LTRC Annual Research Program

Fiscal Year July 1, 2011 - June 30, 2012

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 & Self Generated 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 2011





Research, Technology Transfer, Education & Training

May 11, 2011

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

Attention: Ms. Mary Stringfellow

Re: FY 2011-2012 LTRC WORK PROGRAM

Dear Mr. Bolinger:

Enclosed please find the FY 2011/2012 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

> 4101 Gourrier Avenue • Baton Rouge, Louisiana 70808 • (225) 767-9131 phone • (225) 767-9108 fax Sponsored jointly by the Louisiana Department of Transportation and Development and Louisiana State University



Louisiana Division Office

June 22, 2011

5304 Flanders Drive, Suite A Baton Rouge, LA 70808 225.757.7600 225.757.7601 (fax)

> In Reply Refer To: HDA-LA

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

Subject: FY 2011-2012 Part II SPR Work Program

Attention: Dr. Eric Kalivoda

Dear Ms. LeBas:

We have reviewed the subject work program and find it to be satisfactory with one change before publication. The NCHRP amount in the final document must be the same as the amount reported in the Part I Program.

Please furnish this office with three copies of the final bound printed work program. A separate request from your Federal-aid section will be needed to process the fiscal documents necessary to obligate the SPR funds.

Sincerely yours,

Digitally signed by Mary Stringfellow Mary MSTarg fluttor erus Digitally signed by Mary Stringfellow, o. ou. erus Digitally signed by Mary Stringfellow erus Date: 2011.06.22 15:35:51 -05'00'

Mary M. Stringfellow Program Delivery Team Leader

cc: Connie Boudreaux, LDOTD Harold "Skip" Paul, LTRC

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
GT	Geotechnical
Ρ	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

Table of Contents

Budget Recap Sheets	A1A6
Project Summary Sheets	B1 B16
FHWA Part II SPR Funded Research Program	
Administrative Line Items & Research Support Studies	C-1C-12
Continuing Research	C-13C-40
Proposed Research	C-41C-59
Pooled Fund Louisiana Lead State Research	C-60C-64
Pooled Fund External Lead State Research	C-65C-73
FHWA IBRD Funded Research Program	
Continuing Research	D-1D-9
Proposed Research	D-10D-12
FHWA LTAP Funded Program	E-1E-3
FHWA STP Funded Technology Transfer & Education Program	F-1F-14
State Funded Research Program	
Continuing Research	G-1G-25
Proposed Research	G-26G-39
Self Generated Funded Research	
Continuing Research	H-1H-5
Proposed Research	H-6H-7
Federal Funded Projects	I-1I-3
Other DOTD Funded Projects	J-1J-3

FHWA SPR Work Program Part II

FAP Number SPR-0010(34)



FHWA Funding

SPR Research Budget Recap	Total
Administrative Budget	\$700,000
Research Support Studies Budget	\$1,645,000
Active Studies Budget	\$1,966,276
Proposed Studies Budget	\$1,158,061
Pooled Fund Lead State Studies Budget	\$243,000
Total SPR Budget	\$5,712,337

SPR External Collaboration Budget Recap	Total
Pool Funded Studies	\$130,000
TRB Correlations	\$125,270
NCHRP	\$759,441
Total SPR External Collaboration Budget	\$1,014,711

IBRD Budget Recap	Total
Active Studies Budget	\$473,073
Proposed Studies Budget	\$250,000
Total IBRD Budget	\$723,073

FHWA Funding

LTAP Budget Recap	Total
LTAP	\$641,162
Total LTAP Budget	\$641,162

STP: Technology Transfer Program Budget Recap	Total
Technology Transfer Program and Operations	\$1,174,340
Workforce Development Program	\$4,462,100
Student Support Programs	\$400,000
Total STP Budget	\$6,036,440

State Funding

State Budget Recap	Total
Active Studies Budget	\$1,856,279
Proposed Studies Budget	\$670,000
RFP's	\$200,000
Total State Budget	\$2,726,279

Self-Generated Funding

Self-Generated Budget Recap	Total
Active Studies Budget	\$288,497
Proposed Studies Budget	\$50,000
Total Self-Generated Budget	\$338,497

Federal Funding

Federal Funding Budget Recap	Total
Active Studies Budget	\$10,397
Proposed Studies Budget	\$0
Total Federal Funding Budget	\$10,397

Other DOTD Sections Funding

Other DOTD Sections Budget Recap	Total
Active Studies Budget	\$7,060
Proposed Studies Budget	\$50,000
Total Other DOTD Sections Budget	\$57,060

Administrative

Funding	A/P	Project Type	SIO Number	Research Number	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Administ	rative	;											
SPR: TT-Fed/TT-Reg	А	ADM	30000300	12-1PM	\$700,000	\$700,000	LTRC	Harold 'Skip' Paul	Program Management	7/1/2011	6/30/2012		C-2
					\$700,000	\$700,000	ADMINISTRA	TIVE BUDGET TOTAL	S				
Project Type: Research	Sup	port											
SPR: Pooled Fund: TT-Fed	А	RS	30000306	12-1TTRI	\$365,000	\$365,000	LTRC	Mark Morvant	Technology Transfer and Research Implementation	7/1/2011	6/30/2012		C-3
SPR: TT-Fed/TT-Reg	А	RS	30000301	12-1EQM	\$230,000	\$230,000	LTRC	Mark Morvant	Equipment Management	7/1/2011	6/30/2012		C-5
SPR: TT-Fed/TT-Reg	А	RS	30000302	12-1LFT	\$200,000	\$200,000	LTRC	Mark Morvant	Research Laboratory and Field Test Support	7/1/2011	6/30/2012		C-7
SPR: TT-Fed/TT-Reg	А	RS	30000303	12-1NPE	\$50,000	\$50,000	LTRC	Mark Morvant	New Products Evaluation	7/1/2011	6/30/2012		C-9
SPR: TT-Fed/TT-Reg	А	RS	30000304	12-1TA	\$375,000	\$375,000	LTRC	Mark Morvant	Technical Assistance	7/1/2011	6/30/2012		C-10
SPR: TT-Fed/TT-Reg	A	RS	30000305	12-1TRS	\$425,000	\$425,000	LTRC	Mark Morvant	Technical Research Surveillance	7/1/2011	6/30/2012		C-12
					\$1,645,000	\$1,645,000	1,645,000 RESEARCH SUPPORT BUDGET TOTALS						

SPR: TT-Fed/TT-Reg

FISCAL YEAR 2011-2012

Funding	A/P	Project Type	SIO Number	Research Number	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Geotechn	ical												
SPR: TT-Fed/TT-Reg	А	GT	30000116	05-1GT	\$67,000	\$393,176	LTRC	Murad Abu-Farsakh	Field Demonstration of New Bridge Approach Slab Designs and Performance	8/1/2008	8/1/2011		C-14
SPR: TT-Fed/TT-Reg	A	GT	30000114	08-3GT	\$68,000	\$320,951	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	12/31/2012	C-16
SPR: TT-Fed/TT-Reg	A	GT	30000111	10-1GERL	\$230,000	\$523,000	LTRC	Murad Abu-Farsakh	LTRC Support for Geotechnical Research at the Geotechnical Engineering Research Laboratory (GERL)	7/1/2010	6/30/2011		C-18
SPR: TT-Fed/TT-Reg	А	GT	30000099	10-3GT	\$79,800	\$120,985	LTRC	Khalil Hanifa	Design Values of Resilient Modulus of Stabilized and Non-stabilized Base	9/1/2010	2/29/2012		C-19
SPR: TT-Fed/TT-Reg	A	GT	30000134	11-2GT	\$40,000	\$489,708	LTRC	Murad Abu-Farsakh	Field Instrumentation and Testing to Study Set-Up Phenomenon of Piles Driven into Louisiana Clayey Soils	12/1/2010	11/30/2014		C-20
SPR: TT-Fed/TT-Reg	А	GT	30000135	11-3GT	\$204,000	\$297,579	LTRC	Murad Abu-Farsakh	Accelerated Load Testing of Geosynthetic Base Reinforced Pavement Test Sections	12/1/2010	5/31/2012		C-22
SPR: TT-Fed/TT-Reg	А	GT	30000280	11-4GT	\$88,500	\$72,679	LTRC	Murad Abu-Farsakh	Calibration of Resistance Factors for Drilled Shafts for the New FHWA Design Method	1/12/2011	1/11/2012		C-24
					\$777,300	\$2,218,078	GEOTECHNI	CAL BUDGET TOTALS					

Project Type: Pavements

					\$116,670	\$380,994	PAVEMENTS	S BUDGET TOTALS					
SPR: TT-Fed/TT-Reg	A	Ρ	30000160	11-3P	\$64,340	\$150,000	LTRC	Mark Martinez	The Rideability of a Deflected Bridge Approach Slab (LTRC Project 02-2GT Continuation: Phase II)	4/1/2011	3/31/2013		C-29
SPR: TT-Fed/TT-Reg	А	Ρ	30000164	10-3P	\$42,630	\$132,144	LTRC	Leticia Santos da Rocha Courville	LED Traffic Signal Lifetime Management System	11/1/2010	7/1/2013	7/31/2013	C-27
SPR: TT-Fed/TT-Reg	А	Р	30000168	09-7P	\$9,700	\$98,850	LTRC	Zhong Wu	Construction and Accelerated Pavement Testing of TTI Pavement Test Sections	10/1/2009	10/1/2011		C-26

Project Type: Bituminous

					\$610,421	\$1,466,802	BITUMINOUS	BUDGET TOTALS					
SPR: TT-Fed/TT-Reg	А	В	30000220	11-3B	\$113,225	\$263,975	LTRC	Bill King	Testing and Analysis of LWT and SCB Properties of Asphaltic Concrete Mixtures	4/1/2011	3/31/2013		C-35
SPR: TT-Fed/TT-Reg	A	В	30000167	11-1B	\$102,838	\$144,838	LTRC	Md. Sharear Kabir	Validity of Multiple Stress Creep Recovery Test for DOTD Asphalt Binder Specification	9/1/2010	6/30/2012		C-34
SPR: TT-Fed/TT-Reg	А	В	30000221	10-4B	\$98,698	\$299,433	LTRC	Louay Mohammad	Development of Performance Based Specifications for Louisiana Asphalt Mixtures	4/1/2011	3/31/2014		C-33
SPR: TT-Fed/TT-Reg	А	В	30000112	10-1EMC	\$175,218	\$345,000	LTRC	Louay Mohammad	Pavement Materials Research Using Special Equipment at the Engineering Materials	7/1/2009	6/30/2012		C-32
SPR: TT-Fed/TT-Reg	А	В	30000117	07-1B	\$120,442	\$413,556	LTRC	Bill King	Evaluation of Warm Mix Asphalt Technology in Flexible Pavements	3/15/2009	3/15/2011	3/31/2012	C-31

SPR: TT-Fed/TT-Reg

FISCAL YEAR 2011-2012

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

SPR: TT-Fed/TT-Reg	A	SS	30000123	10-7SS	\$53,163	\$93,163	LTRC	Chester Wilmot	Development in Transportation Planning Support Study for Establishing an Intelligent Transportation System (ITS) Lab at LTRC	8/20/2010	8/19/2011	0,00,2012	C-38
SPR: TT-Fed/TT-Reg	А	SS	30000125	10-1PLA	\$130,434	\$358,462	LTRC	Chester Wilmot	LTRC Proposal for the Support of Research and Development in Transportation Planning	7/1/1995	6/30/1996	6/30/2012	C-37
SPR: TT-Fed/TT-Reg	A	SS	30000126	06-2SS	\$187,533	\$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-36

Project Type: Concrete

					\$1,966,276	\$5,357,567	SPR: TT-FED	TT-REG ACTIVE BUI	DGET TOTALS				
					\$90,755	\$329,229		BUDGET TOTALS					
SPR: TT-Fed/TT-Reg	A	С	30000152	10-1C	\$40,755	\$162,878	LTRC	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	5/1/2012	C-40
SPR: TT-Fed/TT-Reg	A	с	30000153	09-5C	\$50,000	\$166,351	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	12/31/2011	C-39

SPR: TT-Fed/TT-Reg

Funding	A/P	Project Type	SIO Number	Research Number	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Geotechr	nical												
SPR: TT-Fed/TT-Reg	Р	GT		06-3GT	\$169,225	\$264,878	LTRC	Gavin Gautreau	Intelligent Compaction Technology	5/1/2011			C-42
SPR: TT-Fed/TT-Reg	Ρ	GT		11-1GT	\$35,000	\$300,000	LTRC	Murad Abu-Farsakh	In Situ Evaluation of Design Parameters and Procedures for Cementitiously Treated Subgrade using Cyclic Plate Load TestsLoad Tests	10/1/2011	3/31/2013		C-43
	-	-		-	\$204,225	\$564,878	GEOTECHN	ICAL BUDGET TOTALS		-	-		
Project Type: Pavemen	ts												
SPR: TT-Fed/TT-Reg	Р	Р		12-1P	\$50,000	\$300,000	LTRC	Kevin Gaspard	Prevention of Extensive Desiccation Cracking on Rural Highways	8/2/2010			C-44
SPR: TT-Fed/TT-Reg	Ρ	Р		12-2P	\$50,000	\$500,000	LTRC	Kevin Gaspard	Assessment of Environmental, Seasonal and Regional Variations in Pavement Base and Subgrade Properties	9/24/2011	6/30/2016		C-45
SPR: TT-Fed/TT-Reg	Ρ	Ρ		12-3P	\$45,000	\$200,000	LTRC	Zhong Wu	Minimizing Shrinkage Cracking in Cement- Stabilized Bases Through the Use of Microcracking	7/1/2011	12/31/2013		C-46
SPR: TT-Fed/TT-Reg	Ρ	Р		12-4P	\$68,000	\$100,000	LTRC	Zhong Wu	Evaluation of DARWin-ME for Louisiana Pavement Design	7/1/2011	12/30/2012		C-47
SPR: TT-Fed/TT-Reg	Ρ	Р		12-5P	\$125,000	\$150,000	LTRC	Zhong Wu	Relationship between Friction Resistance Measured with Ribbed and Smooth Tire and Dynamic Friction Tester	7/1/2011	12/30/2012		C-49
SPR: TT-Fed/TT-Reg	Р	Р		12-6P	\$10,000	\$100,000	LTRC	Patrick Icenogle	User Oriented Pavement Management Interfaces and Applications	4/1/2012	6/30/2014		C-51
SPR: TT-Fed/TT-Reg	Р	Р		12-7P	\$210,000	\$210,000	LTRC	Zhong Wu	Roller Compacted Concrete Over Soil Cement Under Accelerated Loading	7/1/2011	6/30/2012		C-52
SPR: TT-Fed/TT-Reg	Р	Р		12-8P	\$10,950	\$200,000	LTRC	Zhong Wu	Thin Whitetopping Under Accelerated Loading	7/1/2011	6/30/2013		C-53
SPR: TT-Fed/TT-Reg	Ρ	Р		12-9P	\$10,950	\$200,000	LTRC	Zhong Wu	Roller Compacted Concrete Overlays Under Accelerated Loading	7/1/2011	6/30/2013		C-54
					\$579,900	\$1,960,000	PAVEMENTS	S BUDGET TOTALS					
Project Type: Bitumino	us												
SPR: TT-Fed/TT-Reg	Ρ	В		12-1B	\$95,866	\$204,032	LTRC	Louay Mohammad	Evaluation Of HMA Mixtures Containing Recycled Asphalt Shingles	7/1/2011	6/30/2013		C-55
SPR: TT-Fed/TT-Reg	Ρ	В		12-2B	\$100,070	\$275,000	LTRC	Louay Mohammad	Investigation of the Use of High RAP Content in Hot Mix Asphalt Mixtures	7/1/2011	6/30/2013		C-56
					\$195,936	\$479,032	BITUMINOU	S BUDGET TOTALS					

SPR: TT-Fed/TT-Reg

FISCAL YEAR 2011-2012

Project Type: Special Studies

SPR: TT-Fed/TT-Reg	Ρ	SS	12-1SA	\$25,000	\$200,000	LTRC	Marie Walsh	Louisiana Transportation Safety Center	7/1/2011	6/30/2014	C-57
				\$25,000	\$200,000	SPECIAL ST	UDIES BUDGET TOTAL	_S			

Project Type: Concrete

SPR: TT-Fed/TT-Reg	Ρ	С	12-1C	\$60,000	\$150,000	LTRC	Tyson Rupnow	Roller Compacted Concrete Field Demonstration in Haynesville Shale Area	7/1/2011	6/30/2013		C-58
SPR: TT-Fed/TT-Reg	Ρ	С	12-2C	\$93,000	\$215,000	LTRC	Tyson Rupnow	High Volume Replacement of Portland Cement in Roller Compacted Concrete	7/1/2011	6/30/2013		C-59
				\$153,000	\$365,000	CONCRETE	BUDGET TOTALS					
				\$1,158,061	158,061 \$3,568,910 SPR: TT-FED/TT-REG PROPOSED BUDGET TOTALS							

SPR: Pooled Fund: TT-Fed

Funding	A/P	Project Type	SIO Number	Research Number	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.	
Project Type: Pooled F	und L	ouisiana.	a Lead State	1										
SPR: Pooled Fund: TT-Fed	А	PF	30000281	09-1PF	\$113,000	\$150,000	LTRC	Mark Morvant	Southeast Transportation Consortium	9/1/2009	8/30/2012		C-61	
					\$113,000	0 \$150,000 SPR: POOLED FUND: TT-FED ACTIVE BUDGET TOTALS								
SPR: Pooled Fund: TT-Fed	Ρ	PF		12-1PF	\$130,000	\$500,000			Traffic and Data Preparation for AASHTO MEPDG Analysis and Design	7/1/2011			C-63	
					\$130,000	\$500,000	SPR: POO	LED FUND: TT-FED PR	OPOSED BUDGET TOTALS					
					\$243,000	\$650,000	0 SPR: POOLED FUND: TT-FED PROPOSED BUDGET TOTALS 1 POOLED FUND BUDGET TOTALS							

SPR: Pooled Fund: TT-Fed

FISCAL YEAR 2011-2012

Funding	A/P	Project Type	SIO Number	Research Number	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Pooled Fu	ınd: l	External	Lead State										
SPR: Pooled Fund: TT-Fed	А	PFE		TPF-5(114)	\$0	\$165,000			Roadside Safety Research Program	7/1/2008	12/31/2011		C-66
SPR: Pooled Fund: TT-Fed	А	PFE		TPF-5(159)	\$5,000	\$25,000			Technology Transfer Concrete Consortium	2/5/2008	2/4/2012		C-68
SPR: Pooled Fund: TT-Fed	А	PFE		TPF-5(228)	\$20,000	\$60,000			Superpave Regional Center				C-70
SPR: Pooled Fund: TT-Fed	А	PFE		TPF-5(237)	\$15,000	\$15,000			Transportation Library Connectivity & Development	1/1/2011	12/31/2015		C-72
					\$40,000	\$265,000	POOLED FU	ND: EXTERNAL LEAD	STATE BUDGET TOTALS				

Project Type: Pooled Fund: External Lead State

SPR: Pooled Fund: TT-Fed P PFE	\$90,000	\$90,000		Pooled Fund Collaboration Projects			C-73
	\$90,000	\$90,000	POOLED FUND: EXTERNAL LEAD	STATE BUDGET TOTALS		-	-
	\$130,000	\$355,000	SPR: POOLED FUND: TT-FED ACT	IVE BUDGET TOTALS			

IBRD: TT-Fed

Funding	A/P	Project Type	SIO Number	Research Number	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Structure	s												
IBRD: TT-Fed	А	ST	30000129	07-1ST	\$153,073	\$565,550	LTRC	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-2
IBRD: TT-Fed	A	ST	30000130	07-3ST	\$30,000	\$140,019	LSU	Steve C.S. Cai	Repairing/Strengthening of Bridges with Post- Tensioned FRP Strands and Performance Evaluation	10/1/2007	4/1/2010	8/31/2011	D-4
IBRD: TT-Fed	А	ST	30000131	07-4ST	\$130,000	\$418,102	LSU	George Z. Voyiadjis	Integral Abutment Bridge for Louisiana's Soft and Stiff Soils	10/1/2007	8/31/2011		D-5
IBRD: TT-Fed	А	ST	30000132	08-2ST	\$60,000	\$199,999	LSU	Steve C.S. Cai	Monitoring Bridge Scour Using Fiber Optic Sensors	1/1/2009	7/1/2011		D-7
IBRD: TT-Fed	А	ST	30000204	10-1ST	\$100,000	\$250,000	LTU	Aziz Saber	Monitoring System for Bridges Subject to Heavy Loads	3/15/2010	3/31/2012	6/30/2012	D-8
					\$473,073	\$1,573,670	STRUCTU	RES BUDGET TOTALS					
					\$473,073	\$1,573,670	670 STRUCTURES BUDGET TOTALS 670 IBRD: TT-FED ACTIVE BUDGET TOTALS						
Project Type: Structure	s												

				\$250,000 \$250,000	\$520,000 \$520,000	IBRD: TT-	RES BUDGET TOTALS	GET TOTALS			
IBRD: TT-Fed	Ρ	ST	10-3ST	\$125,000	\$270,000	LTU	Aziz Saber	Elimination of Deck Joints using a Corrosion Resistant FRP Grid	7/1/2010		D-12
IBRD: TT-Fed	Ρ	ST	10-2ST	\$125,000	\$250,000	LTU	Aziz Saber	Use of Geosynthetic Reinforced Soil for Bridge Abutments	7/1/2011		D-11

LTAP: TT-Fed/TT-Reg

FISCAL YEAR 2011-2012

Funding	A/P	Project Type	SIO Number	Research Number	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: LTAP													
LTAP: TT-Fed/TT-Reg	А	LTAP	30000087	11-LTAP	\$641,162	\$641,162	LTRC	Marie Walsh	Local Technical Assistance Program (LTAP)	1/1/2011	12/31/2013		E-2
					\$641,162	\$641,162	LTAP BUD	GET TOTALS					
					\$641,162	\$641,162	LTAP: TT-I	ED/TT-REG ACTIV	E BUDGET TOTALS				

LTRC ANNUAL RESEARCH PROGRAM

STP: TT-Fed

FISCAL YEAR 2011-2012

Funding	A/P	Project Type	SIO Number	Research Number	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.	
Project Type: Technolo	ogy Ti	ransfer a	nd Training											
STP: TT-Fed	А	TT	30000320	08-1TSQ	\$351,746	\$340,917	LTRC	Sam Cooper	Technology Transfer Program and Operations (LSU)	7/1/2010	6/30/2011		F-2	
STP: TT-Fed	А	TT	30000313	12-1TSQ	\$518,094	\$518,094	LTRC	Sam Cooper	Technology Transfer Program and Operations DOTD)	7/1/2011	6/30/2012		F-4	
STP: TT-Fed	А	тт	30000315	12-1TT	\$37,500	\$37,500			Support for Senior Project Courses	7/1/2011	6/30/2012		F-6	
STP: TT-Fed	А	TT	30000314	12-1WD	\$1,126,109	\$1,126,109	LTRC	Sam Cooper	Workforce Development	7/1/2011	6/30/2012		F-7	
STP: TT-Fed	А	TT	30000316	12-2TT	\$147,000	\$147,000	LTRC	Harold 'Skip' Paul	LTRC Student Program	7/1/2011	6/30/2012		F-8	
STP: TT-Fed	А	TT	30000317	12-3TT	\$20,000	\$110,000	LTRC	Mark Morvant	Technology Transfer & Research Implementation Support for Louisiana Universities	1/1/2010	12/31/2013		F-9	
STP: TT-Fed	А	TT	30000318	12-COOP	\$400,000	\$400,000	LTRC	Sam Cooper	LADOTD CO-OP PROGRAM	7/1/2011	6/30/2012		F-11	
STP: TT-Fed	А	TT	30000319	12-TTRF	\$100,000	\$100,000	LTRC	Sam Cooper	Technology Transfer Registration Fees	7/1/2011	6/30/2012		F-12	
STP: TT-Fed	А	TT		12-WDC	\$3,335,991	\$3,335,991	LTRC	Sam Cooper	Workforce Development Contracts	7/1/2011	6/30/2012		F-13	
					\$6,036,440	\$6,115,611	11 TECHNOLOGY TRANSFER AND TRAINING BUDGET TOTALS							
					\$6,036,440	\$6,115,611	11 STP: TT-FED ACTIVE BUDGET TOTALS							

State: TT-Reg

FISCAL YEAR 2011-2012

Funding	A/P	Project Type	SIO Number	Research Number	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Geotech	nical												
State: TT-Reg	А	GT	30000201	10-2GT	\$140,000	\$200,000	Dataforensics, LLC	Scott Deaton	Geotechnical Information Database – Phase 2	3/10/2011	9/9/2012		G-2
					\$140,000	\$200,000		GEOTECHNICAL BUD	GET TOTALS				
Project Type: Pavemer	nts							-					
State: TT-Reg	А	Р	30000143	09-2P	\$41,330	\$135,101	LSU	Mostafa Elseifi	Implementation of the Rolling Wheel Deflectometer (RWD) in PMS and Pavement Preservation	7/1/2009	9/30/2010	12/31/2011	G-4
State: TT-Reg	А	Р	30000141	10-1ALF	\$420,000	\$1,730,000	LTRC	Zhong Wu	Management and Operation of the Pavement Research Facility	7/1/2009	6/30/2012		G-5
State: TT-Reg	A	Р	30000166	10-4P	\$120,215	\$267,395	ULL	Mohammad Jamal Khattak	Development of Cost-Effective Pavement Treatment Selection and Treatment Performance Models	9/1/2010	6/30/2013		G-6
State: TT-Reg	A	Р	30000159	11-1P	\$130,000	\$219,774	Nichols Consulting Engineers	Margot Yapp	LaDOTD Pavement Management System (PMS) for Project Level Applications	5/23/2011	5/22/2013		G-8
State: TT-Reg	А	Р	30000162	11-2P	\$19,525	\$49,600	Inner Corridor Technologies	Jennifer Harrison	Development of a DOTD GPS Technology Management Plan	3/1/2011	8/31/2011		G-9
					\$731,070	\$2,401,870		PAVEMENTS BUDGE	T TOTALS				
Project Type: Bituming	ous							-					
State: TT-Reg	A	В	30000142	10-6B	\$109,038	\$255,438	LSU	William H. Daly	Implementation of GPC Characterization of Asphalt Binders at Louisiana Materials Laboratory	6/1/2010	12/1/2011		G-10
State: TT-Reg	А	В	30000163	11-2B	\$46,000	\$100,000	LTU	Nazimuddin M. Wasiuddin	Evaluation of Dynamic Shear Rheometer Tests for Emulsions.	9/15/2010	7/14/2012		G-11

\$355,438

\$155,038

BITUMINOUS BUDGET TOTALS

State: TT-Reg

FISCAL YEAR 2011-2012

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

Project Type: Structures

State: TT-Reg	А	ST	30000145	08-3ST	\$28,562	\$200,004	LSU	Gouping Zhang	Evaluation of Design Methods to Determine Scour Depths for Bridge Structures	4/1/2009	4/1/2011	9/30/2011	G-12
State: TT-Reg	А	ST	30000172	09-5ST	\$30,050	\$72,750	LSU	Guoqiang Li	Support Study for A Shape Memory Polymer based Self-healing Sealant for Expansion Joint	5/1/2009	11/1/2010	7/31/2011	G-13
State: TT-Reg	A	ST	30000118	10-4ST	\$100,000	\$309,117	Ocean Engineering Associates, Inc.	D. Max Sheppard	Development of Wave and Surge Atlas for the Design and Protection of Coastal Bridges in South	5/2/2011	10/1/2013		G-14
State: TT-Reg	А	ST	30000138	10-5ST	\$100,000	\$199,961	Wiss, Janney, Elstner	Jonathan McGormley	Developing Prestressed Girder Transportation Guidelines	5/2/2011	9/1/2012		G-15
					\$258,612	\$781,832		STRUCTURES BUDGI	ET TOTALS				

Project Type: Special Studies

					\$330,675	\$706,116		SPECIAL STUDIES BU	JDGET TOTALS			
State: TT-Reg	A	SS	30000177	11-2SS	\$50,000	\$99,999	LSU	Sherif Ishak	Measuring Effectiveness of Ramp Metering Strategies on I-12	4/1/2011	3/31/2013	G-22
State: TT-Reg	А	SS	30000140	10-6SS	\$28,031	\$98,634	LSU	Sherif Ishak	Establishing an Intelligent Transportation Systems (ITS) Lab at LTRC (Phase II)	8/20/2010	11/19/2011	G-21
State: TT-Reg	A	SS	30000240	10-5SS	\$55,179	\$100,000	LSU	Helmut Schneider	Developing Inexpensive Crash Countermeasures for Louisiana Local Roads	1/17/2011	1/16/2013	G-19
State: TT-Reg	А	SS	30000202	10-4SS	\$64,378	\$99,396	GEC, Inc.	Lucy Kimbeng	Truck Facility Access Design Guidelines	4/25/2011	4/24/2013	G-18
State: TT-Reg	А	SS	30000203	10-3SS	\$65,000	\$130,000	Cambridge Systematics	Susan Herbel	Automated Enforcement and Highway Safety	6/1/2011	5/31/2013	G-17
State: TT-Reg	А	SS	30000149	08-3SS	\$68,087	\$178,087	ULL	Xiaoduan Sun	Developing Louisiana Crash Reduction Factors	11/1/2009	10/31/2011	G-16

Project Type: Other

State: TT-Reg	Α	Other	30000169	11-1AD	\$240,884	\$1,088,594	LTRC	Vijaya Gopu	Research Expansion Program	11/1/2006	11/1/2009	6/30/2012	G-23
					\$240,884	\$1,088,594		OTHER BUDGET TOT	ALS				
					\$1,856,279	\$5,533,850							

