othe	2 011 e ma er" n	PROPOSED Ad aterials for the nonies will be	CTIVITIE laborat used in	s ory testing p construction	portion o	f the study ALF lanes.

Title:	Devel Speci	opm ficati	ent of Perf ons	ormance Based, or		Project Status:		Proposed				
Fundin	g Sour	ce:	SPR: TT-	Fed/TT-Reg		B	Budget	Category:	FHWA			
State P	roiect N	lumb	er:			Proiect Start	Date:	12/1/2010				
Resear	ch Proje	ect N	umber:			Completion Date (original)				6/30/2012		
Resear	ch Agei	ncy:		LTRC		Completion	Date	(revised)				
Principa	al Inves	tigato	or:	Dr. Tyson Rupnow								
				Budg	GET STATUS							
		Т	otal Budge	t		I	Estimat	ed 2010-201	1 Budget	1		
Total C	ost	(orig	inal)	\$250,000		Total				\$35,000		
		(revi	sed)									
Est. Ex	pended	to D	ate			Salaries				\$35,000		
	F	Y 20	09 - 2010 B	udget		Equipment (expendable)						
FY Fun	ds	(orig	inal)			Equipment (non-expendable)						
		(revi	sed)			Travel						
Est. FY	Expen	diture)			Other						
				PURPOS	E AI	ND SCOPE						
The purprojects that are	rpose o s curren e desire	f this tly be d by l	study is to eing let by l LADOTD fo	develop performance ADOTD. This study or construction of PCC	e ba will C pa	sed or end re help determin avements.	sult spo ne the r	ecifications f various end	or the de result pa	esign build arameters		
				FISCAL YEAR 2009 -	201	O ACCOMPLIS	HMENT	3				
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S				
Develo	p the pr	opos	al and send	d portions of the proje	ect o	out for RFP.						

Title:	Inves Paver	tigati nent:	on of Air E s and Brid	Project S	tatus:	Proposed					
Fundin	unding Source: SPR: TT-Fed/TT-Reg					E	Budget	FHWA			
									1		
State P	roject N	lumb	er:			Project Start Date:				10/1/2010	
Resear	ch Proj	ect N	umber:			Completion Date (original)				12/31/2011	
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)			
Principa	al Inves	tigato	or:	Mr. Patrick Icenog	е						
				Budg	ET \$	Status					
		T	otal Budget	t			Estimat	ed 2010-201	1 Budge	t	
Total C	ost	(orig	inal)	\$100,000		Total \$3					
		(revi	sed)								
Est. Ex	Est. Expended to Date					Salaries				\$35,000	
	I	FY 20	09 - 2010 Bu	udget		Equipment	(expen	dable)			
FY Fun	FY Funds (original)					Equipment	(non-e)	(pendable)			
	(revised)					Travel					
Est. FY	Expen	diture	9			Other					
				PURPOS	E A	ND SCOPE			1		
This pro constru tested t	oject wi icted in ic deter	ll be Louis mine	used to vali siana. Seve durability.	date the air entrainm eral different mix des	igns	quantities nee s will be produ	eded fo ced wit	r bridges an h and witho	d paven ut entrai	nent projects ned air and	
				FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS	6			
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S			
Develo	p the te	st ma	atrix, procur	e materials, and star	t lai	poratory testin	g.				

FHWA

Part II SPR Funded Research Program

POOLED FUND LEAD STATE RESEARCH

Title: S	Southea	ast T	ransport	ation Consortium				Project St	tatus:	Ongoing
Funding	Source	e:	SPR: Poo	eled Fund: TT-Fec		E	Budget	Category:	FHWA	
					-				1	
State Proj	ject Nu	mbe	r:	736-99-165	5	Project Start	Date:			9/1/2009
Research Project Number: 09-1PF						Completion	Date	(original)		8/30/2012
Research Agency: LTRC					;	Completion	Date	(revised)		
Principal Investigator: Mr. Mark Morvant										
				Bu	DGET	Status				
Total Budget Estimated 2010-20										
Total Cost (original) \$150,00						Total				\$25,000
(revised)										
Est. Expended to Date \$6,554					1	Salaries				\$15,000
	FY	2009	9 - 2010 Bu	udget		Equipment (expendable)				
FY Funds	6 (origin	al)	\$10,000)	Equipment	(non-e)			
	(revise	ed)			Travel				\$8,000
Est. FY E	xpendit	ture		\$6,554	ł	Other \$2,0				
				PURP	OSE A	ND SCOPE			-	
STC's obj develop ir maintenar intended t programs duplicatio state rese synergy a	STC's objectives are to pool financial, professional, and academic resources to coordinate research and develop improved methods of addressing common problems in the planning, design, construction, maintenance, management, and operation of transportation systems in participating states. The program is intended to supplement ongoing state, federal, and university research activities and other national programs such as the National Cooperative Highway Research Program. It is intended to reduce duplication of research and provide means for better communication of on-going research activities in the state research programs. The cooperative and collaborative objectives of the STC program are to develop synergy and provide for a more efficient use of resources.									

Fiscal Year 2010-2011

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

The inaugural meeting of the Southeastern Transportation Consortium (STC) meeting was held in Baton Rouge, LA on October 21, 22, 2009. The meeting was hosted by Louisiana (lead state) at the Louisiana Transportation Research Center. Ten member states represented include AL, AR, GA, KY, LA, MS, NC, TN, VA, and WV.:

- Developed a STC charter defining conduct of business and organizational procedures;
- Developing a research topic list of opportunities for collaboration including member rating of research need.

Began work on synthesis of member state research programs:

- Collected research project data for the past 5 years for Louisiana and Virginia programs;
- Presented example database and categories to the RAC II members at TRB Annual Meeting;
- Collected research project data from Alabama, Georgia, Arkansas, West Virginia, and Mississippi; and
- Began development of website for project searches.

Developed Opportunities-for-Collaboration research topics:

- Collected research topic summaries from members;
- Completed survey of members for topic ratings; and
- Presented ratings at TRB RAC II meeting.

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Complete synthesis of member state research projects;
- Develop strategic plan for conducting research studies beneficial to the region;
- Continue development of a web site for the STC;
- Present status of synthesis project at Annual RAC meeting;
- Conduct STC Annual Meeting; and
- Select and fund research consortium research project.

Title:	Traffic and D	Traffic and Data Preparation for AASHTO MEPDG Analysis Project Status: Proposed and Design Project Status: Proposed									
Fundin	Funding Source: SPR: Pooled Fund: TT-Fe					В	Budget	Category:	FHWA		
						-					
State P	roject N	lumb	er:			Project Start	Date:		10/1/2010		
Resear	ch Proje	ect N	umber:			Completion	Date	(original)		9/30/2013	
Resear		ncy:				Completion	Date	(revised)			
Principa	arinves	ligalo	אנ.	Bubo	(STATUS					
			otal Rudgot	BUDG	EI		Ectimat	od 2010-201/	1 Rudgot		
Total C	oot	(aria		\$500,000		Tetal	ESUMAU	eu 2010-201	i buugei	¢120.000	
TOTALC	(revised)					TOTAL				\$130,000	
Est Ex	nended	to D				Salaries				\$130,000	
FY 2009 - 2010 Budget						Equipment	(expend	dable)		φ100,000	
FY Funds (original)						Equipment	(non-ex				
(revised)						Travel	(
Est. FY	Expen	diture	;			Other					
	<u> </u>			PURPOSI	E AI						
The Me design, before to pooled softwar	echanist but rec their us fund stu e callec Recog spectru data of Develo operat versior Add m Custor Prepar Provid are a nu erencin Ils input	ic En Juires e in th Judy w I Prep nize f f LTP op ad ions f ore funize f mber g of c s for Judy, a supp	npirical Pav significant he MEPDG vill help part oME with its the differen ata occurrir 'P; vanced alg to salvage u uality chec unctions ba PrepME for d conduct to ticipating sites MEPDG; al a possible r ports provid	rement Design Guide ly more input from de- procedure, such as M ticipating states highw s scope of service to b ces in loading pattern g under different con orithms to examine ra usable information in the ks for traffic data can sed on the consensus participating states; raining for the person tates technical support atures in PrepME that s, weather stations, W nd (3) preparing other nationwide platform for ed to individual states	(M sign Weivay be diti aw V WII be s of nel rt th r M for d s fo	EPDG) is a signers. Many da igh-In-Motion agencies use expanded to: or traffic group ons based on WIM data for ME available to find f participating of participating of participating and water tak EPDG inputs. ata preparatio r implementat	gnifican ata sets (WIM) t MEPD s and e large a PDG at eld data states; og states; three-y o any h ole obso It is en on of ME	at advancem need to be raffic data. G with a full estimate the mount of W and conduct nd other pur a collection of s; and ear period. ighway age ervations; (2 hvisioned the EPDG can b	ent in pa pre-proc The pro l-produc full axle IM data, data rep poses. A crew.	avement posed tion load such as the pair A portable uding (1) ating gh this ished with	

LTRC Annual Research Program

Fiscal Year 2010-2011

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Recognize the differences in loading patterns or traffic groups and estimate the full axle load spectrum data occurring under different conditions based on large amount of WIM data, such as the data of LTPP; and
- Develop advanced algorithms to examine raw WIM data for quality and conduct data repair operations to salvage usable information in WIM data for MEPDG and other purposes. A portable version of quality checks for traffic data can be available to field data collection crew.

FHWA

Part II SPR Funded Research Program

POOLED FUND EXTERNAL LEAD STATE RESEARCH

Title: Trans	porta	ation Libra	ry Connectivity				Project St	tatus:	Ongoing
Funding Sour	ce:	SPR: Poo	oled Fund: TT-Fed		E	Budget	Category:	FHWA	
			1					1	
State Project N	lumb	er:			Project Start	Date:		10/1/2005	
Research Proj	ect N	umber:	TPF-5(105)		Completion	Date	(original)		12/31/2010
Research Age	ncy:				Completion	Date	(revised)		
Principal Inves	Principal Investigator:								
			Budgi	ET \$	Status				
	Т	otal Budge	t		I	Estimat	ed 2010-2011	1 Budge	t
Total Cost	Total Cost (original) \$100,00								\$20,000
	(revised)								
Est. Expended	Est. Expended to Date \$80,000								\$20,000
	FY 20	09 - 2010 Bi	udget		Equipment (expendable)				
FY Funds	(orig	inal)	\$20,000		Equipment (non-expendable)				
	(revi	sed)			Travel				
Est. FY Expen	diture	9	\$20,000		Other				
			Purposi	E A	ND SCOPE			<u>.</u>	
The Transportation Library Connectivity Pooled Fund Study is a grassroots effort by librarians and information professionals in 22 state departments of transportation, two university transportation centers and a metropolitan transportation authority. Since 2005 members have been pooling their talents, energy and resources to develop better ways to serve practitioners in transportation agencies. A full-time consultant provides technical assistance to member libraries and carries out a ten-point annual work plan aimed at improving information access throughout the transportation community									

Fiscal Year 2010-2011

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

Technical guidance and support to members:

- Conducted a site visit to New Mexico DOT;
- Consulted with Arizona DOT on moving their library and planning the new space;
- Began working on the Year Five Annual Report;
- Consulted with Louisiana DOTD/LTRC on statistical tracking software and integrated library systems software;
- Continued consulting with Mississippi DOT on data implementation of ILS, OCLC upload, training and MARC cataloging formats;
- Provided ongoing technical cataloging assistance to convert bibliographic records into MARC format. Specifically, facilitated MARC cataloging activities including adding new items to WorldCat and TLCat, helping eliminate backlogs, and enhancing overall quality of cataloging. Teleconferences; and
- A Webinar was held on March 16, 2010 to discuss pooled fund business and discuss the current status and strategic planning for the regional TKNs and National TKN. Amanda J. Wilson (NTL), Kendra Levine (chair, WTKN), Amy Emrick (chair, MTKN) and Jane Minotti (chair, ETKN) participated in the Webinar.

Project Web site:

- An RSS feed was added to the Web site;
- The calendar was kept updated with all relevant dates and events including 2010 meeting schedules, updated throughout the quarter;
- Updates and news items are posted on a bi-weekly basis;
- Preliminary planning of the 2010 National TKN meeting took place with NTL and the chairs of WTKN, MTKN and ETKN. The meeting will be held on June 17, 2010 in New Orleans, LA.; and
- Continued to facilitate guidelines, training, reporting and accounts for the TKN Resource Sharing pilot program through its end date of March 31, 2010.

Implementation of focused research and technology projects:

 The National Resource Sharing pilot project continued to collect statistics and submit progress reports this quarter. It concluded on March 31, 2010. Maggie worked with NTL and participating libraries to report statistics on www.transportationresearch.gov through March 2010 and coordinated with NTL in notifying participants of the end of the project and the final report due date (mid-May 2010).

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Technical guidance and support to members;
- Teleconferences;
- Promotion of the value and importance of transportation library and information services to top-level transportation administrators
- · Workshops for librarians on the value of the Transportation Librarian's Toolkit;
- Annual meeting;
- Project Web site;
- Support of members in their efforts to form and grow regional Transportation Knowledge Networks;
- Collaboration with the National Transportation Library, the new AASHTO RAC TKN Task Force and others;
- Facilitate payment of OCLC and TLCat subscriptions for eligible pooled fund members; and
- Implementation of focused research and technology projects.

Title: Roadside	Safety Res	Project S	tatus:	Ongoing					
Funding Source:	SPR: Poo	oled Fund: TT-Fed	Budget Category: FHWA						
State Project Num	ber:		Project Start Date:	7/1/2008					
Research Project	Number:	TPF-5(114)	Completion Date	(original)		12/31/2011			
Research Agency:			Completion Date	(revised)					
Principal Investiga	tor:		·	·					
		BUDGET	r S tatus						
	Total Budge	t	Estima	ted 2010-201	1 Budget	t			
Total Cost (or	iginal)	\$165,000	Total			\$25,000			
(re	vised)								
Est. Expended to	Date	\$140,000	Salaries			\$25,000			
FY 2	009 - 2010 B	udget	Equipment (exper						
FY Funds (or	iginal)	\$25,000	Equipment (non-e	expendable)					
(re	vised)		Travel						
Est. FY Expenditu	re	\$25,000	Other						
		PURPOSE	AND SCOPE						
 Background: In 2005, a consortium of states joined together to pool resources to identify common research needs addressing the design, analysis, testing and evaluation of crashworthy structures including bridge rails, guardrails, transitions, median barriers , break away support structures, etc. Together, they developed about \$1 million in research funding over a three year period to fund 14 projects that are in various stages of completion. Texas Transportation Institute (TTI) is under contract to conduct the research for these projects. This research has provided cost effective and timely information to participating states. This solicitation invites other states to join the Roadside Safety Committee and to participate in developing research projects for the FFY09 and FFY10 program. Objectives: This solicitation achieves the original objective to continue the cooperative approach to developing research proposals on roadside safety through FFY2010, thus realizing cost efficiency in projects and consensus on various priorities and approaches. Scope of Work: The research projects that are currently under contract with TTI will be paid for with existing funding commitments. This solicitation is for new roadside safety research projects that will be identified and approved by the Roadside Safety Committee. The specific scopes of work are identified in problem statements or proposals that are developed by individual member states. The Committee then ranks and selects the projects that are funded and the work is carried out by Texas Transportation Institute. Member states to take advantage of the reduced overhead costs offered under the agreement. 									

LTRC Annual Research Program

Fiscal Year 2010-2011

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

The Roadside Safety Research Committee met at Texas Transportation Institute, College Station Texas in November to review the results of ongoing safety research and to develop the research plan for FFY10. In addition, the committee observed a crash test of a cable barrier system. The Committee approved five additional research projects for the coming year. A new solicitation was approved to be issued in early 2010 to invite more states to participate in the program. The results of all research conducted under this pooled fund program and a description of ongoing and new projects can be found at the Roadside Safety website located at : http://ttiresearch.tamu.edu/l-bullard/

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

The Roadside Safety Committee will meet next fall in Washington State.

Title: Techr	nolog	ıy Transfer	Concrete Consortiu	ım		Project S	tatus:	Ongoing				
Funding Sour	ce:	SPR: Poo	led Fund: TT-Fed	Budget Category: FHWA								
								0/5/0000				
State Project N	lumb	er:		Project Start	Project Start Date:							
Research Proj	ect N	umber:	IPF-5(159)	Completion	Date	(original)		2/4/2012				
Research Age	ncy:			Completion	Date	(revised)						
Principal inves	ligat	או.	Bubor									
		otal Budget	BUDGE									
Total Cost	(orig		\$25.000	Total	Estima	leu 2010-201	Buugei	\$5.000				
	(ong	sod)	\$25,000	TOLAI				\$5,000				
Est Expended	to D	ato	\$10,000	Salaries								
	EY 20	09 - 2010 Bi	udget	Equipment	(expen	dable)						
EV Eurode		inal)	\$5,000	Equipment	(non-e	vnendable)						
	(revi	sed)	ψ3,000	Travel		-						
Est FY Expen	diture	<u>,</u>	\$5,000	Other				\$5,000				
		·	PURPOSE					<i>\</i>				
Background: longer life cond strategies for a technologies a Federal Highw new concrete p facilitate and fu Objectives: T continue the co will be open to implementation innovative test Scope of Wor Design and An representative and academic Design and An TTCC will begi be advantaged	Incre crete achiev nd pr ay Ac paver and c The pr ollabo any n of n ing, c k: It alysis s, ind repre- alysis	easingly, sta pavements ving longer ractices. In dministratio ment resear oncrete res roposed pro- prative effor state desirin ew technolo- construction is envisione s Track. Th lustry repre- esentatives. s Track to b meeting in or MCC in th	ate departments of tra that result in a higher life pavements is to us order to foster new teo n (FHWA), academia rch initiatives. The pur earch and technology bject is for the establis t begun in TPF-5(066 ng to be a part of new ogies which will lead t optimization technolo ed this partnership will e Track Team will incl sentatives (from ACP/ This pooled fund will become part of that en conjunction with MCC ne future to consider n	Insportation (DO level of user satisfies innovative matchnologies and pand industry mutpose of this poole transfer initiative hment of a poole) Materials and C developments in o longer life pave ogies and practic I be part of the T ude state repress A, ACPA chapter be the opportunite deavor.	Ts) are tisfaction aterials practices st colla led funces. ed funce Constru- n concre ements es, and frack Tri- sentativ rs, and ity for a s the Mo, and b	e challenged on for the pu and constru- es, experts fr aborate to ide d project is t for state rep uction Optimi rete paving le through the d technology eam for the 0 res along wit material sup all states inte	to desig blic. One ction opt om state on state on identify presenta zation. T eading to transfer CP Roac h FHWA opliers), rested in the in the rt of the	n and build e of the timization e DOTs, d examine y, support, tives to The TTCC o the the the the the the the the the the Mix past. It may TTCC.				

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

- Interaction with Technical Monitor and/or Project Advisory Committee; ٠
- Frequent conference calls with planning committee; and •
- Brief summary of this quarter's research and activities pertaining to the project: The Fall TTCC • meeting was held in St. Louis, October 6-8.

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

Plan and conduct TTCC Fall 10 meeting.

Title: Sup	erpave	e Regional	Center		Project St	atus:	Ongoing			
Funding So	irce:	SPR: Poo	led Fund: TT-Fed	E	Budget	Category:	FHWA			
State Project	Numb	ber:		Project Start	Date:					
Research Pr	oject N	lumber:	TPF-5(228)	Completion	Date	(original)				
Research Ag	ency:			Completion	Date	(revised)				
Principal Inve	estigat	or:								
			BUDGET	STATUS						
	٦	Fotal Budget	t		Estimat	ted 2010-2011	I Budget			
Total Cost	(orig	jinal)	\$60,000	Total				\$20,000		
	(rev	ised)								
Est. Expende	ed to D	ate	\$25,000	Salaries						
	FY 20	09 - 2010 Bu	udget	Equipment	uipment (expendable)					
FY Funds (original) \$25,000				Equipment	(non-e	xpendable)				
	(rev	ised)		Travel						
Est. FY Expe	nditure	e	\$25,000	Other \$20.						
			PURPOSE	E AND SCOPE						
 Objectives of the Center are: Conduct training in regard to Superpave binders, mix design, and performance testing, and provide training on special topics as requested by participating agencies; Perform research, both cooperatively and agency-specific, sponsored by members of the pooled-fund; Perform precision and bias testing for asphalt-related performance test equipment; Conduct noise studies in an effort to develop quieter pavements; Perform forensic evaluations on materials or projects that have experienced premature distress; Prepare and give presentations and reports of research activities at local, state, and national meetings when invited; Prepare research articles of regional and national interest; Support agency personnel who attend regional and national meetings for the purpose of technology transfer or participation in special committees or task force groups; and Work in close association with the Southeastern Asphalt User/Producer Group to promote technology transfer from research to implementation. 								and provide e pooled- distress; ional f technology ite		

Fiscal Year 2010-2011

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

- Conduct Superpave mix designs and Superpave binder training courses (typically offered at NCAT facilities annually). In addition, specialized training may be conducted on-site at a sponsoring agencies facility;
- Conduct cooperative research that may cost more than a state is willing to commit to individually. This allows for basic research to be conducted that can answer questions and address needs quickly;
- Conduct state-specific research that can be done quickly to address problems that have come up prior to, during, or after construction and for which an answer or solution is needed quickly;
- Perform materials testing that an agency may not be equipped to conduct, or for which independent verification of test results is needed; and
- Conduct equipment calibration and develop precision and bias statements when new laboratory equipment is introduced.

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

Continue meeting the objectives of the center.

Funding Sour State Project N Research Proj Research Age Principal Inves						
State Project N Research Proj Research Age Principal Inves						
State Project N Research Proj Research Age Principal Inves						
Research Proj Research Age Principal Inves						
Research Age Principal Inves						
Principal Inves						
Total Cost						
Est. Expended						
FY Funds (original)						
Est. FY Expen						
The Transport organizations program item i which LTRC is						
Select and fun network.						
Select and fun network.						

FHWA

IBRD Funded Research Program

CONTINUING RESEARCH

Title: Brid	ge De	ck Replace	ement using FRP Ma	ter	ials		Project St	tatus:	Ongoing
Funding So	urce:	IBRD: TT	-Fed		В	Budget	FHWA		
State Project	Numh	er.	736-99-1370		Project Start	Date:			11/15/2005
Research Pr	Diect N	lumber:	05-5ST		Completion Date (original)				5/14/2008
Research Ac	ency:		LSU		Completion	Date	(revised)		11/14/2010
Principal Inve	estigat	or:	Dr. Steve C.S. Cai		ľ	I	. ,		
			Budgi	ЕТ 🕄	Status				
		Fotal Budge	t		I	Estimat	ed 2010-201	I Budget	:
Total Cost	(orig	jinal)	\$220,537		Total				\$20,000
	(rev	ised)							
Est. Expende	ed to D	ate	\$196,000		Salaries				\$18,000
	FY 20	09 - 2010 B	udget		Equipment	(expend	dable)		
FY Funds	(orig	jinal)	\$40,059		Equipment (non-expendable)				\$1,000
	(rev	ised)			Travel			\$500	
Est. FY Expe	nditur	9	\$21,837		Other				\$500
			PURPOSE	E AI	ND SCOPE				
The purpose replace a low FRP deck, co instrumentati deck replace	of the r-rated ompute on and ment.	study is to , deteriorate er analysis a d data acqu	investigate the applicated bridge deck. The signal deck. The signal finite element modisition. Successful res	atic tud deli sult	on of Fiber Rei y encompasse ing of the can s will add "FRI	nforced es the d didate b P deck"	d Polymer (F design and p pridge, as we as another	RP) pro purchasi ell as option f	ducts to ng of an or bridge
			FISCAL YEAR 2009 -	201		HMENTS			
Task 3: Anal A th Ca Task 4: Desi M Task 5: Insta B B S Task 6: Guid Task 7: Final F	 Task 3: Analytical Modeling and FRP System Design (partially completed) Additional finite element analysis was conducted by using the as-built bridge information after the bridge was installed. Comparison of bridge field test and finite element prediction were conducted. Task 4: Design of Monitoring Systems Monitoring system was installed and completed. Task 5: Installation and Field Testing (partially completed) Bridge deck was installed and the bridge was live load tested; Both static including truck stopping and slow moving and dynamic testing were conducted; and Strain information, acceleration, and acoustic information was collected. Task 6: Guideline for Long-Term Monitoring of the Installed FRP Deck The monitoring guideline is under development, including documentation of instrumentation plan, description of instrument, and operation procedures. Task 7: Final Report Final report was partially finished. 								

Fiscal Year 2010-2011

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

Task 3: Analytical Modeling and FRP System Design

The analysis results will be documented and discussed.

Task 5: Installation and Field Testing

- Installation and live load test were completed; and
- However, more data under service live loads will be collected on bridge site.
- Task 6: Guideline for Long-Term Monitoring of the Installed FRP Deck
 - The monitoring guideline will be finished.

Task 7: Final Report

• The final report will be submitted.

Title:	Structo Over L	ure I .ake	lealth Moi Pontchart	nitoring of the I-10 Ty rain	vir	n Span Bridge	9	Project St	tatus:	Ongoing		
Fundin	ng Sourc	e:	IBRD: TT	-Fed		Budget Category: FHWA						
State P	Proiect N	umb	er:	736-99-1437		Project Start		11/1/2007				
Resear	ch Proie	ct N	umber:	07-1ST			Date	(original)		10/31/2010		
Resear	ch Agen	cv:		LTRC		Completion	Date	(revised)		7/31/2012		
Princip	al Invest	igato	or:	Dr. Murad Abu-Fars	ak	h		· · ·	l			
		<u> </u>		BUDGE	GET STATUS							
		т	otal Budge	t			Estimat	ed 2010-201 ²	1 Budget	t		
Total C	ost	(origi	nal)	\$449,925		Total				\$115,550		
		(revi	sed)	\$565,550								
Est. Ex	pended	to Da	ate	\$450,000		Salaries						
	F	Y 20	09 - 2010 Bi	udget		Equipment	(expend	dable)				
FY Fun	nds	(origi	nal)	\$317,077		Equipment	(non-ex	pendable)		\$115,550		
(revised) Travel												
Est. FY	'Expend	liture	•	\$201,527		Other						
				PURPOSE	: Al	ND SCOPE			-			
The objective objective Span b monitori instrum Static la monitori applica lateral l condition The lori caused	jective o quired to ve of the ridge thr ring purp hent pile- ateral loa ring syste bility of t loading; ons. ng-term r l by sele	f this inst primough coses cap ad te em in he F and nonii cted	s proposal i rument the hary resear h instrumer s. This inclu with accele st will be p h the Eastb B-MultiPier to develop toring will b events (win	s to provide additional I-10 Twin Span Bridg ch project is to establis nation of the M19 Eas udes instrument select prometers and tilt meter erformed by LADOTD bound pier M19. The s r analysis for predicting (or back-calculated) the be used to evaluate the nds, waves, and vesse	fu e f sh tbo tec ers in ho g t he e b	anding for rese or short-term a structure he ound pier for u piles with inc , and instrume mediately after rt-term monito he performanc p-y multipliers behavior of pile collision).	earch pr and lon ealth mo ise in th linometent colu er comp bring wil ce of bas s for bas e group	oject No. 07 g-term moni onitoring sys he short-term ers and stra mn with wat oleting the in ll be used to attered pile g structure ur	7-1ST to itoring. T stem of t n and lon in gaug- er press nstallatio validate group sy roups in nder dyn	cover the Fhe he I-10 Twin ng-term es, sure cells. n of the e the stem under similar soil namic loads		
				FISCAL YEAR 2009 - 2	201	10 ACCOMPLIS	HMENTS	3				
	 Con load Com Inst Star Star simil 	duct test aplet alled ted a ted b lar se	ed literature s of single ed the supe d and calibe analyzing the back-calcul pil condition	e review on pile instrum and group of piles; erstructure instrumenta rated the OSMOS WIN the lateral load test data ating the p-y multiplier the p.	me atio A s a; s f	entation, subst on (columns, o system; and for FB-Multiple	tructure cap ber er analy	monitoring ht, deck); rsis of batter	systems ed pile g	s, and lateral groups in		

Fiscal Year 2010-2011

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Use the FB-multi pier program to analyze the lateral load test at M19 Eastbound pier of Twin Span bridge;
- Compare between the measured and predicted values from FB-MultiPier Analysis;
- Continue analyzing the measured lateral load test data;
- Continue working on back-calculating the p-y multipliers for FB-Multipier analysis of battered pile groups in similar soil conditions;
- Coordinate with the subcontractor to setup the long-term monitoring system; and
- Prepare a draft report
| Title: | Repair
Strand | 'ing/
Is ar | Strengtheind Perform | ning of Bridges with
ance Evaluation | Project S | Project Status: | | | | |
|--|---|---|--|--|-----------------------|--|--|--|----------------------------------|--|
| Fundin | g Sourc | e: | IBRD: TT | -Fed | | E | Budget | Category: | FHWA | |
| | | | | | | | _ | | | |
| State P | roject N | umb | er: | 736-99-1438 | | Project Start Date: | | | 10/1/2007 | |
| Resear | ch Proje | ect N | umber: | 07-3ST | | Completion | Date | (original) | | 4/1/2010 |
| Resear | ch Agen | icy: | | LSU | | Completion | Date | (revised) | | 3/31/2011 |
| Principa | al Invest | igato | or: | Dr. Steve C.S. Cai | | | | | | |
| | | | | Budgi | ET \$ | STATUS | | | | |
| | | Т | otal Budge | t | | | Estimate | ed 2010-201 | 1 Budget | t |
| Total C | ost | (orig | inal) | \$200,000 | | Total | | | | \$65,000 |
| | | (revi | sed) | | | | | | | |
| Est. Ex | pended | to D | ate | \$43,000 | | Salaries | | | | \$45,000 |
| | F | Y 20 | 09 - 2010 Bi | udget | | Equipment | (expend | lable) | | |
| FY Fun | ds | (orig | inal) | \$75,000 | | Equipment | (non-ex | pendable) | | \$15,000 |
| | | (revi | sed) | \$28,000 | | Travel | | | | \$1,500 |
| Est. FY | Expend | liture | 9 | \$28,000 | | Other | | | \$3,500 | |
| | | | | PURPOSE | E A | ND SCOPE | | | | |
| demons
develop
and/or o
perform | strative l
a more
checking
nance ev | o tak
oridg
dur
g the
valua | je with FRP
able, less n
bridge rep
ation and de | pes of some new deve
post-tensioning strar
naintenance intensive
airing/strengthening s
evelopment of long-ten | nds
br
ch
rm | in the state o
idge system.
eme with FRP
monitoring str | e engin
f Louisi
The scc
strands
ategies | eering to im
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pe of work i
s, finite elen | imate pu
includes
nent pre | a
urpose is to
designing
diction, |
| | | | | FISCAL YEAR 2009 - 2 | 20 [,] | 10 ACCOMPLIS | HMENTS | ; | | |
| Task 4:
Task 5:
Task 6: | : Design
(Partial
: Numer
(Partial
: Design
(Partial | of b
ly Co
ical i
ly Co
of M
ly Co | ridge repair
ompleted)
modeling of
ompleted)
fonitoring S
ompleted) | ring/strengthening witl
f bridge with FRP pos
Systems | h F
t-te | RP post-tensi | oning s
nds | trands | | |
| | | | | FISCAL YEAR 2010-20 |)11 | PROPOSED A | CTIVITIE | S | | |
| Task 4:
Task 5:
Task 6:
Task 7:
Task 8:
Task 9: | Fiscal YEAR 2010-2011 PROPOSED ACTIVITIES Fask 4: The design of repairing/strengthening of the selected bridge will be completed; Fask 5: Numerical modeling of bridge with FRP post-tensioning; Fask 6: Design of Monitoring Systems; Fask 7: Installation and Field Testing; Fask 8: Guideline for Long-Term Monitoring of Deck with FRP pre-stressing strands; and Fask 9: Final Report. | | | | | | | | | |

litle: Integ	: Integral Abutment Bridge for Louisiana's Soft and Stiff Soils								Ongoing
Funding Sou	rce:	IBRD: TT	-Fed		В	udget	Category:	FHWA	
State Project I	Numb	er:	736-99-1439		Project Start Date: 10				10/1/2007
Research Pro	ect N	lumber:	07-4ST		Completion I	Date	(original)		8/31/2011
Research Age	ncy:		LSU		Completion I	Date	(revised)		
Principal Inves	stigate	or:	Dr. George Z. Voyi	adjis	3				
			Budo	SET \$	STATUS				
	1	Total Budget	t		I	Estimat	ed 2010-2011	Budget	:
Total Cost	(orig	jinal)	\$400,000		Total				\$90,000
	(revi	ised)							
Est. Expended	d to D	ate	\$240,000		Salaries				\$30,000
	FY 20	09 - 2010 Bu	udget		Equipment	(expen	dable)		
FY Funds	(orig	jinal)	\$90,000		Equipment	(non-e>	(pendable)		\$60,000
	(revi	ised)	\$100,000		Travel				
Est. FY Exper	diture	Э	\$100,000		Other				
			PURPOS	SE AI	ND SCOPE				
The proposed Louisiana's so Abutment Brio future continue This study has Deployment P	proje ft soil ges. ous m beel rogra	ect is to use I condition. The project nonitoring of n approved im (IBRD) p	embedded instrume This will be used to e incorporates the use f operational perform and is federally fund rogram.	ntat eval e of anc led t	ion to monitor uate the long-t smart materia e of such bride hrough the Inr	a full li term pe ls or er ges. novativ	ntegral Abuti erformance o nbedded ins e Bridge Rea	ment Bri If the Int trument search a	idge for egral ation for and
			FISCAL YEAR 2009	· 20′	10 ACCOMPLIS	HMENTS	3		
Literature Rev Instrumentatio • LA I • An ii Rev • A co for t • All ir • Preo all p	 FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS Literature Review was conducted. nstrumentation and Testing Plan for the Caminada Bridge: LA DOTD provided the design plans for the Caminada Bridge to the Principal Investigator; An instrumentation plan for the Caminada Bridge was submitted to and approved by the Project Review Committee; A contract was signed with the instrumentation company to design the Data Acquisition System for the Caminada bridge; All instrumentation for the Caminada bridge was delivered to LSU; and Preconstruction Conference was held and presentations were made for the Caminada Bridge by all parties concerned. 								

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

Instrumentation and Testing Plan for the Caminada Bridge:

- Installation of the instrumentation plan;
- Continue finite element modeling of the bridge abutment for evaluation of the instrumentation plan; and
- Data gathering from the monitoring system.

Instrumentation and Testing Plan for the Bodcau Bayou Bridge:

- LA DOTD provided the design plans for the Bridge to the Principal Investigators;
- An instrumentation plan for the Bridge will be submitted for approval by the Project Review Committee;
- Purchase of all instrumentation for the bridge; and
- Modeling of this bridge will be initiated.

Title:	Monito	oring	J Bridge S	cour Using Fiber Opt	ic Sensors	Project Status:		Ongoing			
Fundir	ng Sourc	e:	IBRD: T	ſ-Fed	Budget Category: FHWA						
04-4-4	Due ie et Ni			720 00 4572	Drain at Otart Data			4/4/0000			
State F	roject in		er:	730-99-1573	Project Start Date:	(original)		7/1/2009			
Resear			umber:	08-251	Completion Date	(original)		7/1/2011			
Princip		icy.			Completion Date	(revised)					
		iyan	<i>л</i> .	BUDGE	T STATUS						
		т	otal Budge	et	Estima	ted 2010-201	1 Budge	 t			
Total C	Cost	(orig	inal)	\$199.999	Total			\$70.000			
		(revi	sed)	+,				+ -)			
Est. Expended to Date \$43,000 Salaries \$45,000											
	F	Y 20	09 - 2010 E	Ludget	Equipment (exper	idable)					
FY Fur	nds	(orig	inal)	\$72,000	Equipment (non-e		\$15,000				
		(revi	sed)	\$40,000	Travel			\$1,500			
Est. FY	/ Expend	liture	9	\$19,000	Other			\$8,500			
				PURPOSE			<u>I</u>				
This re collect in Louis include	search p field data siana an a laborato	orojec a tha d evo ory te	ct is to dev it can be u entually to est and fie	relop a scour monitoring sed to verify the applica result in improving exis d applications.	g system for bridge pie ability and accuracy of sting scour prediction r	ers. The deve the various on nethods. The	eloped s design p e scope	ystem will rocedures of work will			
				FISCAL YEAR 2009 - 2	010 ACCOMPLISHMENT	S					
Task 1 Task 2 Task 3 Task 4	FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS Task 1: A state-of-the-art review Task 2: Submit a summary report • An interim report was submitted to the project committee. Task 3: Development of Scour Monitoring Methodology (Partially Completed) • Monitoring methodology to monitor the scour is under development by using optic sensors; • One methodology is based the strain reading and another one is based on the dynamic response due to flow impact; and • These methodologies need to be conceptually verified. Task 4: Test of Monitoring Methodology in Laboratory (Partially Completed) • The concept of monitoring the scour is under investigation in lab by testing the flow and sensor interaction. Protection of the system needs to be further developed.										

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

Task 3: Development of Scour Monitoring Methodology

- Monitoring methodology to monitor the scour will be further developed;
- A bridge should be identified since the monitoring design is site-specific;
- How to install and how to protect the system will depends on the site conditions; and
- Help from LADOTD is needed to identify the bridge for monitoring.

Task 4: Test of Monitoring Methodology in Laboratory

• The concept of monitoring the scour will be further investigated in lab by testing the flow and sensor interaction.

Task 5: Installation and Field Testing

• The developed system will be installed in field.

FHWA

IBRD Funded Research Program

PROPOSED RESEARCH

Title: Monit	oring	g System f	Project St	Project Status: F							
Funding Sou	ce:	IBRD: TT	-Fed		Bud	get Category:	FHWA	\ \			
			1								
State Project	lumb	er:		Project	Start Da	te:		7/1/2010			
Research Proj	ect N	umber:	10-1ST	Comple	tion Date	e (original)		6/30/2012			
Research Age	ncy:		LTU	Comple	tion Date	e (revised)					
Principal Inves	stigato	or:	Dr. Aziz Saber								
BUDGET STATUS											
Total Budget Estimated 2010-2011 Budget											
Total Cost	(orig	inal)	\$250,000	Total				\$110,000			
	(revi	sed)					1				
Est. Expended	l to D	ate		Salaries	Salaries			\$30,000			
	FY 20	09 - 2010 B	udget	Equipme	Equipment (expendable)			\$5,000			
FY Funds	(orig	inal)		Equipme	Equipment (non-expendable)			\$70,000			
	(revi	sed)		Travel				\$5,000			
Est. FY Expen	diture	9		Other							
			PURPOSE	AND SCOPE			-				
Purpose AND Scope Purpose: During the 2009 regular session the Louisiana Senate passed a concurrent resolution (Senate Concurrent Resolution 35), sponsored by Senator McPherson, which urged the Louisiana Department of Transportation and Development (DOTD) to conduct a pilot study on alternative truck-trailer configurations to support the bio-fuels industry. Resolution 35 specifically requested that the study include vehicles hauling sugarcane biomass for alternative fuel and electricity generation. The alternative truck-trailer configuration will use extra axles under the load to reduce the impact on Louisiana roads. The alternative truck-trailer when compared to the traditional trailer designs will decrease the number of trucks and increase the total number of tons of sugar cane that travel on Louisiana roads. Scope: Study the effects of heavy truck loads (100,000-lb, 148,000-lb.) on distribution of forces and moments on slab-girder bridges; Develop a long-term monitoring system which can assess the impact of heavy truck loads on 											

ige p eavy ad (100,0 8,000-lb.) p g u year.

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

Accomplishments for the FY were achieved in a companion study under LTRC 09-1ST. For this study, a new bridge was selected in New Iberia. This bridge is on US 90 and is subject to heavily loaded sugar cane trucks.

Several decks and spans were instrumented to monitor the strains caused by the passages of heavy trucks. The monitoring is now done remotely and work on a website for this monitoring system is almost complete. A webcam was installed for the purpose of capturing the truck at the instant it triggers the collection of a high strain it causes.

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

For this Fiscal Year:

- Collected data are being analyzed;
- A live load testing for a heavier vehicle (up 148,000 lbs) will be performed;
- Bridge will be remotely monitored and data continuously collected and
- New collected data will be analyzed, as well.

Title:	Use of	f Geo	osynthetic	Reinforced Soil for	nts	Project St	Status: Propose					
Fundin	g Sour	ce:	IBRD: TT	-Fed		В						
						T						
State P	roject N	umb	er:			Project Start Date:			7/1/2010			
Resear	ch Proje	ect N	umber:	10-2ST		Completion I	Date	(original)		6/30/2012		
Resear	ch Ager	ncy:		LTU		Completion I	Date	(revised)				
Principa	al Invest	tigato	or:	Dr. Aziz Saber								
				Buda	SET \$	ET STATUS						
		Т	otal Budget	1		I	Estimate	ed 2010-2011	I Budget			
Total C	ost	(orig	inal)	\$250,000		Total				\$125,000		
		(revi	sed)									
Est. Ex	pended	to D	ate			Salaries				\$30,000		
	F	Y 20	09 - 2010 Bu	udget		Equipment	(expend	dable)		\$30,000		
FY Fun	ds	(orig	inal)			Equipment	(non-ex	pendable)		\$60,000		
		(revi	sed)			Travel				\$3,000		
Est. FY	Expend	diture	9			Other				\$2,000		
				Purpos	SE AI	ND SCOPE						
Louisia pile-free Purpos Scope:	na has t e GRS a a e: Apply t Assess Install a Develo	built abutr he G the a mo p a r	many pile-s nent with m Geosynthetic performanc nitoring sys numerical m	supported GRS abutr arginal soils for back c Reinforced Soil (GI ce of the GRS abutm stem for GRS bridge nodel for the bridge a	nen (fill. RS) ent abu	ts with select I technology to during constru tment; and ment based or	a bridg a bridg uction a	This study le abutment; ind under se mance data	will lenc ; and ervice loa	l itself to ads.		
				FISCAL YEAR 2009	20	10 ACCOMPLIS	HMENTS	;				
The pro	oject has	s not	started yet									
				FISCAL YEAR 2010-2	011	PROPOSED AC	CTIVITIE	S				
There v abutme	 FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES There will be a lot of coordinated efforts between the PI and the LADOTD regarding the design of the GRS butment. These will be in the form of: Selection of a suitable bridge site; Design of the GRS abutment; Selection of one or multiple reinforcing geosynthetic reinforcing systems; and Design the instrumentation system of the abutment. 											