State: TT-Reg

Project Type: Pavements P P P I2:10P S50,000 S150,000 LTRC Sherif Ishuk Addressing Traffic Data Requirements for Development of Ada Descing and Plance Incusional (Phase III) I2/12011	Funding	A/P	Project Type	SIO Number	Research Number	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
State: TT-Reg P P I 12-10P 550,000 S150,000 LTRC Sherif Ishak Addressing Trafic Data Regularization of MEPDG in Louisiana (Phase II) 12/1201 L State: TT-Reg P B 12-10P 550,000 S150,000 PAVEMENTS BUDGET TOTALS Policit Type: Bituminut State: TT-Reg P B 12-38 S50,000 S200,000 Chemical Characterization of Asphalts Related 0 4/1/2012 4/1/2014 Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan= 400 Colspan= 400	Project Type: Pave	ements												
State: T.Reg P St 30000310 11-218 \$50,000 \$50,000 PAVEMENTS BUGGET TOTALS State: TT.Reg P B 12-38 \$50,000 \$200,000 Chemical Characterization of Asphalts Related to their Performance 4/1/2012 4/1/2014 Project Type: Structure State: TT.Reg P ST 30000310 11-2TIRE \$30,000 LSU Gefu Anovel Fire Resistant FRP for Externally Bonded Concrete Repair 7/1/2011	State: TT-Reg	Ρ	Р		12-10P	\$50,000	\$150,000	LTRC	Sherif Ishak	Addressing Traffic Data Requirements for Development of Axle Load Spectra and Implementation of MEPDG in Louisiana (Phase II)	12/1/2011			G-27
Project Type: Bituminous P B 12:38 \$\$50,000 S200,000 Chemical Characterization of Asphalts Related to their Performance 4/1/2012 4/1/2014 State: TT-Reg P ST 30000310 11:2TIR \$\$30,000 LSU Gefu Ji A Novel Fire Resistant FRP for Externally Bondiad Concrete Repair 7/1/2011 Image: Concrete Repair State: TT-Reg P ST 30000310 11:2TIRE \$\$30,000 LTU Annu Jaganathan Real-Time Monitoring of Strands in Cable Stay Bridges 7/1/2011 Image: Concrete Repair State: TT-Reg P ST 30000312 11:4TIRE \$\$30,000 LTU Annu Jaganathan Real-Time Monitoring of Strands in Cable Stay Bridges 7/1/2011 Image: Concrete Repair State: TT-Reg P ST 30000312 11:4-TIRE \$\$30,000 LTU Annu Jaganathan Bridges Totalian Design, Fabrication and Testing of a Low Cost, Highly Durable, Green * Median Barrier 7/1/2011 Image: Concrete Repair State: TT-Reg P SS 12:4SS \$\$50,000 ST60,000 Creation of a Strategic Plan for Highway Safety Research 7/1/2011		•				\$50,000	\$150,000		PAVEMENTS BUDGET	T TOTALS				
State: TT-Reg P B 12-3B \$50,000 \$200,000 Chemical Characterization of Asphalts Related to their Performance 4/1/2012 4/1/2014 State: TT-Reg P ST 30000310 11-2TIRE \$30,000 \$S0,000 LSU Gefu Ji A Novel Fire Resistant FRP for Externally Bonded Concrete Repair 7/1/2011	Project Type: Bitu	minous												
State: TT-Reg P ST 30000310 11-2TIRE \$30,000 LSU Gefu A Novel Fire Resistant FRP for Externally Bonded Concrete Repair State: TT-Reg P ST 30000310 11-2TIRE \$30,000 LSU Gefu A Novel Fire Resistant FRP for Externally Bonded Concrete Repair 7/1/2011 Image: Concrete Repair State: TT-Reg P ST 30000311 11-3TIRE \$30,000 S30,000 LTU An Ura Law Cost Wireless Sensor Network for Real-Time Monitoring of Stands in Cable Stary 7/1/2011 Tri/12011 State: TT-Reg P ST 30000312 11-4TIRE \$30,000 \$STRUCTURES BUDGET TOTALS Project Type: Special Studies State: TT-Reg P SS 12-2SS \$50,000 \$State: TT-Reg P SS 12-2SS \$80,000 \$250,000 Creation of a Strategic Plan for Highway Safety 7/1/2011 6/30/2012 State: TT-Reg P SS 12-2SS \$80,000 \$250,000 Creation of a Strategic Plan for Highway Safety 7/1/2011 6/30/2013 5/30/2013 5/30/2013 <td>State: TT-Reg</td> <td>Р</td> <td>В</td> <td></td> <td>12-3B</td> <td>\$50,000</td> <td>\$200,000</td> <td></td> <td></td> <td>Chemical Characterization of Asphalts Related to their Performance</td> <td>4/1/2012</td> <td>4/1/2014</td> <td></td> <td>G-28</td>	State: TT-Reg	Р	В		12-3B	\$50,000	\$200,000			Chemical Characterization of Asphalts Related to their Performance	4/1/2012	4/1/2014		G-28
Project Type: Structures State: TT-Reg P ST 30000310 11-2TIRE \$30,000 \$30,000 LSU Gefu A Novel Fire Resistant FRP for Externally Bonded Concrete Repair 7/1/2011 Image: Concrete Repair State: TT-Reg P ST 30000310 11-3TIRE \$30,000 \$30,000 LTU An Ultra Low Cost Wireless Sensor Network for Real-Time Monitoring of Strands in Cable Stay 7/1/2011 Image: Tri-Reg P ST 30000312 11-4TIRE \$30,000 \$30,000 LTU Erez Allouche Design, Fabrication and Testing of a Low Cost, Highly Durable, 'Green' Median Barrier 7/1/2011 Image: Tri-Reg P ST 30000312 11-4TIRE \$30,000 \$\$TRUCTURES BUDGET TOTALS Project Type: Special Studies State: TT-Reg P SS 12-1SS \$\$50,000 \$\$150,000 Creation of a Strategic Plan for Highway Safety 7/1/2011 6/30/2012 State: TT-Reg P SS 12-2SS \$\$0,000 \$\$250,000 Creation of a Strategic Plan for Highway Safety 7/1/2011 6/30/2013 \$\$160,2013 Creation of a Strategi				•		\$50,000	\$200,000		BITUMINOUS BUDGE	T TOTALS				
State: P ST 30000310 11-2TIRE \$30,000 \$30,000 LSU Gefu A Novel Fire Resistant FRP for Externally Bonded Concrete Repair 7/1/2011 7/1/2011 State: TT-Reg P ST 30000310 11-3TIRE \$30,000 \$30,000 LTU Arun Jaganathan An Ultra Woolstong of Strands in Cable Stay Bridges 7/1/2011 7/1/2011 State: TT-Reg P ST 30000312 11-4TIRE \$30,000 S30,000 LTU Arun Jaganathan An Ultra Woolstong of Strands in Cable Stay Bridges 7/1/2011 7/1/2011 State: TT-Reg P ST 30000312 11-4TIRE \$30,000 STRUCTURES BUDGET TOTALS Project Type: Special Studies 12-1SS \$50,000 \$150,000 Traffic Counting using Existing Video Detection Cameras 7/1/2011 6/30/2013 State: TT-Reg P SS 12-2SA \$50,000 \$250,000 Creation of a Strategic Plan for Highway Safety Research 7/1/2011 6/30/2013 State: TT-Reg P SS	Project Type: Stru	ctures				.								
State: TT-Reg P ST 30000311 11-3TIRE \$30,000 \$30,000 LTU Anu Jaganathan An Ultra Low Cost Wireless Sensor Network for Real-Time Monitoring of Strands in Cable Stay 7/1/2011 Image: Comparison of Strands in Cable Stay 7/1/2011 Gale 2002 Strands Strands 7/1/2011 Strands Strands Stray <th< td=""><td>State: TT-Reg</td><td>Р</td><td>ST</td><td>30000310</td><td>11-2TIRE</td><td>\$30,000</td><td>\$30,000</td><td>LSU</td><td>Gefu Ji</td><td>A Novel Fire Resistant FRP for Externally Bonded Concrete Repair</td><td>7/1/2011</td><td></td><td></td><td>G-29</td></th<>	State: TT-Reg	Р	ST	30000310	11-2TIRE	\$30,000	\$30,000	LSU	Gefu Ji	A Novel Fire Resistant FRP for Externally Bonded Concrete Repair	7/1/2011			G-29
State: TT-Reg P ST 30000312 11-4TIRE \$30,000 LTU Erez Allouche Design, Fabrication and Testing of a Low Cost, Highly Durable, "Green' Median Barrier 7/1/2011 ///2011 State: TT-Reg P SS 12-1SS \$50,000 \$150,000 STRUCTURES BUDGET TOTALS State: TT-Reg P SS 12-1SS \$50,000 \$150,000 Creation of a Strategic Plan for Highway Safety Research 7/1/2011 6/30/2012 State: TT-Reg P SS 12-2SS \$80,000 \$250,000 Creation of a Strategic Plan for Highway Safety Research 7/1/2011 6/30/2012 State: TT-Reg P SS 12-2SS \$80,000 \$250,000 Creation of a Strategic Plan for Highway Safety Research 7/1/2011 6/30/2013 State: TT-Reg P SS 12-2SS \$80,000 \$20,000 Calibration of the Louisiana Highway Safety Manual(Phase 1) 7/1/2011 6/30/2013 State: TT-Reg P SS 12-3SS \$50,000 \$20,000 State Resources Need for Quality Assurance on Construction Projects 7/1/2011<	State: TT-Reg	Ρ	ST	30000311	11-3TIRE	\$30,000	\$30,000	LTU	Arun Jaganathan	7/1/2011			G-30	
SequenceSequenc	State: TT-Reg	Р	ST	30000312	11-4TIRE	\$30,000	\$30,000	LTU	Erez Allouche	Design, Fabrication and Testing of a Low Cost, Highly Durable, "Green" Median Barrier	7/1/2011			G-31
Project Type: Special StudiesState: TT-RegPSS12-1SS\$50,000\$150,000Traffic Counting using Existing Video Detection Cameras7/1/20116/30/2013State: TT-RegPSS12-2SA\$50,000\$50,000Creation of a Strategic Plan for Highway Safety Research7/1/20116/30/2012State: TT-RegPSS12-2SS\$80,000\$250,000Creation of a Strategic Plan for Highway Safety Research7/1/20116/30/2013State: TT-RegPSS12-3SA\$100,000\$200,000Calibration of the Louisiana DOTD Road Design Standards Maual(Phase 1)7/1/20116/30/2013State: TT-RegPSS12-3SS\$50,000\$200,000Calibration of the Louisiana Highway Safety Maual(Phase 1)7/1/20116/30/2013State: TT-RegPSS12-4SA\$50,000\$200,000Calibration of the Louisiana Highway Safety Construction Projects7/1/20116/30/2013State: TT-RegPSS12-4SA\$50,000\$200,000A Tool for Documenting, Tracking, Recording, and Analyzing Intersection Site Improvements Analyzing Intersection Site Improvements for Local Growth management Policies-Phase 17/1/20006/30/2013						\$90,000	\$90,000		STRUCTURES BUDGE	ET TOTALS				
State: TT-RegPSS12-1SS\$50,000\$150,000Traffic Counting using Existing Video Detection Cameras7/1/20116/30/2013State: TT-RegPSS12-2SA\$50,000\$50,000Creation of a Strategic Plan for Highway Safety Research7/1/20116/30/2012State: TT-RegPSS12-2SS\$80,000\$250,000History of the Implementation of AASHTO and Louisiana DOTD Road Design Standards7/1/20116/30/2013State: TT-RegPSS12-3SA\$100,000\$200,000Calibration of the Louisiana Highway Safety Manual(Phase 1)7/1/20116/30/2013State: TT-RegPSS12-3SS\$50,000\$200,000Safety State: TT-Reg7/1/20116/30/2013State: TT-RegPSS12-3SS\$50,000\$20,000Safety State: TT-Reg7/1/20116/30/2013State: TT-RegPSS12-4SA\$50,000\$20,000Safety State: TT-Reg7/1/20116/30/2013State: TT-RegPSS12-4SA\$50,000\$20,000A Tool for Documenting, Tracking, Recording, and Analyzing Intersection Site Improvements7/1/20116/30/2013State: TT-RegPSS12-4SS\$70,000\$250,000A Tool for Documenting, Tracking, Recording, and Analyzing Intersection Site Improvements7/1/20016/30/2013State: TT-RegPSS12-4SS\$70,000\$250,000A Tool for Documenting, Tracking, Recording, and Analyzing Intersection Site Improvements7/1/20016/3	Project Type: Spec	cial Studie	es											
State: TT-RegPSS12-2SA\$50,000\$50,000Creation of a Strategic Plan for Highway Safety Research7/1/20116/30/2012State: TT-RegPSS12-2SS\$80,000\$250,000History of the Implementation of AASHTO and Louisiana DOTD Road Design Standards7/1/20116/30/2013State: TT-RegPSS12-3SA\$100,000\$200,000Calibration of the Louisiana Highway Safety Manual(Phase 1)7/1/20116/30/2013State: TT-RegPSS12-3SS\$50,000\$200,000Development of a Model to Guide the Number of Staff Resources Needed for Quality Assurance on Construction Projects7/1/20116/30/2013State: TT-RegPSS12-4SA\$50,000\$200,000A Tool for Documenting, Tracking, Recording, and Analyzing Intersection Site Improvements7/1/20116/30/2013State: TT-RegPSS12-4SS\$70,000\$250,000Development of Minimum State Requirements for Local Growth management Policies-Phase 17/1/20006/30/2013	State: TT-Reg	Р	SS		12-1SS	\$50,000	\$150,000			Traffic Counting using Existing Video Detection Cameras	7/1/2011	6/30/2013		G-32
State: TT-RegPSS12-2SS\$80,000\$250,000History of the Implementation of AASHTO and Louisiana DOTD Road Design Standards7/1/20116/30/2013State: TT-RegPSS12-3SA\$100,000\$200,000Calibration of the Louisiana Highway Safety Manual(Phase 1)7/1/20116/30/2013State: TT-RegPSS12-3SS\$50,000\$20,000Development of a Model to Guide the Number of Staff Resources Needed for Quality Assurance on Construction Projects7/1/20116/30/2013State: TT-RegPSS12-4SA\$50,000\$200,000A Tool for Documenting, Tracking, Recording, and Analyzing Intersection Site Improvements7/1/20116/30/2013State: TT-RegPSS12-4SS\$70,000\$250,000Development of Minimum State Requirements for Local Growth management Policies-Phase 17/1/20006/30/2013	State: TT-Reg	Р	SS		12-2SA	\$50,000	\$50,000			Creation of a Strategic Plan for Highway Safety Research	7/1/2011	6/30/2012		G-33
State: TT-RegPSS12-3SA\$100,000\$200,000Calibration of the Louisiana Highway Safety Manual(Phase 1)7/1/2011IState: TT-RegPSS12-3SS\$50,000\$20,000Development of a Model to Guide the Number of Staff Resources Needed for Quality Assurance on Construction Projects7/1/20116/30/2013State: TT-RegPSS12-4SA\$50,000\$200,000A Tool for Documenting, Tracking, Recording, and Analyzing Intersection Site Improvements7/1/20116/30/2013State: TT-RegPSS12-4SS\$70,000\$250,000Development of Minimum State Requirements for Local Growth management Policies-Phase 17/1/20006/30/2013	State: TT-Reg	Р	SS		12-2SS	\$80,000	\$250,000			History of the Implementation of AASHTO and Louisiana DOTD Road Design Standards	7/1/2011	6/30/2013		G-34
State: TT-RegPSS12-3SS\$50,000\$20,000Development of a Model to Guide the Number of Staff Resources Needed for Quality Assurance on Construction Projects7/1/20116/30/2013State: TT-RegPSS12-4SA\$50,000\$200,000A Tool for Documenting, Tracking, Recording, and Analyzing Intersection Site Improvements7/1/20116/30/2013State: TT-RegPSS12-4SS\$70,000\$250,000Development of Minimum State Requirements for Local Growth management Policies-Phase 17/1/20006/30/2013	State: TT-Reg	Р	SS		12-3SA	\$100,000	\$200,000			Calibration of the Louisiana Highway Safety Manual(Phase 1)	7/1/2011			G-35
State: TT-Reg P SS 12-4SA \$50,000 \$200,000 A Tool for Documenting, Tracking, Recording, and Analyzing Intersection Site Improvements 7/1/2011 Image: Constraint of the second	State: TT-Reg	Ρ	SS		12-3SS	\$50,000	\$20,000			Development of a Model to Guide the Number of Staff Resources Needed for Quality Assurance on Construction Projects	7/1/2011	6/30/2013		G-36
State: TT-Reg P SS 12-4SS \$70,000 \$250,000 Development of Minimum State Requirements for Local Growth management Policies-Phase 1 7/1/2000 6/30/2013	State: TT-Reg	Р	SS		12-4SA	\$50,000	\$200,000			A Tool for Documenting, Tracking, Recording, and Analyzing Intersection Site Improvements	7/1/2011			G-37
	State: TT-Reg	Р	SS		12-4SS	\$70,000	\$250,000			Development of Minimum State Requirements for Local Growth management Policies-Phase 1	7/1/2000	6/30/2013		G-38
\$450,000 \$1,120,000 SPECIAL STUDIES BUDGET TOTALS		-				\$450,000	\$1,120,000		SPECIAL STUDIES BU	JDGET TOTALS				

State: TT-Reg

FISCAL YEAR 2011-2012

Funding	A/P Pro Ty	roject Type SIO Number	Research Number	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
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Project Type: Concrete

	State: TT-Reg	Ρ	С	30000309	11-1TIRE	\$30,000	\$30,000	LSU	Marwa Hassan	Marwa Hassan Photocatalytic Previous Concrete for Ambient Air Purification and Water Quality Improvement		6/30/2012		G-39
				\$30,000	\$30,000		CONCRETE BUDGET TOTALS							
					\$670,000	\$1,590,000		STATE: TT-REG PROP	POSED BUDGET TOTALS					

Self-Generated

Funding	A/P	Project Type	SIO Number	Research Number	FY Budget	Total Cost	Agency Principal Investigator Project Title Start				End Date	End Date (Rev)	Page No.		
Project Type: Special St	udie	S													
LOOP	A	SS	30000200	11-3SS	\$50,000	\$136,247	C-K Associates	Tre Wharton	LOOP Environmental Monitoring: 2011-2013 Beach Elevation, Beach Vegetation, Land Loss and Habitat Changes Surveys	4/12/2011	4/11/2014		H-2		
					\$50,000	\$136,247	SPECIAL ST	TUDIES BUDGET TOTA	LS						
Project Type: Bituminou	IS														
NCHRP	А	В	30000133	10-1B	\$153,247	\$500,000	LTRC	Louay Mohammad	Field versus Laboratory Volumetrics and Mechanical Properties	8/1/2009	2/29/2012		H-3		
NCHRP	А	В	30000260	11-4B	\$70,250	\$154,037	LTRC	Louay Mohammad	Modulus Based Construction Specification of Earthwork and Unbound Aggregate	10/7/2010	4/6/2013		H-4		
				\$223,497	\$654,037	BITUMINOU	S BUDGET TOTALS								
Project Type: Structures	5														
NCHRP	А	ST	30000171	09-4ST	\$15,000	\$135,000	LSU	Guoqiang Li	A Shape Memory Polymer based Self-healing Sealant for Expansion Joint 5/1/2009 11/1/2010				H-5		
					\$15,000	\$135,000	STRUCTUR	ES BUDGET TOTALS							
					\$288,497	\$925,284	SELF-GENE	RATED ACTIVE BUDG	ET TOTALS						
Project Type: Bituminou												-			
NCHRP		12-4B	\$50,000	\$103,796	6 LTRC Louay Mohammad Performance of WMA Technologies: Stage II – 4/7/2011 10/6/2013 Long-term Field Performance						H-7				
					\$50,000	\$103,796	6 BITUMINOUS BUDGET TOTALS								
					\$50,000	\$103,796	SELF-GENERATED PROPOSED BUDGET TOTALS								

Federal Funded

Funding	A/P	Project Type	SIO Number	Research Number	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.	
Project Type: NSF														
Federal Funded	A	SS	30000148	09-2SS	\$10,397	\$50,050	ULL Chester Wilmot Enhancing Calibrated Peer Review for Improved 9/1/2008 9/1/2011					8/31/2012	I-2	
	-	-			\$10,397	50,050	SPECIAL S	STUDIES BUDGET TOT	ALS	-	-		_	
					\$10,397	50,050	50,050 FEDERAL FUNDED ACTIVE BUDGET TOTALS							

Other DOTD Sections

FISCAL YEAR 2011-2012

Funding	A/P	Project Type	SIO No.	Research No.	FY Budget	Total Cost	Agency	Principal Investigator	Project Title	Start Date	End Date	End Date (Rev)	Page No.
Project Type: Pavemen	ts												
Safety	А	Р	200004880	07-7P	\$7,060	\$107,060	ULL	Xiaoduan Sun	Safety Improvement from Edge Lines of Rural Two- Lane Highway	9/1/2007	8/31/2010	8/31/2011	J-2
				\$7,060	\$107,060	PAVEMEN	IS BUDGET TOTALS						
					\$7,060	\$107,060	OTHER DO	TD SECTIONS ACTIVE	BUDGET TOTALS				
Project Type: Geotechn	nical												
Operations	Ρ	GT		11-6GT	\$50,000	\$50,000	LSU	Roy Dokka	Quantifying the Key Factors that Create Road Flooding				J-3
					\$50,000	\$50,000	GEOTECHI	NICAL BUDGET TOTAL	S				

\$50,000

\$50,000 OTHER DOTD SECTIONS PROPOSED BUDGET TOTALS

B-16

FHWA

Part II SPR Funded Research Program

ADMINISTRATIVE LINE ITEMS AND RESEARCH SUPPORT STUDIES

LTRC Annual Research Program Fiscal Year 2011-2012

Title:	Progra	am N	lanagemei	nt			Project S	tatus:	Ongoing			
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg	Budget Category: FHWA							
SIO:				2000200	Project Start Date: 7/1							
Bosoar	ch Proie	act N	umbor:	12-1PM	Completion Date (original)			6/30/2012				
Resear						Completion Date (revised)			0/30/2012			
Princip	al Inves	tinato	or:	Mr. Harold 'Skip' Pau								
- mop		iigate		BUDGE								
		т	otal Budge	1	Estimated 2011-2012 Budget							
Total C	ost	(orig	inal)	\$700.000	Total				\$700.000			
		(revi	sed)									
Est. Ex	pended	to D	ate		Salaries				\$700,000			
	F	Y 20	10 - 2011 Bi	ıdget	Equipment	(expen	dable)					
FY Funds (original) Equipment (non-expendable)												
		(revi	sed)		Travel							
Est. FY	'Expend	diture)		Other							
To cove prograr includir	er admir m. This i ng the e:	nistra item xpen:	tive costs of will cover a se of the Po	of the staff members in Il general expenditures olicy Committee and P	volved in the pla incurred in the roject Review C	anning manag ommitt	and supervisigement of the tees.	sion of tl e SPR F	he SPR Program,			
				FISCAL YEAR 2010 - 2	011 ACCOMPLIS	HMENT	S					
• Mana • Condu • Partic • Partic • Mana	 Managed the LTRC research program including administrative duties, financial responsibilities; Conducted LTRC 2011 Research Project Identification Committee (RPIC) activities; Participated in Transportation Research Board Activities; Participated on region and national RAC task groups.; and Managed Southeast Transportation Research Consortium Activities. 											
	FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES											
 Contin Imple Staff p Contin Contin Contin 	nue to m ment LT participa nued su nued su nued su	nana RC 2 ation pport pport	ge the SPR 2011 RPIC in External for Transp for region for Southe	Research Program; results; Peer Exchanges; ortation Research Boa and national RAC task east Transportation Con	ard Activities; group activities nsortium.	; and						
Title:	Technol	Project Status: On		Ongoing								
--------------------------------------	-------------------------------------	---	---	--------------------	--------------------	------------------------------	-----------------------	---------------------	--			
Funding	Source	SPR: Poo	oled Fund: TT-Fed	E	Budget	Category:	FHWA	L				
SIO:			30000306	Project Start	Date:		7/1/2011					
Research	n Project	Number:	12-1TTRI	Completion	Date	(original)		6/30/2012				
Research	n Agency	:	LTRC	Completion	Date	(revised)						
Principal	Investiga	ator:	Mr. Mark Morvant	-								
			BUDGET	STATUS								
		Total Budge	ted 2011-2012	2 Budge	t							
Total Cos	st (o	riginal)	\$365,000	Total				\$365,000				
	(re	evised)										
Est. Expe	ended to	Date		Salaries				\$350,000				
	FY	2010 - 2011 B	udget	Equipment	(expen	dable)						
FY Funds	s (o	riginal)		Equipment	(non-ex	xpendable)						
	(re	evised)		Travel				\$15,000				
Est. FY E	Expenditu	ire		Other								
				AND SCOPE								
To cover participat conference	costs ind tion in ex ces, and	curred in prov ternal resear research rev	viding research impleme ch/training activities (NC iew committees).	entation activitie	es, tech anels,	nnology trans TRB meeting	sfer serr gs, tech	iinars and nical				

LTRC Annual Research Program

Fiscal Year 2011-2012

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

- Design, Development, Testing and Deployment of various computer software such as Project Management Modules, DCP Project, Bridge Scour Program for DOTD, Excel Macros done earlier for pavement group, etc.;
- Presenting at Louisiana Transportation Conference;
- Presenting at Ohio bridge preservation conference;
- 2011 Southwest Geotechnical Engineering Conference (SWGEC);
- Louisiana Transportation Conference committee assistance;
- TRB, Transportation Research Board Annual Meeting, Washington, DC; attendance and committee participation, three committee chairs, and thirteen committee members, several presentations given.
- Participate NCHRP research advisory panels (two):
- Total 36 presentation on Concrete Materials and 42 presentations on Asphalt Materials;
- Provided an aggregate workshop to the industry (1 presentation);
- Provided concrete training to industry (20 presentations across 6 cities);
- Provided concrete training to DOTD (4 presentations in Lafayette);
- Provided 2 lunch and learn sessions (DOTD and Consulting Engineers);
- Invited to speak at CSI winter seminar (2 Presentations);
- Presented for ACPA Meganar (1 Presentation);
- Presented narrow joints research results at international conference (1 presentation);
- 1 presentation to TTCC/NCC members;
- 1 presentation to UNO ASCE Group;
- 3 presentations for implementation and reporting the results on 10-1C;
- 8 Presentations on Warm Mix Research, LAPA, Lafayette, Alexandria LES, ASCE;
- 6 Crumb Rubber Presentations;
- 6 General Asphalt Specification Presentations;
- 10 Invited presentations by EMCRF;
- 5 TRB presentations;
- Pavement management user group assistance and presentation;
- Seminars and Conferences;
- Required CPTP courses;
- Required LTRC courses; and
- Certification courses.

- 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:	Equip	men	t Managen		Project S	tatus:	Ongoing			
Fundir	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E				
				I I						
SIO:				30000301		Project Start	: Date:			7/1/2011
Resear	rch Proj	ect N	umber:	12-1EQM		Completion	Date	(original)		6/30/2012
Resear	rch Age	ncy:				Completion	Date	(revised)		
Princip	al Inves	tigato	or:	Mr. Mark Morvant		-				
		_		BUDGI	ET	STATUS		-		
		Т	otal Budge	t			Estima	ted 2011-2012	2 Budget	t
Total C	Cost	(orig	inal)	\$230,000		Total				\$230,000
	(revised)									
Est. Expended to Date Salaries								\$170,000		
	FY 2010 - 2011 Budget Equipment (expendable)									
FY Fur	nds	(orig	inal)			Equipment	(non-e	xpendable)		\$60,000
		(revi	sed)			Travel				
Est. FY	' Expen	diture	;			Other				
				PURPOSI	E A	ND SCOPE				
To cove rolling e in stand be on a	er costs equipme dardized automat	incu ent, s d test ion of	rred to prov pecial equi ing prograr f instrumen	vide support for the pu pment, and instrumen ns for laboratory certil tation systems used for	irch itat fica	nase, fabrication ion for researd ation (Co-Op, / data collection	on, eva ch proje AMRL, n.	aluation, and ects. To prov CRRL). Spe	mainter vide for p cial emp	nance of participation phasis will
				FISCAL YEAR 2010 -	20 ⁻	11 ACCOMPLIS	HMENT	5		
 Maint Calibr Partic Partic Partic Maint Maint CCRL Calibr Labor Perfor 	 FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS Maintained LTRC research laboratory and field equipment; Calibration of Profiler, FWD, Dynaflect, and Friction Tester; 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; Laboratory Equipment Maintenance and repair of Asphalt Binder, Mixture equipment; and Performed required safety training and reporting responsibilities. 									

Fiscal Year 2011-2012

- Maintain AMRL laboratory accreditation;
- 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; and
- Perform routine and unscheduled maintenance of LTRC research laboratory and field equipment.

Title:	Resea	rch	Laboratory		Project Status:		Ongoing				
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		B					
SIO:				30000302		Project Start Date:			7/1/2011		
Resear	ch Proie	ect N	umber:	12-1LFT	-	Completion Date (original)				6/30/2012	
Resear	ch Ager	ncv:		LTRC	-	Completion I					
Princip	al Inves	tigato	or:	Mr. Mark Morvant				. ,			
		-		Budge	ET STATUS						
		т	otal Budge	t		Estimated 2011-2012 Budget					
Total C	ost	(orig	inal)	\$200,000	-	Total	\$200,000				
		(revi	sed)								
Est. Ex	pended	to D	ate			Salaries				\$200,000	
	F	Y 20	10 - 2011 Bu	udget		Equipment	(expend				
FY Fun	lds	(orig	inal)			Equipment	(non-ex	pendable)			
		(revi	sed)			Travel					
Est. FY	'Expen	diture)			Other					
				PURPOSE	E AN	ID SCOPE			-		
The bro studies materia modifie	bad obje on new als and/o d aspha	ective mat or tec alts, e	es of this stu erials and/c hniques co etc.	udy are to provide sup or techniques in the lat nsidered new or uniqu	por bora ue a	t to the depar atory and/or f and those of t	rtment's ield. Th he gen	s request for le effort will eric type sud	investig be confi ch as ad	jative ned to mixtures,	
				FISCAL YEAR 2010 - 2	201	1 ACCOMPLIS	HMENTS	5			
 Colle numb need Reru Fog \$ Supp Forei Forei Inves Bond Evalu In- si 	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS Collected and processed Dynaflect deflection data, and reported the test results in terms of structural number and subgrade modulus as well as occasional projects which field and laboratory support is needed; Rerun of LA 1 ByPass Uritek project for faulting and IRI; Fog Seal and Microsurfacing Friction; Support to Materials Section in developing the profiler spec and operations manual; Forensic evaluation of slip failures and debonding on I-10; found low bond strengths in all areas for this; Forensic evaluation of Crumb Rubber modified SMA on I-12, raveling; Investigation of bond strength for thin bonded overlay, LA 20; Bond strength evaluation of Ultrafuse hot applied trackless tack coat on US 190; Evaluation of Microsurfacing and Cold Mixtures, LA 16 and lab work for maintenance applications; and In- situ testing of miscellaneous projects, PSPA and LFWD.										

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

• Continue to respond to request for technical assistance for laboratory, field work, and forensic analysis on DOTD projects not related to a formal research project that requires a substantial amount of time and laboratory effort.

Title:	New F	Produ	ucts Evalua	ation		Project S	Project Status:			
Fundir	ng Sour	ce:	SPR: TT-	Fed/TT-Reg	E	Budget	Category:	FHWA	1	
SIO:				30000303	Project Start	Project Start Date:			7/1/2011	
Resear	rch Proj	ect N	umber:	12-1NPE	Completion	Date	(original)		6/30/2012	
Resear	rch Age	ncy:		LTRC	Completion	Completion Date (revised)				
Princip	al Inves	tigato	or:	Mr. Mark Morvant						
				BUDGET	T STATUS					
		Т	otal Budge	t		Estimat	ted 2011-201	2 Budge	t	
Total C	Cost	(orig	inal)	\$50,000	Total				\$50,000	
		(revi	sed)							
Est. Ex	pended	to D	ate				\$50,000			
	F	FY 20	10 - 2011 Bi	udget	Equipment	(expen	dable)			
FY Fur	nds	(orig	inal)		Equipment	(non-e	xpendable)			
		(revi	sed)		Travel					
Est. FY	/ Expen	diture	9		Other					
				PURPOSE	AND SCOPE			<u>.</u>		
To sup evalua	port eva tion of n	iluatio ew p	on of produ roducts or t	cts for LADOTD New F echnologies not assoc	Products Evalua iated with a res	ation Co earch p	ommittee. To project.	o provide	e general	
				FISCAL YEAR 2010 - 20	011 ACCOMPLIS	HMENT	S			
New Pl • Terra • LKD I • Supe • Rospl • Joint • Recla	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS lew Product Evaluations: Terracem Evaluation (cement & cement kiln dust blend), Manufacturer: LaFarge; LKD Evaluation (lime kiln dust), Manufacturer: Omni Materials Super Slurry (cement slurry), Manufacturer: TXI; Rosphalt 50 LT; Joint Bond; and Reclamite Fog Seal. Evaluation (compliant compliant complipant complipant compliant compliant compliant complia									
	FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES									
 Conti produ Evalu Evalu Evalu 	Continue managing the necessary evaluations of new products submitted to LTRC by the LADOTD new product evaluation committees including on-going evaluations; Evaluate environmentally friendly prime coats; Evaluation of jointbond; and Evaluation of skidabrador and fog seal system for preservation.									