Title:	Elimin Grid	atio	n of Deck	Joints using a Corro	Project St	Project Status:					
Fundin	g Sour	ce:	IBRD: TT	-Fed		E	Budget	Category:	FHWA		
				1		1					
State P	roject N	umb	er:			Project Start Date:				7/1/2010	
Resear	ch Proje	ect N	umber:	10-3ST		Completion	Date	(original)		6/30/2012	
Resear	ch Ager	ncy:		LTU		Completion	Date	(revised)			
Principa	al Invest	tigato	or:	Dr. Aziz Saber							
				Budg	ET 🖁	STATUS					
Total Budget Esti								ed 2010-201	I Budget		
Total C	ost	inal)	\$270,000		Total				\$125,000		
		(revi	sed)								
Est. Expended to Date Salaries										\$30,000	
	F	Y 20	09 - 2010 B	udget		Equipment	(expen	dable)		\$30,000	
FY Fun	ds	(orig	inal)			Equipment	(non-e)	(pendable)		\$60,000	
		(revi	sed)			Travel				\$3,000	
Est. FY	Expend	diture	;			Other \$2					
				PURPOS	ΕA	ND SCOPE					
Purpos • Scope: •	se: This is theoret IBRD F The stu slab the	an ir ical v Progr udy v at wil	nplementat work was p am decide vill be perfo Il be replac	tion project for finding erformed through sta d to find the implement prmed through the ins ing a damaged bridge	is a te f ntat talla e jo	nd recommen unding. Due t ion portion. ation and mon int.	dation to it is p itoring	from LTRC (promising ou the performa	06-2ST p tcome, t ance of a	project. The he FHWA- an FRP link	
				FISCAL YEAR 2009 -	20 ⁻	10 ACCOMPLIS	HMENTS	6			
The pro	oject has	s not	started yet	t.							
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S			
• • •	 Selection of a bridge with damaged joint; Design the link slab that will replace the joint; Acquiring of the FRP link slab; and Material characterization of the FRP link slab. 										

FHWA

LTAP Funded Program

Title: L	ocal Te	chnical Ass	istance Program (L		Project St	tatus: Ongoing				
Funding	Source	LTAP: T	-Fed/TT-Reg		E	Budget	Category:	FHWA		
State Proj	iect Nur	ber:	736-99-1497		Project Start	t Data:			1/1/2010	
Research	Project	Number:	10-I TAP		Completion Date (original)				12/31/2010	
Research	Agency	,.				Date	(revised)		12/01/2010	
Principal	Investig	ator:	Dr. Marie Walsh		Completion	Dato	()			
			Budg	ET :	STATUS					
		Total Budge	t		Estimated 2010-2011 Budget					
Total Cos	t (o	riginal)	\$608,525		Total				\$608,525	
	(re	evised)						I		
Est. Expe	nded to	Date			Salaries				\$346,615	
	FY	2009 - 2010 B	udget		Equipment	(expen	dable)			
FY Funds	; (o	riginal)			Equipment	(non-e>	(pendable)			
	(re	evised)			Travel				\$21,000	
Est. FY E	xpenditu	ire			Other			\$240,910		
			PURPOS	E A	ND SCOPE			<u>.</u>		
To provide parish and assistance	e cost e d munic e and in	ffective trans pality public formation dis	fer of technology and transportation and pu semination.	wo Iblic	rkforce develo works agenci	opment ies thro	opportunitie ugh training	es to Lou , technic	isiana's :al	
			FISCAL YEAR 2009 -	20 ²	10 ACCOMPLIS	HMENTS	6			
 In C C in P C E U Io Presented 30 50 	 Implemented traffic engineering webinars with DOTD Traffic Operations Section and LMA; Coordinated statewide outreach efforts and meetings with local on behalf of DOTD's Traffic Engineering, Highway Safety and Row of Way Sections; Co-sponsored first statewide "sustainability" workshop focused on public works and transportation in partnership with LA APWA; Piloted new technical classes for local customers; Coordinated and implemented webinar series, Traffic Engineering 101, with DOTD's Traffic Engineering Office in conjunction with LMA; and Utilized electronic delivery to make more national and state level training and resources available to local customers. 									
• 50 • 33 • 11 • 10 • 20	 So Worker Safety classes, 50 Highway Safety classes; 32 Infrastructure Management classes; 12 Workforce Development classes; 10925 hours of training provided; and 2145 program participants. 									

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- ٠
- Participate in federal aid program outreach efforts to locals; Pilot selected technical training using electronic and blended delivery methods; and Complete revision of Roads Scholar and Road Master programs. •
- •

FHWA

STP Funded

Technology Transfer and Education Program

Title:	Techr	olog	gy Transfei		Project Status:		Ongoing				
Fundin	ig Sour	ce:	STP: TT-	Fed	E	Budget Category: FHW					
State P	Project N	lumb	er:	736-99-1484	Project Start	Date:			7/1/2010		
Resear	ch Proje	ect N	umber:	08-1TSQ	Completion	Date	(original)		6/30/2011		
Resear	ch Agei	ncy:		LTRC	Completion	Date	(revised)				
Principa	al Inves	tigato	or:	Mr. Sam Cooper							
				BUDGE	T STATUS						
		Т	otal Budge	t		Estimat	ed 2010-201	1 Budget	t		
Total C	ost	(orig	inal)	\$340,917	Total				\$340,917		
		(revi	sed)								
Est. Ex	Est. Expended to Date Salaries \$299,937										
	F	dable)									
FY Fun	ds	(orig	inal)		Equipment	(non-ex	(pendable)		\$15,000		
		(revi	sed)		Travel	1		\$6,000			
Est. FY	Expend	diture	9		Other	Other			\$19,980		
				PURPOSE	AND SCOPE			÷			
The obj	jectives Dissen transpo Improv other a Encou Dissen depart	of th ninate ortation e con agence rage ninate ment	is study are e informatic on-orientec mmunicatic cies; implementa e informatic	e to: on on new technologies I agencies; ons on technical, transp ation of new procedure on on transportation su	s and methodolo portation-related as and technolog bjects to approp	ogies to l issues gies; ar priate m	DOTD and between th d nanagers an	other e depart d engine	tment and eers in the		
				FISCAL YEAR 2009 - 2	010 ACCOMPLIS	HMENTS	6				
•	 Published 8 reports, 2 technical assistance report, 8 technical summaries, 8 project capsules, 4 Tech Today newsletters, 1 Implementation update, and 1 annual report; Online registration established for 27 classes hosted at TTEC (NHI, FHWA, DOTD); Videos produced: Crumb Rubber, The Greening of Louisiana Highways, Documentation of Balsa bridge panels at Pierre Part, Preventing harassment In the Workplace, LADOTD Legal Seminar, Tack Coat Test series; Maintain website and online registration for July 2009 ASSHTO Subcommittee on Bridges and Structures Annual Meeting; and Maintain website and online registration for April 2010 SWGEC Conference. 										

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Continue the production of all publications; ٠
- Continue development of LTRC websites and databases; •
- Continue LTRC video development of research and training projects; •
- E-Commerce online registration to be established for ATSIP conference in July; Collecting information for annual report; and •
- •
- Planning for the 2011 Louisiana Transportation Conference. •

Title: Evalu	uatior ning E	of Knowle Environme	al Y	Project St	tatus:	Ongoing						
Funding Sou	rce:	STP: TT-I	Fed		E	Budget	Category:	FHWA	<u> </u>			
			704 05 4 400						4/4/2040			
State Project	Numb	er:	701-65-1402		Project Start	Date:	(· · ·))		1/1/2010			
Research Pro	ject N	umber:	10-188		Completion	Date	(original)		12/31/2010			
Research Age	ency:				Completion	Date	(revised)					
Principal Inve	stigate	or:	Glynn Cavin									
	BUDGET STATUS											
	Total Budget Estimated 2010-2011 Budget											
Total Cost	(orig	inal)	\$274,475		Total				\$169,607			
	(revi	sed)										
Est. Expende	d to D	ate	\$104,868		Salaries				\$95,567			
	FY 20	09 - 2010 Bi	udget		Equipment	(expen	dable)					
FY Funds	(orig	inal)	\$153,580		Equipment (non-expendable)				\$9,750			
	(revi	sed)			Travel				\$8,000			
Est. FY Exper	nditure	9	\$104,868		Other			\$56,290				
			PURPOS	ΕA	ND SCOPE			-				
This research (VLE) simulat delivery meth- environment of The research demographic This project is relates to bler technology as the VLE as it	Purpose AND Scope This research project was designed to test the use of web 3D technology in a Virtual Learning Environment (VLE) simulating real-world highway work zones. The VLE supplemented traditional course content and delivery methods to enhance the transfer of work zone safety procedure knowledge. This learning environment consisted of real life case studies within a 3D virtual world, similar to a CAD-like environment. The research is unique due to the evaluation of the effectiveness of knowledge transfer across a variety of demographic categories. This project is a one - year research study (January 1, 2010 to December 31, 2010) of learning transfer as it relates to blended delivery methodology in the field of andragogy, with the specific focus on the VLE technology as the method of blended delivery. This project is investigating learning engagement through the VLE as it relates to work zone safety simulations, with a specific focus on flagging procedures.											

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

- Designed, delivered, and deployed an Immersive Virtual Learning Environment for the "Basic Flagging Procedures" course;
- Built project database in Excel for data entry of research findings that will be imported into SPSS for data analysis;
- Designed, delivered, and deployed demographic instrument for administration in the experimental groups;
- Assisted in design of "Basic Flagging Procedures" pretest and post test;
- Attended over 45 project meetings that occurred in Lafayette at LITE and Baton Rouge at TTEC;
- Delivered 8 "Basic Flagging Procedures" for maintenance courses in the TTEC Computer Lab;
- Delivered 7 "Basic Flagging Procedures" for maintenance courses in the TTEC Rooms 175 and 179;
- Conducted over 30 qualitative interviews with individuals that attended the experimental class in the computer lab;
- Approximately 300 participants enrolled and attended the "Basic Flagging Procedures" course for maintenance;
- Assisted in the development of the imbedded tracking database that measures: telemetry (spatial and temporal analysis), accuracy, decision making, and understanding of the presented concepts;
- Submitted proposal to the Annual Conference on Distance Learning and Education for E-Poster presentation. Proposal was accepted for presentation at the August 2 - 6, 2010 in Madison, WI.; and
- Submitted proposal to the 2010 I/ITSEC conference in Orlando, FL. The proposal was accepted and the paper will be published in the conference proceedings. Paper may be accepted for presentation but will not be announced until August of 2010.

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Analyze data findings through SPSS and other modeling analyses;
- Write, review, and publish final report on research findings;
- Attend various conferences as both presenters and attendees; and
- Submit journal articles for publication to appropriate scientific and educational journals.

Title: Tech	nolog	gy Transfei		Project Status: On		Ongoing				
Funding Sou	ce:	STP: TT-	Fed		В	Budget	Category:	FHWA		
State Project N	Jumb	er:	736-99-1701		Project Start Date:				7/1/2010	
Research Proj	ect N	lumber:	11-1TSQ		Completion Date (original)				6/30/2011	
Research Age	ncy:		LTRC		Completion	Date	(revised)			
Principal Inves	stigate	or:	Mr. Sam Cooper				I	l		
			Budg	SET (STATUS					
	٦	otal Budge	t		Estimated 2010-2011 Budget					
Total Cost	(orig	inal)	\$567,283		Total				\$567,283	
	(revi	sed)						1		
Est. Expended	l to D	ate			Salaries				\$567,283	
	FY 20	09 - 2010 B	udget		Equipment	(expen	dable)			
FY Funds	(orig	inal)			Equipment	(non-ex	xpendable)			
	(revi	sed)			Travel					
Est. FY Expen	diture	Э			Other					
			PURPOS	SE A	ND SCOPE			-		
The objectives • Disser transp • Impro- other • Encou • Disser depart	of th minat ortati ve co ageno rage minat ment	is study are e informatic on-orientec mmunicatic cies; implementa e informatic :.	e to: on on new technologi l agencies; ons on technical, tran ation of new procedu on on transportation s	es a spo res subj	and methodolo rtation-related and technolog ects to approp	ogies to issues gies; ar priate m	DOTD and between th nd nanagers an	other e depart d engine	ment and	
			FISCAL YEAR 2009 -	20 [°]	10 ACCOMPLIS	HMENT	6			
 Publis Tech Online Video: bridge Tack (Mainta Struct Mainta 	 Published 8 reports, 2 technical assistance report, 8 technical summaries, 8 project capsules, 4 Tech Today newsletters, 1 Implementation update, and 1 annual report; Online registration established for 27 classes hosted at TTEC (NHI, FHWA, DOTD); Videos produced: Crumb Rubber, The Greening of Louisiana Highways, Documentation of Balsa bridge panels at Pierre Part, Preventing harassment In the Workplace, LADOTD Legal Seminar, Tack Coat Test series; Maintain website and online registration for July 2009 ASSHTO Subcommittee on Bridges and Structures Annual Meeting; and Maintain website and online registration for April 2010 SWGEC Conference. 									

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- Continue the production of all publications; •
- Continue development of LTRC websites and databases; •
- Continue LTRC video development of research and training projects; •
- E-Commerce online registration to be established for ATSIP conference in July; Collecting information for annual report; and •
- •
- Planning for the 2011 Louisiana Transportation Conference. •

Title:	itle: Workforce Development								Project Status:	
Fundir	ng Sourc	e:	STP: TT-I	Fed		E	Budget	Category:	FHWA	
						1				
State F	Project N	umb	er:	736-99-1702		Project Start Date:				7/1/2010
Resear	rch Proje	ct N	umber:	11-1WD		Completion	Date	(original)		6/30/2011
Resear	rch Agen	icy:		LTRC		Completion	Date	(revised)		
Princip	al Invest	igato	or:	Mr. Sam Cooper		-				
				Buda	SET (STATUS				
		Т	otal Budget				Estimat	ed 2010-201	1 Budget	
Total C	ost	(orig	inal)	\$1,233,237		Total				\$1,233,237
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries	r			\$1,223,237
	F	Y 20	09 - 2010 Bu	udget		Equipment	(expen	dable)		\$10,000
FY Fur	nds	(orig	inal)			Equipment	(non-ex	xpendable)		
		(revi	sed)			Travel				
Est. FY	'Expend	liture)			Other				
				PURPOS	SE A	ND SCOPE			-	
The pu manag include transpo	rpose of ement of s the de ortation o	this f the velop outre	study is to workforce oment, deli ach progra	provide for the strate development program very and administration.	egic ms f ion (planning, prog or DOTD pers of the LTRC T	gram de sonnel. ranspo	evelopment The scope ortation & Tra	and deli of this s aining Co	very study also enter's
				FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENT	5		
• • •	Develo certifica Monitor Schedu supervi Coordir Approx	ped ation ring i iled sory nated imat	11 training s awarded; revised PPI and registe , computer d the activit ely 4500 tra	courses, 80 recertific M 59 (Workforce Dev red students for the f based training cours ies of 7 - ERDP parti aining opportunities p	catio velo follo ses, icipa prov	on tests given, pment) and no wing courses: NHI, CADD/G ants and 31 - (ided to DOTD	130 sp oting fu Lead IS and Co-op so and tra	becialty tests ture change ership, mana other specia students; and ansportation	s given, s s to PPN agement alty cour d industry	90 // 59 ;; ;ses; /.
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S		
• • • • • •	 Continue to meet with principal customers to prioritize needs to develop training courses, performance evaluations, and safe operating checklists; Manage PC and CAAD software, leadership, technical skills training, and professional development and continuing education; Continue the program of safety training; Maintain and build library collection in support of workforce development and research activities; Continue coordinating activities of ERDP participants and co-op students; and Revise Workforce Development Policy and Procedures (PPM 59). 									

Title:	Suppo 11-WD	ort fo DC - 1	or Senior P 736-99-169	roject Courses for F 8	t for	Project Status:		Ongoing			
Fundin	ig Sourc	ce:	STP: TT-	Fed		В	Budget	Category:	FHWA		
State P	roject N	umb	er:	701-65-1481		Project Start	Date:		7/1/2010		
Resear	ch Proje	ect N	umber:	11-2AD		Completion	Date	(original)		6/30/2011	
Resear	ch Agen	ncy:				Completion I	Date	(revised)			
Principa	al Invest	igato	or:			1					
				Budg	ET \$	Status					
		Т	otal Budget	t		I	Estimat	ed 2010-201	1 Budget	:	
Total C	ost	(orig	inal)	\$37,500	Total				\$37,500		
		(revi	sed)						1		
Est. Expended to Date Salaries											
	F	Y 20	09 - 2010 Bu	udget		Equipment	(expen	dable)			
FY Fun	ds	(orig	inal)			Equipment	(non-ex	(pendable)			
		(revi	sed)			Travel					
Est. FY	Expend	liture	;			Other				\$37,500	
				PURPOS	E A	ND SCOPE			<u>.</u>		
To prov	/ide sup	port	for senior p	roject engineering co	urs	es up to a ma	ximum	of \$7,500 /	universit	y / year.	
				FISCAL YEAR 2009 -	20 ′	10 ACCOMPLIS	HMENT	6			
Three u	FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS Three universities participated in this program this reporting period: • McNeese State University • Louisiana State University • University of Louisiana at Lafayette										
				FISCAL YEAR 2010-20	011	PROPOSED A	СТІVІТІЕ	S			
Continu	Continue to provide support for senior project engineering courses.										

Title:	LTRC	Stuc	dent Progra	Project S	tatus:	Ongoing						
Funding Source: STP: TT-Fed						E	Budget	Category:	FHWA	L		
State P	roject N	lumh	or:	701-65-1482		Project Start Date: 7/1/2010						
Research Project Number:			11-3AD			Date	(original)		6/30/2011			
Resear	ch Age	ncv:		LTRC		Completion Date (revised)				0,00,2011		
Principa	al Inves	tigato	or:	Mr. Harold 'Skip' Pa	ul	·						
	BUDGET STATUS											
		Т	otal Budget	t			Estimat	ted 2010-201	1 Budge	t		
Total C	ost	(orig	inal)	\$147,000		Total		\$147,000				
		(revi	sed)						•			
Est. Ex	pended	to D	ate			Salaries				\$147,000		
	F	TY 20	09 - 2010 Bi	udget		Equipment	(expen	dable)				
FY Fun	ds	(orig	inal)			Equipment (non-expend		xpendable)				
		(revi	sed)			Travel						
Est. FY	Expen	diture	9			Other						
PURPOSE AND SCOPE												
То рау	for sala	iries f	for undergra	aduate students empl	οу	ed to provide s	support	t to various L	TRC pr	ojects.		
				FISCAL YEAR 2009 -	20 ⁻	10 ACCOMPLIS	HMENT	S				
35 undergraduate students were employed by LTRC to provide support in fulfilling necessary job tasks on various LTRC projects.												
				FISCAL YEAR 2010-20)11	PROPOSED A	CTIVITIE	S				
Continue to pay for salaries for undergraduate students employed to provide support to various LTRC projects.												

Title: Tecl	echnology Transfer & Research Implementation Support for ouisiana Universities							Project Status:	
Funding Source: STP: TT-Fed				Budget Category: FHWA					
State Project Number: 736-99-1657					Project Start Date: 1/1/2010				
Research Pro	oject N	lumber:	11-4AD		Completion	Date	(original)		12/31/2013
Research Ag	ency:		LTRC		Completion	Date	(revised)		
Principal Inve	stigat	or:	Mr. Mark Morvant						
			BUDG	ET	STATUS				
-	-	Fotal Budge	t			Estimat	ed 2010-201 [,]	1 Budget	t
Total Cost	(orig	ginal)	\$110,000		Total				\$36,000
	(rev	ised)							
Est. Expende	d to D	ate	\$10,188		Salaries				
	FY 20	009 - 2010 B	udget		Equipment	(expen	dable)		
FY Funds	(orig	ginal)	\$36,000		Equipment	(non-e)	(pendable)		
	(rev	ised)			Travel				\$36,000
Est. FY Expe	nditur	е	\$10,188		Other				
PURPOSE AND SCOPE									
The purpose dissemination to fund techn audiences su LTRC Semin case by case	of the ology ch as ar Ser basis	project is to search resu transfer trav Transporta ies and DO as it applie	o provide travel funds ilts at various technol vel for university facu tion Research Board TD Implementation n s to providing a bene	to logy lty t Ani nee fit t	university rese v transfer even to deliver reseanual Meeting, tings and train o Louisiana.	earch p hts. This arch re Louisia ing. Tr	rincipal inve s project pro sults to state na Transpor avel funds a	stigators vides a l e and na rtation C are dispe	s for mechanism tional onference, ersed on a
			FISCAL YEAR 2009 -	20 ⁻	10 ACCOMPLIS	HMENTS	3		
 This project provided support for travel for presentation of the following papers developed from LTRC research projects: Transportation Research Board; Development of Uniform Section for PMS Inventory and Applications; Estimating Setup of Piles Driven into Louisiana Clayey Soils; Analysis of Rainfall-Accident Relationships Using High-Resolution Radar-Rainfall Data; Update of Correlations between Cone Penetration and Boring Log Data; and Characterization and Development of Truck Load Spectra and Growth Factor for Current and Future Pavement Design Practices in Louisiana; Evaluation of the Traffic Safety Benefits of a Lower Speed Limit and Restriction of Trucks to Use of Right Lane Only on I-10 over the Atchafalaya Basin; and Safety and Operational Assessment of Unconventional Lane Merges in Freeway Work Zones. 									

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

Continue to provide support technology transfer travel for university faculty to deliver research results to state and national audiences.

Title:	Title: LaDOTD Co-Op Program								tatus:	Ongoing	
Fundin	Funding Source: STP: TT-Fed					E	Budget	Category:	FHWA		
						1					
State P	roject N	lumb	er:	736-99-1700		Project Start	Date:			7/1/2010	
Resear	ch Proj	ect N	umber:	11-COOP		Completion	Date	(original)		6/30/2011	
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)			
Princip	al Inves	tigato	or:	Mr. Sam Cooper							
				Budg	ET \$	STATUS					
		Т	otal Budge	t		Project Status: Ongoing Budget Category: FHWA Project Start Date: 7/1/2010 Completion Date (original) 6/30/2011 Completion Date (revised) 6/30/2011 Completion Date (revised) 6/30/2011 STATUS Estimated 2010-2011 Budget 7/1/2010 Status \$300,000 \$300,000 Equipment (expendable) 9 Equipment (non-expendable) 9 Travel 0 9 Other 9 9 ND SCOPE 9 9 Yor between the LADOTD and Louisiana Universities, 1 undergraduates through part-time employment in s intended to enhance the educational process by netrest in transportation engineering through rtunities for LADOTD to evaluate participants of this StADOTD sections throughout Louisiana; and pon graduation. 9 PROPOSED ACTIVITIES 9					
Total C	ost	(orig	inal)	\$400,000		Total				\$300,000	
		(revi	sed)						0		
Est. Ex	pended	to D	ate			Salaries				\$300,000	
	F	FY 20	09 - 2010 Bi	udget		Equipment	(expen	dable)			
FY Fun	lds	(orig	inal)			Equipment	(non-ex	(pendable)			
		(revi	sed)			Travel					
Est. FY	Expen	diture	Э			Other					
	PURPOSE AND SCOPE										
The LA providir public t providir practica prograr	DOTD ng pract ranspor ng oppo al exper m as po	CO-C tical e tation trunit ience tentia	DP program experience n engineerin ties for part e. This prog al employee	is a cooperative end to junior and senior long mg work. This progra icipants to explore th gram also provides o es.	deavel evel am is eir i ppo	vor between th I undergradua s intended to e interest in tran intunities for L/	ne LAD tes thro enhanc sportat ADOTE	OTD and Lo ough part-tim the educa tion enginee to evaluate	uisiana ne emplo tional pr ring thro particip	Universities, oyment in ocess by ugh ants of this	
				FISCAL TEAR 2009 -	20	IU ACCOMPLIS	HMENI	>			
•	31 s 2 C0	tude D-OF	nts participa ? students v	ated in CO-OP at var vere hired by LADOT	iou: D u	s LADOTD see pon graduatio	ctions t n.	hroughout L	ouisiana	a; and	
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S			
•	 Place CO-OP approximately 30 students in various DOTD Sections across the state; Continue end of semester presentations.; and Retain students in CO-OP. 										

Title:	Techn	olog	y Transfer	Project S	tatus:	Ongoing					
Funding	Funding Source: STP: TT-Fed						Budget	Category:	FHWA		
State Project Number: 736-99-1699						Project Start	Date:			7/1/2010	
Researc	ch Proje	ect N	umber:	11-TTRF		Completion	Date	(original)		6/30/2011	
Researc	ch Ager	ncy:		LTRC		Completion	Date	(revised)			
Principa	al Invest	tigato	or:	Mr. Sam Cooper							
	BUDGET STATUS										
		Т	otal Budget	t		Project Start Date: FHWA Project Start Date: 7/1/2010 Completion Date (original) 6/30/2011 Completion Date (revised)					
Total Co	ost	(origi	inal)	\$100,000		Estimated 2010-2011 Budget Total \$100,000 Salaries Equipment (expendable) Equipment (non-expendable) Travel Other \$100,000					
		(revi	sed)								
Est. Exp	pended	to Da	ate			Salaries					
	F	Y 20	09 - 2010 Bu	udget		Equipment	(expend	lable)			
FY Fund	ds	(origi	inal)			Equipment (non-expe		pendable)			
		(revi	sed)			Travel					
Est. FY	Expend	diture)			Other				\$100,000	
				PURPOSE	E AN	d S COPE			Ł		
To provi parish a assistar	ide cosi Ind mur Ince and	t effe nicipa infoi	ctive transf ality public t rmation dis	er of technology and v transportation and pub semination.	worł blic v	kforce develc works agenci	opment es thro	opportunitie ugh training	es to Lou , technic	iisiana's :al	
				FISCAL YEAR 2009 - 2	2010	O ACCOMPLIS	HMENTS	;			
				FISCAL YEAR 2010-20)11 I	PROPOSED A	CTIVITIES	S			
Continu Louisiar technica	Continue to provide cost effective transfer of technology and workforce development opportunities to Louisiana's parish and municipality public transportation and public works agencies through training, technical assistance and information dissemination.										

Title:	Title: Workforce Development Contracts								tatus:	Ongoing
Fundir	ng Sourc	STP: TT-I	Fed		Budget Category: FHWA				\ \	
State P	Proiect Nu	er:	736-99-1698		Project Start	Date:			7/1/2010	
Resear	Research Project Number: 11-WDC					Completion	Date	(original)		6/30/2011
Resear	ch Ageno	cy:		LTRC		Completion	Date	(revised)		
Princip	al Investi	gato	or:	Mr. Sam Cooper						
	BUDGET STATUS									
		т	otal Budget	t 🛛		Project Status: Ongoing Budget Category: FHWA Project Start Date: 7/1/2010 Completion Date (original) 6/30/2011 Completion Date (revised) 6/30/2011 Trotal \$2,600,000 Salaries \$842,550 Equipment (expendable) 1 Travel 0 1 1 Other \$1,757,450 1 1 Envices through federal, university and private sector stronglopment, technical skills, software, leadership, s project also includes providing individual registration rses and conferences to enhance their professional and structures (486 students); students); students); istudents); istuden				
Total C	ost	(orig	inal)	\$2,600,000		Total				\$2,600,000
		(revi	sed)							
Est. Ex	pended t	o D	ate			Salaries				\$842,550
	F١	20	09 - 2010 Bi	udget		Equipment	(expen	dable)		
FY Fur	nds	(orig	inal)			Equipment	(non-e	xpendable)		
		(revi	sed)			Travel				
Est. FY	Est. FY Expenditure Other							\$1,757,450		
	PURPOSE AND SCOPE									
The pu supplie manag fees fo technic	rpose of f rs for cor ement, su r DOTD e al develo	this ntinu uper emp pme	study is to ling educat visory trair loyees to a ent.	provide contractual s ion, professional dev ning. The scope of th ttend workshops, cou	erv elop is p ırse	ices through for pment, technic project also inc es and confere	ederal, cal skill cludes inces to	university a s, software, providing ind o enhance th	nd priva leadersl lividual r neir profe	te sector hip, registration essional and
				FISCAL YEAR 2009 -	20 ⁻	10 ACCOMPLIS	HMENT	S		
• • • • •	 Conducted 17 National Highway Institute courses (486 students); Conducted 147 PC software courses (1470 students); Conducted 47 CADD/ArcGIS courses (486 students); Conducted 2 LanTEC-ERP courses (24 students); Conducted 26 safety related courses (704 students); Conducted 30 specialty courses (490 students); Individual training registrations (147 classes/495 DOTD Employees); Approximately 3000 students for leadership/management/supervisory and computer based training courses; and Managed 13 workshops, meetings, seminars, and conferences (1500 participants. 									

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

Provide/manage:

- National Highway Institute courses;
- PC software training courses;
- CADD/GIS and specialty software training;
- Professional Development training contracts;
- Technical skills training contracts;
- Safety related training contracts;
- Manage Leadership, management, & supervisory training contracts;
- Individual training registrations;
- Research tools training;
- Library resource orientation and training;
- Maintain and build library collection in support of workforce development and research activities;
- Training events management; and
- Plan/manage/conduct 4-day 2011 Louisiana Transportation Conference for approximately 1750 attendees.

State Funded Research Program

CONTINUING RESEARCH

Title: Upda	te LA	Project S	tatus:	Ongoing							
Funding Sour	Funding Source: State: TT-Reg					Budget	Category:	State			
State Proiect N	er:	736-99-1589		Project Start	Date:			6/1/2009			
Research Proj	ect N	umber:	09-1GT		Completion	Date	(original)		12/31/2010		
Research Age	ncy:		WPI		Completion	Date	(revised)		5/31/2011		
Principal Inves	stigato	or:	Dr. Minjiang Tao				I				
			Budo	SET (Status						
	т	otal Budge	t			Estimat	mated 2010-2011 Budget				
Total Cost	(orig	inal)	\$193,054		Total			\$62,054			
	(revi	sed)									
Est. Expended to Date \$131,000					Salaries				\$56,454		
	FY 20	09 - 2010 B	udget		Equipment	(expen	dable)		\$1,600		
FY Funds	(orig	inal)	\$131,000		Equipment	(non-e					
	(revi	sed)			Travel				\$4,000		
Est. FY Expen	diture)	\$131,000		Other						
			PURPOS	SE A	ND SCOPE			-			
The major objective of the proposed research is to update the current LA DOTD policy on Pile Driving Vibration Management and to provide readily implementable recommendations of monitoring and the control of ground and structure vibrations generated by pile driving to LA DOTD for pile-driving risk management. The scope of the proposed research study will include an extensive literature review, conducting a survey among state DOTs to identify the best practices on the issue of pile driving vibration monitoring and risk management, collecting field pile driving monitoring data from LA DOTD or other resources, checking the feasibility of using empirical prediction models under Louisiana soil conditions, and developing a systematic procedure to guide pile driving vibration monitoring and mitigation by taking hammer-pile-soil interactions into account.											

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

- Task 1: Literature Review
 - Conducted a comprehensive literature survey on relevant published works to identify the state of the art and practice on pile driving vibration monitoring and risk management (100%).
- Task 2: Conduct a survey on the state of practice and policies on pile driving risk management
 - Conducted a Questionnaire Survey on state highway agencies and consultants to identify the state of the art and practice of pile driving vibration monitoring and risk management (100%).
- Task 3: Collect available field monitoring data on pile driving
 - Collected available field monitoring data on pile driving from five projects in Louisiana and available literature (80%). Because more data will be collected throughout the project, this task will continue.
- Task 4: Prepare an Interim Report
 - Submitted an Interim Report, which summaries findings from the first three tasks, identifies the gaps between the current LA pile driving risk management and the best practice, and outlines a manual framework for managing pile driving induced risk in Louisiana (100%). A SPECIFICATION FRAMEWORK FOR LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT PILE DRIVING VIBRATION RISK MANAGEMENT has been sent to the PRC for review.
- **Task 5:** Validate or Develop Correlations between Ground Vibration and Ensuing Structural Damage (100%)
 - Two threshold ground vibration limits have been identified (one is independent of vibration frequency and the other is vibration frequency dependent), both of which suggest that the current threshold vibration limits adopted by LA DOTD be overly conservative.
- Task 6: Develop Simple Models to Determine Vibration Monitoring Range (70%)
 - A procedure to determine vibration monitoring area has been developed, which provides a vibration monitoring area specific to project conditions (e.g., selected pile driving hammer).
- Task 7: Evaluate and identify mitigation strategies to control ground vibrations (90%)
 - Existing mitigation strategies to mitigate ground vibrations have been identified, among which the appropriate ones will be recommended for Louisiana DOTD.
- Task 8: Update LA DOTD pre-construction inspection survey (60%)
 - Some of essential aspects of pre-construction inspection survey have been included in the SPECIFICATION FRAMEWORK DRAFT submitted for the project PRC.

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

Task 8: Update LA DOTD pre-construction inspection survey

- An updated specification on pre-construction inspection survey, with essential details such as survey area and vibration monitoring area ranges, will be finalized.
- Task 9: Develop a GIS database to compile information pertinent to pile driving risk management
 - A new module pertinent to ground vibrations during pile driving will be developed and added to the existing LA DOTD geotechnical database.
- Task 10: Make recommendations to implement the research findings
 - A Pile driving risk management specification will be developed to facilitate the implementation of major findings from this research study and to execute a rational pile driving risk evaluation.
- Task 11: Prepare a final report to LA DOTD
 - A final report will be prepared for LA DOTD, which will include major findings from the proposed research study and suggestions for implementation.

Title: Cost Comp	Effec osite	Project S	tatus:	Ongoing						
Funding Sour	ce:	State: TT	-Reg		E	Budget	Category:	State		
			1							
State Project Number: 736-99-1518					Project Start	Date:			6/15/2008	
Research Proj	ect N	umber:	08-1P		Completion	Date	(original)		6/14/2010	
Research Age	ncy:		LSU		Completion	Date	(revised)		2/14/2011	
Principal Inves	tigato	or:	Dr. Mostafa Elseifi							
			Budg	ЕΤ	STATUS					
	Т	otal Budge	t		Completion Date (revised) 2/14/2011 STATUS Status Total Status Salaries \$41,940 Salaries \$33,140 Equipment (expendable) \$33,140 Equipment (non-expendable) \$5,800 Travel \$3,000 \$3,000 Other \$3,000 \$3,000 ID Scope rol treatments by evaluating the performance, uilt with these methods across the state. distress in composite pavements and for pavement					
Total Cost	(orig	inal)	\$165,444		Total				\$41,940	
	(revi	sed)								
Est. Expended	to D	ate	\$116,935		Salaries				\$33,140	
F	FY 20	09 - 2010 Bi	udget		Equipment	(expend	dable)			
FY Funds	(orig	inal)	\$112,425		Equipment (non-expendable)				\$5,800	
	(revi	sed)	\$55,000		Travel			\$3,000		
Est. FY Expen	Y Expenditure \$55,000 Other									
			PURPOS	ΕA	ND SCOPE			<u>.</u>		
Evaluate and c constructability Develop a star preservation.	compa v, and ndard	are differen I cost-effec state-wide	t reflection cracking of tiveness of pavement policy for control of t	con s b his	trol treatments uilt with these distress in col	s by eva methoo mposite	aluating the ds across th pavements	performate state. and for	ance, pavement	
			FISCAL YEAR 2009 -	20 ′	10 ACCOMPLIS	HMENTS	5			
The response and the level of participation from the districts were initially low. Numerous attempts trough the LTRC Assistant Director and the Project Technical Manager helped increase the rate of response. However, this caused delays in data collection and affected the schedule of the project tasks. This problem was discussed with the Project Review Committee in our recent meeting with the Technical Manager and the LTRC Assistant Director. We recently completed our analysis for glass-grid interlayer and we are expecting to complete our analysis for saw and seal during this fiscal year.										
			FISCAL YEAR 2010-20	011	PROPOSED A	CTIVITIE	S			
The analysis is now moving at an adequate rate and results of our work are starting to shape up. A contract extension was recently requested in order to adjust the project schedule and to compensate for the delay in data collection. This project will be complete in the 2010-2011 fiscal year.										

Title:	Title: Implementation of the Rolling Wheel Deflectometer (RWD) in PMS and Pavement Preservation								Project Status:	
Fundin	Funding Source: State: TT-Reg					Budget Category: State				
										_ / . /
State P	State Project Number: 73			736-99-1648		Project Start	t Date:			7/1/2009
Resear	ch Proje	ect N	lumber:	09-2P		Completion	Date	(original)		9/30/2010
Resear	ch Ager	ncy:		LTRC		Completion	Date	(revised)		6/30/2011
Principa	al Inves	tigate	or:	Dr. Mostafa Elseifi						
				Budg	ET	STATUS				
			Total Budge	t			Estimat	ed 2010-201	1 Budget	t
Total C	ost	(orig	jinal)	\$112,952		Total				\$77,950
		(revi	ised)						r	
Est. Ex	pended	to D	ate	\$35,000		Salaries				\$74,950
	F	Y 20	09 - 2010 Bi	udget		Equipment	(expend	dable)		
FY Fun	nds	(orig	jinal)	\$90,000		Equipment (non-exp		(pendable)		\$1,000
		(revi	ised)	\$35,000		Travel			\$2,000	
Est. FY	'Expend	diture	e	\$35,000		Other				
				PURPOS	E A	ND SCOPE			-	
Propos (PMS) Addition well as	ed rese distress nally, th a metho	arch data e rela odolo	activities w a as well as ationship be ogy to predi	ill generate an electro RWD deflection data etween FWD deflection ct the pavements stro	onic a inc on c uctu	c map with cur dices for the s data and RWD ral number (S	rrent DC elected) measu SN) dire	OTD Pavemo research sit urements wil ctly from RV	ent Man tes in Di II be esta VD data	agement strict 05. ablished as
				FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS	3		
The research team has developed a testing factorial for RWD and FWD tests and has traveled to District 05 to document the testing process. In addition, current DOTD PMS performance data for the research sites have been evaluated. The literature has been completed and the research team has recently started analyzing the FWD data on the research sites. In spite of these accomplishments, this project has been significantly delayed due to difficulties in the data collection process. RWD data have not been delivered to the research team. A time extension for 9 months has been filed to allow re-scheduling the research activities based on the delay in data collection.										
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES									
While s significa are face	While significant delays have occurred due to difficulties in the data collection, the research team expects significant progress as soon as the data are delivered in the next few weeks. Unless unforeseen conditions are faced, this project will be completed in the 2010-2011 fiscal year.									
Title:	Title: Management and Operation of the Pavement Research Facility					Project S	Project Status: One			
---	---	---	---	--	--	---	--	---	---	---
Fundin	ig Source	e: Stat	e: TT	-Reg		E	Budget	Category:	State	
State P	Project Nu	mher:		736-99-0515		Project Start	Date:			7/1/2009
Research Project Number: 10-1ALF Completion Date (original)									6/30/2012	
Resear	ch Agenc	v:		LTRC		Completion	Date	(revised)		0/00/2012
Principa	al Investig	ator:		Dr. Zhong Wu			2 410	(,		
· ·		,		BUDG	ET	STATUS				
	Total Budget Estimated 2010-2011 Budget									
Total C	ost (original)		\$2,977,050	977,050 Total \$693,800					
	(revised)									
Est. Ex	pended to	Date	ate \$405,300 Salaries						\$362,500	
	FY	2009 - 2	010 Bi	udget		Equipment		\$96,300		
FY Fun	ids (original)		\$680,000		Equipment	(non-e	xpendable)		\$223,000
	(revised)		\$405,300		Travel				\$12,000
Est. FY	Expendit	ure		\$405,300		Other				
				PURPOS	ΕA	ND SCOPE				
The Pa paveme investig The ob perform A mana include experin	vement R ents using gate and e jective of hing full-so ager, two s manage nents, cor	esearch the Aus valuate this stud cale acco operator ement of nstruction	Facili stralian econo y is to elerate s and the fa n and	ity is a full scale test in n designed ALF. The pmic and practical alto provide for the mana ed pavement testing. a research associate icility, maintenance a instrumentation activ	faci ern age wi nd itie	lity site design inpose of LTR atives to curre ment and ope Il be funded in operation, pre s and planning	ned to t C's Pay ent desi tration s this st paratio g.	est any and vement Rese gn and cons structure of t udy. The sc ns of plans f	all types earch Fa truction he PRF ope of the ope of the	of acility is to practices. site in he work dual
				FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENT	S		
	 Prepared construction specifications and constructed eight test sections for TTI ALF experiment; Completed ALF Loading on TTI sections 1-4; Moved ALF device from A-side to B-side; and Completed ALF Loading on TTI sections 7 and 8. 									
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S		
•	 ALF Loading on TTI sections 5 & 6; Prepare, plan and construct test sections for a new ALF experiment on Geogrid reinforcement; and Prepare, plan and construct test sections for a new ALF experiment on modified Asphalt mixture. 									

Title:	Title: Evaluation of Continuity Details for Precast Pre-stressed Girders					ł	Project Status:		Ongoing	
Fundin	g Sour	ce:	State: TT	-Reg		E	Budget	Category:	State	
State P	roject N	umb	er:	/36-99-1513		Project Start	Date:	/ · · · · ·		12/10/2007
Resear	ch Proje	ect N	umber:	08-151		Completion	Date	(original)		11/30/2009
Resear	ch Ager	ncy:		LSU Dr. Average Olasii		Completion	Date	(revised)		8/31/2010
Principa	Budget Status									
	Total Budget Estimated 2010-2011 Budget									
Total C	Total Cost (original) \$249,578 Total \$21,211									
(revised)							\$21,211			
Est. Expended to Date \$203,243 Salaries								\$16 711		
Est. Expended to Date \$203,243 Salaries FY 2009 - 2010 Budget Equipment (expendable)							φ10,711			
EY Fun	ds	(oria	inal)	\$76 578	(pendable)					
1 1 1 01		(revis	sed)	\$60,113		Travel	(() () () () () () () () () () () () () (\$2,500
Est. FY	Expend	diture)	\$60.113		Other			\$2,500	
				PURPOS	E A					+_,
The ma perform Bridge is to pro full und	in object nance of No. 2 of ovide LA erstandi	tive the the DO	of this proje continuity c James Aud TD with a s f the behav	ect is to install a mon diaphragm detail inclu lubon Bridge Project successful continuity vior of the continuity of	itori udin unc deta diap	ing system for ng the positive der long-term e ail for impleme ohragm connec	the pur momer effects. entation ction de	rpose of inve nt detail that The ultimate in future pro atail.	estigatin is emple goal of ojects ba	g the oyed in f the project ased on a
				FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENTS	6		
• • •	Monito Testing Continu Severa Develo	ring s g, adj uous Il site ped s	system inst ustment, a data collec visits were algorithms	allation was complet nd deployment of mo ction; a made to perform vis for data preprocessir	ed; onito sual ng.	oring system w l inspection; ar	vas fina nd	lized;		
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S		
•	 Data analysis of joint performance; and Final Report to be reviewed published and distributed. 									