Title: Te	chnical	Assistance		Project Status:		Ongoing			
Funding So	ource:	SPR: TT-	Fed/TT-Reg	E	Budget	Category:	FHWA		
			I						
SIO:			30000304	Project Start	Date:			7/1/2011	
Research P	roject N	lumber:	12-1TA	Completion	Date	(original)		6/30/2012	
Research A	gency:		LTRC	Completion	Date	(revised)			
Principal Inv	/estigat	or:	Mr. Mark Morvant						
			BUDGET	T STATUS					
	-	Total Budge	t	1	Estimat	ed 2011-2012	2 Budget	:	
Total Cost	(ori	ginal)	\$375,000	Total				\$375,000	
-	(rev	ised)							
Est. Expend	led to D	Date		Salaries				\$375,000	
	FY 20)10 - 2011 Bi	udget	Equipment	(expen	dable)			
FY Funds	(ori	ginal)		Equipment	(non-ex	(pendable)			
	(rev	ised)		Travel					
Est. FY Exp	enditur	е		Other					
			PURPOSE	AND SCOPE			-		
To cover co department provide ass by LTRC.	sts incu al inquin istance	irred in prov ries for assis to state unir	riding laboratory, field to stance on DOTD project versity requests for lab	esting and forer ets which are no oratory or field t	nsic and trelate testing	alysis in dire ed to formal i on research	ct respo research projects	nse to a studies. To a not funded	

Fiscal Year 2011-2012

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

- Friction testing on Project #450-11-0056 I-10 in Ascension Parish;
- LA 46 Flood Gate Rdwy Friction Evaluation;
- IRI measurements for Courtableau Bridge;
- Friction evaluation of A033 aggregate in District 04;
- Rerun of LA 1 ByPass Uritek project for faulting and IRI;
- Fog Seal and Microsurfacing Friction;
- LA 38 Crosslope Investigation;
- US 61 OGFC Reflective Cracking Investigation;
- PCC faulting investigation on I-49;
- Warranties evaluation of Joor Road (LA-946) ;
- I-12 Covington Forensic Investigation (PG82-2 crm liquid);
- Support to Materials Section in developing the profiler spec and operations manual;
- Evaluation of US 165 Columbia La 847 SP 015-07-0043 (premature failure);
- Superpave evaluation effort (work on I-12, US 61, 450-03-0037, 454-02-0026, 450-04-0069 and 450-04-0065);
- LA 182 cement treated subbase investigation;
- Involvement in Prep-ME Pooled fund study beta testing of software;
- Handled GPR request for 022-06-0040 Jonesville, LA.;
- Ran skid numbers on I-12 westbound within +/- 1.0 mile of Milepost 56 for an LSP investigation;
- Collected images for S.P. 052-03-0028 LA 1 Morganza Spillway Bridge Deck Evaluation;
- Morganza Spillway Bridge TA Report;
- Haynesville Shale data assistance;
- Internal automated templates and data storage for loaded wheel test, semi-circular bend, flow number, temperature stress restrained specimen test, and barcode trial;
- Specification committee work on Sections 6, 8, 9, and 10;
- Investigated cracking on bent at Causeway Blvd. Interchange;
- Investigated temperature and volume change characteristics to better understand hairline cracking in piles at the Twin Spans;
- Provided comments to Luanna Cambas for AASHTO Balloted measures;
- Helped in developing the admixture QPL to accept the new generation type S admixtures;
- Forensics investigations for raveling on I-12 at Covington, LA;
- Forensic evaluation of tender mixtures on LA 38;
- Forensic evaluation for bleed spots, and structure for Runway 13, Baton Rouge, LA Airport; and
- Forensic evaluation Raveling problems associated with "Dry" Mixtures for LA 18, LA 46, LA 16.

- 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.

Title:	Techni	cal	Research	Surveillance Project Status: Ongoing								
Fundin	ig Sourc	e:	SPR: TT-	Fed/TT-Reg		Budget Category:			FHWA			
SIO:				30000305		Project Start Date:			7/1/2011			
Resear	ch Proie	ct N	umber:	12-1TRS		Completion	Date	(original)		6/30/2012		
Resear	ch Ageno	cv:		LTRC		Completion	Date	(revised)				
Principa	al Investi	gato	or:	Mr. Mark Morvant		·						
-		-		BUDG	ET 🖁	STATUS						
		т	otal Budge	t			Estima	ted 2011-201	2 Budge	t		
Total C	ost	(origi	inal)	\$425,000		Total				\$425,000		
		(revi	sed)									
Est. Ex	pended t	o Da	ate			Salaries				\$425,000		
	F١	ŕ 20 '	10 - 2011 Bi	udget		Equipment	(expen	dable)				
FY Fun	ds	(origi	inal)			Equipment	(non-e	xpendable)				
		(revi	sed)			Travel						
Est. FY	Expend	iture	;			Other						
				Purposi	ΕA	ND SCOPE			<u>.</u>			
To cove researc Review funded	er costs i ch propos commit by LTRC	ncui sals, tees).	rred in prov participation To provid	viding Administration of on on LTRC Project R le laboratory and field	of L Rev as	TRC Researc iew Committe sistance to LT	h Proje es and RC co	ect Contracts participatior ntract resea	s, prepa n on LTF rchers o	ration of RC Report n projects		
				FISCAL YEAR 2010 -	20 ⁻	11 ACCOMPLIS	HMENT	S				
• Initiate • Mana • Provic	ed 19 nev ged rese ded revie	w co arch w fo	ontract rese o projects fo or draft repo	earch projects; or 38 external Univers orts on completed rese	sity ear	and Consulta ch projects.	nt cont	racts; and				
				FISCAL YEAR 2011-20	012	PROPOSED A	CTIVITIE	S				
 Provid Prepa projec Partic Partic 	 Provide management of LTRC research project contracts; Prepare new research proposals for initiation of new projects in accordance with proposed in-house projects as approved in this annual work program document; Participation on LTRC Project Review Committees; and Participation on LTRC Report Review Committee. 											

FHWA

Part II SPR Funded Research Program

CONTINUING RESEARCH

Title:	Field and P	Dem erfor	onstration mance	of New Bridge Appr	gns	Project S	tatus:	Ongoing		
Fundin	ig Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
SIO:				30000116		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)		
Principal Investigator: Dr. Murad Abu-Farsakh										
				Budgi	ET	STATUS				
		Т	otal Budge	t			Estima	ted 2011-2012	2 Budget	:
Total C	ost	(orig	inal)	\$393,176		Total				\$67,000
	(revised)									
Est. Ex	Est. Expended to Date \$219,500 Salaries \$33,000									
FY 2010 - 2011 Budget Equipment (expendable) \$34,000										
FY Fun	ds	(orig	inal)	\$74,000		Equipment	(non-e	xpendable)		
		(revi	sed)			Travel	1			
Est. FY	Expen	diture	;	\$80,000		Other				
				PURPOSI	ΕA	ND SCOPE			-	
This pro Approa Emban collaps emban project, approa recomm tested a the two	oject im ch Slab kment \$ ed beha kment, f lab and ch slab nendationare bas finishe	plem " (02 Settle avior the se d field s will on ca ed or d res	ents the fin -2GT) and ' ment" (03-4 of embankr ettlement of t tests will b be built and in be made n new desig earch proje	dings from two LTRC "Determination of Inte 4GT). It will also study ment soils and its rela f native ground as em be conducted for soil of d their performance w to DOTD on the bum n from the Bridge Des- cts.	Pr erac / su tion ba def fill k p is sig	ojects: "The R ction between uch major cau n with constru- nkment found ormation. Fiel oe monitored a ssue at bridge n Section in co	Rideabi Bridge ses of ction m ation a d-testin and an e ends. omply	lity of a Defle Concrete Ap extra settlem nethods, the nd its contro ng sections of alyzed so tha These bridg with the reco	ected Bri oproach eent from erosion l, and et f bridge at final e approa mmenda	dge Slab and n the control of c. In this concrete ach slabs ations from
				FISCAL YEAR 2010 -	20 [,]	11 ACCOMPLIS	HMENT	S		
 Conduinstru Analy, test; Conduperfor Desig 	Conducted literature review on relevant research projects on field testing, geogrid soil reinforcement, instrumentation, and monitoring; Analyzed the collected data from approach slab at Bayou Courtableau Bridge during previous truck load test; Conducted another truck load test on both approach slabs at Bayou Courtableau Bridge. Monitored the performance of the approach slabs and collect data from all instrumentations during the test; and Designed and developed the instrumentation testing plan for Bayou Lacassine Bridge approach slab.									

- Analyze the collected data from approach slabs at Bayou Courtableau Bridge during the second truck load test:
- Installed the geogrid reinforcement layers and other instrumentations beneath the approach slab at Bayou Lacassine Bridge:
- Install sister bar strain gauges within the approach slab structure at Bayou Lacassine Bridge;
- Conducted truck load test on both approach slabs at Bayou Lacassine Bridge, and monitor collect data from all instrumentations during the test; and
- Look for new bridge approach slab embankment sites for instrumentation and monitoring.

Title:	Suppo Span	ort S Bridg	tudy to Str ge Over La	ucture Health Moni ke Pontchartrain	itoring of the I-10 Twin Project Status: Ongoing							
Fundin	g Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA			
				[1						
SIO:				30000114		Project Start	t Date:			11/1/2007		
Resear	ch Proje	ect N	umber:	08-3GT		Completion Date (original)				11/1/2010		
Resear	ch Ager	ncy:		LTRC		Completion	Date	(revised)		12/31/2012		
Principa	al Inves	tigato	or:	Dr. Murad Abu-Fa	rsak	:h						
				Budo	SET (ET STATUS						
		Т	otal Budge	t			Estimat	ed 2011-201	2 Budget	1		
Total C	ost	(orig	inal)	\$88,776		Total				\$68,000		
		(revi	sed)	\$320,951					r			
Est. Ex	Est. Expended to Date \$232,951 Salaries \$68,000											
	FY 2010 - 2011 Budget Equipment (expendable)											
FY Fun	FY Funds (original) \$93,415 Equipment (non-expendable)											
		(revi	sed)			Travel						
Est. FY	Expen	diture	Э	\$93,415		Other						
				Purpos	SE A	ND SCOPE			<u></u>			
The obj cost rec objectiv Span b monitor instrum Static la monitor applica lateral l conditic	jective c quired to ve of the ridge the ring purp ent pile ateral lo ring sys bility of oading; ons. by sele	of this print rough poses -cap ad te tem i the F and moni	s proposal i trument the hary research h instrumen s. This inclu with accele est will be point the Eastb B-MultiPier to develop toring will b events (wir	s to provide addition. I-10 Twin Span Brid ch project is to estab nation of the M19 Ea udes instrument sele erometers and tilt me erformed by LADOT bound pier M19. The r analysis for predicti (or back-calculated) be used to evaluate the nds, waves, and vest	al fu ge f lish astbo ctec ters D im sho ng t the he b	inding for rese for short-term a a structure he bund pier for u d piles with inc , and instrume mediately after rt-term monito he performand 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 bas s for bas s for bas	roject No. 07 g-term mon ponitoring sys he short-term ters and stra mn with wat oleting the ir Il be used to attered pile g structure ur	r-1ST to itoring. T stem of the n and lon in gauge er press istallatio validate group sy roups in	cover the The he I-10 Twin ng-term es, sure cells. n of the the stem under similar soil amic loads		
				FISCAL YEAR 2010	· 201	11 ACCOMPLIS	HMENTS	3				
 Used Bridge Comp Analy: depth; Back- Coord syster 	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS Used the FB-MultiPier program to analyze the lateral load test at M19 Eastbound pier of Twin Span Bridge; Compared between the measured and predicted values from FB-MultiPoer Analysis; Analyzed the lateral load test data using high order polynomial curve fitting of measured pile rotation with depth; Back-calculated the p-y curves of battered pile groups at M19 pier high order polynomial curve fitting; and Coordinated with the subcontractor to incorporate additional instrumentation for the long-term monitoring system.											

Fiscal Year 2011-2012

- Coordinate with the subcontractor to install the additional instrumentations (cost = \$66,956): 12 strain gages on concrete girders, 12 strain gages on steel girders, and 3 OSMOS extensometers to three steel girders;
- Coordinate with the subcontractor to re-calibrate the OSMOS WIM;
- Coordinate with the subcontractor to complete and setup the long-term monitoring system (depends on availability of electric supply power);
- Analyze the results of lateral load test at M19 pier using the superposition method, calibrating FB-MultiPier input data, and back-calculate the p-y curves; and
- Prepare a final report.

Title:	LTRC Engin	Sup eerir	port for Ge	eotechnical Researd h Laboratory (GER	technical Research at the Geotechnical Project Status: Ongoing Laboratory (GERL)								
Fundin	ig Sour	ce:	SPR: TT-	Fed/TT-Reg		Budget Category:			FHWA				
				I		1							
SIO:				30000111		Project Start Date:			7/1/2010				
Resear	ch Proje	ect N	umber:	10-1GERL		Completion	Date	(original)		6/30/2011			
Resear	ch Agei	ncy:		LTRC		Completion Date (revised)							
Principa	al Inves	tigato	or:	Dr. Murad Abu-Far	rsak	:h							
				Budg	SET (T STATUS							
		Т	Total Budget	t			Estimat	ed 2011-2012	2 Budget	t			
Total C	ost	(orig	inal)	\$523,000		Total				\$230,000			
		(revi	sed)										
Est. Ex	pended	to D	ate	\$272,000		Salaries				\$176,000			
	F	FY 20	10 - 2011 Bu	udget		Equipment	(expend	lable)		\$30,000			
FY Fun	ds	(orig	inal)	\$170,000		Equipment	(non-ex	pendable)					
		(revi	sed)			Travel				\$18,000			
Est. FY	Expen	diture	Э	\$272,000		Other			\$6,000				
				Purpos	SE A	ND SCOPE			-				
The obj • Perfor techni • Advar • Provic advan	jectives rm supp cal assince the de deve cing the	of th ort s stand state lopm e perf	e research tudies to mo ce and rese -of-the-art i ent, suppor formance o	are to: eet the beneficiary re earch; n geotechnical and g t and training of new f the transportation s	equi jeos and yste	rements for ge synthetic resea d innovative te em.	eotechn arch; an echnique	ical and geo d es, software	e and eq	ic testing, uipment for			
				FISCAL YEAR 2010 -	20	11 ACCOMPLIS	HMENTS	i					
 Provice Publise Devel Devel Load Factor Mainta 	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS Provided geotechnical testing support and technical assistance for LADOTD; Published several technical papers/reports on LTRC research results; Develop potential ideas and problem statements for future LTRC research project. Developed research proposals on "Field Instrumentation and Testing to Study Set of Piles", "Accelerated Load Testing of Geosynthetic Base Reinforced Pavement Test Sections", and "Calibration of Resistance Factors for Drilled Shafts for the New FHWA Design Method"; and Maintained and upgraded software's related to CPT application.												
	FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES												
 Provid Provid Devel Publis Mainta 	Provide geotechnical and geosynthetic testing support and technical assistance for LADOTD; Provide support and training for implementation of research results; Develop research proposals and problem statements for future activities; Publish research findings on technical papers and reports; and Maintain CPT software's.												

Title:	Desigr Stabili	n Va zed	lues of Re Base	ilient Modulus of Stabilized and Non- Project Status: Ongoing								
Fundin	ng Sourc	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA			
				I I								
SIO:				3000099		Project Start	: Date:		9/1/2010			
Resear	rch Proje	ect N	umber:	10-3GT		Completion	Date	(original)		2/29/2012		
Resear	rch Agen	icy:		LTRC		Completion	Date	(revised)				
Princip	al Invest	igato	or:	Mr. Khalil Hanifa								
				Budg	ET	STATUS						
		Т	otal Budge	t			Estima	ted 2011-2012	2 Budge	t		
Total C	Cost	(orig	inal)	\$120,985		Total				\$79,800		
		(revi	sed)									
Est. Ex	pended	to D	ate	\$41,185		Salaries				\$79,800		
	F	Y 20	10 - 2011 Bi	udget		Equipment	(exper	dable)				
FY Fun	nds	(orig	inal)	\$60,492		Equipment	(non-e	xpendable)				
		(revi	sed)			Travel						
Est. FY	'Expend	liture)	\$41,185		Other						
					E A				<u> </u>			
specifie paveme	rpose of ed by LA ent desig	this DOT gn gt	Tesearch s D through uides.	lab tests with respect	t to	resilient modu	of star	d other para	meters u	lized base used by		
				FISCAL YEAR 2010 -	20 ⁻	11 ACCOMPLIS	HMENT	S				
 Condi Devel Louisi Begar 	ucted lite loped tes iana; and n conduc	eratu sting d cting	re review; factorials f lab tests a	or lab testing prograr ccordingly.	n of	f stabilized and	d non-s	stabilized bas	se mate	rials used in		
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S				
• Finish • Analy • Make • Write	Finish conducting lab tests accordingly; Analyze test data; Make recommendations of design values that accommodate field variation during construction; and Write final report.											

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Title:Field Instrumentation and Testing to Study Set-Up Phenomenon of Piles Driven into Louisiana Clayey SoilsProject Status:Ongoing										
Funding Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA		
SIO:			30000134		Project Start	Date:			12/1/2010	
Research Proj	ect N	umber:	11-2GT		Completion	Date	(original)		11/30/2014	
Research Age	ncy:		LTRC		Completion	Date	(revised)			
Principal Inves	tigato	or:	Dr. Murad Abu-Far	sak	:h			I		
			BUDG	IGET STATUS						
	Т	otal Budge	t			Estimat	ed 2011-2012	2 Budget		
Total Cost	(orig	inal)	\$489,708		Total \$40					
	(revi	sed)						1		
Est. Expended	l to D	ate	\$44,000		Salaries				\$30,000	
I	FY 20	10 - 2011 Bi	udget		Equipment	(expen	dable)		\$10,000	
FY Funds	(orig	inal)	\$66,000		Equipment	(non-e)	(pendable)			
	(revi	sed)			Travel					
Est. FY Expen	diture	9	\$44,000		Other					
			PURPOS	ΕA	ND SCOPE			-		
Piles driven int known as pile that pile set-up capacity of up including the ir dissipation of e installation, an result in reduci The main obje setup phenom field testing wit LADOTD desig type/properties reliability to est	to sat setup is si- to 12 ncrea exces d the enon th tim gn pra s, pile	urated coh , which cor gnificant an times has se in soil st s pore pres aging effec e cost of hi of this rese) for piles d e on full-sc actice. This size, and t e the increa	esive soils usually ex- ntributes to the long-te- nd continues to develo been reported. The p trength around the pil ssure with time, the ef- ct. An accurate estima- ighway projects. earch study is to evalu- riven into Louisiana s- cale instrumented pile will include investiga- their interaction on pil ase in pile capacity wi	per pop f ile e d ffec atio atio s fo ting e s th t	ience a time-d capacity of th or long time a set-up phenon uring the cons t of thixotropy n and incorpo the time-depe through conc or the purpose the mechanis etup phenome ime.	lependene piles fter ins nenon colidation in distri- ration of endent lucting of incco sm of p enon, a	ent increase . Field obser tallation. An depends on on process re urbed clayey of pile set-up increase in repeated sta orporation the ile setup, stu nd develop a	in pile c rvations increase many fa esulting soils du during d pile capa atic and e pile se udy the e a model	apacity, showed e in pile ctors from uring design will acity (or pile dynamic tup into effect of soil and its	
			FISCAL YEAR 2010 -	20'	11 ACCOMPLIS	HMENTS	3			
 Started litera Developed an pile setup phe being able to database; an Identified and tests. An instructional setup in the setup of the	Started literature review on relevant research studies related to pile setup phenomenon in clayey soils; Developed an instrumentation testing plan for a selected pile at Bayou Teche Bridge site to evaluate the bile setup phenomenon with time. However, due to construction time constrain, the pile was casted before being able to instrument it. Still the pile will be tested at specific time intervals and included in pile setup database; and dentified another potential site at Bayou Zourie Bridge for performing the field instrumentation pile set-up ests. An instrumentation plan was prepared.									

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Fiscal Year 2011-2012

- Continue literature search on experimental and theoretical studies related to pile setup phenomenon in clayey soils;
- Collect data and start analyzing pile setup at Bayou Teche Bridge site;
- Follow up on instrumentation and testing plan at Bayou Zouri Bridge site;
- Develop an instrumentation testing plan for piles and the surrounding soils to capture the pile set-up phenomenon with time;
- Identify new potential sites/bridges for performing field instrumentation pile set-up tests;
- Collect and start analyzing the setup of the tested pile at Bayou Boeuf Bridge Extension, US 90; and
- Start finite element numerical modeling to understand the pile setup phenomenon.

Title:Accelerated Load Testing of Geosynthetic Base Reinforced Pavement Test SectionsProject Status:Ongoing											
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		Budget Category: FHWA					
810:				20000125		Droject Stort	Doto		12/1/2010		
Bosoar	ch Proi	oct N	umbor:	11-3GT			Date.	(original)	12/1/2010 5/21/2012		
Resear			unber.				Date	(original)		5/51/2012	
Princip	al Inves	tigato	or:	Dr. Murad Abu-Far	sak	h	Date	(1011304)			
				Budg	DGET STATUS						
		Т	otal Budge	t			Estimat	ted 2011-201	2 Budget	t	
Total C	ost	(orig	inal)	\$297,579		Total				\$204,000	
		(revi	sed)								
Est. Ex	Est. Expended to Date \$48,000 Salaries \$167,000										
	F	FY 20	110 - 2011 Budget Equipment (expendable) \$37							\$37,000	
FY Fun	lds	(orig	inal)	\$95,071		Equipment	(non-e	xpendable)			
		(revi	sed)			Travel					
Est. FY	'Expen	diture	Э	\$48,000		Other					
				PURPOS	E A	ND SCOPE			<u>.</u>		
The ma reinforce effect of perform unpave geotext parame guide a site cor	ain object cement of pre-ru nance. T ed and p tiles will eters of and poss nditions	ctive of sul t of p This v aven be c geos sible and	of this rese bgrade/bas avement s will be achie nent test se onsidered f ynthetic rei the MEPDO projected lo	earch study is to evalu- e aggregate layer in ections prior to the co- eved through conduc- ections to be construc- for base reinforcement nforced flexible pave G that can provide a ro- pading.	late flex onst ting ted nts. mei mor	e the benefits of ible pavement ruction to HM, accelerated lo at ALF site. D Another object nt in terms of t e suitable pav	of geos ts built A layer bad tes Differen ttive is he 199 ement	eynthetics sta on weak sub on geosynth sting on geos t types of ge to evaluate to 3 AASHTO structure de	abilizatio ogrades netics be synthetic ogrids a he desig paveme sign res	n and and the enefits and reinforced ind gn nt design ponsive to	
				FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENT	S			
 Condubase a Desig PPC I Condu Order 	Conducted literature review on the use of geosynthetic for subgrade stabilization and reinforcement of base aggregate layer in flexible pavements; Designed for test lane sections at ALF site; PPC Piles were driven in the designated site for support of reinforced concrete foundation; Conducted cyclic plate load tests on in-box geosynthetic reinforced test sections; and Ordered some instrumentations needed for the ALF test sections.										

- Continue conducting literature review on relevant published works;
 Construct the two strip footing supported on piles;
- Instrument and construct the test lane sections;
- Conduct accelerated load tests on the lane sections;
- Conduct cyclic plate load tests on the lane sections;
- Start analyzing of the experimental test results; and
- Prepare a draft report.

Title: Calil New	oratio FHW	n of Resist A Design M	ance Factors for Dri	rilled Shafts for the Project Status: Ongoing					
Funding Sou	irce:	SPR: TT-	Fed/TT-Reg		E	FHWA			
SIO:			30000280		Project Start	Date:			1/12/2011
Research Pro	piect N	lumber:	11-4GT		Completion	Date	(original)		1/11/2012
Research Ag	encv:		LTRC		Completion				
Principal Inve	stigat	or:	Dr. Murad Abu-Fars	sak	íh				
•			Budge	ET (STATUS				
	-	Fotal Budge	t			Estimat	ted 2011-2012	2 Budget	t
Total Cost	(orio	jinal)	\$72,679		Total				\$88,500
	(rev	ised)					. ,		
Est. Expende	d to D	ate	\$26,650		Salaries				\$38,500
•	FY 20	10 - 2011 B	udget		Equipment	(expen	dable)		\$10,000
FY Funds	(orig	jinal)	\$30,000		Equipment	(non-e)	xpendable)		\$40,000
	(rev	ised)			Travel	L			
Est. FY Expe	nditur	9	\$26,650		Other				
			PURPOSE	ΞA				<u> </u>	
FHWA design comparison p design metho implementati To achieve th to the previou framework de determined a diameter or p	n meth burpos bds us on of t is objusly co evelop ccordi lunge	nodology ba e, the resist ed by the L he LRFD de ective, all no illected load ed in the pr ng to the FI load which	sed on the Louisiana tance factors for both ADOTD will be develo esign will be recomme we drilled shaft load te test data base and we evious research study HWA failure criterion, ever occurs first, using FISCAL YEAR 2010 - 2	ex the pe end este rill r. T i.e. g th 20	perience and s old FHWA (1 d at the target led as well. s performed in be compiled fo 'he measured the shaft load he FHWA (199	subsurf 999) a t reliabi n Louisi bllowing resista d at the 99) and HMENTS	face soil con nd the new f lity, BT = 3. ana will be c g the same c nce of each settlement of FHWA (201	ditions. FHWA (2 Procedu collected data mar drilled s of 5% sh 0) desig	For 2010) irres for the and added nagement haft will be naft in methods.
 Conducted Collected de drilled shaft Started ana predicted re 	additic esign o load to lyzing sistan	onal literatur documents, ests; and the new co ces (side, b	re search to update th field exploration, lab t llected and existing dr ase, and total) of drille	e e tes ille ed	existing literatu t reports, and ed shaft tests t shafts using th	ure on L load te o deter ne desi	_RFD desigr est reports fo mine the me gnated meth	n of drille r eight (i easured nods.	ed shafts; 8) new and

Fiscal Year 2011-2012

- Continue looking for new drilled shaft load tested;
- Continue analyzing the new collected and existing drilled shaft tests to determine the measured and predicted resistances using the designated drilled shaft methods;
- Characterize the new combined data to obtain key statistical parameters such as the mean, standard deviation, and coefficient of variation (COV) as well as the type of distribution that best fits the data;
- Perform reliability analysis to determine the resistance factors for different design methods that are consistent with the target reliability index;
- Recommend resistance factors for the new FHWA (2010) design method; and
- Prepare a research report.

Title: Constr Pavem	ructi nent	on and Ac Test Secti	celerated Pavement	τe	Testing of TTI Project Status: Ongoing					
Funding Source	ce:	SPR: TT-	Fed/TT-Reg		Budget Category: FHWA					
					1					
SIO:			30000168		Project Start	Date:			10/1/2009	
Research Proje	ect N	umber:	09-7P		Completion	Date	(original)		10/1/2011	
Research Agen	icy:		LTRC		Completion	Date	(revised)			
Principal Invest	igato	or:	Dr. Zhong Wu							
			Budg	ЕТ 🖁	Status					
	Т	otal Budge	t			Estimat	ed 2011-2012	2 Budget	1	
Total Cost (original) \$98,85					Total				\$9,700	
(revised)										
Est. Expended	to D	ate	\$89,140	40 Salaries						
F	Y 20	10 - 2011 Bi	udget	Equipment (expendable)						
FY Funds	(orig	inal)	\$50,206	Equipment (non-expendable)						
	(revi	sed)			Travel					
Est. FY Expend	diture	;	\$40,706		Other					
			PURPOSI	E A	ND SCOPE			-		
The purpose of 0-6132, "Develo testing of this p Specifically, the	this opmo rojec e Prir	study was ent and Fie ct includes a ncipal Inves	to provide special pay ld Evaluation of the N 8 test sections and to stigators would perform	ven lext tal m c	nent testing se Generation o number of ALI duties in project	ervices of HMA F loadir ct coord	in relation to Mix Design ng up to 1,20 dination and	o Texas Procedu 00,000 p project	DOT Project ires". The asses. uired by	
Texas Transpor possible use by	rtatic / LA[DOTD.	(TTI), providing techn	ica	l assistance a	s need	ed and evalu	uating re	esults for	
			FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENTS	;			
Completed loa Performed FW	ading VD a	g on sectior nd distress	n 5, 6, 7 and 8; and survey as required.							
			FISCAL YEAR 2011-20)12	PROPOSED A	CTIVITIE	S			
Post-mortem t	trenc	ch investiga	tion on all TTI test se	ctic	ons.					

Title: LED Traffi	c Signal Li	ifetime Management	ement System Project Status: Ongoing						
Funding Source:	SPR: TT-	Fed/TT-Reg		Budget	Category:	FHWA			
SIO:		30000164	Project Star	t Date:			11/1/2010		
Research Project N	lumber:	10-3P	Completion	Date	(original)		7/1/2013		
Research Agency:		LTRC	Completion	Date	(revised)		7/31/2013		
Principal Investigat	or:	Dr. Leticia Santos d	a Rocha Courvil	le					
		BUDG	ET S TATUS						
-	Fotal Budge	t		Estima	ted 2011-201	2 Budge	t		
Total Cost (orig	ginal)	\$132,144	Total				\$42,630		
(rev	ised)								
Est. Expended to D	Expended to Date \$13,690 Salaries \$34,070								
FY 20	10 - 2011 B	udget	Equipment	(exper	idable)				
FY Funds (orig	ginal)	\$50,505	Equipment	(non-e	xpendable)				
(rev	ised)		Travel				\$2,260		
Est. FY Expenditure	e	\$13,690	Other				\$6,300		
		PURPOS	E AND SCOPE			-			
The purpose of this based on Institute of manufacturers' war The objective of thi over 10,000 hours is circular traffic signal Sixty-three samples Services Section W luminous intensity f will repeat measure operated continuou and the Traffic Services signals every 500 h measurement of ele hours as well. To b analyze the relation current, and voltage variables concernin LADOTD's Districts	a research is of Transport ranty period is research in Baton Ro ls. s of the mos varehouse v or three rec ement of lur sly until the vices staff w iours using ectrical vari uild lifetime iship betwe e. The final ig luminous	s to implement in Loui tation Engineers (ITE) d. is to characterize LED buge's environment by st current traffic signal will operate up to 10,0 d, yellow, and green c ninous intensity every ey were turned off to s will make measuremer a handheld light meter ables such as AC volt curves for red, yellow en measurements of report for this researc intensity degradation	isiana an LED tra luminous intens traffic signals' p designing lifetin manufacturer in 00 hours. Initially ircular traffic sign 2,000 up to 10, end them to lab. to f luminous intensi age, DC voltage v, and green traffi luminous intensi th will discuss stra as indicator for	affic sig sity thre berform ne curv n stock i y, lab w hal sam 000 hou In add tensity f ncipal I s, AC cu fic signa ty and r rategies LED tra	nal lifetime r shold rather ance operati es for red, ye at the LADO ill make mea ples totaling urs for nine c ition, the Prin for the entire nvestigator v urrent, and D als, Principal measuremer s for using m affic signal re	nanager than the ng conti ellow, ar TD's Tra asureme nine sa distinct s ncipal In sample vill make C currer I Investion ts of ter easureme	ment system muously ad green affic nt of mples. Lab amples that vestigator of traffic ent every 500 gator will mperature, ment of ent by the		

Fiscal Year 2011-2012

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

- Task 1 Literature search
- Prepared projection of cost and time saved based on implementation of results gained from this research;
- Prepared technical requirements to contract lab to measure luminous intensity in traffic signal samples according to research's work schedule;
- Prepared research Project Capsule;
- Prepared technical requirements for purchase of equipment used in field measurement of luminous intensity; and
- Prepared national LED traffic signal replacement survey.

Task 2 – Acquisition of equipment

- Built a prototype to measure electrical variables in order to prepare specification for electronic components and data acquisition system that will be used to run the accelerated stress testing;
- Measured AC/DC current and AC/DC voltage one red, yellow, and green LED circular traffic signal samples using the aforementioned prototype;
- Ordered 21 red, yellow, and green traffic signals totaling 63 units that will work as samples in this research; and
- Preparing electrical installation (wiring methods and materials, and protection including lightning) according to National Electrical Code 2011 for 63 traffic signal samples, time clock, solid state relays, sensors, data acquisition system, power generator, laptop, and portable building (power outlets, lights, and air-conditioning) that are required to run the accelerated stress testing.

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

Task 2 - Acquisition of equipment

- To prepare technical requirements for purchase of data acquisition system's hardware and software, and power generator to run the accelerated stress testing; and
- To Prepare specification for purchase of laptop that will be allocated to manage the accelerated stress testing.