Title:Evaluation of Design Methods to Determine Scour Depths for Bridge StructuresProj							Project Status: Ong		Ongoing	
Fundin	ig Sour	ce:	State: TT	-Reg		E	Budget	Category:	State	
State P	roject N	lumb	er:	736-99-1620		Project Start	Date:			4/1/2009
Resear	ch Proje	ect N	umber:	08-3ST		Completion	Date	(original)		4/1/2011
Resear	ch Ager	ncy:		LSU		Completion	Date	(revised)		
Princip	al Invest	tigato	or:	Dr. Gouping Zhang	J				1	
				Budg	ЕΤ	STATUS				
	Total Budget Estimated 2010-2011 Budget									
Total C	ost	(orig	inal)	\$200,004	04 Total \$100,004					
		(revi	sed)							
Est. Ex	pended	to D	ate	\$100,000		Salaries				\$80,004
	F	Y 20	09 - 2010 Bi	udget		Equipment	(expen	dable)		\$10,000
FY Fun	lds	(orig	inal)	\$100,000		Equipment	(non-e>	(pendable)		\$5,000
		(revi	sed)	\$90,000		Travel				\$5,000
Est. FY	Expend	diture	e	\$90,000		Other				
				PURPOS	ΕA	ND SCOPE				
The over the state charact fundam compor	erall goa te of Lou teristics nental fra nents ar	al of t uisiar and amev nd/or	the project na (LA), with soil/sedime vorks set by parameters	is to develop a more h the consideration o nt properties. The ne y FHWA-approved HI s in the models.	relia f th wly EC-	able tool for so e LA's special developed te 18, but includ	cour de meteo chnique e some	pth and scor rological and e will still be new statisti	ur rate p d climati based c ically de	prediction in c on the rived
				FISCAL YEAR 2009 -	20 ⁻	10 ACCOMPLIS	HMENTS	5		
• • • •	Finishe Condu Submit Re-dev Perforr	ed an cted tted a /elop ned `	extensive the analysi a report of i red historica Validation a	review of literature ar s and evaluation of h nterim progress; al hydrometeorologica and calibration of hyd	nd a isto al fo rom	available techr rical field surv prcing and con neteorological	nologies yey scor nducted data us	s; ur data; hydrologica sing USGS c	ıl analys Jata.	is; and
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	s		
• • • • •	 To continue to work on the scour survey data analysis and hydtrometeorological analysis; To complete the hydrologic analysis; To conduct hydraulic analysis of floods and water flow velocities; To deduct the results for water surface elevations; To conduct a geotechnical analysis; To develop a statistical-based method for scour depth and scour rate prediction; To conduct validation of the new method; To perform a cost-benefit analysis for the new method; and To prepare and submit the final report. 									

Title:Support Study for A Shape Memory Polymer Based Self- healing Sealant for Expansion JointProje					Project St	Project Status: Ong			
Fundir	ng Sour	ce:	State: TT	-Reg	В	udget	Category:	State	I
State F	Project N	lumb	er:	736-99-1623	Project Start	Date:			5/1/2009
Resear	rch Proje	ect N	umber:	09-5ST	Completion	Date	(original)		11/1/2010
Resear	rch Ager	ncy:		LTRC	Completion	Date	(revised)		
Princip	al Invest	tigato	or:	Dr. Guoqiang Li			I		
	BUDGET STATUS								
		т	otal Budge	t		Estimat	ed 2010-201	1 Budget	t
Total C	ost	(orig	inal)	\$72,750	Total				\$42,750
	(revised)								
Est. Expended to Date \$30,000 Salaries									\$35,000
	F	TY 20	09 - 2010 Bi	udget	Equipment	(expen	dable)		\$2,000
FY Fur	nds	(orig	inal)	\$35,000	Equipment	(non-e	xpendable)		\$3,000
		(revi	sed)	\$30,000	Travel				\$750
	/			* ~~~~~		\$2,000			
Est. FY Expenditure\$30,000Other\$2,000									
Est. FY	rpose of	f this	study is to	S30,000 PURPOSE	Other	port for	a self- gene	erated or	\$2,000
Est. FY The pu Shape coordir produc deliver	rpose of Memory nating th t and the ed on tir Holding submit	f this / Poly e sel e pla me to g Pro	study is to ymer based ection of tw cement and the IDEA F bject Review the FHWA	\$30,000 PURPOSE provide technical and d Self-healing Sealant f vo bridges to place the d the monitoring of the Program manager. FISCAL YEAR 2009 - 2 w Committee meetings	Other AND SCOPE managerial supp for Expansion Jo self-healing sea product, ensurin 2010 AccompLise and reviewing t	bort for bint." T alant, re ng quan HMENT: hree p	a self- gene he support w eviewing the rterly progres s	erated or vill be in design ss repor	\$2,000 ne titled "A the form of the ts are re their

Title: LAD	OTD (Customer S	Service Process and	d Oi	utcome Evaluation Project S			Status: Ongoing	
Funding Sou	rce:	State: TT	-Reg		Budget Category:			State	L
			700 00 4 470					1	= / / /0.0.0.=
State Project	Numb	er:	/36-99-14/9		Project Start	Date:	(· · ·))		5/1/2007
Research Pro	Ject IN	lumber:	07-455 Southern		Completion	Date	(original)		4/30/2010
Research Age	ency:		University		Completion	Date	(revised)		12/31/2010
Principal Inve	stigate	or:	Dr. Sharon Parson	S					
			Bude	SET (STATUS				
Total Budget Estimated 2010-2011 Budget									
Total Cost (original) \$185,988								\$5,864	
	(revi	sed)						I	
Est. Expended to Date \$151,8					Salaries				\$5,864
FY 2009 - 2010 Budget					Equipment	(expen	dable)		
FY Funds	(orig	inal)	\$61,996		Equipment	(non-e	xpendable)		
	(revi	sed)	\$69,337		Travel				
Est. FY Exper	nditure	e	\$63,473		Other				
			PURPOS	SE A	ND SCOPE				
The purpose of customer satist the success of involves outco provide an ev monitoring inv Program proc determine wh	of this sfaction f the some me aluation rolves ess me ether	project is to on that inclu- suggested a nonitoring w on that will the continu- nonitoring is the program	o assess DOTD cust ude action steps to im action steps in subse while the remaining tw monitor program out ual measurement of t the continual observent is operating as inte	ome que vo o com he i vatio	er satisfaction ove the level of int assessmen bjectives invol ies and progra ntended condi on of program ed.	over tin f custor its. The lve pro am proc itions the perforr	me, to provid mer satisfact first objectiv cess monito cesses. Prog ne program i nance criteri	le repor tion, and ve of this ring. The ram out ntends t a in ord	ts on I to measure s research e project will come to improve. er to
			FISCAL YEAR 2009 -	20 [°]	10 ACCOMPLIS	HMENT	6		
 Telep Data A 6-m DOTE 	 FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS Telephone interviews and target group surveys were collected; Data analysis has been delayed due to problems revealed during the data verification process; and A 6-month no-cost time extension for completion of this project was requested and approved by DOTD. 								
			FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S		
Upon completion of data verification, data analysis will be performed and draft final report will be submitted to DOTD for review and comment.									

Title: Developing Louisiana Crash Reduction Factors Production Factors						tatus:	Ongoing
Funding Sour	ce: State: TT	-Reg	В	ludget	Category:	State	
State Project N	lumbor	730-00-1635	Project Start	Data:			11/1/2000
Research Proj	ect Number	08-355		Date.	(original)		10/31/2011
Research Age	ncv:	ULL	Completion I	Date	(revised)		10/01/2011
Principal Inves	tigator:	Dr. Xiaoduan Sun			. ,		
	BUDGET STATUS						
	Total Budge	t	I	Estimat	ed 2010-201	I Budget	t
Total Cost	(original)	\$178,087	Total				\$91,859
(revised)							
Est. Expended to Date \$2,000 Salaries							\$47,187
FY 2009 - 2010 Budget Equipment (expendable)							
FY Funds	(original)	\$91,859	Equipment	(pendable)			
	(revised)	\$91,859	Travel				\$2,000
Est. FY Expen	diture	\$2,000	Other				\$42,672
		PURPOSE	AND SCOPE				
The primary go Particularly, thi • Docum • Detern • Develo	bal of this resear is research will: nent the state-of nine the CFRs to op some CFRs to op a web based	rch is to develop and de- the-practice in CFR de be developed for Lou vith available information tool listing the publishe	ocument a list of evelopment; iisiana; on under the bud ed CFRs and the	f CRFs dgetary eir deve	to be used constraint; elopment info	by LaDC and ormatior	DTD. 1.
		FISCAL YEAR 2009 - 2	010 ACCOMPLIS	HMENTS	6		
 Finish Catego Identify 	literature review orize counterme y countermeasu	<i>r</i> ; asures; and res for further study.					
		FISCAL YEAR 2010-20	11 PROPOSED AC	CTIVITIE	S		
Start to	Start to develop selected crash reduction factors and web-based tool.						

Title:	Support Study on the Characterization of Ternary Mixes with Various SCMs Proprior								Ongoing	
Fundin	ig Sourc	e:	State: TT	-Reg	E	Budget	Category:	State	•	
State P	roject Nu	umb	er:	736-99-1650	Project Start	Date:			7/1/2009	
Resear	ch Proje	ct N	umber:	09-6C	Completion	Date	(original)		6/30/2010	
Resear	ch Agen	cy:		LSU	Completion	Date	(revised)		12/31/2010	
Principa	al Investi	gato	or:	Mr. Hak-Shul Shin						
	BUDGET STATUS									
	Total Budget Estimated 2010-2011 Budget									
Total C	Total Cost (original) \$99,271 Total \$15,271									
		(revi	sed)							
Est. Ex	pended t	to D	ate	\$84,000	Salaries				\$15,271	
	FY 2009 - 2010 Budget Equipment (expendable)				dable)					
FY Fun	lds	(orig	inal)	\$99,271	Equipment	(pendable)				
		(revi	sed)		Travel	1				
Est. FY	'Expend	iture)	\$84,000	Other					
				PURPOSE	AND SCOPE			L		
•	This pro researc The sco	oject hers ope (was devel s. of the study	oped to supplement the	e ongoing 09-40 acial shear deve	C study elopme	r being comp	olete by uct CTE	LTRC	
				FISCAL YEAR 2009 - 2	010 ACCOMPLIS	HMENT	6			
•	 FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS The interfacial shear testing samples were produced and tested; and About 45% of the ternary mixtures have been produced and the CTE measured to date. 									
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES									
•	Comple	te th	ne CTE me	asurements and write a	a final report.					

Title: Resea	arch Expansior	n Program		Project S	tatus: Ongoing		
Funding Sour	ce: State: TT	-Reg	Budget	Category:	State		
	·						
State Project N	Number:	736-99-1442	Project Start Date:	<u>.</u>		11/1/2006	
Research Proj	ect Number:	09-1AD	Completion Date	(original)		11/1/2009	
Research Age	ncy:	LTRC	Completion Date (revised) 6/30/201				
Principal Inves	stigator:	Dr. Vijaya Gopu					
		BUDGE	ET STATUS				
	Total Budge	t	Estima	ted 2010-201	1 Budget		
Total Cost	(original)	\$363,309	Total			\$229,913	
	(revised)	\$1,088,594					
Est. Expended	to Date	\$522,000	Salaries			\$219,413	
	FY 2009 - 2010 B	udget	Equipment (expen	dable)			
FY Funds	(original)	\$219,465	Equipment (non-e	xpendable)			
	(revised)		Travel			\$10,500	
Est. FY Expen	diture	\$219,465	Other				
		PURPOSE	AND SCOPE		-		
To cover admi technology tra	nistrative costs nsfer expansion	handled under contrac funding programs.	t to support the LTRC i	esearch dev	velopmer	nt and	

Fiscal Year 2010-2011

FISCAL YEAR 2009 - 2010 ACCOMPLISHMENTS

- 1. The following proposals were developed and/or coordinated during this fiscal year and submitted to various external funding agencies. Faculty at different Louisiana Universities and industrial collaborators were involved in these proposals:
 - Advanced Health Monitoring Technologies for Bridges; proposal submitted to the Advanced Technology Program at NIST \$16M;
 - A Photocatalytic Titanium Dioxide Coating for Asphalt Pavement; proposal submitted to IDEA Program at TRB, \$150K;
 - Rainfall Estimation for MEPDG; proposal submitted to IDEA Program at TRB, \$150K;
 - Early Warning System for Motorists; proposal submitted to IDEA Program at TRB; \$150K; and
 - Field Monitoring and Measurement; proposal to be submitted to NSF Education and Human Resources Directorate, \$200K.
- 2. Coordinated LTRC's TIER Program:
 - Four awards were recommended for 10-11 fiscal year.
- 3. Coordinated LTRC Town Hall meetings at the campuses of five Louisiana universities. Meetings were held to educate faculty and administrators at the various universities about the research funding and collaboration opportunities at LTRC.
- 4. Coordinated the assembling of the research project data for the various DOTs participating in the SE Transportation Consortium.
- 5. Coordinated NSF Program Director's (Dr. Fragaszy) visit to LTRC/TTEC in November, '10.
- 6. Serving as the Vice-Chair of the Industrial Advisory Board for NSF University-Industry Center for Integration of Composites into Infrastructure (2009 to Present).
- 7. Served on the following NSF Review Panels:
 - MRI Panel; October 2009;
 - AARI-ENGINEERING 2 Panel; October 2009;
 - Engineering Research Centers CCPCI Panel, October 2009;
 - Research Experience for Undergraduates REU Sites Panel, December 2009; and
 - EEFRI SEED Panel, January, 2010.
- 8. Served as NSF Site Review Panel member for the following site visit:
 - NEES Operations Headquarters, Purdue University Transition Review, April 2010.
- 9. Served as an Organizing Committee member for the Tulane Engineering Form and as the Chair for the session on Infrastructure for the 2010 Tulane Engineering Forum.
- 10. Presented a research paper at the Louisiana Engineering Conference, September, 2009.
- 11. Coordinated Rutgers University involvement in Morganza bridge pile cap repair utilizing inorganic composites.
- 12. Published three peer reviewed papers in the proceedings of two international conferences held in Italy and China.
- 13. Developed list of faculty interested in offering NHI courses for LTRC.

LTRC Annual Research Program

Fiscal Year 2010-2011

FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES

- 1. Increase number of collaborative proposals submitted by university faculty and industrial collaborators through LTRC to external funding agencies;
- 2. Increase NHI course offerings by utilizing the faculty pool available to offer these courses;
- 3. Initiate efforts to offer statewide ME program in cooperation with the new administration at LSU;
- 4. Offer a timber design course on a state-wide basis utilizing LTRC's distance learning capability;
- 5. Continue coordination of TIER program; and
- 6. Coordinate to completion the research project data collection for the SE Transportation Consortium.

State Funded Research Program

PROPOSED RESEARCH

Title:	Fitle: Bridge Data Management Tool and Support							Project S	Project Status:	
Fundin	ng Sour	ce:	State: TT	-Reg		E	Budget	Category:	State	I
Otata D						Ducie et Oteut	Data			7/4/0040
State P	roject N		er:			Project Start	Date:	(original)		6/20/2012
Resear			umper:			Completion	Date	(onginal)		6/30/2012
Princin	al Inves	tigato	۲.			Completion	Dale	(Tevised)		
		igui		Budgi	Status					
	Total Budget Estimated 2010-2011 Budget									
Total C	ost	(orig	inal)	\$200,000		Total				\$60,000
		(revi	sed)							. ,
Est. Ex	st. Expended to Date					Salaries				\$60,000
	FY 2009 - 2010 Budget					Equipment	(expen	dable)		
FY Fun	nds	(orig	inal)			Equipment	(non-e)	(pendable)		
		(revi	sed)			Travel				
Est. FY	'Expen	diture	9			Other				
				PURPOSI	E AND SCOPE					
Provide by vario	e tools a ous use	and in rs un	iterface to li der the dire	ink bridge data in vari action of the LADOTD	ou: bri	s sections of L dge committe	ADOTI e.	D for better a	accessir	ng and using
				FISCAL YEAR 2009 -	201	O ACCOMPLIS	HMENTS	6		
				FISCAL YEAR 2010-20)11	PROPOSED A	CTIVITIE	S		
Work w the pla	Work with LADOTD bridge committee and develop the scope of service and research work plan. Execute the plan under the supervision of the project review committee.							. Execute		

Title: Geotechnical Information Database – Phase 2							Project Status:		Proposed	
Funding	ig Source: State: TT-Reg Bu					Budget	Category:	State		
State Pr	roject N	umb	er:	10.007		Project Starl	t Date:			7/1/2010
Researc	ch Proje	ect N	umber:	10-2GT		Completion	Date	(original)		6/30/2012
Researc	ch Ager	ncy:				Completion	Date	(revised)		
Principa	al Invest	ligato	or:			-				
				BUDG	ET \$	STATUS				
		Т	otal Budget				Estimat	ed 2010-201 [,]	1 Budget	
Total Co	ost	(orig	inal)	\$200,000		Total				\$105,000
	(revised) Est. Expended to Date									
Est. Exp	Est. Expended to Date					Salaries				\$105,000
FY 2009 - 2010 Budget					Equipment	(expend	dable)			
FY Funds (original) Equipment (non-exper						pendable)				
		(revi	sed)			Travel				
Est. FY	Expend	diture	;			Other				
				PURPOS	E AI	ND SCOPE			-	
With adv interacti digitally hardcop grows it Enhance Informat studies Gint, a g project v a specifi	vancem ve data storing oy archir can be ements tion Dat by inclu geotech will expa- ied DO	to the tabase of t	in technolo is project is cechnical da Current an essed via C be website a se becomes data from database he use of C ormat.	bgy, people (especial s a follow up study to ata within the departr id future data should Content Manager, Site and application shoul s an even more value other various sources has many additional Gint and create a tool	Ily E LTI nen be / be / ble s to feat to c	Engineers) exp RC Project 03 t for easy retri- recorded and laterials mana e incorporated resource. Th provide more tures not fully digitally interp	bect and -1GT. ieval, ra stored a ger, thi d in pha his proje informa utilized ret the o	d need quick The project ather than be digitally so t s GIS webs uses so that ect will expan ation and de by the depa data and pre	c respon will enco eing lost hat as th ite, etc. the Geo nd into f etails to c artment. esent the	sive and ompass in the ne data technical uture designers. This e findings in
				FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS	5		
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	s		
The pro	The project will begin and work will be directed toward the purpose and scope as detailed above.									

Title: E	ele: Evaluation of Erosion Control Methods for Coastal Highwa							Project Status:	
Funding	Source	: State: TT	-Reg		Bu	udget	Category:	State	
		÷	1 1						
State Proj	ject Nun	nber:	736-99-1695		Project Start	Date:			7/1/2010
Research	Project	Number:	10-2TIRE		Completion D	ate	(original)		
Research	Agency	/:	McNeese University		Completion D	ate	(revised)		
Principal I	Investig	ator:	Dr. Stanley Klemets	son					
	BUDGET STATUS								
Total Budget Estimated 2010-2011 Budget									
Total Cost	Total Cost (original) \$29,912 Total \$29,912								
	(re	evised)							
Est. Exper	nded to	Date			Salaries				\$20,640
	FY	2009 - 2010 B	udget		Equipment	(expend	lable)		\$350
FY Funds	FY Funds (original)				Equipment	(non-ex	pendable)		\$6,000
	(re	evised)			Travel			\$672	
Est. FY Ex	xpenditu	ure			Other			\$2,250	
			PURPOS	E AI	ND SCOPE			-	
The project highway s utilized for understan severe co	ct will ev shoulder r the Co ading of nditions	valuate the er s for several imputational I the shoulder s.	rosive forces caused I types of shoulder mat Fluid Dynamics (CFD) design and material r	oy t teri) ar equ	he pressure, ve als and configu nd Acoustic ana uirements for hig	elocity rations Ilysis. ghway	and acoust s. Compute The project s constructe	ics of the r modeli : will pro ed in loc	e waves on ing will be vide a better ations with
			FISCAL YEAR 2009 -	20′	10 ACCOMPLISHI	MENTS			
			FISCAL YEAR 2010-20	011	PROPOSED ACT	TIVITIE	S		
Task 1: S Task 2: D Task 3: E Task 4: E Task 5: E	Γask 1: Surveying;Γask 2: Data Collection and Model Validation;Γask 3: Evaluation of Wave Action on the Test Sections;Γask 4: Evaluation of Shoulder Materials and Configurations; andΓask 5: Evaluation of Research Results and Recommendations.								

Title: Safety Benefit of Shredded Tires in Hazardous Roadside Project								Project Status:		
Fundin	ng Source	: :	State: TT	-Reg	E	Budget Category: State				
Otata D				1	Drain at Otari	Deter			0/4/0040	
State P	roject Nu		er:		Project Star	Date:	(original)		9/1/2010	
Resear			umber:		Completion	Date	(original)		8/30/2012	
Drincin		y.			Completion	Dale	(Tevised)			
FIIICIP		Jan	<u>л.</u>	Bunge	T STATUS					
		т	otal Budge	t		Estima	ted 2010-201	1 Budae	t	
Total C	ost (oria	inal)	\$200.000	Total			- Duuge	\$70,000	
	() ()	revi	sed)	\$200,000					φ <i>ι</i> 0,000	
Est. Ex	pended to	D D	ate		Salaries				\$70.000	
2011 2/	FY	20	09 - 2010 B	udaet	Equipment	(exper	ndable)		<i></i>	
FY Fur	nds (oria	inal)		Equipment	(non-e	expendable)			
1 I I UI	(revi	sed)		Travel					
Est FY	´ Expendit	ture	<u>,</u>		Other					
20011	Experian		·	PUPPOSE				<u> </u>		
with a t	balanced	con	isideration	of hydraulic requireme	ents.					
				FISCAL YEAR 2009 - 2	2010 ACCOMPLIS	HMENT	S			
				FISCAL YEAR 2010-20	11 PROPOSED A	стіліті	ES			
•	Develop	a r	esearch pl	an.						

Title:	Addre Axle L Louis	ssin .oad iana	g Traffic D Spectra a (Phase II)	of	Project S	tatus:	Proposed			
Fundin	ig Sour	ce:	State: TT	-Reg		E	Budget	Category:	State	
State P	roject N	lumb	er:			Project Start	Date:	(· · ·))		7/1/2010
Resear	ch Proje	ect N	umber:			Completion	Date	(original)		3/31/2012
Resear	ch Agei	ncy:		LIRC Dr. Charif, Jahah		Completion	Date	(revised)		
Principa	al inves	ligato	or:	Dr. Snem Isnak		27.4.7110				
			otal Rudga		jel (STATUS	Ectimo	ad 2010 201	1 Pudgo	
Tatal C	aat	(a ria)		¢450.000		Total	Estima	led 2010-201	Биаде	
Total C	ost	(orig		\$150,000		Total				\$80,000
Ect Ex	nondod	to D				Solorioo				000 092
ESI. EX	pended	10 D		udgot		Equipment	(0)/000	dabla)		\$80,000
	r do	1 20					(expen			
FYFUN	las	(orig					(non-e	xpendable)		
		(revi	sed)			Other				
	Expend	JILUTE	;	Burner					<u> </u>	
				FURPOR		ND SCOPE				
The sco Louisia improvi models design	ope of the na. All for the na. All for the formation of t	ne stu indin c dat ccedu s.	udy is limite gs and guid a quality fo ures will be	ed to the current prace delines will be geared or current and future p applied to identify th	tice tov bave e m	s and traffic m vards the nee ement design ain traffic cha	nonitori ds of th practic racteris	ng system w ne LA DOTD es. Appropris stics that infl	vithin the with the ate stati uence th	e state of e purpose of stical ne pavement
				FISCAL YEAR 2009	201	O ACCOMPLIS	HMENT	S		
	FISCAL TEAR 2009 - 2010 ACCOMPLISHMENTS									
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES									
Task 1 Task 2 Task 3 Task 4	Task 1: Update literature review and gather facts on data sources;Task 2: Establish a standard procedure to collect reliable portable WIM data;Task 3: Develop a procedure to collect data from LTPP and weight enforcement sites; andTask 4: Begin pilot study.									

Title:Project Level Transportation Asset Management Methods Utilizing PMS Datasets and Engineering EconomicsProject State									tatus:	Proposed
Fundin	g Sour	ce:	State: TT	-Reg		B	Budget	Category:	State	
						1			1	
State P	roject N	umb	er:			Project Start	Date:	1		1/7/2011
Resear	ch Proje	ect N	umber:			Completion	Date	(original)		6/30/2013
Resear	ch Ager	ncy:				Completion	Date	(revised)		
Principa	al Inves	tigato	or:							
				Buda	SET \$	Status				
		Т	otal Budget	t		I	Estimat	ted 2010-201	1 Budget	t
Total Co	ost	(orig	inal)	\$250,000		Total				\$50,000
		(revi	sed)							
Est. Exp	pended	to D	ate			Salaries				\$50,000
	F	Y 20	09 - 2010 Bu	udget		Equipment	(expen	dable)		
FY Fun	ds	(orig	inal)			Equipment	(non-ex	xpendable)		
		(revi	sed)			Travel				
Est. FY	Expend	diture	Э			Other				
				PURPOS	SE AI	ND SCOPE			<u>.</u>	
The pur utilizing inaccura Statistic this is c monitor A team Cycle C TAM ma	pose of PMS d acies pr cian anc omplete future l compos Cost Ana anagem	this ata a rovid I Eng , pro PMS Sed c alysis nent	study is to and Enginee ed by netwo gineer to as oject level a datasets to of a Statistic s (LCCA) ar personnel.	develop a Project Le ering Economic Princ ork level analysis. Th sess the current "net ccuracies will be def o ensure that the proj cian, Engineering Eco nd planning regime b	evel ciple ne s wor inec ect onor ase	Transportation es. A TAM system tudy begins by k level" accura and a sampli level accuraci mist, and perh d upon "project	n Asse tem ca y utilizi acy of t ing reg es are naps Ec ct level	ts Managem n't function v ng a team co he DOTD Pl ime will be e provided. conomist will datasets fo	ent (TAI vith large ompose MS syste stablish develop r use by	M) System e d of a em. Once ed to o a Life DOTD
				FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENT	6		
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S		
• • •	Select Develo Collect Begin s	Univ p sa info statis	rersity to co mpling regi rmation on stical analys	nduct study; me of existing PMS o current DOTD TAM is of PMS database.	data proc	base; ess; and				

Title:Life Cycle Cost Analysis and Performance Evaluation of Existing Pavement TreatmentsProject Status:Proposition									Proposed	
Fundin	ng Sour	ce:	State: TT	-Reg		E	Budget	Category:	State	
									1	
State P	Project N	lumb	er:			Project Start	t Date:		6/30/2010	
Resear	ch Proj	ect N	lumber:			Completion	Date	(original)		6/30/2012
Resear	ch Age	ncy:		ULL		Completion	Date	(revised)		
Princip	al Inves	tigato	or:	Dr. Mohammad Ja	mal	Khattak				
				Budo	SET :	STATUS				
		T	Total Budget	t			Estimat	ed 2010-201	1 Budge	t
Total C	ost	(orig	inal)	\$350,000		Total				\$175,000
	(revised)									
Est. Ex	pended	to D	ate			Salaries				\$175,000
	F	FY 20	09 - 2010 Bu	udget		Equipment	(expend	dable)		
FY Fun	nds	(orig	inal)			Equipment	(non-ex	pendable)		
		(revi	sed)			Travel	1			
Est. FY	'Expen	diture	Э			Other				
				PURPOS	SE A	ND SCOPE			<u>.</u>	
The pu Pavem Phase costs fo each tr into the approp	rpose o ent Trea Prograr or projec eatmen e PMS, I riate DC	f this atmer n. Pl ct/trea t, and Pave DTD s	project is tr nts typically hase 1 iden atment com d provides a ment Prese staff will be	o develop Life Cycle vused on DOTD road tifies the treatments, binations. Phase 2 a cost benefits analys rvation, and Paveme trained.	Cos dwa pro dev sis c ent I	st Analysis (LC ys. This will b ojects per treat elops the mod of the new sys Design Systen	CCA) ar be accor tments f lels for les for tem. Pl ns. Sof	nd Performa mplished thi from the PN performance hase 3 integ tware will be	nce moo rough a IS datab e, LCCA grates th e provide	dels for Three base, and , triggers for e models ed and the
				FISCAL YEAR 2009	· 20 [·]	10 ACCOMPLIS	HMENTS	;		
•	 FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES Complete Phase 1 which identifies the treatments, projects per treatments from the PMS database, and costs for project/treatment combinations; and Begin Phase 2 which develops the models for performance, LCCA, triggers for each treatment, and provides a cost benefits analysis of the new system. 									

Title:Implementation of GPC Characterization of Asphalt Binders at Louisiana Materials LaboratoryProjection								Project S	tatus:	Proposed		
Fundin	ng Sour	ce:	State: TT	-Reg		E						
					1							
State P	Project N	lumb	er:		-	Project Start Date:						
Resear	ch Proj	ect N	umber:			Completion	Date	(original)				
Resear	ch Age	ncy:		LSU		Completion	Date	(revised)				
Princip	al Inves	tigato	or:	Mr. William H. Daly	/							
				Budo	GET							
		Т	otal Budge	t			Estimat	ed 2010-201	1 Budget	t		
Total C	ost	(orig	inal)	\$255,438	-	Total				\$209,379		
		(revi	sed)									
Est. Ex	pended	to D	ate			Salaries	Г			\$96,679		
		FY 20	09 - 2010 B	udget		Equipment	(expen	dable)		\$85,000		
FY Fun	nds	(orig	inal)			Equipment	(non-e)	(pendable)		\$27,700		
		(revi	sed)			Travel						
Est. FY	' Expen	diture	e			Other						
				PURPOS	SE A	ND SCOPE						
This re- tool to o polyme present is being of modi	search define th r modifi t in crur g develo ified asp	will in he pe ed as nb ru oped. ohalt	nplement a ercent amou sphalt ceme bber modifi Attention v binders as	procedure for using unts of polymer modi ents. It will also addr ed binders for which vill also be paid to us well as forensic ana	gel fiers ess a re sing lysis	permeation ch s, which are so quantification epeated solver GPC for asse s of pavement	nromato oluble in of GPC nt/non- ssment failures	ography (GP n eluting GP Solvent ins solvent prec of the exter S.	PC) as an C solver oluble cr ipitation at of oxic	n analytical nts, in rumb rubber procedure dative aging		
				FISCAL YEAR 2009	- 20 ⁻	10 ACCOMPLIS	HMENTS	3				
				FISCAL YEAR 2010-2	2011	PROPOSED A	CTIVITIE	S				
• •	 Purchase, installation and calibration of a GPC instrument at the DOTD Materials Laboratory; Writing detailed procedures (and eventually a manual) for conducting binder analysis; and Develop more efficient extraction processes capable of recovering binder from roadway cores. 											

Title: Evaluation of the Validity of Multiple Stress Creep Recovery for Emulsions Project									tatus:	Proposed	
Fundin	ng Sour	ce:	State: TT	-Reg		E	Budget	Category:	State		
State P	roject N	lumb	er:			Project Start	Date:	8/1/2010			
Resear	ch Proje	ect N	umber:			Completion	Date	(original)		12/31/2011	
Resear	ch Ager	ncy:		LTRC		Completion	Date	(revised)			
Princip	al Invest	tigato	or:								
				Budg	ET STATUS						
		Т	otal Budge	t			Estimat	ed 2010-201	1 Budge	t	
Total C	ost	(orig	inal)	\$60,170		Total				\$50,170	
	(revised)										
Est. Ex	pended	to D	ate			Salaries				\$44,670	
	F	Y 20	09 - 2010 Bi	udget		Equipment	(expend	dable)		\$4,000	
FY Fun	nds	(orig	inal)			Equipment	(non-ex	(pendable)			
		(revi	sed)			Travel			\$1,500		
Est. FY	'Expend	diture	Э			Other					
				PURPOS	E A	ND SCOPE			<u>!</u>		
Multiple binder graded simulat for emu collecte be prop	e Stress at differe binder. e real co ulsions. ed and th posed.	Crea ent si The ondit The o heir a	ep Recover tress levels PG specific ions. To thi emulsions f elastic resp	y (MSCR) test has be . This test has alread cations drive towards s end, the main object from various sources onses will be evaluat	een ly b imp ctive liste ed.	used extensive een added to prove methods of this study ed in the Qual In addition, a	vely to i the AA s that a is to str ified Pr set of s	identify the e SHTO speci re more mee udy the app oduct List of specification	elastic re fication chanistic licability f LADOT s for em	esponse in a for PG c and that of MSCR D will be ulsions will	
				FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENTS	6			
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES										
• • • •	 Conduct literature review; Collect emulsion samples from various asphalt suppliers; Perform laboratory experiments; Start data analysis; and Writing up the draft final report. 										

Title:Application of Nanotechnology to Develop Smart Hot Mix Asphalt (HMA) MixturesProject									tatus:	Proposed
Fundin	ng Sour	ce:	State: TT	-Reg		E	Budget	Category:	State	
State P	Project N	lumb	er:	736-99-1694		Project Start	Date:			7/1/2010
Resear	ch Proj	ect N	umber:	10-1TIRE		Completion	Date			
Resear	ch Age	ncy:		ULL		Completion Date (revised)				
Princip	al Inves	tigate	or:	Dr. Ahmed Khattab					1	
				Budgi	Status					
		٦	otal Budge	t			Estimat	ed 2010-201 ²	1 Budge	t
Total C	ost	(orig	inal)	\$29,986		Total				\$29,986
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$23,686
	F	FY 20	09 - 2010 Bi	udget		Equipment	(expend	dable)		\$1,200
FY Fun	nds	(orig	inal)			Equipment	(non-ex	pendable)		\$3,900
		(revi	sed)			Travel				\$1,200
Est. FY	′ Expen	diture	e			Other				
				PURPOSI	E AI	ND SCOPE			-	
The ma to resp mixture	ain objeo ond to lo es. The Develo homog Explor electric	ctive oadir sub- op mi jenou e and cal co	is to develo ng, which w objectives o xing proceo us HMA mis d evaluate a onductivity o	op smart HMA mixture ill facilitate in determin of the study are to: dure to evenly dispers dure with smart prope any relationship betwe or resistivity of smart l	e by ning e ti ertie en HM	/ using CNF. g the mechani he CNF in the es. I the stress-str A mixture.	The sm cal pro asphal rain res	art HMA wo perties and p t binder to p ponse due to	ould have performation produce o loadin	e the ability ance of the a g and
				FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENTS	6		
				FISCAL YEAR 2010-20	011	PROPOSED A	CTIVITIE	s		
Task 1 Task 2 Task 3 Task 4	 Task 1: Literature Search; Task 2: Laboratory Investigation; Task 3: Optimization of Smart HMA Mixtures and Development of Model; and Task 4: Preparation of Progress Report. 									

Title:Development of Wave and Surge Atlas for the Design and Protection of Coastal Bridges in SouthProj									tatus:	Proposed
Fundin	g Sourc	e:	State: TT	-Reg		E	Budget	Category:	State	
State P	roject Nu	umh	or:			Project Start	Data		8/4/2040	
Resear		nt N	umber [.]	10-4ST	-		Date.	(original)		7/31/2010
Resear		-v.	umber.	10-401			Date	(revised)		1/31/2012
Princip	al Investi	aato	or:			Completion	Duio	(1011000)		
		9		BUDGE	ET S	TATUS				
		т	otal Budge	t			Estima	ted 2010-201	1 Budge	t
Total C	ost	(orig	inal)	\$300,000		Total				\$75,000
		(revi	sed)		-					
Est. Expended to Date Salaries \$75,00									\$75,000	
	F١	(20	09 - 2010 B	udget		Equipment	(expen	dable)		
FY Fun	ds	(orig	inal)			Equipment	(non-e	xpendable)		
		(revi	sed)			Travel				
Est. FY	Expendi	ture	;		-	Other				
				PURPOSE	E AN	ID SCOPE			-	
The obj	jectives c Assess Develop develop Develop in the ar	of th the as mer as reas	e proposed vulnerabili series of sin nt. series of sin adjacent f	d research (Phase I) a ty for coastal bridges i te specific surge atlas te-specific wave atlas i to a small number of m	n th for inclu	o: le 100-year h vulnerable br uding informa t important br	urrican idges a ition or idge si	e flood zone and prioritize n wave heigh tes in south	e in sout for wav nt and w Louisiar	h Louisiana. e atlas ave period ia.
				FISCAL YEAR 2009 -	201	0 ACCOMPLIS	HMENT	S		
				FISCAL YEAR 2010-20)11	PROPOSED A	CTIVITIE	S		
•	Review	LA	DOTD sele	cted bridges and asse	ess t	heir vulnerab	ility to	a 100-year f	lood free	quency.

	huí	ng Pre-stressed Girder Transportation Guidelines Proje							Proposed
g Sourc	e:	State: TT	-Reg		B	Budget	Category:	State	
roject Nu	Impe	er:			Project Start Date:			8/1/2010	
ch Projec	ct N	umber:	10-5ST		Completion	Date	(original)		7/31/2012
ch Ageno	cy:				Completion	Date	(revised)		
al Investi	gato	or:			-				
			BUDG	ET	Status				
	Т	otal Budge			I	Estimat	ed 2010-201 [,]	1 Budget	t
ost	(origi	nal)	\$250,000		Total				\$50,000
	(revis	sed)							
Est. Expended to Date Salaries \$30,00									
F١	(200	09 - 2010 Bi	udget		Equipment	(expend	dable)		\$10,000
ds	(origi	nal)			Equipment	(non-ex	pendable)		
	(revis	sed)			Travel				\$5,000
Expendi	iture	•			Other				\$5,000
			PURPOS	E A	ND SCOPE				
rpose of the done	the s e by com brido	study is to assessing mendatior ge site.	develop (or review ar and analyzing the ef that would endure th	fect	pdate) the tra of stresses that afety of such	nsporta nat tran girders	ation guidelir sported gird while being	nes for p ers are s transpo	ore-stressed subject to, orted from
			FISCAL YEAR 2009 -	20	O ACCOMPLIS	HMENTS	;		
			FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	5		
Review	the	state of pra	actice of transportatio	n o	f pre-stressed	girders	s in Louisian	a and of	ther states.
	g Sourc	g Source: roject Number ch Project Nit ch Agency: al Investigato T ost (origination ost (origination ost (origination FY 200 ds (origination Expenditure rpose of the site of the bridge I be done by by origination Review the	g Source: State: TT roject Number: ch Project Number: ch Agency: al Investigator: al Investigator: ost (original) (revised) pended to Date FY 2009 - 2010 Bac ds (original) (revised) pendet to Date FY 2009 - 2010 Bac ds (original) (revised) pose of the study is to a sessing oviding recommendation at to the bridge site. I be done by assessing oviding recommendation at to the bridge site. Review the state of pra	g Source: State: TT-Reg	g Source: State: TT-Reg roject Number: 10-5ST ch Project Number: 10-5ST ch Agency: 10-5ST al Investigator: BUDGET S ost (original) \$250,000 (revised) pended to Date Purpose AI FY 2009 - 2010 Budget Magnet Purpose AI ds (original) (revised) Purpose AI pended to Date Purpose AI Purpose AI from one by assessing and analyzing the effect Purpose AI rpose of the study is to develop (or review and u Purpose AI rpose of the study is to develop (or review and u Purpose AI rpose of the study is to develop (or review and u Purpose AI rpose of the study is to develop (or review and u Purpose AI rpose of the study is to develop (or review and u Purpose AI rpose of the study is to develop (or review and u Purpose AI rpose of the study is to develop (or review and u Purpose AI rpose of the study is to develop (or review and u Purpose AI rpose of the study is to develop (or review and u Purpose AI rpose AI FiscAL YEAR 2009 - 207 <td>g Source: State: TT-Reg Project State roject Number: 10-5ST Completion ch Project Number: 10-5ST Completion ch Agency: Completion Completion al Investigator: Bubget STATUS Total Bubget STATUS Total Budget ost (original) \$250,000 (revised) Total Equipment ds (original) Salaries Equipment Equipment Travel Other Other Other PurPose AND Scope Fiscal YEAR 2009 - 2010 Accomplus</td> <td>g Source: State: TT-Reg Budget roject Number: 10-5ST Completion Date ch Agency: Completion Date Completion Date al Investigator: BUDGET STATUS Estimat Total Budget Estimat Salaries ost (original) \$250,000 Image: Completion Date FY 2009 - 2010 Budget Salaries Equipment (expendent) fervised) Travel Completion Date Completion Date fervised) Salaries Equipment (expendent) g (original) Other Completion Date Completion Date g (revised) Travel Other Completion Date Expenditure Other Travel Completion Date revised Increase Travel Completion Date revised FisCAL YEAR 2009 - 2010 Accompletion (non-expected) Travel fisCAL YEAR 2009 - 2010 Accompletion (non-expected) FisCAL YEAR 2009 - 2010 Accompletion (non-expected) review the state of practice of transportation of pre-stressed girders Review the state of practice of transportation of pre-stressed girders</td> <td>g Source: State: TT-Reg Budget Category: roject Number: 10-5ST Project Start Date: Completion Date (original) ch Agency: 0 Completion Date (original) Completion Date (original) al Investigator: Budget Startus Estimated 2010-201 ost (original) \$250,000 Total Equipment (expendable) g (original) \$250,000 Tavel Equipment (expendable) g (original) \$250,000 Travel Date Date fequipment (original) Travel Date Date Date g (original) PuRPOSE AND SCOPE PuRPOSE AND SCOPE Purpose of the study is to develop (or review and update) the transportation guideling to the bridge site. Fiscal YEAR 2009 - 2010 Accomplishments Fiscal YEAR 2009 - 2010 Accomplishments Fiscal YEAR 2010-2011 Proposed Activities Review the state of practice of transportation of pre-stressed girders in Louisian</td> <th>g Source: State: TT-Reg Budget Category: State roject Number: 10-5ST Completion Date (original) ch Agency: al Investigator: Completion Date (original) completion Date (original) BUDGET STATUS Total Budget Salaries Image: Category: Salaries pended to Date Salaries Image: Category: Image: Category: Image: Category: Image: Category: Image: Category: Salaries pended to Date Salaries Image: Category: Imag</th>	g Source: State: TT-Reg Project State roject Number: 10-5ST Completion ch Project Number: 10-5ST Completion ch Agency: Completion Completion al Investigator: Bubget STATUS Total Bubget STATUS Total Budget ost (original) \$250,000 (revised) Total Equipment ds (original) Salaries Equipment Equipment Travel Other Other Other PurPose AND Scope Fiscal YEAR 2009 - 2010 Accomplus	g Source: State: TT-Reg Budget roject Number: 10-5ST Completion Date ch Agency: Completion Date Completion Date al Investigator: BUDGET STATUS Estimat Total Budget Estimat Salaries ost (original) \$250,000 Image: Completion Date FY 2009 - 2010 Budget Salaries Equipment (expendent) fervised) Travel Completion Date Completion Date fervised) Salaries Equipment (expendent) g (original) Other Completion Date Completion Date g (revised) Travel Other Completion Date Expenditure Other Travel Completion Date revised Increase Travel Completion Date revised FisCAL YEAR 2009 - 2010 Accompletion (non-expected) Travel fisCAL YEAR 2009 - 2010 Accompletion (non-expected) FisCAL YEAR 2009 - 2010 Accompletion (non-expected) review the state of practice of transportation of pre-stressed girders Review the state of practice of transportation of pre-stressed girders	g Source: State: TT-Reg Budget Category: roject Number: 10-5ST Project Start Date: Completion Date (original) ch Agency: 0 Completion Date (original) Completion Date (original) al Investigator: Budget Startus Estimated 2010-201 ost (original) \$250,000 Total Equipment (expendable) g (original) \$250,000 Tavel Equipment (expendable) g (original) \$250,000 Travel Date Date fequipment (original) Travel Date Date Date g (original) PuRPOSE AND SCOPE PuRPOSE AND SCOPE Purpose of the study is to develop (or review and update) the transportation guideling to the bridge site. Fiscal YEAR 2009 - 2010 Accomplishments Fiscal YEAR 2009 - 2010 Accomplishments Fiscal YEAR 2010-2011 Proposed Activities Review the state of practice of transportation of pre-stressed girders in Louisian	g Source: State: TT-Reg Budget Category: State roject Number: 10-5ST Completion Date (original) ch Agency: al Investigator: Completion Date (original) completion Date (original) BUDGET STATUS Total Budget Salaries Image: Category: Salaries pended to Date Salaries Image: Category: Image: Category: Image: Category: Image: Category: Image: Category: Salaries pended to Date Salaries Image: Category: Imag