Task 3 – Installation of 63 LED traffic signal samples

• To install poles, power generator, traffic signal samples, data acquisition system, laptop, and wires at the site of the accelerated stress testing.

Task 4 - Luminous intensity measurement and electrical variables measurement

- To send three red, yellow, and green LED traffic signals to lab to make measurement of luminous intensity using goniophotometer system starting at time zero, and subsequently, every 2,000 hours up to 10,000 hours;
- To use handheld device to make field measurement of luminous intensity around solar noon starting at time zero, and subsequently, every 500 hours up to 10,000 hours;
- To use data acquisition system to measure AC/DC voltage, AC/DC current, and PCB temperature consistent with the same schedule for field measurement of electrical variables; and
- To collect temperature data from the Weather Channel website according to schedule for measurement of electrical variables.

Task 5 – Analysis of information

• To make a draft of the lifetime curves through the analysis of all data collected until June, 2011.

Title:	The Ri Projec	deal t 02·	bility of a I -2GT Conti	Deflected Bridge Ap inuation: Phase II)	pro	proach Slab (LTRC Project Status: Ongoing						
Fundin	ng Sourc	e:	SPR: TT-	Fed/TT-Reg		E	FHWA	FHWA				
SIO:				30000160		Project Star	t Date:			4/1/2011		
Resear	ch Proje	ct N	umber:	11-3P		Completion	Date	(original)		3/31/2013		
Resear	ch Agen	cy:				Completion	Date	(revised)				
Principa	al Invest	igato	or:	Mr. Mark Martinez		_						
				Budg	ET	STATUS						
		Т	otal Budge	t			Estimat	ed 2011-201	2 Budget	t		
Total C	Total Cost (original) \$150,000					Total				\$64,340		
		(revi	sed)						1			
Est. Ex	pended	to D	ate			Salaries	. <u></u>			\$58,340		
	F	Y 20	10 - 2011 Bu	udget		Equipment	(expend	dable)		\$5,000		
FY Fun	nds	(orig	inal)	\$10,000		Equipment	(non-ex	pendable)		\$1,000		
		(revi	sed)			Travel						
Est. FY	'Expend	liture)	\$10,000		Other						
				PURPOS	E A	ND SCOPE			<u>.</u>			
This pro- Initiativ to deve 2GT we on a ve Transla date, it carry of bridges	oject is a e (LQI) e elop a me ere achie ery limite ational Ve has not ut this pr b).	a cor entitle eans eved d da ehicu beer rototy	ntinuation o ed "Preserv of evaluati in that a Lo tabase (onl ular Transfe n yet been yping/testin	f project 02-2GT white vation of Bridge Appr ng bridge approache ocalized Roughness ly 14 bridges were te er Function (TVTF) ci prototyped or tested. Ig and to undertake a	ch v oac s in Inde stee rcui The mo	vas initiated ir h Rideability." h terms of ride ex (LRI) was o d). 02-2GT als it be develope e principal foc pre comprehe	n respor 'The pr ability. T develop to requi ted. The tus of th nsive fie	nse to a Lou imary object The principa ed. But, the red that a so TVTF was c is Phase II r eld analysis	isiana Q tive of 02 I objecti findings o-called levelope research (utilizing	evality 2-2GT was ves of 02- were based ed. But, to will be to more		
				FISCAL YEAR 2010 -	20	11 ACCOMPLIS	HMENTS	;				
Bridge strateg	ride qua y of impl	lity d eme	lata was co ntation.	Ilected for the entire	 I-1() Interstate an	d furthe	er analyzed t	to develo	op the best		

Fiscal Year 2011-2012

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

There are discussions that may impact the future of this study: currently examining feasibility of using the alternative 25-ft moving base length method of estimating localized roughness. If the project is green-lighted, then the following tasks will be undertaken during the 2011-2012 fiscal year:

Task 1: Examine literature to help with refinement of TVTF circuit and develop a calibration procedure to ensure vehicular cross-compatibility;

Task 2: Build and retrofit a series of TVTF devices (attach to test vehicles) and carry out preliminary testing;

Task 3: Develop TVTF calibration procedure and test effectiveness; and

Task 4: Begin LRI indexing of bridges across the State (comprehensive testing).

Title: Evalu Paver	ation nent	of Warm s	Mix Asphalt Techno	log	logy in Flexible Project Status: Ongoin					
Funding Sour	ce:	SPR: TT-	Fed/TT-Reg		Budget Category: FHWA					
SIO			30000117		Project Start	Date:			3/15/2009	
Research Proi	ect N	umber:	07-1B	Completion Date (original) 3/15/						
Research Age	ncv.		L TRC		Completion	Date	(revised)		3/31/2012	
Principal Inves	tigato	or:	Mr. Bill King		Completion	Bato	()		0/01/2012	
•			BUDG	ET	STATUS					
	Т	otal Budge	t			Estimat	ted 2011-201	2 Budge	t	
Total Cost	(orig	inal)	\$325,420		Total				\$120,442	
	(revi	sed)	\$413,556	,556						
Est. Expended	to D	ate	\$293,114		Salaries				\$119,442	
I	FY 20	10 - 2011 Bi	udget		Equipment	(expen	dable)			
FY Funds	(orig	inal)	\$108,121	Equipment (non-expendable)						
	(revi	sed)			Travel				\$1,000	
Est. FY Expen	diture	;	\$75,815		Other					
			PURPOS	EA	ND SCOPE			-		
The objective of compaction ter without compro- paving tempera conventional m properties and evaluated usin different levels will be aimed a	of this mpera omisi ature nix de engi g sta of ac at cha	s research i atures of as ng the perfor s would hav esigns to ex neering (rho ndard analy dditives will iracterizing	s to evaluate existing sphalt mixtures and u ormance and durabili ve beneficial environr isting Warm-Mix tech eological) properties ytical method and Su be characterized by the stability and dura	teo Itim ty o ner of tl per a si abili	chnologies tha ately develop if the resulting ntal and econo logies will be c he modified as pave binder te uite of fundam ty of the aspha	an inne mixtur omic eff conduc sphalt t ests. As ental e alt mixt	the reductic ovative appr es. Reduced fects. A com ted on Field binder in this sphalt mixtur engineering t ures.	n of mix oach to I produc parison mixtures study w es that o ests. Th	ing and achieve that tion and of s. Chemical vill be contain ose tests	
			FISCAL YEAR 2010 -	20	11 ACCOMPLIS	HMENT	8			
 Development of new nonstandard specification to use on new projects using WMA technologies; Selected new project on US 61, developed plans and specs for bidding; Develop permissive specification for inclusion in the re-write of section 502; and Conducted added task of fundamental materials characterization of beam fatigue on the three projects. 										
			FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S			
 Complete fur Sampling and Testing and c Development 	 Complete fundamental materials characterization of beam fatigue on the three projects and evaluate data; Sampling and preparation of specimens for last WMA project to be let in June, 2011; Testing and conducting Materials Characterization for the last project; and Development and submittal of Draft Final Report for review and publication. 									

Title:	Paven Engin	nent eerir	Materials	Research Using Spo s Characterization	ecia Res	cial Equipment at the esearch Facility Project Status: Ongoing					
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA		
						- 					
SIO:				30000112		Project Start	t Date:			7/1/2009	
Resear	ch Proje	ect N	umber:	10-1EMC		Completion	Date	(original)		6/30/2012	
Resear	ch Ager	ncy:		LTRC		Completion	Date	(revised)			
Principa	al Inves	tigato	or:	Dr. Louay Mohamr	nad						
				Budg	ET \$	Status					
		T	otal Budge	t			Estimat	ed 2011-2012	2 Budge	t	
Total C	ost	(orig	inal)	\$345,000		Total				\$175,218	
		(revi	sed)								
Est. Ex	pended	to D	ate	\$176,000 Salaries \$159,21							
	F	TY 20	10 - 2011 Bi	udget	Equipment (expendable)						
FY Fun	ıds	(orig	inal)	\$176,000		Equipment	(non-ex	pendable)		\$10,000	
		(revi	sed)			Travel				\$6,000	
Est. FY	'Expen	diture	Э	\$176,000		Other					
				Purpos	E A	ND SCOPE			-		
The En expertis materia of the e addition researc and an technol LTRC i	gineerir se and s als used engineer n, EMCF ch projec alysis; p logy and nvestiga	ng Ma state- in th ring p RF pi cts; c provic d imp ators	aterials Cha of-the-art r e transport properties o rovides spe levelops ne de training f lementatior to develop	aracterization and Re esearch capabilities thation industry in Loui f materials used in the cialized analytical ex w software to be use or LADOTD employed methodology into the thorough research p	sea siar ie L peri ed b ie d ne d rogi	rch Facility, E ssess the func- na. EMCRF p TRC's regiona- tise for on-goin y LADOTD en for the purpos aily operations rams.	MCRF, damenta lays an al paver ng as w ngineers e of ado s of LAI	provides a al engineerin important ro nent testing vell as newly s; provides e opting newly DOTD, and,	multi-dis ng prope ble in the facility, r initiated experime develo assists	sciplinary erties of e evaluation ALF. In d in-house ental design ped in-house	
				FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENTS	;			
 Partic Super Partic 	 Participated in the LADOTD Asphaltic Concrete Specification Committee; and Louisiana LADOTD Superpave Implementation Committee; and Participated in several technical assistance projects. 										
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S			
 Contir Contir Condu 	 Continue participation in the LADOTD Asphaltic Concrete Specification Committee; Continue participation in technical assistance projects; and Conduct workshops and seminars. 										

Title:	Develo Louisi	opm ana	ent of Perf Asphalt M	ormance Based Spe ixtures	ecifications for Project Status: Ongoing						
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		Budget Category: FHWA					
						1					
SIO:				30000221		Project Start	Date:	1		4/1/2011	
Resear	ch Proje	ect N	umber:	10-4B		Completion	Date	(original)		3/31/2014	
Resear	ch Ager	icy:		LTRC		Completion	Date	(revised)			
Principa	al Invest	igato	or:	Dr. Louay Mohamr	nac	l					
				Budg	ET	STATUS					
		Т	otal Budge	t			Estimat	ted 2011-201	2 Budge	t	
Total C	ost	(orig	inal)	\$299,433		Total				\$98,698	
		(revi	sed)						-		
Est. Ex	pended	to D	ate	\$10,000		Salaries				\$97,198	
	F	Y 20	10 - 2011 Bu	udget		Equipment	(expen	dable)			
FY Fun	nds	(orig	inal)	\$10,000		Equipment	(non-e	xpendable)			
		(revi	sed)			Travel	1			\$1,500	
Est. FY	'Expend	diture	9	\$10,000		Other					
				PURPOS	E A	ND SCOPE			<u>.</u>		
The ulti perform objectiv • Identii • Evalu • Devel • Devel	imate go nance ba ves of th fying sta ating the loping a loping a	bal of ased e stu te-of e app tailo fram	f the propos specificatio idy include: f-the-practio blicability of red PBS for ework of th	sed research is to de on (PBS) for new and ce of PBS employed key PBS principles t r Louisiana LADOTD e PBS implementatio	velo l rel in h o Lo ; an on ii	op a framewor habilitated asp ighway agenc ouisiana pave id n Louisiana.	k for th halt pa ies; ments;	e implement avements. Sp	ation of	a	
				FISCAL YEAR 2010 -	20 ⁻	11 ACCOMPLIS	HMENT	S			
 Conduproposition Establishing 	 Conduct Literature Review as related to the research projects above what is documented in the research proposal; and Establish an advisory project selection group to aid in the selection of field projects. 										
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S			
 Contir Condu Perfor 	Continue the identification of field projects; Conduct laboratory and field testing on the selected projects; and Perform preliminary analysis on the collected data.										

Title:	Validity Asphal	/ of t Bi	Multiple S nder Spec	tress Creep Recover ification	ry Test for DOTD Project Status: Ongoing						
Fundin	ng Sourc	e:	SPR: TT-	Fed/TT-Reg	Budget Category: FHWA						
SIO:				30000167		Project Start	Date:			9/1/2010	
Resear	ch Projec	ct N	umber:	11-1B		Completion	Date	(original)		6/30/2012	
Resear	ch Ageno	cy:		LTRC		Completion	Date	(revised)			
Principa	al Investi	gato	or:	Md. Sharear Kabir				1	1		
				BUDGE	т	STATUS					
		Т	otal Budge	t			Estimat	ted 2011-201	2 Budge	t	
Total C	ost	(orig	inal)	\$144,838		Total				\$102,838	
(revised)											
Est. Ex	pended t	o D	ate	\$42,000		Salaries				\$102,838	
	F١	(20	10 - 2011 Bi	udget		Equipment	(expen	dable)			
FY Fun	nds	(orig	inal)	\$42,000		Equipment	(non-e	xpendable)			
		(revi	sed)			Travel					
Est. FY	' Expendi	iture	9	\$42,000		Other					
				PURPOSE	A	ND SCOPE			-		
Multiple binder a has alre study is charact recomm	e Stress (at difference eady bee s to collect terize the nendation	Cree nt si n ac ct as ir el ns to	ep Recover tress levels dded to the sphalt binde astic respo o the currer	y (MSCR) test has bee and can be used to de AASHTO specification ars from various source nses with regard to the ht LADOTD asphalt bir	en ete es e p	used extensive ermine the pre- for PG graded listed in the Co- present AASH er specification	vely to esence binder Qualifie TO bin n will b	identify the e of polymer i . The main c d Product Lis der specifica e developed	elastic re n a bind objective st of LAI ation. In	esponse in a er. This test of this DOTD and addition,	
				FISCAL YEAR 2010 - 2	201	11 ACCOMPLIS	HMENT	S			
• Litera • Collec • Labor	Literature review; Collected binder samples from some asphalt suppliers; and Laboratory experiments were delayed due to malfunctioning of DSR device.										
				FISCAL YEAR 2011-20	12	PROPOSED A	CTIVITIE	S			
 Collect Fixation Condet Development 	Collect more binder samples from various asphalt suppliers; Fixation of DSR and finish laboratory experiments; Conduct data analysis; and Develop and submit Final Report for review and publication.										

Title:	Testin Concr	ng an rete l	nd Analysis Mixtures	s of LWT and SCB P	rop	operties of Asphalitc Project Status: Ongoing						
Fundir	ng Sour	ce:	SPR: TT-	Fed/TT-Reg	Budget Category: FHWA							
				Г					1			
SIO:				30000220		Project Start	Date:			4/1/2011		
Resear	rch Proje	ect N	umber:	11-3B		Completion I	Date	(original)		3/31/2013		
Resear	rch Ager	ncy:		LTRC		Completion I	Date	(revised)				
Principal Investigator: Mr. Bill King												
				Budg	ET 🖁	ET STATUS						
		1	Total Budge	t			Estimat	ed 2011-201	2 Budge	t		
Total C	ost	(orig	inal)	\$263,975		Total				\$113,225		
	(revised)											
Est. Ex	pended	to D	ate	\$32,850		Salaries				\$113,225		
	F	FY 20	10 - 2011 Bu	udget		Equipment	(expen	dable)				
FY Fur	nds	(orig	inal)	\$32,850		Equipment	(non-ex	(pendable)				
		(revi	sed)			Travel						
Est. FY	'Expen	diture	Э	\$32,850		Other						
	<u> </u>			Purpos	ΕA				<u></u>			
The Lo Semi-C Recent constru SCB da The ov and pra Louisia	uisiana Circular I tily, the s uction. C atabase erall goa actical, c ina.	Tran Bend state Conse al of t	sportation I I (SCB) test plans to de equently, a s this researc dering the c	Research Center has for several years for velop LWT and SCB statewide testing sch th is to introduce LWT commonly used const	be for spe em (ru ruc	en conducting ensic investiga ecification limit e is planned to utting) and SC tion materials	Loade ation ar s for as gener B (crac and pr	d Wheel Tra ad research sphaltic cond ate a wide s cking) limits ojected traff	acker (L\ purpose crete pay pread L that are ic in the	VI) and s only. vement WT and reasonable state of		
				FISCAL YEAR 2010 -	20 [,]	11 ACCOMPLIS	HMENTS	3				
•Condu •Develo •Begin •Perfor	 Conduct a complete Literature Review; Develop simplified SCB test Apparatus (Modify Marshall Load Frame); Begin identifying field projects and conducting field sampling; and Perform Laboratory Testing. 											
				FISCAL YEAR 2011-20	012	PROPOSED A	CTIVITIE	S				
•Contir •Perfor •Begin •Begin	Continue identifying field projects and conducting field sampling; Perform Laboratory Testing; Begin Data Analysis; and Begin developing End Result Specifications.											

Title:	Develo Model	opmo for t	ent of a Tir the New Or	ne-Dependent Hurri rleans Area - Phase	caı 2	ne Evacuatio	n	Project S	tatus:	Ongoing	
Fundin	ng Sourc	e:	SPR: TT-	Fed/TT-Reg		Budget Category: FHWA					
SIO:				30000126		Project Start	Date:			7/1/2008	
Resear	ch Proje	ct N	umber:	06-2SS		Completion	Date	(original)		6/30/2010	
Resear	ch Agen	cy:				Completion	Date	(revised)		6/30/2012	
Principal Investigator: Dr. Chester Wilmon						-					
В						STATUS					
		Т	otal Budge				Estimate	ed 2011-2012	2 Budget		
Total C	ost	(orig	inal)	\$211,266	56 Total						
		(revi	sed)	\$510,839							
Est. Ex	pended	to D	ate	\$309,956		Salaries	-			\$185,533	
	F	Y 20	10 - 2011 Bu	udget		Equipment	(expend	lable)			
FY Fun	lds	(orig	inal)	\$147,353		Equipment	(non-ex	pendable)			
		(revi	sed)			Travel				\$2,000	
Est. FY	Expend	liture)	\$133,000		Other					
				PURPOSI	e ai	ND SCOPE			-		
The pur funded new dy alternat	rpose of by LTR(namic tra tive meth	this C. Th affic nod o	project is to nis will be a assignmen of data colle	o extend the evacuati chieved by enhancing t procedure for use ir ection developed in th	on g th n hu ne f	modeling capa le current evalurricane evacu irst phase of th	abilities cuation lation m he proje	developed demand mo nodeling, an ect.	in earlie odel, dev d evalua	r projects veloping a ating the	
				FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENTS	;			
• Ph.D. • Pendi Data (• Litera	disserta ng Ph.D Collection ture revie	tion . dis n of ew c	"Dynamic ⁻ sertation "D Hurricane I f trip assigi	Trip Distribution Mode Development of a Tim Evacuation Behavior" Inment procedures ap	els f e-E by pro	for Hurricane I Dependent, Au R. Gudishala priate to evac	Evacua Idio-Vis , expec uation r	tion" by G. (ual, Stated (ted Septeml nodeling.	Cheng, N Choice N ber, 201	Лау, 2010; Лethod of 1; and	
				FISCAL YEAR 2011-20)12		CTIVITIE	S			
 Research into new method of trip assignment for evacuation modeling; and Investigation of alternative method of estimating hurricane evacuation demand. 											

Title:	LTRC Pr in Trans	oposal for portation P	the Support of Resea lanning	arcł	n and Develoj	pment	Project S	tatus:	Ongoing
Fundin	g Source	SPR: TT	-Fed/TT-Reg		E	Budget	Category:	FHWA	
			00000405						7/4/4005
SIO:	ah Draia at	Number	30000125		Project Start	Date:	(7/1/1995
Resear		Number:	10-1PLA		Completion	Date	(original)		6/30/1996
Bringing	ch Agency	otor:		C Completion Date (revised) 6					
Budget Status									
		Total Budg	et	201	STATUS	Estimat	ed 2011-201	2 Budget	•
Total C	ost (c	riginal)	\$358.462		Total	Lotiniat			\$130 <i>1</i> 31
Total C			\$350,402						
Ect Ex	nondod to		\$190.462						
ESI. EX			\$100,402	Salaries \$120					
EV Euro			\$207.462	Equipment (expendable)					
FTFUN			\$207,462			(non-ex	pendable)		\$3,000
	(h	evised)	0 400 7 45						\$5,000
ESt. FY	Expenditi	ure	\$180,745		Other				\$1,700
This pro other m teachin basis d LTRC r The Pri from L1 solicitat	oject provi natters, suj g of cours epending esearch p ncipal Inve "RC's rese tions that L	des long-ter oports mana es in the De on the work rogram and estigator of t arch progra .TRC issues	m professional assista gement responsibility partment of Civil and schedule. Such expos affords LTRC the opp his project reports to t m, technical assistance proposal on.	ance of t Env sure ortu he l ce re	e to the LADO he Special Stu ironmental En e encourages g inity to suppor Director, LTRO equests from L	TD on t udies se gineerir graduate t the en C. Rese ADOTI	ransportatio ection of LTF ng at LSU of e students to hancement arch is cond D, and exter	n planni RC, and n a case o particij of highe ducted o nal rese	ng and permits by case pate in the er education. n topics arch
			FISCAL YEAR 2010	• 20 [°]	11 ACCOMPLIS	HMENTS	;		
• Mana • Taugł LSU ir • Assist • Thesis by Mir	 • Management of continuing projects in Special Studies section, and initiation of 5 new projects; • Taught CE 7600, "Data Collection Methods" in the Department of Civil and Environmental Engineering at LSU in Spring, 2011; • Assisted with RPIC 2011, and evaluation of TIRE projects awarded in 2011; and • Thesis "Estimated Impact of Left Lane Truck Restriction on Louisiana Highway Pavements using MEPDG" by Mini Radakrishnan, May, 2010. 								
							•		
 Mana Teach Trans Provid 	Manage projects in Special Studies section of LTRC; Teach CE 7640 "Transportation Policy and Planning" at LSU in Fall, 2011, and CE 7641 "Urban Transportation Planning Models" in Spring, 2012; and Provide technical assistance to LADOTD on request.								

Title:	Suppo Syste	ort S m (IT	tudy for Es S) Lab at I	stablishing an Intell LTRC	igeı	ent Transportation Project Status: Ongoing						
Fundin	g Sour	ce:	SPR: TT-	Fed/TT-Reg		Budget Category: FHWA						
SIO:				30000137		Project Start	t Date:			8/20/2010		
Resear	ch Proje	ect N	umber:	10-7SS		Completion	Date	(original)		8/19/2011		
Resear	ch Ager	ncy:		LTRC		Completion	Date	(revised)				
Principa	al Inves	tigato	or:	Dr. Chester Wilmo	t							
				Budg	ET	STATUS						
		Т	otal Budge	t			Estimat	ed 2011-2012	2 Budget	1		
Total C	ost	(orig	inal)	\$93,163		Total				\$53,163		
	(revised)											
Est. Ex	pended	to D	ate			Salaries				\$10,000		
	F	TY 20	10 - 2011 Bu	udget		Equipment	(expend	dable)		\$10,000		
FY Fun	ds	(orig	inal)	\$75,000		Equipment	(non-ex	pendable)		\$33,163		
		(revi	sed)			Travel						
Est. FY	Expen	diture	Э	\$40,000		Other						
				PURPOS	E A	ND SCOPE			<u></u>			
The pur allow it data rea archive	rpose of receive ceived, for the	f this data deve data	project is to a streamed lop procedu	o equip the ITS Lab a from ITS devices in I ures to exploit the inf	at L ⁻ Loui orm	TRC with the r siana. The ob nation for the b	necessa jective penefit c	ary hardward of the lab is of society, an	e and so to proce nd provid	oftware to less the ITS de an		
				FISCAL YEAR 2010 -	20	11 ACCOMPLIS	HMENTS	;				
Curren modifi ITS La Equip	 FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS Current hardware and communication infrastructure was examined and necessary additions or modifications identified; ITS Lab room remodeled and all necessary wiring completed; and Equipment ordered. 											
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	s				
 Install hardware; Set up workstations and data servers with all necessary software; and Run tests and evaluate installed equipment. 												
Title:	tle: Evaluation of Non-Destructive Technologies for Construction Quality Control of HMA and PCC Pavements in Louisiana Project Status: Ongoing											
---	--	--	--	--	---------------------------------	---	---	--	--	---		
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA			
				Г Г								
SIO:				30000153		Project Start Date:			7/1/2009			
Resear	ch Proj	ect N	umber:	09-5C		Completion	Date	(original)	9/30/2010			
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)		12/31/2011		
Principa	al Inves	tigato	or:	Mr. Patrick Icenogle	e							
				Budg	ET	STATUS						
		٦	otal Budge	t			Estimat	ed 2011-201	2 Budge	t		
Total C	ost	(orig	inal)	\$116,351		Total				\$50,000		
		(revi	sed)	\$166,351								
Est. Ex	pended	to D	ate	\$116,000		Salaries				\$50,000		
		FY 20	10 - 2011 Bi	udget		Equipment	(expend	dable)				
FY Fun	lds	(orig	inal)	\$76,351	Equipment	(non-ex	pendable)					
		(revi	sed)			Travel						
Est. FY	' Expen	diture	Э	\$76,000		Other						
				PURPOS	ΕA	ND SCOPE			<u>.</u>			
The pu Pavem data co rugged will be location	rpose o ent Ana Illected ness ar develop ns.	f this lyzer from id col ied 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 asp f each device indepen tu measurements will	eigl ive oha nde be	ht Deflectome in-situ quality It and three co ently. Also, an compared to	ter (LW control oncrete operati 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 ach device e roadway		
				FISCAL YEAR 2010 -	20′	11 ACCOMPLIS	HMENTS	5				
• Contir • Equip • Consi	 Continued collection of asphalt pavements with both devices and concrete with only the PSPA; Equipment failures with both devices; and Consulting with expert about questionable early data showed much of the early data was erroneous. 											
	FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES											
Needin allow da report a	Needing six month time extension to collect sufficient data sets as stated in proposal. This extension will allow data collection during the upcoming construction season and allow time for data analysis, writing of report and editing.											

Title: Alter	uatior nativo irance	n of the Su e to the Ra e and Acce	an Quality	Project Status:		Ongoing			
Funding Sou	irce:	SPR: TT-	Fed/TT-Reg	E	Budget	Category:	FHWA		
							1		
SIO:			30000152	Project Start	Project Start Date: 2/1/20				
Research Pro	ject N	lumber:	10-1C	Completion	Date	(original)		5/1/2011	
Research Ag	ency:		LTRC	Completion	Date	(revised)		5/1/2012	
Principal Inve	stigat	or:	Dr. Tyson Rupnow						
			BUDGET	T STATUS					
	1	Fotal Budge	t		Estimat	ted 2011-201	2 Budge	t	
Total Cost	(orig	jinal)	\$102,878	Total				\$40,755	
	(rev	ised)	\$162,878				i		
Est. Expende	d to D	ate	\$96,500	Salaries				\$40,755	
	dable)								
FY Funds	xpendable)								
(revised) \$45,504 Travel									
Est. FY Expe	nditure	Э	\$40,100	Other					
			PURPOSE	AND SCOPE					
benefit analys	sis.				HMENT	s -			
			FISCAL TEAR 2010-20			5			
 Finish the research plan and final report; Develop and finalize a TR Procedure for use of the surface resistivity meter; and Purchase resistivity meters for all districts. 									
			FISCAL YEAR 2011-201	2 PROPOSED A	CTIVITIE	S			
 Train district laboratory personnel; Perform a detailed cost benefit analysis; and Prepare an implementation report. 									

FHWA

Part II SPR Funded Research Program

PROPOSED RESEARCH

Title:	Intelli	gent	Compactio	on Technology		Project Status:		Proposed			
Fundin	unding Source: SPR: TT-Fed/TT-Reg					E	Budget	Category:	FHWA		
						T					
SIO:						Project Start	Date:		5/1/2011		
Resear	ch Proje	ect N	umber:	06-3GT		Completion	Date	(original)			
Resear	ch Agei	ncy:		LTRC		Completion Date (revised)					
Principa	al Inves	tigato	or:	Mr. Gavin Gautrea	u						
				Budg	ET :	STATUS					
		Т	otal Budge	t		I	Estimat	ed 2011-2012	2 Budget		
Total C	ost	(orig	inal)	\$264,878		Total \$169,					
		(revi	sed)								
Est. Ex	pended	to D	ate			Salaries				\$149,225	
	F	TY 20	10 - 2011 Bu	udget		Equipment	(expend	dable)		\$20,000	
FY Fun	ds	(orig	inal)			Equipment	(non-ex	pendable)			
(revised)						Travel					
Est. FY	Expen	diture	9			Other					
				Purpos	E A	ND SCOPE			-		
Intel load/so calibrat soil bas modifie The the con goal of problen A go section specific The possibly	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. This can speed the contractor's production, and benefits the department by creating a continuous record of stiffness. The goal of the technology is to ensure proper compaction is achieved while reducing delays and "pumping" problems. A goal is to utilize intelligent rollers to 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. The project will develop draft specification and proposal to demo technology on a highway test site nearbing of 2012										
	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS										
The pro	posed	proje	ct has not b	begun.							
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	s			
The pro	ie proposed project has not begun.										

Title:	In Situ Evaluation of Design Parameters and Procedures f Cementitiously Treated Subgrade using Cyclic Plate Load Tests Load Tests						s for ad	Project S	tatus:	Proposed	
Fundin	nding Source: SPR: TT-Fed/TT-Reg					E	Budget	Category:	FHWA	L.	
									I		
SIO:						Project Start	Date:		10/1/2011		
Resear	ch Proje	ect N	umber:	11-1GT		Completion Date (original)				3/31/2013	
Resear	ch Ager	ncy:		LTRC		Completion	Completion Date (revised)				
Principa	al Inves	tigato	or:	Dr. Murad Abu-Fa	rsak	(h					
				Buda	SET	STATUS					
		T	otal Budge	t			Estimat	ed 2011-2012	2 Budget	t	
Total C	ost	(orig	inal)	\$300,000		Total				\$35,000	
		(revi	sed)								
Est. Ex	pended	to D	ate			Salaries				\$30,000	
	F	TY 20	10 - 2011 Bi	udget		Equipment	(expend	dable)		\$5,000	
FY Fun	lds	(orig	inal)			Equipment	(non-ex	(pendable)			
		(revi	sed)			Travel					
Est. FY	Expen	diture	e			Other					
				PURPOS	SE A	ND SCOPE					
cement resilien inclusic A tre structur in pave the 199 determ more si pave The load tes addition Portabl	Est. FY Expenditure Other PURPOSE AND Scope The purpose of this research study is to evaluate the design parameters and procedures for cementitious treated subgrade soil using cyclic plate load tests. This includes evaluating the composite resilient modulus (Mr) of various cementitious (cement, lime, fly ash) treated subgrade materials for inclusion in the pavement design. A treated subgrade soil has many characteristics that contribute to the performance of the pavement structure. As such, an adequate evaluation of the design parameters of treated subgrade soils is necessary in pavement analysis and design. The resilient modulus is a key input parameter for subgrade soil in both the 1993 AASHTO and the Mechanistic-Empirical Pavement Design Guide (MEPDG). Therefore, the determination and use of the "composite" resilient modulus of cementitious treated subgrade can provide a more suitable pavement structure design responsive to site conditions and projected loading is crucial in pavement design process. The work program includes conducting resilient modulus, single-stage and multi-stages repeated plate load tests in a steel test box with inside dimensions of 6.5 ft. (length) × 6.5 ft (width) × 5.5 ft. (height). In addition, Dynamic Cone Penetrometer (DCP), Light Falling Weight Deflectometer (LFWD), Geogauge, Portable Seismic Pavement Analyzer (PSPA) tests, and repeated triaxial load tests will be conducted.										
				FISCAL YEAR 2010	· 20 [·]	11 ACCOMPLIS	HMENTS	6			
				FISCAL YEAR 2011-2	2012	PROPOSED A	CTIVITIE	s			
 Performation Identifieration Start of the start of the s	the in-situ evaluation of resilient modulus of cementitious treated subgrades; 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 on selected sections.										

Title:	Preve Highw	ntior /ays	n of Extens	ive Desiccation Cra		Project Status:		Proposed			
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		В	Budget	Category:	FHWA		
SIO:						Project Start	Date:		8/2/2010		
Resear	ch Proje	ect N	umber:	12-1P		Completion I	Date				
Resear	ch Ager	ncy:		LTRC		Completion I					
Principa	al Inves	tigato	or:	Mr. Kevin Gaspard	ł						
				Budo	SET :	T STATUS					
		Т	otal Budge	t		Estimated 2011-2012 Budget					
Total C	ost	(orig	inal)	\$300,000		Total				\$50,000	
	(revised)										
Est. Ex	Est. Expended to Date					Salaries				\$50,000	
	F	Y 20	10 - 2011 Bı	udget		Equipment	(expend	dable)			
FY Fun	nds	(orig	inal)			Equipment	(non-ex	pendable)			
		(revi	sed)			Travel					
Est. FY	'Expend	diture)			Other					
				PURPOS	SE A	ND SCOPE					
Pavem Louisia change Water t particul swelling While r soil cha approp through	ent surfa na high s in soil able fluc arly vuli g during esearch aracteriz riate cos n a comp	ace a ways mois ctuat nerat wett has ation st effe	and foundat which is th sture conten- ions), herea- ole to chang ing cycles (been cond a, environm- ective mitig ensive repo	tion distresses due to the focus of this study nt and be caused by after referred to as E ges in moisture conte (recharge). ucted in these areas ental factors, and the ation methods for ev rt and technical assis	o sh . De thre vap ent; , tho e str vapo stan	rinking and sw esiccation is a ee primary sou otranspiration shrinking durir ough sometime ess state of th transpiration o ce to the Distr	velling s commo urces (E . Expar ng the c es spar ne pave distress ricts.	ioils are an i in phenome ivaporation, isive clay so frying cycles ingly, asses ment system es on highw	ssue on non due Transpi bils (PI>2 s (desico sment g n couple vays will	certain to diurnal ration, 20) are ation) and uidelines for d with be provided	
				FISCAL YEAR 2010	· 20′	11 ACCOMPLIS	HMENTS				
				FISCAL YEAR 2011-2	2012	PROPOSED A	CTIVITIE	s			
 Invest Devel Const 	Investigate sites in Districts 08, 58, and 05; Develop a research plan for selected sites; and Construct desiccation monitoring sites.										

Title:	Asses Variat	ssme ions	ent of Envir in Paveme		Project Status:		Proposed					
Fundir	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA			
									1			
SIO:						Project Start Date:			9/24/2011			
Resear	rch Proj	ect N	umber:	12-2P		Completion	Date	(original)		6/30/2016		
Resear	rch Age	ncy:		LTRC		Completion	Date	(revised)				
Princip	al Inves	tigato	or:	Mr. Kevin Gaspard								
				Budg	ET	ET STATUS						
		٦	otal Budge	t			Estimat	ted 2011-201	2 Budge	t		
Total C	Cost	(orig	inal)	\$500,000		Total				\$50,000		
		(revi	sed)									
Est. Ex	pended	to D	ate			Salaries				\$50,000		
	I	TY 20	10 - 2011 Bi	udget		Equipment	(expen	dable)				
FY Fur	nds	(orig	inal)			Equipment	(non-e	xpendable)				
		(revi	sed)			Travel						
Est. FY	/ Expen	diture	9			Other						
	<u> </u>		-	PURPOS	FΔ							
The pu develop AASHT upon g and FV predict	rpose o p labora FO MEP eologica VD asse ion mod	f this tory : DG v al and essme els w	project is d shrink/swell which will be d climatic co ents will be vill be correl	levelop a subgrade re I prediction models th e implemented by LA onditions, instrumente conducted seasonall lated between labora	esili DO ed, y fo tory	ent modulus s can be used ir TD in the futu and assessed or 3 years. Sar t testing and fi	eason the er re. Ove by the nples v eld tes	al variation r nvironmental er 12 sites w e FWD. In-sit will be taken ting.	nodel as I module ill be sel u moistu from ea	well as of the ected based ure testing ch site and		
				FISCAL YEAR 2010 -	20 ²	11 ACCOMPLIS	HMENT	S				
• Selec • Begin	FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES Select and instrument assessment sites; Begin monitoring; and Begin laboratory program											
• Begin	Begin laboratory program.											

Title:	e: Minimizing Shrinkage Cracking in Cement-Stabilized Bas Through the Use of Micro Cracking							Project Status:		Proposed
Fundin	g Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
				Γ		1			ı T	
SIO:						Project Start	t Date:		7/1/2011	
Resear	ch Proje	ect N	umber:	12-3P		Completion	Date	(original)		12/31/2013
Resear	ch Ager	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Invest	tigato	or:	Dr. Zhong Wu						
				Buda	SET :	STATUS				
		Т	otal Budge	t			Estimat	ed 2011-201	2 Budget	1
Total C	ost	(orig	inal)	\$200,000		Total				\$45,000
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$45,000
	F	Y 20	10 - 2011 Bi	udget		Equipment	(expend	dable)		
FY Fun	lds	(orig	inal)			Equipment	(non-ex	(pendable)		
		(revi	sed)			Travel				
Est. FY	Expend	diture	;			Other				
				PURPOS	SE A	ND SCOPE				
Micro-c associa reporte reducin great p The ma effectiv paveme identifie layer, it be perfe of pave	ated with d that m og the to otential ain purpo eness o ents thro ed and s should ormed b ements a	is a pav nicro tal le to re ose c f usin before after	constructio ements tha cracking im ngth, or bo duce the ris of this study ng micro cr field test so ted for this noist-cured e and after one year in	n process used to re thave cement-treated proves the performant. Through these m sk of reflective cracking v is to document the acking to reduce shr ections. Several new study. After placeme 2 or 3 three days be the micro cracking to -service will be colle	duc ed o nce echang o micr inka cer nt a fore o mo cted	e the severity ir stabilized ba of soil cement anisms, the mon on soil cement ro cracking pro- inge/reflective of ment-stabilized and satisfactor and after mic ponitor the base and compare	of shrin ises. Se icro cra t pavem cracking d base o y comp ro cracl e streng ed.	akage cracki everal resea s by reducing acking proce hents in Loui n Louisiana a p problems of construction action of ce king. In situ th changes.	ng probl rch stud g the cra ss posse isiana. and eval projects ment sta deflection Reflection	ems ies have ack width, esses a uate the ement s will be abilized on tests will ive cracking
				FISCAL YEAR 2010	· 20′	11 ACCOMPLIS	HMENTS	6		
	FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES									
Litera Selec Const Field	 Literature review; Selection of new cement-stabilized base construction projects; Construction and micro cracking for some of selected projects; and Field testing, data collection and analysis. 									

Title:	Evalua	ation	of DARW	in-ME for Louisiana	gn	Project Status:		Proposed			
Fundin	Inding Source: SPR: TT-Fed/TT-Reg					E	Budget	Category:	FHWA		
				1		1			ı T		
SIO:						Project Start	Date:		7/1/2011		
Resear	ch Proje	ect N	umber:	12-4P		Completion		12/30/2012			
Resear	ch Ager	ncy:		LTRC		Completion	Date	(revised)			
Principa	al Invest	tigato	or:	Dr. Zhong Wu							
				Budg	SET :	ET STATUS					
		Т	otal Budge	t		Estimated 2011-2012 Budget					
Total C	ost	(orig	inal)	\$100,000		Total				\$68,000	
		(revi	sed)								
Est. Ex	pended	to D	ate			Salaries				\$60,000	
	F	Y 20	10 - 2011 Bi	udget		Equipment	(expend	dable)		\$6,000	
FY Fun	ds	(orig	inal)			Equipment	(non-ex	(pendable)			
		(revi	sed)			Travel				\$2,000	
Est. FY	Expend	diture	9			Other					
				PURPOS	SE A	ND SCOPE			<u>.</u>		
The cur DARWi conduc paveme (NCHR Rehabi empiric new an DARWi analysis In orde version DARWi The sca compos version results	rrent LA in® vers ted in O ent desig P) Proje litated P ial princi d rehab in-ME in s softwa r to impl 3.1 to I in-ME b in-ME	DOT ion 3 ittawa gn sco ect 1- Paver ples, ilitate April ire, E eme DARV ased his st emer paver pa	D Pavemen 3.1, whose I a, Illinois al oftware whie 37A's final ment Struct , provides a ed flexible, I il, 2011, AA DARWin 3.1 nt the DAR Win-ME for on the Lou udy will inc ths, and ove ement desid to those fi	nt Design is based or basis has been empi most 50 years ago. I ch builds upon the N research product the ures (MEPDG). The a uniform and composite rigid and composite p SHTO announced its by December 31, 2 Win-ME in Louisiana pavement design en isiana pavement cor lude: (1) selection of erlaid pavements), wi gn analysis using the rom the DARWin® ve	n th rica DAR atio DAI eher s inf conversion s inf conversion and tit exis hich ersion	e 1993 AASH I equations de Win-ME™ is nal Cooperative chanistic-Em RWin-ME, dev set of pro- ements. As pa tention to suns tention to suns tention to suns tens, there is a ons. sting pavement were previou ARWin-ME; (3) on 3.1.	TO Pavelope the nex ve High pirical C veloped ocedure at of pla set the o nooth tr a need ht project (sly des analys	vement Designed from the A d from the A t generation way Resear Guide for De based on m es for the de anning for the older version ransition from to thoroughl cts (including igned based sis of the DA	gn Guida ASHO r of AAS rch Prog esign of I nechanis esign and e releas n of pave n using I y evalua g flexible d on the RWin-W	e software, oad test HTOWare® ram New and stic- d analysis of e of ement DARWin® te the e, rigid and DARWin® IE design	

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

- Literature review;
- Acquisition of a single-user license for DARWin-ME;
 Selection of pavements from the TOPS and other LADOTD data sources;
- Pavement design and analysis using the DARWin-ME; and
 Analysis of DARWin-ME pavement design results.

Title:	e: Relationship between Friction Resistance Measured with Ribbed and Smooth Tire and Dynamic Friction Tester								Project Status: F	
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
SIO [.]						Project Start	Date:			7/1/2011
Resear	ch Proje	ect N	umber:	12-5P		Completion	Date	(original)		12/30/2012
Resear	ch Agei	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Inves	tigato	or:	Dr. Zhong Wu						
				Buda	SET \$	Status				
		Т	otal Budge	t		ļ	Estimat	ed 2011-2012	2 Budge	t
Total C	ost	(orig	inal)	\$150,000		Total				\$125,000
		(revi	sed)							
Est. Ex	pended	to Da	ate			Salaries				\$63,000
	FY 2010 - 2011 Budget Equipment (expendable)									
FY Fun	FY Funds (original) Equipment (non-expendable) \$60,000									
		(revi	sed)			Travel				\$2,000
Est. FY	'Expen	diture)			Other				
				PURPOS	SE AI	ND SCOPE				
The LT The res friction measured resistar implem lab and The over measured the objection cTM.	PURPOSE AND SCOPE The LTRC Project 09-2B "Development of Surface friction Guidelines for LADOTD" is near to its completion. The results of the study will provide a laboratory friction design procedure that relates surface mixture's friction resistance measured by the Dynamic Friction Tester (DFT) to polished stone value, surface texture measured by the Circular Track Meter (CTM) and mixture type. It is known that the DFT measured friction resistance on lab mixtures can be different from those measured in the field. To facilitate the implementation of the developed friction design procedure, there is a need to build a relationship between lab and field measured friction resistance for typical surface mixtures in Louisiana. The overall objective of this research study is to develop a correlation between the skid numbers (SN) measured by the lock-wheel skid trailer (LWST) and the friction number measured by the DFT. To achieve the objective, a field testing program will be set up in cooperation with LADOTD to evaluate smooth- and ribbed-tire LWST surface friction, DFT measured surface friction and pavement surface macro texture by CTM.									
	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS									

Fiscal Year 2011-2012

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

Task 1: Literature review;

Task 2: Acquire DFT and CTM devices;

Task 3: Project Selection;

•The selected projects shall include all typical DOTD surface mixture types (i.e. Superpave, SMA and OGFC), existing and new pavement surfaces, and locations throughout the state.

Task 4: Field Friction Test; and

• Field tests include LWST, DFT and CTM and laser texture test.

Task 5: Develop SN Prediction Model .

• Statistical analysis will be performed on the collected friction test data. it is anticipated that the SN prediction model will be developed in terms of the properties measured by DFT and pavement surface texture (e.g. mean profile depth).

Title:	User (Applic	Orier catio	nted Paven ns	nent Management Ir		Project Status:		Proposed			
Fundin	unding Source: SPR: TT-Fed/TT-Reg					Budget Category:			FHWA		
						T					
SIO:						Project Start Date:				4/1/2012	
Resear	ch Proje	ect N	umber:	12-6P		Completion	Date	(original)		6/30/2014	
Resear	ch Ager	ncy:		LTRC		Completion	Date	(revised)			
Principa	al Inves	tigato	or:	Mr. Patrick Icenog	le						
				Budg	SET \$	ET STATUS					
		Т	otal Budge	t		I	Estimat	ed 2011-2012	2 Budget	t	
Total C	ost	(orig	inal)	\$100,000		Total				\$10,000	
		(revi	sed)								
Est. Ex	Est. Expended to Date					Salaries				\$10,000	
	F	Y 20	10 - 2011 Bi	udget		Equipment	(expend	dable)			
FY Fun	ds	(orig	inal)			Equipment	(non-ex	pendable)			
	revised)					Travel		- ·			
Est. FY	Expen	diture	<u>,</u>			Other					
			-	PURPOS	SE A				<u> </u>		
This pro variabil feasible project	oject is a ity of pa e based level PI	a follo ivemo on a M app	ow up to LT ent manage vailable PM plications fo	RC Project 11-1P. ement (PM) distress d data and user requ or users.	The valu ests	results of Pro les and what t s. This project	ject 11- ype of p will foll	1P will dete project level ow up with o	rmine le applicat developr	vels of ions are nent of	
				FISCAL YEAR 2010 -	20′	11 ACCOMPLIS	HMENTS	;			
	FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES										
 Meet to acc Meet PM da Begin Provid 	 Meet with various users from districts and sections interested in using PM data to determine applications to accommodate user needs; Meet with database system managers for availability of other data systems which can be combined with PM data for applications; Begin development of project level PM applications for users; and Provide assistance to Principal Investigators of LTRC Project 11-1P. 										

Title:	Roller Compacted Concrete Over Soil Cement Under Accelerated Loading							Project St	tatus:	Proposed	
Funding	nding Source: SPR: TT-Fed/TT-Reg					В	Budget	Category:	FHWA		
						Ducia di Otari	Data			7/4/0044	
SIO:	- Davis	- 1 1 1		40.75		Project Start	Date:	<i>/ ·</i> · · · ·		7/1/2011	
Research	h Proje		umper:	12-7P		Completion Date (original)				6/30/2012	
Research	n Agen	cy:		LIRU Dr. Zhong Wu		Completion	Date	(revised)			
Fincipai	Invest	galo	и.	DI. Zhong Wu							
		т	otal Budge	+ B0DG			Ectimat	ad 2011-2011	2 Budget		
Total Cor	ct	(origi		\$210,000		Total	Lotinat	eu 2011-2012	2 Budget	\$210,000	
	51			\$210,000		i otal \$210					
Ect Exp	ended t					Salaries				\$210,000	
ESI. EXPE				udget		Salaries	(0)/0000	doblo)		φ210,000	
EV Eurod	F	1 20		udget			(expend				
	s	(origi	nal)				(non-ex	(pendable)			
		ituro	sed)			Othor					
ESI. FYE	zpena	iture									
Roller Co equipmen compress comparal Besides i traffic aln costs of a to the cur The purp RCC pay monitor le enable al	ompact nt and sive str ble to a its high nost im asphalt rrent pr oose of vements oading Iternate	ed C com engl asph stre con caction this s over for a e des	Concrete, (F pacted with th values d alt base. R ength and th liately after crete mixtu ce of aspha study is to er soil cem a 4" and 6" signs for lov	RCC) is a stiff, low-wa n vibratory rollers. Pro- espite low cement co CC offers some of th he comparable cost to paving to minimizing ures, an RCC-surface alt concrete surfacing document the RCC r ent base under accel RCC section over a wer volume roadways	ater ope e ac o th tra d p for nix era soil s ur	mix of concre rly designed R nt. The initial of dvantages of b e asphalt, RC ffic disruption avement may a low-volume design and co ted loading us cement base. der high traffic	te plac CC miz constru both as C pave during be use road d nstruct ing the c loadir	ed with mod xes can ach ction cost of phalt and co ments may construction d as a cost- esign in Lou ion practice, ATLAS30. end results for ng conditions	ified asp ieve outs RCC is porcrete p be used b. With the effective isiana. , and to This pro- pr this pro- s.	ohalt paving standing oavement. by light ne increase alternative evaluate oject will oject will	
				FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENTS	6			
	FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES										
 Lab tes Constru Acceler Monitor Instrume 	Lab tests on RCC mix design; Construct two RCC test sections over soil cement bases at PRF; Accelerated testing on two RCC test sections; and Monitor the performance of sections through cracking mapping, deflection measurements and/or Instrumentation.										

Title: Thin	le: Thin White Topping Under Accelerated Loading							Project Status:	
Funding Sou	irce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
		•	I						
SIO:					Project Start Date:			7/1/2011	
Research Pro	ject N	lumber:	12-8P		Completion Date (original)				6/30/2013
Research Ag	ency:		LTRC		Completion	Date	(revised)		
Principal Inve	stigat	or:	Dr. Zhong Wu						
			Buda	SET (Status				
	1	Fotal Budge	t			Estimat	ed 2011-2012	2 Budget	
Total Cost	(orig	jinal)	\$200,000		Total				\$10,950
	ised)								
Est. Expende	d to D	ate			Salaries				\$10,950
	FY 20	10 - 2011 Bu	udget		Equipment	(expend	dable)		
FY Funds	(orig	jinal)			Equipment	(non-ex	pendable)		
	(rev	ised)			Travel				
Est. FY Expe	nditure	Э			Other				
			PURPOS	SE A	ND SCOPE			<u>.</u>	
White Toppin (PCC). Thin v layer is two to suitable for lo The purpose and evaluate acquired dev of PCC overla	g is th vhite to four i w-volu of this the pe ce-AT ay of a	e covering opping uses inches thick ume roads, study is to erformance LAS30. Two sphalt.	of an existing asphal s a bonded layer of c . The bond is made parking lots and sma document the constr of Thin White Toppir to test sections will b	t pa conc by to all ai ructi ng o be co	vement with a rete that is fou exturing the as rports. on practice of verlays under onstructed. Th	l layer c ur to six sphalt. I White ⁻ acceler le sectio	of Portland C inches thicl Ultrathin Wh Topping Pay rated loading ons will com	Cement (< while a lite Topp vement i g using t prise of	Concrete n ultrathin ing is n Louisiana, he newly 2-4 inches
			FISCAL YEAR 2010	· 20 [·]	11 ACCOMPLIS	HMENTS	5		
FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES • Lab mix design of the White Topping Mixtures; and									
Construction	Construction of two test sections at ALF.								

Title:	Title: Roller Compacted Concrete Overlays Under Accelerated Pro							Project S	tatus:	Proposed
Fundin	ig Sourc	ce:	SPR: TT-	Fed/TT-Reg		Budget Category:			FHWA	
SIO:						Project Start	Doto:		7/1/2011	
SIU. Posoar	ch Proje	oct N	umber:	12-0P			Date.	(original)	7/1/2011	
Resear	ch Agen		umber.			Completion Date (revised)				0/30/2013
Principa	al Invest	igato	or:	Dr. Zhong Wu		Completion	Duic	(1011000)		
•		<u> </u>		Budo	SET (STATUS				
		т	otal Budge	t			Estimat	ted 2011-2012	2 Budget	1
Total C	ost	(orig	inal)	\$200,000		Total				\$10,950
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$10,950
	F	Y 20	10 - 2011 B	udget		Equipment	(expen	dable)		
FY Fun	lds	(orig	inal)			Equipment	(non-ex	xpendable)		
		(revi	sed)			Travel				
Est. FY	Expend	diture	9			Other				
				PURPOS	SE A	ND SCOPE			-	
Roller c equipm compre compar Besides traffic a costs o an asph The put asphalt the ATL	compact ent and essive st rable to a s its high lmost im f asphali halt cond rpose of surface _AS30. T	ed com reng asph n strent t con crete this , and Two	oncrete(RC pacted with th values d alt base. R ength and t diately after overlay de project is to d to evaluat RCC overla	C) is a stiff, low-water or vibratory rollers. Pr espite low cement or CC offers some of the comparable cost of paving to minimizing ures, RCC provides in sign. to document the const te of performance of ay test sections will be EISCAL YEAR 2010	r mi ope onte ie a to th g tra self the e co	x of concrete rly designed F nt. The initial dvantages of b e asphalt, RC iffic disruption as a potentia ction practice f RCC overlays onstructed and	placed RCC mi constru- poth as C pave during I cost-e or RCC s under d tested	with modifie xes can ach action cost of phalt and co ements may construction effective alter C overlay on the accelera d at PRF.	d aspha ieve out: RCC is ncrete p be used b. With th mative to top of an ated load	It paving standing pavement. by light ne increase b be used in n existing ding using
				FISCAL YEAR 2010	20	11 ACCOMPLIS	HMENT	5		
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S		
• Lab de • Const	esign of ruct two	RC(RC(C overlay m C overlay te	nixes; and est sections.						

Title:	Evalua Shing	atior les	Of HMA N	lixtures Containing	g Recycled Asphalt Project Status: Proposed					
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	
						1				
SIO:						Project Start	Date:	Г	7/1/2011	
Resear	ch Proje	ect N	umber:	12-1B		Completion Date (original)				6/30/2013
Resear	ch Ager	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Inves	tigato	or:	Dr. Louay Mohami	mad					
				Budo	SET (STATUS				
		T	otal Budge	t			Estimat	ted 2011-2012	2 Budget	t
Total C	ost	(orig	inal)	\$204,032		Total				\$95,866
		(revi	sed)						[
Est. Ex	Est. Expended to Date Salaries \$93,866									
FY 2010 - 2011 Budget Equipment (expendable)										
FY Fun	ds	(orig	inal)			Equipment	(non-e	xpendable)		
		(revi	sed)			Travel				\$2,000
Est. FY	Expend	diture	Э			Other				
				PURPOS	SE A	ND SCOPE			-	
The pri concret which t the agg mechai Recycle binder a mechai Rheolo contras mixture	mary ob te mixtu he grou gregates nical pro ed Asph at high t nisms ta gical an sting sou	pjectiv res. To pperti- alt S empo- king d me urces ind w	ve of this re The roofing ecycled mat achieve thi ies of aspha hingles (RA erature and place in the chanical ch of RAS wil vithout RAS	esearch project is to e shingles may be ble erial is blended with s objective, this rese alt binders and aggre AS). The ground recy at different RAS con e blending process w haracterization of asp I be performed. In ac will be evaluated at	eval nde a vi arch gat cleo nten /ill b bhal ditio high	uate the poter of with asphalt rgin binder at on will measure es extracted fr d material will t levels. The c e characterize t binders and a on, the mecha on, intermediate	ntial us binder high te experi rom thr then be chemica ed usin aggreg unical p e and lo	e of roofing s r through a w mperature p mentally the ee contrastir e blended wi al and physic g rheologica ates extracte roperties of a ow temperatio	shingle in vet proce rior to m rheolog ng source th virgin cal intera l testing ed from asphalt/a ures	n asphalt ess, in ixing with ical and es of asphalt action and GPC. three aggregate
				FISCAL YEAR 2010	· 20′	11 ACCOMPLIS	HMENT	<u>s</u>		
				FISCAL YEAR 2011-2	2012	PROPOSED A	CTIVITIE	S		
 Charathree Prepared of pre Deter 	Characterize the rheological and mechanical properties of asphalt binders and aggregates extracted from three contrasting sources of RAS; Prepare RAS modified asphalt binder blends using a wet process and measure the rheological properties of prepared asphalt blends; and Determine the mechanical properties of asphalt/aggregate mixtures with and without RAS.									

Title:	Invest Aspha	vestigation of the Use of High RAP Content in Hot Mix project Status: Proposed sphalt Mixtures								
Fundin	g Sour	ce:	SPR: TT-	Fed/TT-Reg		В	Budget	Category:	FHWA	
SIO:						Project Start	Date:	1		7/1/2011
Resear	ch Proje	ect N	umber:	12-2B		Completion I	Date	(original)		6/30/2013
Resear	ch Agei	ncy:		LTRC		Completion I	Date	(revised)		
Principa	al Inves	tigato	or:	Dr. Louay Mohamm	nad					
1				Budgi	ET	STATUS				
		Т	otal Budge	t			Estima	ted 2011-2012	2 Budget	1
Total C	ost	(orig	inal)	\$275,000		Total				\$100,070
		(revi	sed)							
Est. Ex	t. Expended to Date \$98,070									
FY 2010 - 2011 Budget Equipment (expendable)										
FY Fun	ds	(orig	inal)			Equipment	(non-e	xpendable)		
		(revi	sed)			Travel				\$2,000
Est. FY	Expen	diture	9			Other				
				PURPOSI	ΕA	ND SCOPE			<u>.</u>	
Many s (HMA) some a use of l interact of RAP highwa perform content anticipa recomm asphalt environ	tate age to take sphalt r RAP, co allows y constr ance o s to ach ated tha nendatio , couple ment, th	encie full a mixtu onfide ween decro ructic f HM hieve t the ons fe d with	s are consi dvantages res, which j ences in the virgin and easing the a on materials A produced the require proposed r or the use of th the scarc se of RAP h	dering increasing the of this promising tech produced an acceptal mixture design proce recycled materials an amount of produced w . The main objective with various levels o d high, intermediate, esearch activities will of HMA mixtures conta- ity of quality aggrega- as a strong potential	alle ole edu d c vas of t pro aini tes to p	owable percer ogy. For insta level of perfor ire require add durability of the ste and helps to the proposed r igh RAP conte d low tempera ovide the LAD ing high RAP and the press provide the Sta	ntages nce, up mance lressin e produ o resol researc nts. Th ture pr OTD w conten suring i ate with	of RAP in Ho to 50% RA . However, to g many cond iced mixture ve the dispo ch is to evalu the optimum ho operties will with specificant ts. With the in need to present significant	ot-Mix As P has be co ensure cerns rel . In addir sal prob late the I evel of F be exan tions, an increasir erve the savings.	sphalt een used in e successful ated to the tion, the use lems of aboratory RAP hined. It is id ng costs of
	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS									
				FISCAL YEAR 2011-20	012	PROPOSED A	CTIVITIE	S		
• Condu • Devel • Condu	Conduct a thorough literature review; Develop a laboratory and field experiments; and Conduct laboratory experiment.									

Title: Louis	Louisiana Transportation Safety Center								Proposed
Funding Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	L
									7/4/0044
SIU:			10.404		Completion Date.				7/1/2011
Research Proj		umper.	12-13A		Completion	Date	(original)		0/30/2014
Principal Inves	tigato	or:	Dr. Marie Walsh		Completion	Dale	(Tevised)		
T fillepar filves	ligan	J.	Bung	FT	Status				
	т	otal Budge	t		Estimated 2011-2012 Budget				
Total Cost	(orig	inal)	\$200.000		Total				\$25.000
	(revi	sed)	. ,						. ,
Est. Expended	to D	ate			Salaries				\$20,000
	FY 20	10 - 2011 Bi	udget		Equipment	(expen	dable)		
FY Funds	(orig	inal)			Equipment	(non-ex	(pendable)		\$5,000
	(revi	sed)			Travel	L			
Est. FY Expen	diture	9			Other				
			PURPOS	E A	ND SCOPE			<u>.</u>	
The Center wil projects and le enhanced tech work to meet o the new multi- available to tra Rouge, Louisia	l prov everag inical other discip inspo ana w	vide a struc ge resource assistance state and re linary high rtation prof rill serve as	ture for Louisiana's re es. Supported by rese to federal, state and egional needs. An ex way safety profession essionals on a nation the nucleus for these	ese l loc pan nal c nal k e ac	arch universiti ch and technol cal transportati ided training a curriculum bei pasis. LADOT ctivities.	es to co ogy tra on age nd edu ng devo D, LTR	ollaborate or nsfer, the ce ncies and w cation progr eloped by Th C and the T	n safety enter will ill be ava am whic RB will b TEC in E	related I provide ailable to ch includes be made Baton
			FISCAL YEAR 2010 -	20 ⁻	11 ACCOMPLIS	HMENTS	6		
			FISCAL YEAR 2011-2	012	PROPOSED A	СТІVІТІЕ	s		
Development Develop busi Transfer all L	Development of proposal to establish the Louis Develop business plan for the center; and Transfer all LTRC safety related programs and				ransportation	Safety er.	Center;		

Title:Roller Compacted Concrete Field Demonstration in Haynesville Shale AreaProject Status:Proposed										
Fundin	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		Budget Category:			FHWA	
				1						
SIO:						Project Start	t Date:	[7/1/2011	
Resear	ch Proj	ect N	umber:	12-1C		Completion	Date	(original)		6/30/2013
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)		
Principa	al Inves	tigato	or:	Dr. Tyson Rupnow						
				Budg	ET	STATUS				
		Т	otal Budge	t			Estimat	ed 2011-201	2 Budge	t
Total C	ost	(orig	inal)	\$150,000		Total				\$60,000
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$60,000
	F	TY 20	10 - 2011 Bi	udget		Equipment	(expen	dable)		
FY Fun	nds	(orig	inal)			Equipment	(non-e	kpendable)		
		(revi	sed)			Travel				
Est. FY	' Expen	diture	9			Other				
				PURPOS	E A	ND SCOPE			<u></u>	
I his pro- low cos caused three) v results	oject wi st altern I to low will be c will thei	il eva ative volun onstr n be	luate different to mainten ne roadway ucted and i compared	ent overlay and recor ance and overlay operson vs by the Haynesville monitored for two to t to existing sections c	nstr erat Sh hre	uction applica ions currently ale drilling in E e years to not structed aroun	tions of being t District e surfa d the s	r roller comp used offset to 04. Test sec ce and struc ame time.	acted co he mass ctions (a tural da	oncrete as a sive damage t least mage. The
				FISCAL YEAR 2010 -	20 ⁻	11 ACCOMPLIS	HMENT	6		
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S		
 Select Desig Devel Const Collect Control Begin 	 Select roadway candidates that will not impede current truck traffic; Design test sections; Develop mix design; Construct test sections; Collect initial surface distress (IRI, images) and structural (FWD, cores) measurements for RCC and control sections; and Begin short term monitoring. 									

Title:	High Comp	Volui acte	me Replac d Concrete	ement of Portland C	ent in Roller Project State			tatus:	Proposed			
Fundir	ng Sour	ce:	SPR: TT-	Fed/TT-Reg		E	Budget	Category:	FHWA	1		
						1			1			
SIO:						Project Start	Date:	7/1/2011				
Resear	rch Proj	ect N	umber:	12-2C		Completion	Date	(original)		6/30/2013		
Resear	rch Age	ncy:		LTRC		Completion	Date	(revised)				
Princip	al Inves	tigato	or:	Dr. Tyson Rupnow	ow							
				Budgi	GET STATUS							
		Т	otal Budge	t		I	Estimat	ted 2011-201	2 Budget	t		
Total C	Cost	(orig	inal)	\$215,000		Total				\$93,000		
		(revi	sed)									
Est. Ex	pended	to D	ate			Salaries				\$93,000		
	I	TY 20	10 - 2011 Bi	udget		Equipment	(expen	dable)				
FY Fur	nds	(orig	inal)			Equipment	(non-e	xpendable)				
		(revi	sed)			Travel		. ,				
Est FY	'Expen	diture	<u>م</u>			Other						
20011	Expon		-	Pupposi								
This pr Compa RCC to length	oject wi acted Cc b ternary change	II eva oncre (RC(and	Iluate variou te (RCC) m C. Items to modulus of	us ternary combinatio ixtures. A factorial of be measured include f elasticity. Alternative	ns ter e m	as a replacem rnary combina ermeability, st nix designing r	nent for itions v rength nethod	Portland Ce vill be used t gain (flexura s will be inve	ement in o compa al and co estigated	Roller are OPC ompressive), d.		
				FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENT	5				
				FISCAL YEAR 2011-20)12		CTIVITIE	S				
• Devel • Acqui • Begin	Develop test matrix; Acquire necessary materials; and Begin laboratory testing of proposed test matrix.											