Title: Design of High Performance Concrete Bridges in Louisiana Proje									Proposed	
Funding Sou	ce:	State: TT	-Reg		Budget Category: State					
State Project N	Numb	er:			Project Start	Date:		8/2/2010		
Research Proj	ect N	umber:	10-6ST		Completion Date (original)				11/1/2011	
Research Age	ncy:		Henry G Russell Inc.		Completion	Date	(revised)			
Principal Inves	stigato	or:	Dr. Henry Russell							
			Budg	ЕΤ	Status					
	Т	otal Budge	t		l	Estimat	ed 2010-201 <i>1</i>	I Budget	t	
Total Cost	(orig	inal)	\$50,000		Total				\$40,000	
	(revi	sed)								
Est. Expended to Date Salaries										
	FY 20	09 - 2010 B	udget		Equipment	(expend	dable)			
FY Funds	(orig	inal)			Equipment	(non-ex	pendable)			
	(revi	sed)			Travel					
Est. FY Expen	diture	9			Other				\$5,000	
			PURPOS	EA	ND SCOPE					
The objectives the previous re criteria. The en is needed. The	of these of these of res repo	e proposec ch projects sult will be o ort will prov	d research are to prep and to compare the i confirmation that exis ide a reference docu	bare info ting mer	e a summary re rmation with c design criteria t for use by th	eport of a rent A a are a ne LADO	all the infor AASHTO an cceptable or DTD bridge	mation of d LADO a propo design s	obtained in TD design osed change staff.	
			FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS	;			
			FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S			
 Collec AASH Prepa 	 Collect information obtained from previous research projects and compare them to current AASHTO and LADOTD Design criteria. Prepare a report confirming the existing design criteria or proposing changes. 									

Title:	Autor	natic	Enforcem		Project S	tatus:	Proposed				
Fundin	ng Sour	ce:	State: TT	-Reg	В						
				1	T			1			
State P	Project N	lumb	er:		Project Start	Project Start Date:			7/1/2010		
Resear	rch Proj	ect N	umber:		Completion	Date	(original)		6/30/2012		
Resear	rch Age	ncy:			Completion	Date	(revised)				
Princip	al Inves	tigato	or:								
				BUDGET	JET STATUS						
		Т	otal Budge	t		Estimat	ted 2010-201	1 Budge	t		
Total C	ost	(orig	inal)	\$100,000	Total				\$50,000		
		(revi	sed)								
Est. Ex	pended	to D	ate		Salaries				\$47,000		
		FY 20	09 - 2010 B	udget	Equipment	(expen	dable)				
FY Fun	nds	(orig	inal)		Equipment	(non-ex	xpendable)				
		(revi	sed)		Travel				\$3,000		
Est. FY	' Expen	diture	9		Other						
				PURPOSE	AND SCOPE						
The go on Loui	al of thi isiana h	s pro ighw	ject is to de ays and str	emonstrate the benefits eets.	of automatic er	nforcen	nent in terms	s of cras	h reductions		
				FISCAL YEAR 2009 - 20	010 ACCOMPLIS	HMENTS	S				
				FISCAL YEAR 2010-201	1 PROPOSED A	CTIVITIE	S				
:	Identif Collec	y site t data	s for analys a at selecte	sis; and d sites.							

Title:	Truck Fac	ility Acces		Project Status:		Proposed			
Funding	Source:	State: TT	-Reg	E	Budget	Category:	State		
Ctoto Dru				Drain at Chart Data			7/4/2040		
State Pro				Project Start	Date:	(original)		6/20/2012	
Research		umber:		Completion	Date Date			6/30/2012	
Principal	In Agency.	or:		Completion	Date	(revised)			
ГППСІраї	investigat	01.	Budget						
	-		Bobger		Estimat	ad 2010-201			
Total Ca	ot (orig		\$120,000	Total	Lotinat	eu 2010-201	Duuge	¢65.000	
		jiriai)	\$130,000	TOLAI				\$05,000	
Ect Evo	(iev			Salarias				\$60,000	
ESI. EXP			Idaat	Salalles	(0)/000			φ00,000	
	FT ZU	109 - 2010 Bi	Juger	Equipment	(expend				
FYFUND	s (orig	ginal)		Equipment	(non-ex	(pendable)			
	(rev	Ised)		Travel				\$5,000	
ESI. FYE	zpenaltur	e	Duranaa				<u> </u>		
The purp	oose of this	research is	s to develop truck facilit FISCAL YEAR 2009 - 20	y site access de	esign si HMENTS	tandards for	use in L	Louisiana.	
FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES Conduct literature review of truck access design standards; Visit and conduct interviews with select agencies and individuals who are knowledgeable in the area; and									
• F	Prepare interim report to PRC.								

Title:Developing Inexpensive Crash Countermeasures for Louisiana Local RoadsProj									Proposed
Fundin	ng Sour	ce:	State: TT	-Reg	В	udget	Category:	State	
Ctoto D		l			Drain at Start	Data			7/4/2040
State P	roject N	amb	er:		Project Start	Date:	(original)		6/20/2012
Resear			umber.				(original)		0/30/2012
Princin	al Inves	tiaata	or:		Completion	Dale	(Tevised)		
Тппср		igan	JI.	BUDGE	T STATUS				
		T	otal Budge	t	E	Estimat	ted 2010-201	1 Budae	t
Total C	Cost	oria)	inal)	\$100.000	Total				\$50.000
		(revi	sed)				<i></i>		
Est. Ex		\$45,000							
	F	FY 20	09 - 2010 B	(expen	dable)		. ,		
FY Fun	nds	(orig	inal)		Equipment	(non-e	xpendable)		
		(revi	sed)		Travel	-			\$5,000
Est. FY	'Expen	diture	9		Other				
	-			PURPOSE	AND SCOPE			-	
The pu Louisia and de	rpose o Ina's loc velopinç	f this al roa g ine	research is ads. The re cpensive cr	s to identify inexpensive search will require ider ash countermeasures	e crash counterr ntifying the uniqu that address tho	measu ue feat ose cor	res that are s ures of Louis iditions.	suited fo siana's l	or use on ocal roads
				FISCAL YEAR 2009 - 2	010 ACCOMPLISE	HMENT	s		
				FISCAL YEAR 2010-20	11 PROPOSED AC	CTIVITIE	S		
•	 Identify features of Louisiana's local roads by conducting an inventory on a random sample of road sections; Identify which road features contribute significantly to crashes on local roads in Louisiana; Conduct literature search of inexpensive crash countermeasures that can be applied to local roads; and Prepare an interim report for the PRC. 								

Title:	tle: Mining Potentially Interesting Positive and Negative Association Patterns from Traffic Safety Data						Project S	Project Status:		
Funding Source: State: TT-Reg					Budget Category: State					
						I				
State Project Number: 73			736-99-1697		Project Start	Date:			7/1/2010	
Resear	ch Proj	ect N	umber:	10-4TIRE		Completion	Date	(original)		
Resear	ch Age	ncy:		ULL		Completion	Date	(revised)		
Principa	al Inves	tigato	or:	Dr. Vijay Raghavan	۱					
BUDGET STATUS										
		Т	otal Budge	t		I	Estimat	ed 2010-201	1 Budget	:
Total C	ost	(orig	inal)	\$30,000		Total				\$30,000
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries			\$28,400	
	F	TY 20	09 - 2010 Bi	udget		Equipment	(expend	dable)		
FY Fun	ds	(orig	inal)			Equipment	(non-ex	(pendable)		
		(revi	sed)			Travel				\$1,350
Est. FY Expenditure						Other \$2				
				PURPOS	e ai	ND SCOPE				
 The technical objectives are: Create a roadmap and an overall multi-dimensional data model for crash data analysis; Perform extraction, transformation and loading (ETL) operations to develop a data resource that is cleaned, semantically enriched and ready for use by different kinds of user-end tools; Apply association analysis algorithms to discover and store interesting positive and negative patterns; and Provide a simple user interface for navigating and exploring the discovered patterns. 										
FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES Task 1: Create a data/knowledge warehouse roadmap; Task 2: Select data sources and Enrich data dimensions; Task 3: Perform ETL operations; Task 4: Construct association maps at different levels of generalizations of data; Task 5: Devides user for provide for provide for and interaction and										
Task 5 Task 6	Task 5: Develop user interfaces for navigation and interaction; andTask 6: Summarize significant findings in a report.									

Title:	itle: Establishing an Intelligent Transportation Systems (ITS) Lab at LTRC (Phase II)						Project S	Project Status:		
Funding Source: State: TT-Reg			-Reg		Budget Category:			State		
State P	State Project Number:					Project Start	Date:			7/1/2010
Resear	ch Proje	ct N	umber:	10-6SS		Completion	Date	(original)		
Resear	Research Agency:			LSU		Completion	Date	(revised)		
Princip	al Invest	igato	or:	Dr. Snerif Isnak		0				
	Budget Status									
		Т	otal Budge	t			Estimat	ted 2010-201	1 Budget	t .
Total C	ost	(orig	inal)	\$87,474		Total				\$71,809
		(revi	sed)						1	
Est. Ex	pended	to D	ate			Salaries	[\$62,259	
	F	Y 20	09 - 2010 B	udget		Equipment (expendable)		dable)	\$8,680	
FY Fun	nds	(orig	inal)			Equipment (non-expendable)		xpendable)		
		(revi	sed)			Travel			\$620	
Est. FY	'Expend	iture)			Other				\$250
				PURPOS	SE AI	ND SCOPE				
The lat conduct to colle and car etc. The applica support	o will add t "leading ct and st meras), a e ITS lab tions of t t applica t study 1	ress g ed ore as w will heir tions 0-75	the needs ge" researd data from v ell as other also proce needs. The s of immedi SS.	of DOTD, other age ch and training of gra various ITS sources s r sources of data suc ess this data and mak e ultimate goal is to c ate and long-term ne	ncie dua such h as ce it crea eds	es, and the pul te students. The as traffic mores crash data, p available to the te a centralize a. This project	blic, as The lab nitoring blanning the inter d locat works	well as serv will primarily systems (e. g data, weig ested agenc ion for data in conjunctio	re as a fo v serve a .g. video h-in-mot cies for u that can on with I	oundation to as a catalyst o detectors ion data, use in effectively LTRC
				FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENT	S		
Phase prelimir	Phase 1 of investigation is complete which included preparation of a final report documenting the preliminary investigation into the feasibility and desirability of establishing an ITS Lab at LTRC.									
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S		
 Develop specifications for equipment purchase and install ITS lab equipment; Develop plans and specifications for modifying existing LTRC building to accommodate the ITS lab; Award contract to modify building; Award contract to purchase and install ITS equipment; Develop operational guidelines; and Begin operations of ITS lab. 										

Title:Validation of Correction Factors for Concrete Coefficient of Thermal Expansion						Project Status:		Proposed	
Funding	g Source:	State: TT	-Reg	Budget Category: State					
State P	roject Numbe	er:		Project Start	Project Start Date: 7/1/20				
Researd	ch Project N	umber:		Completion	Date	(original)		12/31/2010	
Research Agency: LSU				Completion	Date	(revised)			
Principa	al Investigato	or:							
			Budge	ET STATUS					
	Т	otal Budget			Estima	ted 2010-201 ²	Budge	t	
Total Co	ost (orig	jinal)	\$34,983	Total				\$34,983	
	(rev	ised)							
Est. Exp	pended to Da	ate		Salaries	Salaries			\$26,786	
FY 2009 - 2010 Bu		ıdget	Equipment	uipment (expendable)		\$1,000			
FY Fun	ds (orig	jinal)		Equipment	Equipment (non-expendable)				
	(rev	ised)		Travel	Travel				
Est. FY	Expenditure	,		Other	Other \$				
			PURPOSE	AND SCOPE					
This study will measure the correct CTE of the specimen used for the LTRC project 07-02C in accordance to AASHTO T 336-09, and find correction factors to convert the CTE values measured by AASHTO TP 60-00 without further measurements. The scope of the study is restricted to the measurements of CTE of the specimens used for the LTRC project 07-02C to obtain correct CTE complying with AASHTO T 336-09.									
without specime	ens used for	the LTRC p	FISCAL YEAR 2009 - 2	NVERT the CTE values in correct CTE contract the CTE contract CTE contract CTE contract CTE contract 2010 Accomplise	the me omplyi	asurements ng with AASI	ASHTC of CTE HTO T 3	cordance to TP 60-00 of the 036-09.	

Title:	itle: Performance Evaluation of Recycled PET Fiber Reinforced Concrete						Project St	Project Status:		
Funding Source: State: TT-Reg				-Reg		B	Budget	Category:	State	
				Г Т		1			[
State Project Number:				736-99-1696		Project Start	Date:			7/1/2010
Resear	ch Proje	ect N	umber:	10-3TIRE		Completion	Date	(original)		
Research Agency:			LSU		Completion	Date	(revised)			
Principa	al Inves	tigato	or:	Mr. Hak-Shul Shin		-				
		Т	otal Budge	t			Estimat	ed 2010-2011	1 Budget	
Total C	ost	(orig	inal)	\$29,891		Total				\$29,891
		(revi	sed)			Optorior				
ESt. EX	penaea					Salaries	,		\$22,891	
	- In	-Y 20	09 - 2010 BI	uaget		Equipment	t (expendable)			\$5,000
FYFUN	ds	(orig				Equipment	(non-ex	(pendable)		¢4 500
		(revi	sed)			Other			\$1,500	
EST. FY	Expen	alture)						\$500	
				PURPOSI	e ai	ND SCOPE				
The put propert materia experin harden projects	rpose o ies and Il prope nent will ed conc s.	f this cons rties find rete	research is sume PET p of RPET fib the effects as well as s	to utilize RPET fiber blastics. The objective per reinforced concrete of RPET fiber on the show the feasibility of	in a e a me util	a concrete mix of the propose nd to compare chanical prop lizing RPET fit	xture to ed resea e it with erties c per in th	enhance th arch are to n the control of concrete in the transporta	e mecha neasure mixture. n fresh a ation rela	anical basic The and ated
				FISCAL YEAR 2009 -	201	O ACCOMPLIS	HMENTS	5		
				FISCAL YEAR 2010-20)11	PROPOSED A	CTIVITIE	S		
 Task 1: Determination of Mixture Design; Task 2: Measurement of Mechanical Properties of RPET Fiber Concrete; Task 3: Study on the Effects of RPET Fiber on Concrete Properties; and Task 4: Prepare Final Report and Presentation. 										

LTRC Annual Research Program

Fiscal Year 2009-2011

	2009 RPIC PROBLEM STATEMENTS						
Final Ranking	PROBLEM STATEMENT TITLE						
1	Automatic Enforcement and Highway Safety						
2	Performance Evaluation of Flexible Pavement Treatments for Cost Effective Pavement Preservation						
3	Developing Inexpensive Crash Countermeasures for Louisiana Local Roadways						
4	Why Air Entrain Bridge Decks in Southern Louisiana?						
5	Reflectivity of Paint or Thermoplastic on Chip Seals and Open Pavement Surfaces						
6	Development of Wave and Surge Atlases for the Design and Protection of Coastal Bridges in South Louisiana						
7	Developing Prestressed Members Transportation Guidelines						
8	Develop Model Truck Facility Site Access Design Standards (Louisiana Statewide Transportation Plan- Recommendation T-7)						
9	Performance Related Specifications for Concrete Pavement Construction						
10	Utilizing ITS Data to Develop an Integrated Corridor Management Framework for Congestion Mitigation						
11	Investigation of the Use of High RAP Contents in Asphalt Mixtures						
12	Prevention of Extensive Dessication Cracking on Rural Highways						
13	Travel Time Study for Baton Rouge Road Network						
14	Development of a Short-Term Traffic Prediction Model for Travel Times on I-10/I-12						
15	Left Turn Traffic Signal Operation						
16	Validation of Multiple Stress Creep Recovery (MSCR) Test						
17	Evaluation and Implementation of Maturity for PCC						
18	Investigation of In-situ in QC/QA Applications for Hot-Mix Asphalt						
19	Development of a Fiber Optic-Based Monitoring System to Assess Pile Damages Due to Transportation, Lifting and Pile Driving						
20	Advanced Grid Stiffened FRP Tube Encased Concrete Piles						
21	Cost Effective Alternative for Noise Abatement						
22	Application of Titanium Dioxide Photocatalysis to Create Self-Cleaning, Air-Purifying Concrete Pavements						
23	Field Performance of Rubblized Pavements						
24	Disaster Debris Forecasting, Estimating, Modeling, and Tracking for Linear Assets using GIS						
25	Determine the Statewide Need for Replacing Pipes, Guardrail, Striping and Joints						
26	Work Zone Speed Control						
27	Joining Advanced Grid Stiffened FRP Tube Encased Concrete Columns						
28	Developing Horizontal Curve Crash Countermeasures through Crash Data Analysis						
29	Evaluate the Need to Calibrate the Pavement Performance Models using PMS Database						

Self Generated Funded Research Program

CONTINUING RESEARCH

Title: Optimization of Tack Coat for HMA Placement						Project S	Project Status:			
Funding Source: NCHRP				Budget Category: Self-Generated						
State Project Number: 736-99-1360				Project Start Date: 7/1/2005						
Research Project Number: 06-4B					Completion	Date	(original)		6/30/2009	
Research	Research Agency: LTRC				Completion	Date	(revised)		12/31/2010	
Principal Investigator: Dr. Louay Mohammac				l						
	BUDGET STATUS									
		Fotal Budge	t			Estimat	ed 2010-201 ²	1 Budget	t	
Total Cost	(orig	jinal)	\$350,000		Total				\$28,000	
	(rev	ised)	\$428,000					1		
Est. Exper	ded to D	ate	\$400,000		Salaries			\$18,000		
	FY 20	09 - 2010 B	udget		Equipment	(expen	dable)			
FY Funds	(orig	jinal)	\$80,000		Equipment (non-expenda		(pendable)			
	(rev	ised)			Travel	1				
Est. FY Ex	penditur	е	\$80,000		Other			\$10,000		
			PURPOS	E A	ND SCOPE			-		
The object calibration to recomm coat type a as well as the traffic l	ive of this procedu end revis and appli other fac oading, a	s project is res, applica sions to rele cation rate v tors includin and the clim	to determine the opti- tion rates, and aspha- evant AASHTO metho will be determined by ng material type and ate.	mur alt b ods the per	m application i inder material and practices type and con meability of th	method s for th related idition o e HMA	s, equipmer e various us t to tack coa of the existin pavement c	nt type a les of tao ts. Opti g paven overlay to	nd ck coats and mum tack nent surface o be placed,	
			FISCAL YEAR 2009 -	20 ²	10 ACCOMPLIS	HMENT	3			
 Continued progress on Task 4: Conduct Experiment approved in Task 3; Based on preliminary findings, two technical papers were presented at the 2010 TRB Annual Meeting and accepted for publication in the Journal of Transportation Research Record; Developed Test method in AASHTO format for Tack Coat Quality and interface bond strength test has been completed; and Continued progress on the preparation in instructional materials for a training course. 										
			FISCAL YEAR 2010-2	011	PROPOSED A	СТІVІТІЕ	S			
 Continue the conduct of Tasks 5 and 7; and Prepare Draft Final Report. 										