FHWA

Part II SPR Funded Research Program

POOLED FUND LOUISIANA LEAD STATE RESEARCH

Title: Sc	outheas	t Transport	ation Consortium	ortium Project Status: Ongoing							
Funding S	ource:	SPR: Poo	oled Fund: TT-Fed	E	Budget	Category:	FHWA	۱ <u>ــــــــــــــــــــــــــــــــــــ</u>			
					_		0.44/00000				
SIO:			30000281	Project Start	Date:	[9/1/2009				
Research F	Project N	lumber:	09-1PF	Completion	Date	(original)	8/30/2012				
Research A	Agency:		LTRC	Completion	Date	(revised)					
Principal In	vestigat	or:	Mr. Mark Morvant								
			BUDGE	T STATUS							
		Total Budge	t	I	Estimat	ed 2011-2012	2 Budget	t			
Total Cost	(ori	ginal)	\$150,000	Total				\$113,000			
	(rev	rised)									
Est. Expended to Date \$16,424 Salaries \$5,000											
	FY 20	010 - 2011 B	udget	Equipment	(expen	dable)					
FY Funds	(ori	(pendable)									
	(rev	rised)		Travel				\$8,000			
Est. FY Ex	penditur	е	\$9,869	Other			\$100,000				
			PURPOSE	AND SCOPE			-				
Southeast resources t planning, d participatin activities au intended to research au Southeast of resource	Transpo to coord esign, c g states nd other reduce ctivities Transpo es.	rtation Cons inate resear onstruction, . The progra national pro duplication duplication in the state rtation Cons	sortium's objectives ar ich and develop improv- maintenance, manage am is intended to supp ograms such as the Na of research and provid research programs. The sortium program are to	e to pool financia ved methods of a ement, and oper lement ongoing ational Cooperat de means for be ne cooperative a o develop synerg	al, prof addres ation o state, f ive Hig tter cor Ind coll gy and	essional, and sing commo f transportat ederal, and hway Resea nmunication aborative ob provide for a	d acade n proble ion syst universi nrch Prog of on-go jectives more e	mic ms in the ems in ty research gram. It is oing of the fficient use			
			FISCAL YEAR 2010 - 2	2011 ACCOMPLIS	HMENT	6					
 Presented Develope Complete Complete Refined p Reclassifi Began de Solicited oproject; Develope Develope asphalt pa Schedule Southeas Continued 	d update d and w d work o d quality roject ca ed proje velopme data fror d and di avement d meetir t Transp d solicita	e on activitie ent live on S n synthesis y check of s ategories to ect data with ent of datab m non-mem tunities-for- istributed inf is; ng/presentation cortation Co ation for mer	s at the 2011 TRB And Southeast Transportati of member state resea tate data; parallel TRIS and NHI new categories to allo ase for more user frien ber state research proj Collaboration research formation for initiation of tion to solicit state intern nsortium Synthesis Pro- mbers to serve on TAC	nual Meeting in N ion Consortium w arch programs; RP search categ ow multiple search adly search routin jects from Florid n topics; of new pooled fu rest in RAP pool ojects; and C committees.	Washin website jories; ch optio ne; a and s ind pro	igton, D.C.; pns; South Carolin ject for Incre d project;	na for sy ased us	nthesis			

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

- Complete enhancement of regional research project database search routine;
- Develop process to update and add state project into database;
- Establish technical committees for synthesis projects;
- Advertise, select, and conduct top ranked synthesis projects;
- Add data collection of non-member state research projects from Florida and South Carolina for synthesis project;
- Hold October meeting; and
- Present activities at National RAC and TRB meetings.

Title:Traffic and Data Preparation for AASHTO MEPDG Analysis and DesignProject Status:Proposed											
Funding	g Sourc	e:	SPR: Poo	oled Fund: TT-Fed		E	Budget	Category:	FHWA		
							_		1		
SIO:						Project Start Date:				7/1/2011	
Researc	ch Projec	ct Ni	umber:	12-1PF		Completion	Date	(original)			
Researc	ch Ageno	cy:				Completion	Date	(revised)			
Principa	I Investi	gato	or:								
				Budo	GET	T STATUS					
		Т	otal Budget	t			Estimat	ted 2011-2012	2 Budget		
Total Co	ost	(origi	nal)	\$500,000		Total				\$130,000	
		(revis	sed)								
Est. Exp	pended t	o Da	ate			Salaries				\$130,000	
	F١	Y 20 1	10 - 2011 Bu	udget		Equipment	(expen	dable)			
FY Fund	ds	(origi	nal)			Equipment	(non-e	xpendable)			
		(revis	sed)			Travel					
Est. FY	Expend	iture	1			Other					
				PURPOS	SE A	ND SCOPE			-		
The Med design, before th pooled f software • Recog data oc • Develo salvag checks • Add m • Custor • Prepar • Provid There a geo-refe material pooled-f guideline	chanistic but requi- heir use fund stude called l nize the ccurring op advar e usable s for traff ore func mize Pre- re and ca e particip re a num erencing ls inputs fund stude es and s	c Em irres in th dy w Prep diffe und nced e info fic da epME ondu patir nber of d for I dy, a supp	pirical Pav significant ne MEPDG ill help part oME with its erences in er different algorithms ormation in ata can be s based on E for partici uct training ng states te of other fe lesign sites MEPDG; a a possible r orts provid	rement Design Guide ly more input from de procedure, such as ticipating states high s scope of service to loading patterns or tr conditions based or s to examine raw WII WIM data for MEPD available to field dat the consensus of pa pating states; for the personnel of echnical support thro atures in PrepME th s, weather stations, V nd (3) preparing othe nationwide platform f ed to individual state	e (M esig We way be raffin Iar M d oG a a coo partic par vi WIM er N for d es fo	EPDG) is a signers. Many datigh-In-Motion or agencies used expanded to: agencies used expanded to: c groups and e ge amount of ata for quality and other purpollection crew; ipating states; ticipating states; ticipating states; hay be useful to , and water tal IEPDG inputs. lata preparation or implementat	gnificat ata sets (WIM) MEPE estimat WIM da and co oses. A verification verification verification oses. A verification ver	nt advancem s need to be traffic data. DG with a full e the full axl ata, such as nduct data ro portable ve eriod. highway age servations; (2 hvisioned tha EPDG can b	ent in pa pre-proc The prop l-produc e load s the data epair op rsion of ncy, incl 2) popula at throug e establ	avement cessed bosed tion pectrum a of LTPP; erations to quality uding (1) ating h this ished with	

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

FISCAL YEAR 2011-2012 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:	Road	side	Safety Res	earch Program				Project St	tatus:	Ongoing	
Fundir	ng Sour	ce:	SPR: Poo	oled Fund: TT-Fed		E	Budget	Category:	FHWA		
SIO:						Project Start	Date:	7/1/2008			
Resear	rch Proj	ect N	umber:	TPF-5(114)		Completion	Date	(original)		12/31/2011	
Resear	rch Age	ncy:				Completion	Date	(revised)			
Princip	al Inves	tigato	or:								
				Budg	ЕТ 🖁	Status					
		Т	otal Budge	t		l	Estima	ted 2011-2012	2 Budge	t	
Total C	Cost	(orig	inal)	\$165,000		Total					
		(revi	sed)								
Est. Ex	pended	to D	ate	\$165,000		Salaries					
	I	FY 20	10 - 2011 Bi	udget		Equipment	(expen	dable)			
FY Fur	nds	(orig	inal)	\$20,000		Equipment	(non-e	xpendable)			
		(revi	sed)			Travel					
Est. FY	/ Expen	diture	9	\$20,000		Other					
				PURPOS	E A	ND SCOPE			-		
Backg researd bridge develop various for thes This so researd	round: ch need rails, gu ped abc s stages se proje blicitation ch proje	In 20 s add ardra out \$1 of co cts. T n invi cts fo	005, a cons dressing the ails, transition million in r ompletion. T This researcon tes other st or the FFY0	ortium of states joine design, analysis, tes ons, median barriers esearch funding over fexas Transportation ch has provided cost e ates to join the Roads 9 and FFY10 program	d to sting , br a t Ins effe side n.	ogether to poo g and evaluati eak away sup hree year peri- titute (TTI) is to ective and time e Safety Comr	l resou on of c port str iod to f under c ely info mittee a	rces to ident rashworthy s ructures, etc. und 14 proje contract to co rmation to partici and to partici	ify comp structure Togeth cts that onduct the articipati pate in	mon es including er, they are in he research ng states. developing	
Object develop project	bjectives: This solicitation achieves the original objective to continue the cooperative approach to eveloping research proposals on roadside safety through FFY2010, thus realizing cost efficiency in rojects and consensus on various priorities and approaches.										
Scope existing identifie probler ranks a Membe pooled	cope of Work : The research projects that are currently under contract with TTI will be paid for with xisting funding commitments. This solicitation is for new roadside safety research projects that will be lentified and approved by the Roadside Safety Committee. The specific scopes of work are identified in roblem statements or proposals that are developed by individual member states. The Committee then anks and selects the projects that are funded and the work is carried out by Texas Transportation Institute. Important states may also develop and fund research projects that are not selected by the Roadside Safety colled fund states to take advantage of the reduced overhead costs offered under the agreement.										

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

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 2011-2012 PROPOSED ACTIVITIES

The Roadside Safety Research Committee plans to meet in Seattle in November 2010 to discuss research progress on several projects and to select new problem statements/proposals for research and testing at Texas Transportation Institute for FFY11. The Committee invites other state DOT's to participate in the development of the 2011 program and to collaborate on future research.

Title: Technol	logy Transfe	r Concrete Consortium	ı		Project S	tatus:	Ongoing			
Funding Source	e: SPR: Po	oled Fund: TT-Fed	В	udget	FHWA	FHWA				
						1				
SIO:			Project Start	Project Start Date:						
Research Project	t Number:	TPF-5(159)	Completion I	Date	(original)		2/4/2012			
Research Agency	y:		Completion I	Date	(revised)					
Principal Investig	ator:									
		BUDGET	GET STATUS							
	Total Budge	et	E	Estimat	ed 2011-2012	2 Budget	t			
Total Cost (d	original)	\$25,000	Total				\$5,000			
1)	revised)									
Est. Expended to	Date	\$15,000	Salaries							
FY	2010 - 2011 B	udget	Equipment	(expen	dable)					
FY Funds (d	original)	\$5,000	Equipment	(non-e)	(pendable)					
(1	revised)		Travel							
Est. FY Expendit	ure	\$5,000	Other \$							
-			AND SCOPE							
Background: In longer life concre- strategies for ach technologies and Federal Highway new concrete pay facilitate and fund Objectives: The continue the colla will be open to an implementation of innovative testing Scope of Work: Design and Analy representatives, i and academic rep Design and Analy TTCC will begin to be advantageous	ncreasingly, s ete pavements nieving longer l practices. In Administration vement resear d concrete research d concrete research d concrete research b proposed p aborative effor ny state desir of new techno g, construction It is envision ysis Track. The industry repre- presentatives ysis Track to by meeting in s for MCC in t	state departments of trans that result in a higher le order to foster new tech on (FHWA), academia and arch initiatives. The purper search and technology the roject is for the establish rt begun in TPF-5(066) I ing to be a part of new d logies which will lead to n optimization technolog ned this partnership will be Track Team will include esentatives (from ACPA, a. This pooled fund will be become part of that end conjunction with MCC, he future to consider me	asportation (DO evel of user sat anologies and p nd industry mus ose of this pool ransfer initiative Materials and C evelopments in longer life pave ies and practice be part of the T de state repres ACPA chapter e the opportuni eavor.	Ts) are isfactic terials ractice st colla ed func es. ed func constru constru constru constru rack T entativ s, and ty for a s the M , and b	e challenged on for the pu and constru- s, experts fr borate to ide d project is to d for state re- action Optimi ete paving le through the d technology feam for the es along wit material sup all states inte	I to design blic. One ction op om state entify an o identify presenta zation. T eading to transfer CP Roa h FHWA opliers), erested in the in the rt of the	gn and build e of the timization e DOTs, d examine y, support, atives to The TTCC o the the r. d Map Mix consultants, n the Mix past. It may TTCC.			

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

Interaction with Technical Monitor and/or Project Advisory Committee;
Frequent conference calls with planning committee; and

• Summary of research activities pertaining to the project may be found on TTCC website.

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

• Plan and conduct TTCC Fall meeting.

Title:	Super	pave	e Regional	Center			Project St	tatus:	Ongoing	
Fundin	ig Sour	ce:	SPR: Poo	oled Fund: TT-Fed	E	Budget	Category:	FHWA		
SIO [.]					Project Start	Date:				
Resear	ch Proie	ect N	umber:	TPF-5(228)	Completion	Date	(original)			
Resear	ch Agei	ncy:		- (- /	Completion	Date	(revised)			
Principa	al Inves	tigato	or:	I			<u> </u>			
				BUDGET	STATUS					
		т	otal Budget	t	Estimated 2011-2012 Budget					
Total C	ost	(orig	inal)	\$60,000	Total				\$20,000	
		(revi	sed)							
Est. Ex	pended	to D	ate	\$40,000	Salaries					
-	F	TY 20	10 - 2011 Bi	udget	Equipment	(expend	dable)			
FY Fun	ds	(orig	inal)	\$20,000	Equipment	(non-ex	pendable)			
		(revi	sed)		Travel					
Est. FY	Expen	diture	9	\$20,000	Other				\$20,000	
					AND SCOPE					
Objecti	ves of tl	ne Ce	enter are:							
 Condu trainin Perfoi Condu Perfoi Prepa when Prepa Suppo transfe Work transfe 	uct train g on sp m researm preci uct nois m forer invited; are researed ort agen er or pa in close er from	ing ir ecial arch, ision e stu- sic e give p arch e asso resea	n regard to a topics as re both coope and bias te dies in an e evaluations presentation articles of re ersonnel wh ation in spe ociation with arch to impl	Superpave binders, mix equested by participatin eratively and agency-sp sting for asphalt-related offort to develop quieter on materials or projects ns and reports of resear egional and national intr to attend regional and n ecial committees or task in the Southeastern Asp ementation.	design, and p g agencies; ecific, sponsore performance f pavements; that have exper- rch activities at erest; ational meetin force groups; halt User/Prod	erforma ed by n test equ erience local, s gs for th and ucer Gr	ance testing, nembers of t uipment; d premature state, and na he purpose o roup to prom	and pro	ovide ed-fund; s. neetings ology nology	

LTRC Annual Research Program

Fiscal Year 2011-2012

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

A Superpave Center Management Committee meeting was held in December in conjunction with the Southeastern Asphalt User/Producer Group (SEAUPG) annual meeting. State sponsors were presented a current financial report that showed each state's balance in the pooled fund and the activities funds were spent on. Research and training activities conducted in 2010 were reported on at the meeting. Attendees were also presented a brief description of several potential research projects to consider for 2011. Comments on the various proposed research activities were made and the items discussed will be followed up on.

Work continued on an accelerated pavement friction study in which the three-wheeled polishing device (TWPD) developed by NCAT is used to polish pavement surfaces. The surface of 36 slabs is then tested with a dynamic friction tester and circular texture meter in increments of 20,000 cycles. Previous research indicated the TWPD results compared very well with the polishing effect of traffic at the NCAT Test Track. A special training course on Stone Matrix Asphalt (SMA) mix design was developed and conducted at a state agency facility. The course included lectures, class problems, and hands-on laboratory testing.

SIGNIFICANT RESULTS

A total of 15 persons participated in a custom-prepared SMA mix design course. Seven potential research projects were discussed at the annual Management Committee meeting.

POTENTIAL IMPLEMENTATION

The SMA mix design course was conducted to establish a basis for participants to become certified to perform SMA mix designs acceptable to the state agency.

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

RESEARCH PLANNED NEXT QUARTER

A final report on the accelerated friction study will be submitted. The objective is to be able to evaluate friction properties of an asphalt mix during the mix design stage in order to avoid problems with low friction after construction.

Follow up will be made on several research ideas discussed at the annual SSC Management Committee meeting.

Title:	Trans	porta	ation Libra	ry Connectivity and	Project S	Project Status:					
Fundin	g Sour	ce:	SPR: Poo	oled Fund: TT-Fed		Budget Category:			FHWA		
0.0											
SIO:						Project Star	t Date:		01/01/2011		
Resear	ch Proje		umber:	TPF-5(237)		Completion Date (original)				12/31/2015	
Resear	ch Ager	ncy:				Completion	Date	(revised)			
Principa	ai invesi	igat	Dr:	Dura		0					
			otol Budgo	BUDO	GET 4	STATUS	Fatima	had 2011 201	2 Budge		
Tatal O		(f (15.000		Tatal	Estima	ied 2011-2012	z Budge	¢45.000	
l otal C	ost	(orig	inal)	\$15,000		lotal				\$15,000	
		(revi	sed)								
EX 2010 2011 Budget Ex 2010 Contract											
	F	Y 20	10 - 2011 Bı	udget		Equipment	(expen	dable)			
FY Fun	ds	(orig	inal)			Equipment	(non-e	xpendable)			
		(revi	sed)			Travel					
Est. FY	Expend	diture	9			Other				\$15,000	
				PURPOS	SE A	ND SCOPE					
The Tra informa and a n	ansporta Ition pro netropol	ation fessi itan f	Library Cor ionals in 22 transportati	nnectivity Pooled Fui state departments c on authority.	nd S of tra	Study is a gras ansportation, t	sroots wo univ	effort by libra versity transp	arians a portation	nd i centers	
Since 2 practitio libraries transpo	2005 me oners in s and ca ortation o	mbe trans tries	rs have bee sportation a out a ten-p nunity.	en pooling their talen agencies. A full-time point annual work pla	its, e cor an ai	energy and resolution to the second s	sources es tech ving inf	s to develop nnical assista ormation acc	better w ance to r cess thro	ays to serve nember oughout the	
				FISCAL YEAR 2010	- 20 ⁻	11 ACCOMPLIS	HMENT	S			
This pro	oject is a	an ex	tension of	previous pooled fund	d pro	pject TPF-5(10	05).				
Accom	olishmei	nts m	nay be foun	d on project website							
				FISCAL YEAR 2011-2	2012	PROPOSED A	CTIVITIE	S			
Dress		:4:	marchart								
Propos	ed activ	ities	may be fou	ina on project websit	e.						
Title:	Poole	d Fu	nd Collabo	pration Projects		Project Status:		Proposed			
---	---	------------------------------------	---	--	--------------------	---	--------------------------------	--	-------------------------------------	------------------------------	--
Fundin	ig Sour	ce:	SPR: Poo	led Fund: TT-Fed		E	Budget Category: FHWA				
SIO:						Project Start Date:					
Resear	ch Proj	ect N	umber:			Completion	Date	(original)			
Resear	ch Age	ncy:				Completion	Date	(revised)			
Principa	al Inves	tigato	or:								
				Budg	ET 🖁	STATUS					
		Т	otal Budge			Estimated 2011-2012 Budget					
Total C	ost	(orig	inal)	\$90,000		Total				\$90,000	
		(revi	sed)								
Est. Ex	Est. Expended to Date Sala										
	F	FY 20	10 - 2011 Bu	udget		Equipment	(expend	dable)			
FY Fun	ds	(orig	inal)			Equipment	(non-ex	pendable)			
		(revi	sed)			Travel	1				
Est. FY	Expen	diture	9			Other			\$90,000		
				Purposi	ΕA	ND SCOPE		<u>.</u>			
The Tra organiz prograr which L	ansporta ations t n item i .TRC is	ation to cor s to p not t	Pooled Fur mbine resou provide SPF he lead sta	nd (TPF) Program allources to support trans R funding for LADOTE te.	pows po D to	s federal, state rtation researc participate in	e, and Ic ch studi upcom	ocal agencie es. The obje ing pooled f	es and of ective of fund proj	her this work jects in	
				FISCAL YEAR 2010 -	20 ⁻	11 ACCOMPLIS	HMENTS	3			
				FISCAL YEAR 2011-20	012	PROPOSED A	CTIVITIE	S			
Select and fund research pooled fund projects that network.					wou	uld provide be	nefits to) the Louisia	ina trans	sportation	

FHWA

IBRD Funded Research Program

CONTINUING RESEARCH

Title: Struc Over	itle: Structure Health Monitoring of the I-10 Twin Span Bridge Over Lake Pontchartrain								Ongoing
Funding Sou	rce:	IBRD: TT	-Fed		В	udget	Category:	FHWA	
SIO:			30000129		Project Start	Date:		11/1/2007	
Research Proj	ect N	lumber:	07-1ST		Completion Date (original)			10/31/2010	
Research Age	ncy:		LTRC		Completion Date (revised) 7/31/20				
Principal Inves	stigate	or:	Dr. Murad Abu-Far	sak	h				
			Budg	ET	Status				
	٦	Fotal Budge	t		E	Estimat	ted 2011-201	2 Budget	t
Total Cost	(orig	jinal)	\$449,925		Total				\$153,073
	(revi	ised)	\$565,550						
Est. Expended	d to D	ate	\$479,433		Salaries				
FY 2010 - 2011 BudgetEquipment(expendable)\$153,073								\$153,073	
FY Funds (original) \$115,550 Equipment (non-expendable)									
	(revi	ised)			Travel				
Est. FY Expen	diture	Э	\$29,433		Other				
			PURPOS	ΕA	ND SCOPE				
The objective Span bridge the monitoring pur instrument pile Static lateral lo monitoring system applicability of lateral loading conditions. The long-term caused by sele	of this proug pose cap bad te stem i the F ; and moni ected	s research µ h instrumer s. This inclu with accele est will be p in the Eastb FB-MultiPier to develop itoring will b events (win	project is to establish nation of the M19 Ea- udes instrument select prometers and tilt met erformed by LADOTE bound pier M19. The r analysis for predictin (or back-calculated) be used to evaluate the nds, waves, and vess	a s stbo cteo ers D im sho ng t the me b sel o	tructure health bund pier for u l piles with incl , and instrume mediately after rt-term monito he performand p-y multipliers behavior of pile collision).	n monit se in th linome int coluer comp ring wi ce of ba for ba	toring system the short-tern ters and stra- imn with wat pleting the in ll be used to attered pile g ttered pile g	n of the n and lou in gauguer press istallatio validate group sy roups in	I-10 Twin ng-term es, ure cells. n of the e the stem under similar soil amic loads
			FISCAL YEAR 2010 -	20	11 ACCOMPLISI	HMENT	6		
 Used the FB-MultiPier program to analyze the lateral load test at M19 Eastbound pier of Twin Span Bridge; Compared between the measured and predicted values from FB-MultiPoer Analysis; Analyzed the lateral load test data using high order polynomial curve fitting of measured pile rotation with depth; Back-calculated the p-y curves of battered pile groups at M19 pier high order polynomial curve fitting; and Coordinated with the subcontractor to incorporate additional instrumentation for the long-term monitoring system. 									

Fiscal Year 2011-2012

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

- Coordinate with the subcontractor to install the additional instrumentations (cost = \$66,956): 12 strain gages on concrete girders, 12 strain gages on steel girders, and 3 OSMOS extensometers to three steel girders;
- Coordinate with the subcontractor to re-calibrate the OSMOS WIM;
- Coordinate with the subcontractor to complete and setup the long-term monitoring system (depends on availability of electric supply power);
- Analyze the results of lateral load test at M19 pier using the superposition method, calibrating FB-MultiPier input data, and back-calculate the p-y curves; and
- Prepare a final report.

Title:	Repai Stranc	ring/ ds ar	Strengtheind Perform	ning of Bridges with ance Evaluation	ost-Tensioned	d FRP	Project S	tatus:	Ongoing		
Fundir	ng Sour	ce:	IBRD: TT	-Fed		E	Budget	Category:	FHWA		
							_				
SIO:				30000130		Project Start	Date:		10/1/2007		
Resear	ch Proje	ect N	umber:	07-3ST		Completion	Date	(original)		4/1/2010	
Resear	ch Ager	ncy:		LSU		Completion	Date	(revised)		08/31/2011	
Princip	al Invest	tigato	or:	Dr. Steve C.S. Cai							
				Budgi	ЕТ	STATUS					
		Т	otal Budge	t		Estimated 2011-2012 Budget					
Total C	ost	(orig	inal)	\$140,019		Total				\$30,000	
		(revi	sed)						-		
Est. Ex	pended	to D	ate	\$110,019	19 Salaries \$30,0						
	F	Y 20	10 - 2011 Bu	udget	Equipment (expendable)						
FY Fur	nds	(orig	inal)	\$65,000		Equipment	(non-ex	pendable)			
		(revi	sed)	\$28,000		Travel					
Est. FY	'Expend	diture	Э	\$20,000		Other					
				PURPOSI	E A	ND SCOPE			•		
The pro demon develop and/or perform	oject is t strative o a more checking nance ev	o tak bridg e dur g the valua	e advantag je with FRP able, less n bridge rep ation and de	Jes of some new dever P post-tensioning strar naintenance intensive airing/strengthening s evelopment of long-ten	elop nds e br sch rm	oment in bridge in the state o idge system. eme with FRP monitoring str	e engin f Louisi The sco stranda ategies	eering to im ana. The ult ppe of work i s, finite elen	plement imate pr includes nent pre	a urpose is to designing diction,	
				FISCAL YEAR 2010 -	20 ′	11 ACCOMPLIS	HMENTS	;			
Task 4 Task 5	: The de : Numer	sign ical r	of repairing nodeling of	g/strengthening of the bridge with FRP post	se t-te	lected bridge	is comp started.	eleted; and			
				FISCAL YEAR 2011-20)12	PROPOSED A	CTIVITIE	s			
Since t implem summa will be	Since the cost of the FRP rods exceeded expectations, and LADOTD will not select another bridge for implementation, field installation will not be conducted. To close the project, the final report will be prepared summarizing all information available to-date. A draft final report documenting the Tasks 1 to 6 and Task 9 will be submitted in the end of May, 2011, and a final report will be finished by the end of August, 2011.										

Title: Integr	al Al	outment Br	utment Bridge for Louisiana's Soft and Stiff Soils Project Status: Ongoing								
Funding Sour	ce:	IBRD: TT	-Fed		E	Budget	Category:	FHWA			
					-	_					
SIO:			30000131		Project Start	Date:		10/1/2007			
Research Proj	ect N	umber:	07-4ST		Completion	Date	(original)		8/31/2011		
Research Age	ncy:		LSU		Completion	Date	(revised)				
Principal Inves	tigato	or:	Dr. George Z. Voyia	adjis	S						
			BUDG	ET	STATUS						
	Т	fotal Budge	t			Estimat	ed 2011-2012	2 Budget	t		
Total Cost	(orig	inal)	\$400,000		Total				\$130,000		
	(revi	sed)	\$418,102					1			
Est. Expended	Est. Expended to Date \$270,000 Salaries \$80,000 Fourier (expendable)										
FY 2010 - 2011 Budget Equipment (expendable)											
FY Funds (original) \$90,000 Equipment (non-expendable)											
	(revi	sed)			Travel						
Est. FY Expen	diture	9	\$90,000		Other				\$50,000		
			PURPOS	ΕA	ND SCOPE						
The proposed Louisiana's so Integral Abutm instrumentation This study has Deployment Pr	proje ft and ent B n for f beer rogra	ct is to use d stiff soil co Bridges. The future conti n approved m (IBRD) p	embedded instrumer ondition. This will be u e project incorporates nuous monitoring of c and is federally funde program.	ntat use the ope ed t	ion to monitor d to evaluate t e use of smart rational perfor hrough the Ini	a full Ir he long materia mance novative	ntegral Abut g-term perfor als or embe of such bric e Bridge Re	ment Bri rmance dded lges. search a	idge for of the and		
			FISCAL YEAR 2010 -	20 ′	11 ACCOMPLIS	HMENTS	;				
Instrumentation • LA DOTD prof • An instrument superstructur • The research • Purchased of • Sister bar strate The following t • Completed the Voyiadjis and obtained for se Cai and Dr. K • The LSU rese • BDI and LSU	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS Instrumentation and Testing Plan for the Bodcau Bridge: LA DOTD provided the update design plans for the Bodcau Bridge to the investigators; An instrumentation plan for the Bodcau Bridge was submitted by the investigators for both the superstructure and the substructure and approved by the Project Review Committee; The research team participated in the pre-construction meeting for the project; Purchased of all instrumentation for the bridge; and Sister bar strain gages are installed in the girders at the precast plant. The following tasks were accomplished for the Caminada Bridge: Completed the Finite element modeling of the bridge abutment (six piers) for the substructure by Dr. Voyiadjis and Dr. Faghihi for the evaluation of the instrumentation plan. The load deflection curves were obtained for six different load cases. Finite Element was conducted for part of the superstructure by Dr. Cai and Dr. Kong; The LSU research team and LADOTD staff monitored the pile driving; and BDI and LSU research team installed all sensors in the backfill, the bent, and the bridge deck.										

Fiscal Year 2011-2012

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

Instrumentation and Testing Plan for the Caminada Bridge:

- Install the control/data acquisition system and wire the sensors to the control panel;
- Purchase a computer and establish a communication protocol with the bridge field control panel;
- Data gathering from the monitoring system; and
- Analysis using the finite element modeling of the bridge abutment (several piers) for evaluation of the instrumentation plan.

Instrumentation and Testing Plan for the Bodcau Bayou Bridge:

- Instrument the piles at the steel yard;
- Drive the piles (depending on the construction schedule); and
- Modeling of the bridge will be initiated using the finite element method for several piers of the

Title: Mon	itoring	g Bridge So		Project S	tatus:	Ongoing			
Funding Sou	irce:	IBRD: TT	-Fed		E	FHWA			
SIO:			30000132		Project Start	t Date:		1/1/2009	
Research Pro	ject N	umber:	08-251		Completion	Date		7/1/2011	
Research Ag	ency:		LSU		Completion				
Principal Inve	stigat	or:	Dr. Steve C.S. Cai						
			Buda	SET :	STATUS				
	٦ 	Total Budge	t		Estimated 2011-2012 Budget				
Total Cost	(orig	inal)	\$199,999		Total \$6				
	(rev	ised)					1		
Est. Expended to Date \$55,000 Salaries \$4							\$40,000		
FY 2010 - 2011 Budget Equipment (expendable)									
FY Funds	(orig	inal)	\$70,000		Equipment	(non-ex	pendable)		
	(rev	sed)	\$28,000		Travel				\$1,000
Est. FY Expe	nditure	Э	\$30,000		Other			\$19,000	
			Purpos	SE A	ND SCOPE			•	
This research collect field d in Louisiana a includes labo	proje ata tha and ev ratory	ct is to deve at can be us entually to test and fie	elop a scour monitori sed to verify the appli result in improving e Id applications.	ing : icab xisti	system for bric vility and accur ng scour pred	dge pier racy of t iction m	s. The deve he various d lethods. The	eloped s design p e scope	ystem will rocedures of work
			FISCAL YEAR 2010	· 20′	11 ACCOMPLIS	HMENTS	5		
Task 3: Deve • Monitoring r • A bridge has Task 4: Test • The concep interaction.	lopme nethoo s beer of Mor t of mo	nt of Scour dology to m n identified. nitoring Met onitoring the	Monitoring Methodo onitor the scour has hodology in Laborato e scour has been fur	logy bee ory ther	/ en developed; a	and n lab by	<i>i</i> testing the	flow and	d sensor
			FISCAL YEAR 2011-2	2012	PROPOSED A	CTIVITIE	S		
Task 5: Insta • The develop	Task 5: Installation and Field Testing • The developed system will be installed in field and data will be collected.								

LTRC Annual Research Program

Fiscal Year 2011-2012

Title:	e: Monitoring System for Bridges Subject to Heavy Loads							Project St	tatus:	Ongoing	
Fundin	g Sourc	ce:	IBRD: TT	-Fed		В	ludget	Category:	FHWA		
SIO:				30000204		Project Start	Date:		3/15/2010		
Resear	ch Proje	ect N	umber:	10-1ST		Completion I	Date	(original)		3/31/2012	
Resear	ch Agen	icy:		LTU		Completion I	Date	(revised)		6/30/2012	
Principa	al Invest	igato	or:	Dr. Aziz Saber							
				Budg	ET \$	STATUS					
		Т	otal Budge	t		I	Estimate	ed 2011-2012	2 Budget		
Total C	ost	(orig	inal)	\$250,000		Total				\$100,000	
		(revi	sed)								
Est. Ex	pended	to D	ate	\$150,000		Salaries				\$65,000	
	F	Y 20	10 - 2011 Bi	udget		Equipment	(expend	lable)			
FY Fun	ds	(orig	inal)	\$75,000		Equipment	(non-exp	pendable)		\$5,000	
		(revi	sed)			Travel				\$5,000	
Est. FY Expenditure \$75,000						Other				\$25,000	
PURPOSE						ND 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 (LADOTD) 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. and 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 safety, serviceability, and durability of non-interstate bridges; and
- Determine the cost of the fatigue damage per heavy truck load (100,000-lb. and 148,000-lb.) per year.

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

Bridge is remotely monitored and data continuously collected and pictures of the heavy load trucks are captured. Two alternative truck-trailer configurations were developed with input and approval from the American Sugar Cane Board representatives. The theoretical studies of the alternative truck-trailers are in progress.

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

For this FY:

- New collected data will be analyzed;
- The cost of fatigue damage per heavy truck load (100,000-lb. and 148,000-lb.) per year will be determined;
- A correlation between the truck axle load and strain readings collected at the bent will be formalized.
- Submit draft final report for LTRC Project Review Committee;
- Presentation of finding and recommendations;
- Address technical comments;
- Submit revised final report for editing; and
- Address editorial comments.

FHWA

IBRD Funded Research Program

PROPOSED RESEARCH

Title: Use o	of Geo	osynthetic	Reinforced Soil for	nts	Project S	tatus:	Proposed			
Funding Sour	ce:	IBRD: TT	-Fed		E	Budget	Category:	FHWA		
						_				
SIO:			10.007		Project Start	Date:		7/1/2011		
Research Proj	ect N	umber:	10-251		Completion	Date	(original)			
Research Age	ncy:				Completion	Date	(revised)			
Principal Inves	tigato	or:	Dr. Aziz Saber	-						
			BUDG	ET	STATUS					
	•	otal Budge	t			Estimat	ed 2011-2012	2 Budget	<u>.</u>	
Total Cost	(orig	inal)	\$250,000		Total				\$125,000	
(revised) Est Expanded to Date Salaries										
Est. Expended to Date Salaries									\$30,000	
	FY 20 [°]	dable)		\$5,000						
FY Funds	(orig	inal)			Equipment	(non-e)	(pendable)		\$50,000	
	(revi	sed)			Travel			\$5,000		
Est. FY Expen	diture	9			Other				\$35,000	
			PURPOS	E A	ND SCOPE					
Louisiana has pile-free GRS	built i abutn	many pile-s nent with m	supported GRS abutr arginal soils for back	nen fill.	ts with select	backfill	. This study	will lend	itself to	
Purpose:Apply the GeAssess the p	osynt erforr	thetic Reinf mance of th	orced Soil (GRS) tec e GRS abutment du	hnc 'ing	blogy to a bridg construction a	ge abut and und	ment; and der service lo	oads.		
Scope: • Install a mon • Develop a nu	itorino Imerio	g system fo cal model fo	r GRS bridge abutme or the bridge abutme	ent; nt b	and ased on perfo	rmance	e data.			
			FISCAL YEAR 2010 -	20	11 ACCOMPLIS	HMENTS	6			
The project ha	The project has not started yet.									
			FISCAL YEAR 2011-2	012		CTIVITIE	S			
The project ha	s not	started yet								

Title:	Elimir Grid	natio	n of Deck .	Joints using a Corre	Project S	Project Status:				
Fundir	ng Sour	ce:	IBRD: TT	-Fed		E	Budget	Category:	FHWA	
							_			
SIO:				40.007		Project Start Date:			7/1/2010	
Resear	ch Proje	ect N	umber:	10-351		Completion Date (original)				
Resear	ch Ager	ncy:				Completion	Date	(revised)		
Princip	al Inves	tigato	or:	Dr. Aziz Saber		-				
				BUDG	SET :	STATUS				
		•	otal Budge	t		Estimated 2011-2012 Budget				
Total C	ost	(orig	inal)	\$270,000		Total				\$125,000
(revised)										
Est. Ex	Est. Expended to Date Salaries									\$30,000
	F	Y 20	10 - 2011 Bi	udget		Equipment	dable)		\$30,000	
FY Fur	lds	(orig	inal)			Equipment	(non-ex	xpendable)		\$60,000
		(revi	sed)			Travel			\$3,000	
Est. FY	'Expen	diture	9			Other				\$2,000
				PURPOS	SE A	ND SCOPE			-	
Purpos This is theoret Program Scope The stu will be	se: an imple ical wor m decid : udy will t replacin	emer k was ed to be pe g a d	ntation proje s performed find the im erformed the lamaged br	ect for findings and re d through state fundin plementation portion rough the installation idge joint.	ecor ng. and	mmendation fr Due to it is pro d monitoring th	rom LTI omising ne perfe	RC 06-2ST p outcome, th	project. 1 ne FHW/ an FRP I	The A-IBRD ink slab that
				FISCAL YEAR 2010 -	20 [°]	11 ACCOMPLIS	HMENTS	6		
The pro	The project has not started yet.									
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S		
 Selec Desig Acqui Mater 	 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: Lo	cal Tec	hnical Ass	istance Program (LT		Project St	tatus:	Ongoing			
Funding S	ource:	LTAP: TT	-Fed/TT-Reg	E	Budget	Category:	FHWA			
010										
SIO:			3000087	Project Start	Project Start Date.			1/1/2011		
Research F		umper:		Completion		(original)		12/31/2013		
Research A	gency:	<u></u>	LIRC Dr. Maria Walah	Completion	Date	(revised)				
Principal in	vestigat	01.								
		Total Budga	BUDGE	Estimated 2011-2012 Budget						
Total Coat	(ori		¢641.462	Tetal						
Total Cost	(ori	ginal)	\$641,162	Iotal	Total					
Fat Funda	(rev			Calarias				\$004407		
Est. Expen	ded to L		•	Salaries				\$364,197		
	FY 20)10 - 2011 Bi	udget	Equipment	(expen	dable)				
FY Funds	(ori	ginal)		Equipment	(non-e)	(pendable)				
	(rev	ised)		Travel				\$27,000		
Est. FY Exp	penditur	e		Other			\$249,965			
			PURPOSE	AND SCOPE						
To provide parish and assistance	cost eff municip and info	ective transf ality public f ormation dis	fer of technology and u transportation and pub semination.	workforce develo	opment es thro	opportunitie ough training	s to Lou, technic	isiana's :al		

LTRC Annual Research Program

Fiscal Year 2011-2012

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

- Provided no cost or low cost webinar opportunities to facilitate statewide customer participation in technical training and professional development;
- Completed development and broadcast of the traffic engineering webinar series in partnership with LADOTD's Traffic engineering Office which were presented free of charge through the LA Municipal Association's system. Topics included roundabouts and traffic calming;
- Conducted speed management train the trainer program and one regional workshop;
- Coordinated 8 regional meetings for LADOTD Traffic Engineering Section as part of outreach on the new LADOTD Traffic Impact Policy;
- Managed implementation of Louisiana Local Road Safety Program including implementation of over 100 Federal Aid Projects for low cost safety improvement;
- Kicked off the new Local Transportation Asset Management Program with input from DOTD offices with related responsibilities;
- Responded to initial request from LADOTD for assistance in obtaining local road inventory information;
- Participated with LADOTD in development of Local Public Agency Manuel for Working with LADOTD and Federal Programs; and
- Completed Local Traffic Sign Manual.

Presented 150 classes or workshops:

- 20 Worker Safety classes;
- 61 Highway Safety classes;
- 49 Infrastructure Management classes;
- 20 Workforce Development classes;
- 14800 hours of training provided; and
- 2648 program participants.

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

- Implement first phase of local Transportation Asset Management Program;
- Coordinate local agency participation in LADOTD preparation of LA Public Roads Inventory;
- Manage current Local Road Safety Program and projects; and
- Communicate impending new retro reflectivity requirements to local agencies.

FHWA

STP Funded

Technology Transfer and Education Program

Title:	Techr	olog	y Transfer		Project Status:		Ongoing			
Fundin	ng Sour	ce:	STP: TT-I	Fed	E	Budget	Category:	FHWA		
SIO:				30000320	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		l				
				BUDGET	STATUS					
		т	otal Budget	t		Estimat	ed 2011-2012	2 Budget	1	
Total C	ost	(origi	inal)	\$340,917	Total \$351,					
		(revis	sed)							
Est. Ex	pended	to Da	ate		Salaries				\$310,766	
	FY 2010 - 2011 Budget Equipment (expendable)									
FY Fun	lds	(origi	inal)		Equipment	(non-ex	pendable)		\$15,000	
		(revis	sed)		Travel		\$6,000			
Est. FY	'Expen	diture)		Other				\$19,980	
	-			PURPOSE /	AND SCOPE			-		
The obj • Disse orienta • Impro agenc • Encou • Disse depart	jectives minate i ed ager ve com cies; urage im minate i tment.	of thin inform inform inform	is study are nation on n cations on t nentation of nation on tr	e to: ew technologies and m technical, transportation new procedures and te ansportation subjects te	ethodologies to n-related issues echnologies; ar o appropriate n	b LADO	TD and other	er transp rtment a neers in	ortation- Ind other the	

LTRC Annual Research Program

Fiscal Year 2011-2012

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

- Developed & maintained web site for 2011 Louisiana Transportation Conference;
- Participated in several committees for the 2011 LTC;
- Coordinated sponsorship information for 2011 LTC;
- Coordinated online registration and ecommerce capabilities for the 2011 LTC;
- Published program for 2011 LTC;
- Redesigned & produced 1 issue of Tech Exchange newsletter for LTAP;
- Used social media (Facebook/Twitter) to promote LTRC news;
- Produced program & brochure for ATSIP meeting in New Orleans, Louisiana;
- Assisted in on-site registration for ATSIP meeting in New Orleans, Louisiana ;
- Set up online registration for NHI/training courses (14);
- Edited/distributed 9 Project Capsules, 22 Technical Summaries, 15 Final Reports and 1 Technical Assistance Report;
- Published Technology Today (2);
- Published 2009-2010 LTRC Annual Report;
- Edited and produced State of LADOTD video;
- Edited and produced QCIP Continuous Quality Improvement video; and
- Photographed all LTRC events.

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

- Continue developing online registration for all LTRC/LADOTD events;
- Coordinate registration and publications for any LTRC seminar series events;
- Created web site for Southeastern Transportation Consortium/developing project database;
- Maintain online registration and e-commerce for the American Transportation Safety Information Professionals annual meeting;
- Processing registration forms for LTAP events and LTRC events;
- Reviewing/Updating content site-wide on LTRC site;
- Updated Project Capsule design;
- Create content/publish Technology Today (2);
- Edited and distribute Project Capsules, Technical Summaries, Final Reports and Technical Assistance Reports;
- Writing script and planning video production of LADOTD Bridge Inspection;
- Writing script and planning video production of Implementation of Roundabouts; and
- Photograph all LTRC events.

Title: Tech	Title: Technology Transfer Program and Operations (DOTD)							status: Ongoin		
Funding Sou	ce:	STP: TT-I	Fed		В	ludget	Category:	FHWA		
010						-			_ / . /	
SIO:			30000313		Project Start Date:			7/1/2011		
Research Proj	ect N	umber:	12-11SQ	ŀ		Date	(original)		6/30/2012	
Research Age	ncy:				Completion I	Date	(revised)			
Principal Inves	stigato	or:	Mr. Sam Cooper							
	_		BUDGE	ET S	STATUS					
	T	otal Budge	t	-	Estimated 2011-2012 Budget					
Total Cost	(orig	inal)	\$518,094		Total \$518					
	(revi	sed)						1		
Est. Expended	l to D	ate		Salaries				\$518,094		
	FY 20	10 - 2011 Bu	udget		Equipment	(expen	dable)			
FY Funds	(orig	inal)			Equipment	(non-ex	(pendable)			
	(revi	sed)		Ī	Travel					
Est. FY Expen	diture	9		Ī	Other					
			PURPOSE		ND SCOPE			-		
 The objectives Disseminate oriented ager Improve com agencies; Encourage ir Disseminate department. 	s of th inforr ncies. muni nplen inforr	is study are nation on n cations on t nentation of nation on tr	e to: ew technologies and r technical, transportation f new procedures and ransportation subjects	me on- tec to	thodologies to related issues chnologies; an appropriate m) LADC) betwe nd nanage	OTD and othe	er transp rtment a neers in	oortation- and other the	

LTRC Annual Research Program

Fiscal Year 2011-2012

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

- Developed and maintained web site for 2011 Louisiana Transportation Conference;
- Participated in several committees for the 2011 LTC;
- Coordinated sponsorship information for 2011 LTC;
- Coordinated online registration and ecommerce capabilities for the 2011 LTC;
- Published program for 2011 LTC;
- Redesigned and produced 1 issue of Tech Exchange newsletter for LTAP;
- Used social media (Facebook/Twitter) to promote LTRC news;
- Produced program and brochure for ATSIP meeting in New Orleans, Louisiana;
- Assisted in on-site registration for ATSIP meeting in New Orleans, Louisiana;
- Set up online registration for NHI/training courses (14);
- Edited/distributed 9 Project Capsules,22 Technical Summaries, 15 Final Reports and 1 Technical Assistance Report;
- Published Technology Today (2);
- Published 2009-2010 LTRC Annual Report;
- Edited and produced State of LADOTD video;
- Edited and produced QCIP Continuous Quality Improvement video; and
- Photographed all LTRC events.

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

- Continue developing online registration for all LTRC/LADOTD events;
- Coordinate registration and publications for any LTRC seminar series events;
- Created web site for Southeastern Transportation Consortium/developing project database;
- Maintain online registration and e-commerce for the American Transportation Safety Information Professionals annual meeting;
- Processing registration forms for LTAP events and LTRC events;
- Reviewing/Updating content site-wide on LTRC site;
- Updated Project Capsule design;
- Create content/publish Technology Today (2);
- Edited and distribute Project Capsules, Technical Summaries, Final Reports and Technical Assistance Reports;
- Writing script and planning video production of LADOTD Bridge Inspection;
- Writing script and planning video production of Implementation of Roundabouts; and
- Photograph all LTRC events.

Title:	tle: Support for Senior Project Courses							tatus:	Ongoing	
Fundir	ng Sour	ce:	STP: TT-I	Fed	B	ludget	Category:	FHWA		
8101				20000215	Draiget Start	Data			7/1/2011	
SIU:	rch Proi	act N	umbor:	30000315 12 1TT	Completion Date.			//1/2011		
Posoa			umber.	12-111		Date	(Unginal)		0/30/2012	
Princin	al Inves	tigate	or:		Completion	Dale	(revised)			
ТППОГР		iigui	<u> </u>	BUDGET	STATUS					
		1	fotal Budge	t		Estima	ted 2011-201	2 Budae	<u> </u>	
Total C	Cost	(orig	inal)	\$37,500	Total				\$37.500	
	(revised)									
Est. Ex	st. Expended to Date Salaries									
	F	TY 20	10 - 2011 Bi	udget	Equipment	(exper	idable)			
FY Fur	nds	(orig	inal)		Equipment	(non-e	xpendable)			
		(revi	sed)		Travel		, ,			
Est. FY	'Expen	` diture	, Э		Other				\$37.500	
			-					-		
To prov	vide sup	port	for senior p	roject engineering cour	ses up to a ma	ximum	of \$7,500 /	universit	y / year.	
				FISCAL YEAR 2010 - 20	11 ACCOMPLIS	HMENT	s			
Four un • McNe • Louis • Unive • South	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS Four universities participated in this program this reporting period. McNeese State University; Louisiana Tech University; University of Louisiana at Lafayette; and Southern University.									
	FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES									
Continu	Continue to provide support for senior project engineering courses.									

Title:	Title: Workforce Development						Project Status: On		Ongoing	
Funding Source: STP: TT-Fed						E	Budget	Category:	FHWA	<u> </u>
										7/4/2044
SIO:	ah Desia	-1 1		30000314		Project Start	t Date:	(· · ·))		7/1/2011
Resear	ch Proje		umper:	12-1WD		Completion		(original)		6/30/2012
Resear	ch Agen	cy:	\r:	LIRC Mr. Som Cooper		Completion	Date	(revised)		
Principa	armvest	igaic	л. 			STATUO				
			otal Rudgo		je 1 -	STATUS	Ectimat	ad 2011-201	2 Rudgo	•
Total C	oot	(origi		¢1 126 100		Total	Estimat	.eu 2011-2017	z Buuge	¢1 126 100
Total C	USI	(ong		\$1,120,109		Total				\$1,120,109
Ect Ex	nended i					Salaries				\$1 116 100
	F	Y 20	10 - 2011 Bi	Idaet		Equipment	(expen	dable)		\$10,000
EV Eup	ds		inal)	luger		Equipment	(non-e)	(nendable)		φ10,000
un	45	(revis	sed)			Travel		(penduble)		
Est FY	Expend	liture	,			Other				
200.11	Ехропа		·	Puppos						
The pur manage include transpo	rpose of ement of s the dev ortation o	this the velop outre	study is to workforce oment, deli ach progra	provide for the strate development programent very and administration.	egic ns f on (planning, prog for LADOTD p of the LTRC T	gram de ersonn ranspo	evelopment el. The scop rtation & Tra	and deli be of this aining Co	very s study also enter's
				FISCAL YEAR 2010 -	20 ²	11 ACCOMPLIS	HMENTS	6		
 Devel award Monito Scheo Leade specia Coord Appro 	 Developed 16 training courses, 73 recertification tests given, 191 specialty tests given, 91 certifications awarded; Monitoring revised PPM 59 (Workforce Development) and noting future changes to PPM 59; Scheduled and registered students for the following courses; Leadership, management, supervisory, computer based training courses, NHI, CADD/GIS and other specialty courses; Coordinated the activities of 13 - ERDP participants, 33 - Co-Op students; and 							ifications I other		
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S		
 Contir evalua Mana evalua Contir Mainta Contir Revise 	 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 evaluations, and safe operating checklists; 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:	LTRC Student Program								Project Status: O			
Funding Source: STP: TT-Fed						E	Budget	Category:	FHWA			
SIO:				30000316		Project Start	Date:	<i>/ ·</i> · · · ·		//1/2011		
Resear	ch Proje	ect in	umber:	12-211		Completion		(original)		6/30/2012		
Resear	ch Agei	ncy:		LIRC Ma Hanald IChial Da		Completion	Date	(revised)				
Principa	al inves	tigato	or:	Mr. Harold Skip Pa								
				BUDG	ET :	STATUS						
T () 0		T	otal Budge				Estimat	ed 2011-2012	2 Budget			
I otal C	ost	(orig	inal)	\$147,000		Total				\$147,000		
		(revi	sed)									
Est. Ex	pended	to D	ate			Salaries				\$147,000		
	F	Y 20	10 - 2011 Bເ	udget		Equipment	(expen	dable)				
FY Fun	ds	(orig	inal)			Equipment	(non-e>	(pendable)				
		(revi	sed)			Travel						
Est. FY	Expen	diture	;			Other						
				PURPOS	E A	ND SCOPE						
То рау	for sala	ries f	or undergra	aduate students emp	loye	ed to provide s	support	to various L	.TRC pro	ojects.		
				FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENTS	6				
35 unde various	35 undergraduate students were employed by LTRC to provide support in fulfilling necessary job tasks on various LTRC projects.								o tasks on			
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S				
Continu projects	ue to pa s.	y for	salaries for	undergraduate stud	ents	s employed to	provide	e support to	various	LTRC		

Funding Source: STP: TT-Fed Budget Category: FHWA SIO: 30000317 Project Start Date: 1/1/2010 Research Project Number: 12-3TT Completion Date (original) 12/31/2013 Research Agency: LTRC Completion Date (original) 12/31/2013 Principal Investigator: Mr. Mark Morvant BUDGET STATUS Completion Date (original) Total Budget Salaries Estimated 2011-2012 Budget Salaries Equipment FY 2010 - 2011 Budget Fy 2010 - 2011 Budget Equipment (original) \$36,000 Est. Expended to Date \$15,805 Other Salaries Equipment (oron-expendable) Travel (original) \$36,000 Other Salaries Salaries Equipment (revised) Travel \$20,000 Other Salaries FH Expenditure \$15,805 Other Salaries Salaries Equipment (revised) Travel \$20,000 Other Salaries Salaries Salaries	Title:	Techno Louisia	olog ana	y Transfer Universitie	nsfer & Research Implementation Support for Project						Ongoing
SIO: 30000317 Research Project Number: 12-3TT Research Agency: LTRC Principal Investigator: Mr. Mark Morvant Subject Start Date: Total Budget Total Cost (original) \$10,000 (revised) Est. Expended to Date \$110,000 (revised) Salaries FY 2010 - 2011 Budget Equipment FY Funds (original) (revised) Salaries Equipment (expendable) Travel \$20,000 Completion Date \$20,000 Est. Expended to Date \$15,805 FY Funds (original) \$36,000 (revised) Travel \$20,000 Est. FY Expenditure \$15,805 Other Purpose of the project is to provide travel funds to university research principal investigators for disamination of the project is to provide travel funds to university research principal investigators for disamination of the project is to provide ravel funds to university research principal investigators for disamination of the project is to providing a benefit to Louisiana <t< th=""><th>Fundin</th><th colspan="5">Funding Source: STP: TT-Fed</th><th colspan="5">Budget Category: FHWA</th></t<>	Fundin	Funding Source: STP: TT-Fed					Budget Category: FHWA				
SIO: 30000317 Project Start Date: 1/1/2010 Research Project Number: 12-3TT Completion Date (original) 12/31/2013 Research Agency: LTRC Completion Date (original) 12/31/2013 Principal Investigator: Mr. Mark Morvant Support Completion Date (revised) Total Budget Total Cost (original) \$110,000 Salaries Support Estimated 2011-2012 Budget Total Cost (original) \$100 FY 2010 - 2011 Budget Total Support FY 2010 - 2011 Budget Total Support FY 2010 - 2011 Budget Total Completion Date Completion Date Completion Colspan="2">Completion Date 10/12/12/12/12/12/12/12/12/12/12/12/12/12/					1		1				
Research Project Number: 12-3TT Completion Date (original) 12/31/2013 Research Agency: LTRC Completion Date (revised) Principal Investigator: Mr. Mark Morvant Buocer Stratus Buocer Stratus Total Budget Total Cost (original) \$110,000 (revised) \$20,000 [revised] [revised] Salaries [revised] [september 2011-2012 Budget FY 2010 - 2011 Budget [revised] [september 2011-2012 Budget [september 2011-2012 Budget FY Funds (original) \$310,000 [revised] [september 2011-2012 Budget FY Funds (original) \$36,000 [september 2011-2012 Budget [september 2011-2012 Budget FY Funds (original) \$36,000 [september 2011-2012 Budget [september 2011-2012 Budget FY Funds (original) \$36,000 [september 2011-2012 Budget [september 2011-2012 Budget FY Funds (original) \$36,000 [september 2010-2011 More 2011 Travel [september 2010-2011 Comevependable] Gauge and the project is to provide travel funds to university research prevents. This project provides a mechanism to fu	SIO:				30000317		Project Start	Date:			1/1/2010
Research Agency: LTRC Completion Date (revised) Principal Investigator: Mr. Mark Morvant BUDGET STATUS BUDGET STATUS Total Budget Estimated 2011-2012 Budget Total Cost (original) \$110,000 (revised) Total \$20,000 Est. Expended to Date \$15,805 Salaries FY 2010 - 2011 Budget Equipment (expendable) FY Funds (original) \$36,000 Equipment (expendable) Equipment (revised) Travel \$20,000 Travel \$20,000 Est. FY Expenditure \$15,805 Other Equipment [ron-expendable) Travel \$20,000 Est. FY Expenditure \$15,805 Other Equipment [ron-expendable) Travel \$20,000 Est. FY Expenditure \$15,805 Other \$20,000 University faculty to deliver research principal investigators for dissemination of research results at various technology transfer events. This project provides a mechanism to fund technology transfer travel for university faculty to deliver research results to state and national audiences such as Transportation Research Board Annual Meeti	Resear	ch Proje	ct N	umber:	12-3TT		Completion	Date	(original)		12/31/2013
Principal Investigator: Mr. Mark Morvant Buocet Status Total Budget Estimated 2011-2012 Budget Total Cost (original) \$110,000 (revised) Total Salaries Est. Expended to Date \$15,805 Salaries FY 2010 - 2011 Budget Equipment (expendable) FY Funds (original) \$36,000 Equipment (expendable) Equipment (revised) Travel \$20,000 Est. FY Expenditure \$15,805 Other \$20,000 Distribution of research results at various technology transfer events. This project provides a mechanism to fund technology transfer events. This project provides a mechanism to fund technology transfer travel for university faculty to deliver research principal investigators for dissemination of research results at various technology transfer events. This project provides a mechanism to fund technology transfer travel for university faculty to deliver research provides a mechanism to fund technology transfer travel for university faculty to deliver research results to state and national audiences such as Tansportation Research Board Annual Meeting. Louisiana FiscaL YEAR 2010 - 2011 AccompListments This project provided support for travel for presentation of the following papers developed from LTRC research projects: <th< td=""><td>Resear</td><td>ch Agen</td><td>cy:</td><td></td><td>LTRC</td><td></td><td>Completion</td><td>Date</td><td>(revised)</td><td></td><td></td></th<>	Resear	ch Agen	cy:		LTRC		Completion	Date	(revised)		
Bugger Status Total Budget Total Cost (original) \$110,000 Total Statust (revised) (revised) Total \$20,000 Est. Expended to Date \$15,805 Salaries	Principa	al Invest	igato	or:	Mr. Mark Morvant						
Total Budget Total Cost (original) \$110,000 (revised) Image: Control of Contrent and Control of Control of Control of Contrent C					Budg	ET :	STATUS				
Total Cost (original) \$110,000 Total \$20,000 (revised) (revised) Salaries Sa			Т	otal Budge	t			Estimat	ed 2011-2012	2 Budget	t
Image: contract of the second seco	Total C	ost	(orig	inal)	\$110,000		Total				\$20,000
Est. Expended to Date \$15,805 FY 2010 - 2011 Budget Salaries FY Funds (original) \$36,000 irrevised) irrevised) Equipment (expendable) Est. FY Expenditure \$15,805 Other \$20,000 DURPOSE AND Scope The purpose of the project is to provide travel funds to university research principal investigators for dissemination of research results at various technology transfer events. This project provides a mechanism to fund technology transfer travel for university faculty to deliver research results to state and national audiences such as Transportation Research Board Annual Meeting, Louisiana Transportation Conference, LTRC Seminar Series and LADOTD Implementation meetings and training. Travel funds are dispersed on a case by case basis as it applies to providing a benefit to Louisiana. FISCAL YEAR 2010 - 2011 AccompLisHMENTS This project provided support for travel for presentation of the following papers developed from LTRC research projects: • Estimating Setup of Piles Driven into Louisiana Clayey Soils; • Analysis of Rainfall-Accident Relationships Using High-Resolution Radar-Rainfall Data; • Update of Correlatons Between Cone Penetration and Boring Data; • Development of Uniform Sections for PMS Inventory and Application; • Characterization and Development of Truck Load Spectra and Growth Factor for Current and Future Pavement Design Practices in Louisian			(revi	sed)							
FY 2010 - 2011 Budget FY Funds (original) \$36,000 (revised) (non-expendable) Est. FY Expenditure \$15,805 Purpose AND Scope The purpose of the project is to provide travel funds to university research principal investigators for dissemination of research results at various technology transfer events. This project provides a mechanism to fund technology transfer travel for university faculty to deliver research results to state and national audiences such as Transportation Research Board Annual Meeting, Louisiana Transportation Conference, LTRC Seminar Series and LADOTD Implementation meetings and training. Travel funds are dispersed on a case by case basis as it applies to providing a benefit to Louisiana. Fiscal Year 2010 - 2011 AccompLishments This project provided support for travel for presentation of the following papers developed from LTRC research projects: Estimating Setup of Piles Driven into Louisiana Clayey Soils; Analysis of Rainfall-Accident Relationships Using High-Resolution Radar-Rainfall Data; Update of Correlatons Between Cone Penetration and Boring Data; Update of Correlatons Between Cone Penetration and Boring Data; Update of Correlatons Between Cone Penetration and Boring Data; Update of Correlatons Between Cone Penetration and Boring Data; Update of Correlatons Between Cone Penetration and	Est. Ex	pended	to D	ate	\$15,805		Salaries				
FY Funds (original) \$36,000 Equipment (non-expendable) Image: the image:		F	Y 20	10 - 2011 Bi	udget		Equipment	(expen	dable)		
Image: constraint of the second sec	FY Fun	lds	(orig	inal)	\$36,000		Equipment	(non-ex	(pendable)		
Est. FY Expenditure \$15,805 Other PurPose AND Scope The purpose of the project is to provide travel funds to university research principal investigators for dissemination of research results at various technology transfer events. This project provides a mechanism to fund technology transfer travel for university faculty to deliver research results to state and national audiences such as Transportation Research Board Annual Meeting, Louisiana Transportation Conference, LTRC Seminar Series and LADOTD Implementation meetings and training. Travel funds are dispersed on a case by case basis as it applies to providing a benefit to Louisiana. FISCAL YEAR 2010 - 2011 AccompLishments This project provided support for travel for presentation of the following papers developed from LTRC research projects: • Estimating Setup of Piles Driven into Louisiana Clayey Soils; • Analysis of Rainfall-Accident Relationships Using High-Resolution Radar-Rainfall Data; • Update of Correlatons Between Cone Penetration and Boring Data; • Development of Uniform Sections for PMS Inventory and Application; • 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 1-10 Over the Atchafalaya Basin; • Safety and Operational Assessment of Unconventional Lane Merges in Freeway Work Zones; • Support			(revi	sed)			Travel			\$20,000	
PurPose AND Scope The purpose of the project is to provide travel funds to university research principal investigators for dissemination of research results at various technology transfer events. This project provides a mechanism to fund technology transfer travel for university faculty to deliver research results to state and national audiences such as Transportation Research Board Annual Meeting, Louisiana Transportation Conference, LTRC Seminar Series and LADOTD Implementation meetings and training. Travel funds are dispersed on a case by case basis as it applies to providing a benefit to Louisiana. FISCAL YEAR 2010 - 2011 AccompLishments This project provided support for travel for presentation of the following papers developed from LTRC research projects: • Estimating Setup of Piles Driven into Louisiana Clayey Soils; • Analysis of Rainfall-Accident Relationships Using High-Resolution Radar-Rainfall Data; • Update of Correlatons Between Cone Penetration and Boring Data; • Development of Uniform Sections for PMS Inventory and Application; • Characterization and Development of Truck Load Spectra and Growth Factor for Current and Future Pavement Design Practices in Louisiana; • Louisiana Soft Clays; • Safety and Operational Assessment of Unconventional Lane Merges in Freeway Work Zones; • Reliability Analysis of Pile Setup for Piles Driven in Louisiana Soft Clays; • Support Study on the Characterization of Ternary Mixes; • Cost Effective Prevention of Reflective Cracking of Concrete; and	Est. FY	'Expend	liture	9	\$15,805		Other				
The purpose of the project is to provide travel funds to university research principal investigators for dissemination of research results at various technology transfer events. This project provides a mechanism to fund technology transfer travel for university faculty to deliver research results to state and national audiences such as Transportation Research Board Annual Meeting, Louisiana Transportation Conference, LTRC Seminar Series and LADOTD Implementation meetings and training. Travel funds are dispersed on a case by case basis as it applies to providing a benefit to Louisiana. FisCAL YEAR 2010 - 2011 AccompLishments This project provided support for travel for presentation of the following papers developed from LTRC research projects: Estimating Setup of Piles Driven into Louisiana Clayey Soils; Analysis of Rainfall-Accident Relationships Using High-Resolution Radar-Rainfall Data; Update of Correlatons Between Cone Penetration and Boring Data; Development of Uniform Sections for PMS Inventory and Application; 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; Safety and Operational Assessment of Unconventional Lane Merges in Freeway Work Zones; Reliability Analysis of Pile Setup for Piles Driven in Louisiana Soft Clays; Support Study on the Characterization of Ternary Mixes; Cost Effective Prevention of Reflective Cracking of Concrete; and Implementation of the Bollow Deflectometer					PURPOS	E A	ND SCOPE			-	
FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS This project provided support for travel for presentation of the following papers developed from LTRC research projects: • Estimating Setup of Piles Driven into Louisiana Clayey Soils; • Analysis of Rainfall-Accident Relationships Using High-Resolution Radar-Rainfall Data; • Update of Correlatons Between Cone Penetration and Boring Data; • Development of Uniform Sections for PMS Inventory and Application; • 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; • Safety and Operational Assessment of Unconventional Lane Merges in Freeway Work Zones; • Reliability Analysis of Pile Setup for Piles Driven in Louisiana Soft Clays; • Support Study on the Characterization of Ternary Mixes; • Cost Effective Prevention of Reflective Cracking of Concrete; and • Implementation of the Rolling Wheel Deflectometer	to fund audiend LTRC S case by	rpose of ination o technolo ces such Seminar y case ba	of res ogy t as Seri asis	project is to search resu ransfer trav Transportat es and LAE as it applie	o provide travel funds lits at various technol vel for university facu tion Research Board OOTD Implementation s to providing a bene	logy Ity t Ani n m efit t	v transfer even to deliver resenual Meeting, teetings and tr o Louisiana.	earch p hts. This arch re Louisia aining.	rincipal inve s project pro sults to state na Transpoi Travel funds	vides a le and na catalons a le and na catalon C s are dis	mechanism tional onference, persed on a
 This project provided support for travel for presentation of the following papers developed from LTRC research projects: Estimating Setup of Piles Driven into Louisiana Clayey Soils; Analysis of Rainfall-Accident Relationships Using High-Resolution Radar-Rainfall Data; Update of Correlatons Between Cone Penetration and Boring Data; Development of Uniform Sections for PMS Inventory and Application; 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; Safety and Operational Assessment of Unconventional Lane Merges in Freeway Work Zones; Reliability Analysis of Pile Setup for Piles Driven in Louisiana Soft Clays; Support Study on the Characterization of Ternary Mixes; Cost Effective Prevention of Reflective Cracking of Concrete; and Implementation of the Rolling Wheel Deflectometer 					FISCAL YEAR 2010 -	20	11 ACCOMPLIS	HMENTS	3		
- implementation of the Rolling Wheel Deflectometer.	 This project provided support for travel for presentation of the following papers developed from LTRC research projects: Estimating Setup of Piles Driven into Louisiana Clayey Soils; Analysis of Rainfall-Accident Relationships Using High-Resolution Radar-Rainfall Data; Update of Correlatons Between Cone Penetration and Boring Data; Development of Uniform Sections for PMS Inventory and Application; 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; Safety and Operational Assessment of Unconventional Lane Merges in Freeway Work Zones; Reliability Analysis of Pile Setup for Piles Driven in Louisiana Soft Clays; Support Study on the Characterization of Ternary Mixes; Cost Effective Prevention of Reflective Cracking of Concrete; and Implementation of the Rolling Wheel Deflectometer. 							-TRC Future se of Right			