Title: Field versus Laboratory Volumetrics and Mechanical Properties					Project S	Project Status:				
Funding Source: NCHRP			Budget Category: Self-Generated							
State P	State Project Number: 736-99-1625					Project Start	t Date:			8/1/2009
Resear	Research Project Number:			10-1B		Completion Date (original)				2/29/2012
Research Agency:			LTRC		Completion	Date	(revised)			
Princip	Principal Investigator: Dr. Louav Mohamma			ad	'		, ,			
	BUDGET STATUS									
		т	otal Budge	t			Estimat	ed 2010-201	1 Budget	
Total C	ost	(orig	inal)	\$500,000		Total				\$148,337
		(revi	sed)						I	
Est. Ex	pended	to D	ate	\$150,000		Salaries				\$105,337
	F	Y 20	09 - 2010 Bi	udget		Equipment	(expen	dable)		
FY Fun	nds	(orig	inal)	\$150,000		Equipment	(non-e)	(pendable)		
		(revi	sed)			Travel			\$3,000	
Est. FY	Est. FY Expenditure \$150,000					Other				\$40,000
				PURPOSE	EA	ND SCOPE			-	
 Quantify sources and causes of variability in the measurements of volumetric and mechanical properties of dense-graded asphalt mixtures for three types of specimens that may be encountered in QA and mix design activities (laboratory mixed and compacted [LL], plant mixed and laboratory compacted [PL], and plant mixed and field compacted [PF]); and Develop a recommended practice for state DOTs to incorporate these results in specifications and criteria for (a) quality assurance; (b) mix design and verification or validation, and (c) structural design and forensic studies. 										
				FISCAL YEAR 2009 - 2	20 [,]	10 ACCOMPLIS	HMENTS	3		
Completed the Following Tasks: Task 1: Comprehensive Literature Review; Task 2: Conduct A Meta-Analysis Of Collected Data; and Task 3: Design An Experimental Work Plan And Submit An Interim Report.										
FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES										
Perform The Following Tasks: Task 4: Conduct Laboratory Experiments approved in Task 3.										
Title:	Laboi Enhai	rator	y Evaluatio Asphalt T	Project S	tatus:	Ongoing				
---	---	--------------------------------------	---	---	--	------------------------------	--	---------------------------------	---------------------------------------	--
Fundin	ng Sour	ce:	Shell Oil	Company	Budget Category: Self-Generated					
State P	Project N	Jumb	er:	736-99-1653	Project Start	Project Start Date:			7/1/2009	
Resear	ch Proj	ect N	lumber:	10-5B	Completion	Date	(original)		6/30/2010	
Resear	ch Age	ncy:		LTRC	Completion	Date	(revised)			
Princip	al Inves	tigate	or:	Dr. Louay Mohamma	d			•		
				BUDGET	STATUS					
		٦	Total Budget	t	I	Estima	ted 2010-201	1 Budge	t	
Total C	ost	(orig	inal)	\$125,000	Total				\$85,000	
		(revi	sed)							
Est. Ex	pended	l to D	ate	\$125,000	Salaries				\$83,907	
	I	FY 20	09 - 2010 Bi	udget	Equipment	(expen	dable)			
FY Fun	nds	(orig	inal)	\$125,000	Equipment	(non-e	xpendable)	1		
		(revi	sed)		Travel				\$1,093	
Est. FY	' Expen	diture	Э	\$125,000	Other					
				PURPOSE	AND SCOPE					
The ob treated methoc Treated	jective (base n lology c d Base	of this hixtur levelo Mixtu	s study is to e containing oped under ires."	e evaluate the laborator g sulphur extended ado LTRC Project 04-4B "E	y performance litives. The AT Development Of	of conv B mixt f A Des	ventional mix ure will be d sign Methodo	dures ar esigned blogy Fc	nd asphalt using the or Asphalt	
				FISCAL YEAR 2009 - 20	010 ACCOMPLIS	HMENT	S			
 Completed characterization of aggregate, binder, and sulphur extended additives Performed mixture design; Fabricated test specimens; Performed fundamental materials characterization tests (ITS, LWT, E*, FN, SCB, DSCE, RSCH, Beam Fatigue); and Performed preliminary data analysis. 										
				FISCAL YEAR 2010-201	1 PROPOSED A	CTIVITIE	S			
 Continue mixture design as per test factorial; Fabricate test specimens; Perform fundamental materials characterization tests (ITS, LWT, E*, FN, SCB, DSCE, RSCH, Beam Fatigue); Perform preliminary data analysis; and Prepare final report. 										

Title:	A Sha Expar	pe N nsion	lemory Pol 1 Joint	Project St	Project Status:						
Fundin	g Sour	ce:	NCHRP			Budget Category: Self-Generated					
01-1-0				700 00 4000			Data	= // /2222			
State P	roject N	lumb	er:	736-99-1622		Project Start	Date:			5/1/2009	
Resear	ch Proje		umber:	09-451		Completion	Date	(original)		11/1/2010	
Resear		tigot				Completion	Dale	(revised)			
Рппсіра	ai irives	liyall	Л.			STATUS					
			otal Rudgo	BUDGE	=13		Ectimat	od 2010-2012	Budgo		
Total C	t	(aria		¢425.000		Total	LSUIIIau	eu 2010-201	ГБийуе	¢ 45 000	
Total C	ost	(orig		\$135,000		lotal				\$45,000	
Ect Ev	nondod	to D		000 002		Salarios				\$20,000	
EX 2000 2010 Pudget				\$90,000		Equipmont	(expend	dable)		φ20,000	
EV Euro	do	1 20		¢100.000		Equipment					
FIFUII	us	(ong	sed)	\$100,000		Travel	(1011-67	peridable)	\$20,000		
(levised) \$90,000						Other				\$2,000	
L31.11	стрен		·	\$90,000 Bubbost	= ^ >					\$3,000	
The obj sealant adhesiv concret This stu Prograr	jective o which ve failur ve. The udy has m.	of this will be e by prope beer	s study is to e able to se consistently osed novel an approved	e develop a Novel Sha elf-heal cohesive dama and autonomously a sealant belongs to the and is TRB funded th	ape age ippl e ca	Memory Poly by its shape lying a compre ategory of con ligh the Ideas	mer (Si memor essive s npressio Deserv	MP) based s ry characteri stress to the on seal joint ing Explorat	syntactic stic and edge of ory Ana	; foam joint avoid the lysis (IDEA)	
				FISCAL YEAR 2009 - 2	201	0 ACCOMPLIS	HMENTS	5			
• • •	 1-D compressive programming and fully confined as well as partially confined shape recovery test; Design of 2-D test specimens; Preparation of lab-scale testing; Preparation of 2-D test specimens; and Preparation of concrete specimens for lab-scale testing. 										
				FISCAL YEAR 2010-20)11		CTIVITIE	S			
 2-D programming of the foam sealant; Stress-strain behavior of the sealant under 2-D stress condition; and Lab-scale testing. 											

Title:	Enhan Comm	cing unic	Project Status:		Ongoing				
Fundir	ng Sourc	e:	NSF		E	Budget Category: Self-Gen			
State F	Proiect N	umb	er:	736-99-1575	Proiect Start	Date:		9/1/2008	
Resea	rch Proje	ct N	umber:	09-2SS	Completion	Date	(original)		9/1/2011
Resea	rch Agen	cy:		LTRC	Completion	Date	(revised)		
Princip	al Invest	igato	or:	Dr. Chester Wilmot					
				BUDGE	T STATUS				
		т	otal Budge	t		Estima	ted 2010-201	1 Budge	t
Total C	Cost	(orig	inal)	\$50,050	Total				\$19,638
		(revi	sed)						
Est. Ex	pended	to D	ate	\$13,267	Salaries				\$19,638
FY 2009 - 2010			09 - 2010 Bi	udget	Equipment	(exper	dable)		
FY Fur	nds	(orig	inal)	\$19,900	Equipment	(non-e			
		(revi	sed)		Travel				
Est. FY	/ Expend	iture)	\$19,900	Other				
				PURPOSE	AND SCOPE			<u>.</u>	
commu	Pilot ap Full sca	plica	ation to Ser	FISCAL YEAR 2009 - 2 hior Design students in o Senior Design stude	CEE at LSU in the second secon	HMENT Septer	s nber, 2009; 1arch, 2010.	and	
 FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES Modify procedure in light of findings of previous applications; Computerize procedure to function on LSU's CPR website; and Develop training modules. 									

Self Generated Funded Research Program

PROPOSED RESEARCH

Title:	Suppo Reinfo	ort fo orceo	or Accelera d Unpaved	Accelerated Load Testing of Geosynthetic Base Jnpaved and Pavement Test Sections Project Status: Propos									
Fundin	Funding Source: Geosynthetic Manufacturer					Budget Category: Self-Generated							
State D		umb	0.51			Draiget Start	Doto						
State P						Project Start	Date:	(original)		9/1/2009			
Resear			umber:			Completion	Date	(onginal)		8/30/2011			
Drinoin		icy.				Completion	Dale	(revised)					
Princip	al invest	igaid	JI.		sak	.() 97.47140							
Bubget Status													
Tatal O		1		* 000.000		Tatal	Estimati	ed 2010-201	Биаде				
Total C	Total Cost (original) \$20			\$200,000		Iotal				\$180,000			
		(revi	sed)			Octoria							
ESt. EX	pended	to Da		•		Salaries				• • • • •			
	FY 2009 - 2010 Budget					Equipment	(expend	lable)		\$170,000			
FY Fun	nds	(orig	inal)			Equipment	(non-ex	pendable)		\$10,000			
	(revised)												
Est. FY	'Expend	diture)			Other							
				PURPOS	E A	ND SCOPE							
The us paveme roadwa geosyn limited The ma of geos will be and pa geogric	e of geo ent secti ays. Mar thetic re to the co ain objec synthetic achieved vement ds and g	synth on h infor onditi tive rein d thro test s	netic materi as been us perimental cement to t ions associ of this rese forcement of bugh condu sections at xtiles will be	ials, such as geogrids ed for many years to and numerical studie the base course layer ated with the experim arch study is support of base aggregate lay ucting extensive accel the DOTD Pavement e used for base reinfo	s, to imp s v r, an nen con /er lera : Re proe	o reinforce the prove the perfe- vere conducte and several des tal test section in flexible pave ted load testing esearch Facilite ements.	base a ormanc d to eva sign me ns of the ALF test ements ng on ge y. Differ	ggregate lan e of paved a aluate the be thods were eir study. lanes to ev build on so eosynthetic rent types a	yers with and unpa enefits o propose aluate th ft subgra reinforce nd config	hin the aved f applying of that are he benefits ade. This ed unpaved gurations of			
				FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS						
		_	_		_								
				FISCAL YEAR 2010-20	011	PROPOSED A	CTIVITIE	S					
 Construct the support platform needed to extend the ALF site for additional test sections; Prepare a detailed plan of the proposed geosynthetic reinforced unpaved and paved test sections; and Construct and instrument ALF test sections. 													

Other DOTD Funded Projects

Title: LOOF Chan	P Env tion, ae Si	Project S	tatus:	Ongoing							
Funding Sour	ce:	LOOP			E	DOTD ons					
State Project N	Jumb	er:	766-99-1510		Project Start	Date:		1/1/2008			
Research Proj	ect N	lumber:	08-2SS		Completion	Date	(original)		12/31/2010		
Research Age	ncy:		LTRC		Completion	Date	(revised)				
Principal Inves	stigate	or:	Mr. Dan Strecker					•			
BUDGET STATUS											
	Г	Total Budge	t			Estima	ted 2010-201	1 Budge	t		
Total Cost	(orig	inal)	\$140,858		Total				\$43,965		
	(revi	sed)									
Est. Expended	l to D	ate	\$96,891		Salaries				\$36,965		
	FY 20	09 - 2010 Bi	udget		Equipment	(expen	dable)				
FY Funds	(orig	inal)	\$15,000		Equipment	(non-e	\$2,00				
	(revi	sed)			Travel						
Est. FY Expen	diture	Э	\$79,419		Other				\$5,000		
			PURPOS	ΕA	ND SCOPE			-			
This project is on the environ vegetation sur years. The bea budget for 200 as the complet	part o ment vey e ach vo 9 - 20 tion o	of a continu . The project every secon egetation a 010 is the e of the land-lo	ious monitoring of the ct involves an annual d year in May, and a nd land loss and hab estimated cost for the oss analysis.	e Lo bea lan itat bea	ouisiana Offsho ach elevation d loss and hal change surve ach vegetation	ore Oil survey oitat ch y will b n and b	Pipeline to c in May each ange survey e conducted each elevati	determin v year, b v once e l in 2009 on surve	e its impact beach very three 9. The ey, as well		
			FISCAL YEAR 2009 -	20 ²	10 ACCOMPLIS	HMENT	S				
The second Beach Elevation and the Beach Vegetation field work were completed in May of 2009. Image classification for the Habitat and Land Loss Analysis were completed as well as the field verification.											
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES										
The third Beach Elevation field work will be performed in May of 2010. All of the field work and the data analyzed will be incorporated into a draft report for review. Comments from the draft will be incorporated into the final report to be submitted in 2010.											

Title:	Measuring Levee Elevation Heights in North Louisiana								tatus:	Ongoing		
Fundin	Funding Source: Public Works					Budget Category: Other DOTD Sections						
				rr		Γ						
State P	roject N	lumb	er:	751-99-0073		Project Start	Date:			12/1/2009		
Resear	ch Proje	ect N	umber:	10-1GT		Completion	Date	(original)		11/30/2010		
Research Agency: LTU						Completion	Date	(revised)				
Principa	al Inves	tigato	or:	Mr. Wesley Palmer	r							
				Budg	ET \$	Status						
		Т	otal Budge	t		I	Estimate	ed 2010-201	Budget	t		
Total C	Total Cost (original) \$1			\$163,982		Total				\$48,982		
	(revised)											
Est. Expended to Date \$115,000						Salaries				\$20,000		
	F	Y 20	09 - 2010 Bi	udget		Equipment	(expend	dable)				
FY Fun	lds	(orig	inal)	\$115,000		Equipment (non-expendable)						
		(revi	sed)			Travel			\$2,000			
Est. FY Expenditure \$115,000						Other				\$26,982		
				PURPOS	SE AI	ND SCOPE						
The Lo measur Univers provide this pro to ensu vertical This pro rivers.	uisiana rements sity will of LaDOT oject is to tre that t ly and 1 oject will The loca D. Leve	Depa of the D wi D wi o mea the re /10th I cov ations	artment of 1 the existing I are these m th accurate asure the e esulting GP the of a foot h er ~700 mill s of the pro rill be meas	ransportation and D evee heights in North easurements using s e elevation informatio levation and centerlin S measurement data orizontally. The level es of levee in North posed levees to be s ured on both sides o	eve n Lo surve n to ne c a is es v Lou urve f the	lopment (LaDo ouisiana. Throu ey grade GPS aid in their flo coordinates of within a precis vill be measure isiana along the eyed are base	OTD) is ugh this techno ood con the top sion inte ed on a ne Red, d on a present.	seeking pro- research, L logy. The re- trol decision of federal a erval of ± 3/1 100 foot int the Ouachi shape file da	ecise ouisian esulting s. The c nd local 0ths of erval. ta and th ataset p	a Tech output will objectives of levees and a foot he Black rovided by		
				FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS	;				
 From the project start date on December 1, 2009, initial efforts we spent on acquiring and testing the survey grade GPS equipment. As of March 20, 2010, the project team has collected and processed 136 miles of levee along the Red River from the Louisiana-Arkansas border to the southern end of Caddo and Bossier Parishes. The resulting data has been submitted to LA DOTD. 												
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S				
•	 The project goal for Fiscal Year 2010-2011 is to complete data collection on the remaining levees proposed by the project. 											
<u>µ</u>												

Title:	Safety Highw	' Imp 'ay	provement from Edge Lines of Rural Two-Lane Project Status: Ong								
Fundir	ng Souro	Safety			Budget Category: Other DOTD Sections						
State F	Project N	umb	er:	736-99-0878		Project Start	Date:		9/1/2007		
Resear	rch Proje	ect N	umber:	07-7P		Completion	Date	(original)		8/31/2010	
Resear	rch Ager	ncy:		ULL		Completion	Date	(revised)		8/31/2011	
Princip	al Invest	igato	or:	Dr. Xiaoduan Sun		L			1		
				Budo	SET \$	Status					
		Т	otal Budget	t			Estimate	ed 2010-201 <i>′</i>	1 Budget	1	
Total C	ost	(orig	inal)	\$107,060		Total				\$27,842	
		(revi	sed)								
Est. Ex	pended	to D	ate	\$75,383		Salaries				\$21,607	
	F	Y 20	09 - 2010 Bu	udget		Equipment	(expend	lable)		\$560	
FY Fur	nds	(orig	inal)	\$57,123		Equipment	(non-ex	pendable)			
		(revi	sed)			Travel		\$1,300			
Est. FY	'Expend	diture	9	\$40,000		Other				\$4,375	
				PURPOS	SE AI	ND SCOPE					
The go the res	al of this earch te Identify Implem Conduc	s proj am v v the nent j ct the	ect is to im vill: segments t pavement e e Before-an	prove the safety of n that will benefit from edge lines at selected id-After study at thes	arro impl d loc e lo	ow rural two-la lementing the cations; cations to esti	ne high paveme mate th	ways in Lou ent edge line e crash red	uisiana.	Specifically, ost; actors	
				FISCAL YEAR 2009 -	20	10 ACCOMPLIS	HMENTS				
•	 Collecting after crash data (2008 and 2007); Contacting each district for potential issues; and Perform cross-sectional analysis to see the impact of edge lines based on crash data analysis for potential CRF (Crash Reduction Factor). 										
				FISCAL YEAR 2010-2	011	PROPOSED A	CTIVITIE	S			
•	Finish the crash data analysis and final report.										

Title:	Implen Louisia	nent ana	ation and Local Roa	roject Management of the New Safety Program Project Status: Ongoing							
Fundin	Funding Source: Safety					Budget Category: Other DOTI Sections					
State P	roject Nu	umb	er:	737-99-0787		Project Start	Date:			1/1/2010	
Resear	ch Proje	ct N	umber:	Safety		Completion	Date	(original)		12/31/2010	
Resear	ch Agen	cy:		LTRC		Completion	Date	(revised)			
Principa	al Investi	igato	or:	Dr. Marie Walsh							
	BUDGET STATUS										
		Т	otal Budget	:			Estimat	ed 2010-201	1 Budge	t	
Total C	ost	(origi	inal)	\$200,000		Total				\$200,000	
		(revi	sed)								
Est. Ex	pended	to Da	ate			Salaries				\$200,000	
	F	Y 20	09 - 2010 Bu	udget		Equipment	(expend	dable)			
FY Fun	ds	(origi	inal)			Equipment	(non-ex	pendable)			
		(revi	sed)			Travel					
Est. FY	Expend	iture	;			Other					
				PURPOSI	E AI	ND SCOPE			-		
To impl analysis transpo	ement th s, educa ortation s	ne Lo tion, yste	ouisiana St and outrea m.	rategic Highway Safe ach and management	ty F of	Plan initiatives low cost safet	at the ty impro	local level the second se	nrough c jects for	lata the local	
				FISCAL YEAR 2009 -	201	10 ACCOMPLIS	HMENTS	5			
 Presented 50 Highway Safety Classes; Began implementation of local level roadway departure and intersection action plans in accordance with LA SHSP strategy; Coordinated with Louisiana Highway Safety Commission to engage local elected officials in the Click it or Ticket initiative; Conducted Impaired Driving workshops for local law enforcement officers on behalf of Louisiana Highway Safety Commission (LHSC) and the Department of Public Safety; Coordinated initiation of multidisciplinary Speed Management Workshops for LHSC; Conducted training and workshop related to highway safety; and Managed implementation process for 100 low cost safety improvement projects totaling more than 											
				FISCAL YEAR 2010-20)11	PROPOSED A		S			
•	 Coordinate Click it or Ticket activities with local agencies and LMA and the PJAI as part of SHSP implementation strategy. Conduct training and outreach activities involving local agencies as part of SHSP and HSP efforts. Manage Local Road Safety projects to completion. 										

Title:	tle: LOOP Environmental Monitoring: 2011-2013 Beach Elevation, Beach Vegetation, Land Loss and Habitat Changes Surveys									Proposed		
Fundin	ig Sourc	e:	LOOP			E	Budget	Category:	Other DOTD Sections			
State P	Project N	umb	or:			Project Start	Data			1/1/2011		
Resear			umber:				Date.	(original)		12/31/2013		
Resear	ch Agen	CV.				Completion	Date	(revised)		12/01/2013		
Princip	al Invest	igato	or:			Completion	Duio	(1011000)				
	BUDGET STATUS											
		т	otal Budge	t			Estimat	ed 2010-201	1 Budge	t		
Total C	ost	(origi	inal)	\$150.000		Total				\$15.000		
		(revis	sed)	.						+ ,		
Est. Ex	pended	to Da	ate			Salaries				\$15,000		
	F	Y 20	09 - 2010 Bi	udget		Equipment	(expen	dable)		. ,		
FY Fun	lds	(origi	inal)									
_		(revi	sed)			Travel	`					
Est. FY	´Expend	liture)			Other						
	<u>.</u>			PURPOSI	E AI	ND SCOPE			<u> </u>			
The pu pipeline the pipe	rpose of e in term eline.	this s of	project is t beach eros	o provide ongoing sur ion, impact on vegeta	vei atio	llance of the e n, and any infl	environi luence	mental impa on the habit	ct of the at in the	ELOOP		
				FISCAL YEAR 2009 -	20 1	10 ACCOMPLIS	HMENTS	6				
	FISCAL YEAR 2010-2011 PROPOSED ACTIVITIES											
•	Conduc	ct be	ach elevati	on survey in May, 20′	11.							

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