FISCAL YEAR 2011-2012 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							Project Status: On		Ongoing	
Funding Source: STP: TT-Fed						Budget Category: FHWA					
SIO:				30000318		Project Start	Date:			7/1/2011	
Resear	ch Proj	ect N	umber:	12-COOP		Completion	Date	(original)		6/30/2012	
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)			
Principa	al Inves	tigato	or:	Mr. Sam Cooper		_					
				Budg	SET :	STATUS					
		Т	otal Budge	t		I	Estimat	ted 2011-201	2 Budge	t	
Total C	ost	(orig	inal)	\$400,000		Total				\$400,000	
		(revi	sed)								
Est. Ex	pended	to D	ate			Salaries				\$400,000	
	F	TY 20	10 - 2011 Bu	udget		Equipment	(expen	dable)			
FY Fun	ıds	(orig	inal)			Equipment	(non-e	xpendable)			
		(revi	sed)			Travel					
Est. FY	' Expen	diture	9			Other					
				PURPOS	E A	ND SCOPE			<u>.</u>		
The LA providir public t providir practica prograr	DOTD ng pract ranspor ng oppo al exper n as po	CO-C ical e tation rtunit ience tentia	DP program experience n engineerin ties for part e. This prog al employee	is a cooperative end to junior and senior leng work. This programicipants to explore the gram also provides op es.	leave eve m is eir i opor	vor between th I undergradua intended to e interest in tran rtunities for LA	ne LAD tes thro nhanco sporta DOTD	OTD and Lo ough part-tim e the educat tion enginee to evaluate	uisiana ne emplo ional pro ring thro participa	Universities, oyment in ocess by ough ants of this	
				FISCAL YEAR 2010 -	20′	11 ACCOMPLIS	HMENT	S			
• 33 stu • 3 CO-	 33 students participated in CO-OP at various LADOTD sections throughout Louisiana; and 3 CO-OP students were hired by LADOTD upon graduation. 										
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S			
• Place • Contir • Retair	 Place CO-OP approximately 30 students in various LADOTD Sections across the state; Continue end of semester presentations; and Retain students in CO-OP. 										

Title:	Title: Technology Transfer Registration Fees								Project Status: On	
Funding Source: STP: TT-Fed						В	ludget	Category:	FHWA	
				I I I						
SIO:				30000319	Project	t Start	Date:			7/1/2011
Resear	ch Proj	ect N	umber:	12-TTRF	Compl	etion I	Date	(original)		6/30/2012
Resear	ch Age	ncy:		LTRC	Compl	etion I	Date	(revised)		
Principa	al Inves	tigato	or:	Mr. Sam Cooper						
				Budge	T STATUS					
		T	otal Budge	t			Estimat	ed 2011-2012	2 Budget	:
Total C	ost	(orig	inal)	\$100,000	Total					\$100,000
		(revi	sed)							
Est. Ex	pended	to D	ate		Salarie	es				
	F	TY 20	10 - 2011 Bi	udget	Equipr	nent	(expend	dable)		
FY Fun	lds	(orig	inal)		Equipr	nent	(non-ex	pendable)		
		(revi	sed)		Travel					
Est. FY	' Expen	diture	9		Other				\$100,000	
				PURPOSE	AND SCOP	Έ			-	
To prov parish a assista	vide cos and mui nce anc	t effe nicipa I info	ective transf ality public t rmation dis	er of technology and v ransportation and pub semination.	vorkforce o lic works a	develo agenci	pment es thro	opportunitie ugh training	s to Lou , technic	isiana's al
-				FISCAL YEAR 2010 - 2	2011 Acco	MPLIS	HMENTS	;		
				FISCAL YEAR 2011-20	1 2 P ROPOS	SED AC	CTIVITIE	s		
Continu Louisia technic	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: Workforce Development Contracts							Project S	Project Status: Ong		
Fundir	ng Sour	ce:	STP: TT-I	Fed		Budget Category: FHWA				
SIO:						Project Start	Date:	1		7/1/2011
Resear	ch Proj	ect N	umber:	12-WDC		Completion	Date	(original)		6/30/2012
Resear	ch Age	ncy:		LTRC		Completion	Date	(revised)		
Princip	al Inves	tigato	or:	Mr. Sam Cooper						
				Budg	SET :	STATUS				
		Т	otal Budge	t			Estima	ted 2011-201	2 Budge	t
Total C	ost	(orig	inal)	\$3,335,991		Total				\$3,335,991
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$619,047
	F	FY 20	10 - 2011 Bi	udget		Equipment	(exper	idable)		\$44,000
FY Fur	nds	(orig	inal)			Equipment	(non-e	xpendable)		
		(revi	sed)			Travel		\$17.500		
Est FY	'Expen) diture	<i>,</i>			Other			\$2.655.444	
20011	Expon			Puppos					-	<i>\</i>
fees for and tec	rpose o ers for co ement, : r LADO chnical c	r this ontinu super TD er devel	study is to uing educat rvisory trair mployees to opment.	provide contractual s ion, professional dev ning. The scope of th o attend workshops,	serv velo nis p cou	rces through f pment, technic project also inc rses and confe	ederai, cal skill cludes erence	s, software, providing inc s to enhance	nd priva leadersl lividual r e their p	ite sector hip, registration rofessional
				FISCAL YEAR 2010 -	· 20′	11 ACCOMPLIS	HMENT	S		
Conduct • UNO • CADE • LanTE • NHI C • LSU S • Additi • Indivice • Appro- trainir • Confe	 FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS Conducted the following courses: UNO Computer Classes: 116 classes held – 1,170 student participants; CADD: 12 classes held – 76 student participants; LanTEC – ERP: 1 class held – 18 student participants; NHI Courses: 18 classes held – 524 student participants; LSU STP: 41 classes held – 615 student participants; Additional Contract Training: 2 classes held – 124student participants; Individual Registrations: 120 classes held – 317 student participants; Approximately 3000 student participants for leadership/management/supervisory and computer based training courses; and Conferences/Workshops/Webinars: 8 held – 1,720 student participants. 									

Fiscal Year 2011-2012

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

- Conduct at least 25 National Highway Institute courses;
- Conduct at least 150 PC software training courses;
- Manage 30 Safety related training contracts;
- Manage Leadership, management, and supervisory training contracts;
- Arrange over 500 Individual training registrations;
- Conduct and manage at least 11 conferences and workshops for approximately 1,300 participants;
- Offer ArcGIS (unable to offer due to contracting issues);
- Offer Mechanic Classes (unable to offer due to contracting issues);
- Offer Nuclear Gauge Safety (unable to offer due to contracting issues);
- Offer Work Zone Safety (unable to offer due to contracting issues);
- Offer Trimble Process Training (unable to offer due to contracting issues); and
- Offer Highway Capacity Manual Training (unable to offer due to contracting issues).

State Funded Research Program

CONTINUING RESEARCH

LTRC Annual Research Program

Fiscal Year 2011-2012

Title:	Title: Geotechnical Information Database – Phase 2								atus:	Ongoing		
Fundin	g Sour	ce:	State: TT	-Reg		В	Budget	Category:	State			
SIO:				30000201		Project Start	Date:			3/10/2011		
Resear	ch Proje	ect N	umber:	10-2GT		Completion I	Date	(original)		9/9/2012		
Resear	ch Ager	icy:		Dataforensics, LLC		Completion I	Date	(revised)				
Principa	al Invest	igato	or:	Dr. Scott Deaton								
	BUDGET STATUS											
		Т	otal Budge	t		Estimated 2011-2012 Budget						
Total Co	ost	(orig	inal)	\$200,000		Total				\$140,000		
		(revi	sed)									
Est. Exp	pended	to D	ate			Salaries				\$114,677		
	F	Y 20	10 - 2011 Bu	udget		Equipment	(expend	lable)				
FY Fun	ds	(orig	inal)	\$60,000		Equipment						
		(revi	sed)		Travel					\$7,985		
Est. FY Expenditure \$60,000					Other \$1				\$17,338			
PURPOSE AND SCOPE												

PROBLEM

The Louisiana Department of Transportation (LADOTD) has been collecting geotechnical data for many years in a variety of different formats. Accessing this data and combining it with new data for the purpose of design, analysis, visualization, and reporting is difficult because the data has been generated by disparate systems and stored as hard copies, scanned images, various digital formats, or other non-digital formats such as microfilm. Essentially, there is no single system or repository nor an integrated, systematic approach for collecting, managing, archiving, and retrieving the vast amount of geotechnical data that is collected or generated by LADOTD each year.

OBJECTIVES

With advances in computing capabilities, software tools are available that streamline the entire data management process from data collection through reporting, archiving and map-based retrieval/reporting. Dataforensics will create a plan to integrate and customize a data management system to fulfill the needs of the LADOOD. This Enterprise GIS-based Geotechnical Data Management System is comprised of various off the shelf software packages including PLog Enterprise, RAPID CPT, gINT, ArcGIS and ArcGIS Server integrated with critical process and workflow components to be designed and developed as part of this project.

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

The project kicked off on March 10, 2011. We have begun working on tasks 1 and 2. Specifically, we have had a kickoff meeting, questionnaires have been submitted to LADOTD personnel and returned to Dataforensics and a report summarizing the data management needs is in progress. We anticipate completing task 1 and task 2 within FY 2010-2011 and the majority of task 3.
FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

We estimate the project should be completed within approximately 12 to 15 months. Accordingly, tasks 3 through 8 should be completed within FY 2011-2012 allowing LADOTD personnel to begin utilizing the system.

Title:	Impler PMS a	ment and F	tation of th Pavement I	e Rolling Wheel De Preservation	eflectometer (RWD) in Project Status: Ongoing							
Fundin	ng Sour	ce:	State: TT	-Reg	Budget Category: State							
010				00000440		Ductory Office	Data			7/4/0000		
SIO:		NI		30000143		Project Start	Date:	(· · ·)		7/1/2009		
Resear	cn Proje		umber:	09-2P		Completion	Date	(original)		9/30/2010		
Resear	ch Ager	icy:		LSU Dr. Maatafa, Elaaifi		Completion	Date	(revised)		12/31/2011		
Principa	ar inves	ligato		Dr. Mostala Elselli		0						
			otol Budgo	BUDG	SET (STATUS	Fotimat	ad 2014, 2011	Dudaa			
Tatal C	aat	(aria		¢110.050		Tatal	Estimat			¢44.220		
Total C	ost	(orig		\$112,952		Iotai				\$41,330		
Fet Fr	nended	to D		re \$69.850 Salaries \$41.330								
	pended	IU D	10 - 2011 B		\$69,850 Salaries \$71,000 Equipment (expendable)							
EV Eur	ude I		inal)	\$77.950		Equipment	(non-ex	nendable)				
TTTU	ius	(tevi	sed)	\$60,000		Тгаур	(1011-67					
Est FV	' Evnen(diture	<u> </u>	\$60,000		Other						
230.11	Ехрепс		,	PURBOS					<u> </u>			
Project the rep- correlat LADOT need fo will inte Geogra	09-2P i eatabilit te RWD D perso or mainte egrate co aphic Inf	s cur y and defle onnel enan ollect orma	rently evalued character ection measer to quickly ce or repaired District wation System	uating the data collect istics of RWD measu surements with pave identify pavement set r as part of the State wide RWD data into m (GIS).	cted mer ctio pav the	in the research nents. A decise nt conditions a ns that may be rement preserve existing Paver	ch sites sion ma nd thick e struct vation p ment M	with the obj trix will be d cnesses and urally-deficie program. In anagement	ective o evelope I may be ent or th addition System	f assessing d to e used by at are in , this project (PMS) via		
				FISCAL YEAR 2010 -	· 20′	11 ACCOMPLIS	HMENTS	;				
The res data wi accomp discuss	search te th pave olishmer s our fine	eam ment nts ha dings	has analyz conditions as been su s.	ed collected data in t have been establish bmitted to the PRC.	he i ed. In a	research sites An interim re addition, a pres	. Repe port doo sentatic	atability and cumenting th on was made	genera nese e to the	l of RWD PRC to		
	FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES											
The respayed treatment year.	The research team will utilize RWD measurements collected in the District wide network to develop a pavement condition matrix, which would help determine pavement structural conditions and identify feasible treatment options based on RWD measurements. This project will be completed in the 2011/2012 fiscal year.											

Title:	Management and Operation of the Pavement Research FacilityProject Status:Ongoing							Ongoing		
Fundin	g Sour	ce:	State: TT	-Reg		В	ludget	Category:	State	
				Г						
SIO:				30000141		Project Start	Date:			7/1/2009
Resear	ch Proje	ect N	umber:	10-1ALF		Completion I	Date	(original)		6/30/2012
Resear	ch Ager	icy:		LTRC		Completion I	Date	(revised)		
Principa	al Invest	igato	or:	Dr. Zhong Wu						
				Budg	ЕΤ	STATUS				
		Т	otal Budge	t			Estimat	ed 2011-2012	2 Budget	t
Total C	ost	(origi	inal)	\$1,730,000		Total				\$420,000
		(revis	sed)							
Est. Ex	pended	to Da	ate	\$1,300,000		Salaries				\$250,000
	F	Y 20	10 - 2011 Bu	udget		Equipment	(expen	dable)		\$78,000
FY Funds (original) \$693,800 Equipment (non-expendable)									\$80,000	
		(revis	sed)	\$1,385,000		Travel				\$12,000
Est. FY	Expend	diture)	\$1,300,000		Other				
				PURPOS	ΕA	ND SCOPE			-	
The PR designe econom is to pro accelera A mana includes experim	F is a function of the set of the	ull sca The pract the veme pope geme ponstr	ale test fac purpose of ical alterna manageme ent testing. erators and ent of the fa uction and	ility site designed to t f LTRC's Pavement F tives to current desig ent and operation stru a research associate icility, maintenance a instrumentation activ	est Res n a ictu e wi itie	any and all ty earch Facility nd constructio ire of the PRF Il be funded in operation, pre s and planning	pes of j is to inv n pract site in this str paratio J.	pavements u vestigate and ices. The ol performing f udy. The sc ns of plans f	using the d evalua bjective ull-scale ope of tl or indivi	e Australian Ite of this study he work dual
				FISCAL YEAR 2010 -	20 ′	11 ACCOMPLIS	HMENTS	6		
• ALF L • Prepa • Acqui	ALF Loading on TTI section 5 and 6; Prepared new test site for LTRC Project 11-3GT; and Acquired a new APT test device (AtLaS).									
				FISCAL YEAR 2011-20	012	PROPOSED A	CTIVITIE	S		
ALF n ALF k Const	ALF machine maintenance; ALF loading on LTRC Project 11-3GT's test sections; and Construction and APT testing (using AtLaS30) of RCC test sections.									

Title:	Develo and Tre	pme eatn	ent of Cost nent Perfo	-Effective Pavement Treatment Selection Project Status: Ongoing								
Fundin	ng Sourc	e:	State: TT	-Reg		E	Budget	Category:	State	I		
									1			
SIO:				30000166		Project Start Date: 9/1/2						
Resear	ch Projec	ct N	umber:	10-4P		Completion	Date	(original)		6/30/2013		
Resear	ch Ageno	cy:		ULL		Completion	Date	(revised)				
Principa	al Investi	gato	or:	Dr. Mohammad Jar	nal Khattak							
				Bude	SET :	STATUS						
		Т	otal Budge	t			Estimat	ed 2011-201	2 Budge	t		
Total C	ost	(origi	inal)	\$267,395		Total				\$120,215		
		(revi	sed)						1			
Est. Ex	Est. Expended to Date \$26,920 Salaries \$75,866											
	FY 2010 - 2011 Budget Equipment (expendable)											
FY Fun	FY Funds (original) \$79,863 Equipment (non-expendable)											
		(revi	sed)			Travel				\$360		
Est. FY	′ Expendi	iture)	\$75,663		Other				\$43,989		
				PURPOS	SE A	ND SCOPE						
The ove effectiv been di follows: • Condu treatm • Identiti paven inform • Perfor distric from t • Devel make paven • Evalu- be bas • Devel maxim • Devel maxim • Devel model costs; • Integr	erall goal re selection ivided inter- iuct a com- nent select fy the pay- nent struct nation sto rrm a thor- rts. The en- he PMS of lop treatm it possible nent serv ate and u sed on the lop softwar Is with an rate all the m; and the LADC	l of t on o o th npre ctior vem cture ired oug evalu data nent le to lines user are f n abi	his study is f pavement ree phases hensive rem procedure ent treatme e and mate in LADOTE h evaluatio uation will b abase; performan e estimate t life; ate the exis e-cycle cos s for the im and agenc for paveme ility to be up odels into t staff to use	to develop pavement treatment type, projectionsisting of nine re- view of the LADOTD es; ents and treatment pri- rials, cost data, etc.) D's databases; n of the performance be based on analysis ce models based on the benefits and the lift ting LADOTD treatment plementation of cost- by benefits and the ne- plementation of cost- by benefits and minim- nt treatment perform bodated and evolved with the LADOTD PMS, P e all models developed	nt tr ect esea sta roje and e of the ife-c ent ewly -effe anc with ave ed in	eatment perfo boundaries ar arch tasks. The te-of-the-pract cts with good d pavement per various paven d review of the e available pav cycle costs of e selection mod d developed tre ective pavement their costs; ce, pavement so new pavement ment Preserva n this study.	rmance and time e scope tice reg historic erforma ment tre e time s rement each tre eatmen eatmen ont pres selection nt perfo ation sy	e models in s of treatmen e of the stud arding pave al records (ence data by eatments use series distress distress data eatment and t performan- ervation stra on and life cy ormance data ystem, and F	support t. The st y is sum ments p e.g., traf utilizing ed by all ss data a a. The n l its impa selection ce mode ategies t vcle cost a and ch Pavemer	of cost- indy has marized as rojects and fic, age, the LADOTD available nodels will act on the models will els; hat would analysis hanging nt design		

Fiscal Year 2011-2012

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

- Review of the current practices of pavement treatments within the state;
- Conduct, analyzed and document the results of interviews and the district Survey related to pavement treatments;
- Review of existing treatment selection models in progress;
- Development of computer programs for data extraction, data sorting and analysis; and
- Identification and selection of pavement treatments and treatment projects with sufficient historical records (e.g., traffic, age, pavement structure and materials, cost data, etc.) and pavement performance data by utilizing the information stored in LADOTD's databases.

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

- Analyze the performance all selected pavement projects prior and after treatment using the PMS distress data;
- Compare the costs and performance of pavement sections with and without treatments and their life extension based on the treatment;
- Evaluate the pavement treatment selection models along with associated trigger and reset values of indices for various treatment actions;
- Conduct regression analysis to develop pavement treatment models for each pavement type and distress type;
- Update pavement treatment selection models based on performance data and the experience gained over time;
- Based on the type and causes of pavement distresses in the state of Louisiana, analyze and recommend a process for identifying the optimal timing for the application of rehabilitation actions and/or preventive maintenance treatments; and
- Develop guidelines for the implementation of cost-effective pavement preservation strategies that would maximize the user and agency benefits and minimize their costs.

Title:	e: LADOTD Pavement Management System (PMS) for Project Project Status: Ongoing									
Fundin	g Sour	ce:	State: TT	-Reg		E	Budget	Category:	State	
				1		T			1	
SIO:				30000159		Project Start	t Date:		5/23/2011	
Resear	ch Proje	ect N	umber:	11-1P		Completion	Date	(original)		5/22/2013
Resear	ch Ager	ncy:		Nichols Consulting Engineers		Completion	Date	(revised)		
Principa	al Invest	tigato	or:	Ms. Margot Yapp						
				Bude	SET :	STATUS				
		Т	otal Budge	t			Estimat	ed 2011-2012	2 Budge	1
Total C	ost	(orig	inal)	\$219,774		Total				\$130,000
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$130,000
	F	Y 20	10 - 2011 Bu	udget		Equipment	(expend	dable)		
FY Fun	ds	(orig	inal)			Equipment	(non-ex	(pendable)		
		(revi	sed)			Travel				
Est. FY	Expend	diture	9			Other				
				PURPOS	SE A	ND SCOPE				
The ma PMS da accomp Becaus use the They ha observa data. A impacts is a leg limited differen very he PMS da PMS m	ain object ata can blished b e of its e PMS d ave com ations, h at the ne s on LAI itimate of funding icces in the loful to a ata in action anagers	ctive be us by a cenorin ata fo pare opin etwor DOTI cours level heir i accoo dditio s imp	of this proje sed at proje comprehen mous inforr or project le ed the distre g they mato k level, Dep D's operatio se consideri I. However ntended pu mmodate s n to others. prove their o	ect is to develop a gue ect level in the activiti sive assessment of t mation and convenie evel activities, especi ess data such as crac ch so that more confi partment policies, gu on, functions, and pe ing the current enviro r, network and projec urposes and the ways uch users' needs, wh on the other hand, quality control and que	iidel es c he i nce ally cks den idel rforn t lev s in t lev s in t he iality	line that provid of pavement e network level of for access, m for pavement and rutting fro ice and creder ines, and proc mance can be ent within LAE vels often yield which they are will specify th information c y assurance in	des info ngineer data pro ore and preserv om the F ntials ca cedures develo DOTD c d differe e collec ne accur ontaine data c	rmation on h ring. This of povided by the d more users vation at the PMS with the an be establic having vital ped based of due to the do ent sets of da ted. Clearly racy and lim ed in the guid ollection and	how netwo ojective e curren s have s local dis ose from ished wi and ext on PMS ownsizin ata due to y, a guide itation o delines v d manag	work level will be t PMS. tarted to strict levels. field th the PMS ensive data. This g and o the eline will be f the current vill also help jement.
	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS									
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S		
Start th	art the research project.									

Title: Development of a DOTD GPS Technology Management Plan Project Status: Ongoing											
Funding	Source:	State: TT	-Reg		E	Budget	Category:	State	I		
SIO:			30000162		Proiect Start	Date:			3/1/2011		
Research	Project N	lumber:	11-2P		Completion Date (original)				8/31/2011		
Research	Agency:		Inner Corridor Technologies		Completion	Date	(revised)				
Principal I	nvestigat	or:	Ms. Jennifer Harris	son	<u>אריי</u> אונער איז						
			Budg	ET S	Status						
	-	Fotal Budge	t			Estimat	ed 2011-2012	2 Budge	t		
Total Cost	: (orig	ginal)	\$49,600		Total				\$19,525		
	(rev	ised)						1			
Est. Expended to Date \$9,675 Salaries \$19,525											
FY 2010 - 2011 Budget Equipment (expendable)											
FY Funds	(oriç	ginal)	\$49,600		Equipment	(non-e)	(pendable)				
	(rev	ised)	\$30,075		Travel						
Est. FY Ex	penditur	e	\$30,075		Other						
			Purpos	SE A	ND SCOPE			-			
The purpo plan will p be accom respect to	ise of this rovide sta plished by GPS tec	s short study andards for y a comprel hnology use	Is to develop a GPS GPS use, management hensive assessment a and management.	of the	chnology mana and training fine current situ	agemei or the c ation w	nt plan on be department. vithin the dep	est pract This ob partment	ices. The jective will t with		
			FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENTS	6				
A thorough nationwide completed detailed pl practices a	h literatur e researc I. Based an to sur and GPS	e review of h projects a on input fro vey various manageme	current GPS practice and case studies on the m this literature revie agencies within and ent plans.	es, i ne n ew, † out	ncluding a sea nanagement c the team has o side Louisiana	arch of of GPS develop a to col	previous and technology l bed a compr lect informat	d on-goi has bee ehensiv ion for tl	ng n e and he best		
			FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S				
The resea departmer other ager	rch team nt. Based ncies, the	will perforn d on the res team will d	n a detailed survey of ults of the survey of evelop a detailed GF	f LA exis PS te	DOTD staff to ting use and tl echnology ma	quanti he rese nagem	fy GPS use earch of GPS ent plan for t	within th S manag the LAD	ement in OTD.		

Title:	Implen at Loui	nent isiar	ation of G na Material	PC Characterizatior Is Laboratory	ו of	Asphalt Bind	ders	Project St	tatus:	Ongoing	
Funding	g Sourc	e:	State: TT	-Reg	Budget Category: State						
						-	_			- / / / / -	
SIO:				30000142		Project Start	Date:			6/1/2010	
Researc	h Proje	ct N	umber:	10-6B		Completion	Date	(original)		12/1/2011	
Researc	h Agen	cy:		LSU		Completion	Date	(revised)			
Principa	I Investi	gato	or:	Mr. William H. Daly		-					
				BUDG	SET 3	STATUS					
		-	otal Budge	t			Estimat	ed 2011-2012	2 Budget		
Total Co	ost	(origi	nal)	\$255,438		Total				\$109,038	
		(revis	sed)	* 4.40.400		Ostavia				\$70.440	
Est. Exp	Expended to Date \$146,400 Salaries \$70,140 FX 2010 - 2011 Budget Equipment (expendeble) \$20,072										
FY 2010 - 2011 Budget Equipment (expendable) \$20,072											
FY Func	ls	(original) \$209,379 Equipment (non-expendable)									
		(revis	sed)	• • • • • • • •		Travel				^	
Est. FY	Expend	iture		\$130,500		Other				\$18,826	
				PURPOS	SE A	ND SCOPE					
This rest tool to do polymer present is being of modifi	earch w efine the modifie in cruml develop ied aspł	rill in e pe d as b rul bed. halt l	plement a rcent amou phalt ceme ober modifi Attention w pinders as	procedure for using unts of polymer modif ents. It will also addre ed binders for which vill also be paid to us well as forensic analy	gel fiers a re ing ysis	permeation ch s, which are so quantification epeated solve GPC for asse of pavement	nromato bluble ir of GPC nt/non-s ssment failures	ography (GP eluting GP solvent ins solvent prec of the exter	C) as ar C solver oluble cr ipitation nt of oxic	n analytical hts, in rumb rubber procedure lative aging	
				FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENTS	5			
 Purcha Install Transfa Calibra Begin 	ased GF columns er GPC ate GPC testing v	PC e s an to N C ins with	quipment; d test GPC laterials La trument an GPC equip	; ab; d deliver to laborator oment.	y; a	nd					
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S			
 Write c prepar Evalua Reviev Correla Prepar 	 Write detailed analytical procedures for using the GPC to characterize binder samples and procedures for preparing GPC samples from either PMAC's or asphalt pavement cores; Evaluate methods for producing larger scale binder samples from asphalt pavement cores; Review data collected at LADOTD Materials Laboratory and help compile GPC chromatogram library; Correlate GPC data with rheological testing of common samples; and Prepare final report. 										

Title: Evaluation of Dynamic Shear Rheometer Tests for Emulsions. Project Status: Ongoing									
Funding Sour	ce:	State: TT	-Reg		E	Budget	Category:	State	
SIO [.]			30000163		Project Start	Date:			9/15/2010
Research Proi	ect N	umber:	11-2B			Date	(original)		7/14/2012
Research Age	ncv.					Date	(revised)		1114/2012
Principal Inves	tigato	or:	Nazimuddin M Wasi	uc	Idin	Duio	(
			BUDGE	т :	STATUS				
	т	otal Budge	t			Estimat	ed 2011-2012	2 Budget	t
Total Cost	(orig	inal)	\$100,000		Total				\$46,000
	(revi	sed)							
Est. Expended to Date \$54,000 Salaries \$41,000									
	FY 20	10 - 2011 Bi	udget		Equipment	(expend	dable)		\$5,000
FY Funds	(orig	inal)	\$50,000		Equipment	(non-ex	(pendable)		
	(revi	sed)	\$54,000		Travel	1			
Est. FY Expen	diture)	\$54,000		Other				
			PURPOSE	A	ND SCOPE			•	
The main obje objectives are to 30000 Pa.; (ductility and el residual DSR t	ctive as fo (2) te astic astic	of this rese llows: (1) do st LADOTD recovery te or emulsion:	arch is to examine MS etermine applicable st available emulsions a sted by materials lab a s.	sC res at s an	R test at 25°C ss limits; 100F shear stress d d (3) set spec	for em Pa, 300I etermir cification	ulsion residi Pa, 500Pa, [,] ned in 1 and n for emulsio	ue. The 1000Pa, compar ons with	specific 5000Pa up e to force a quick
			FISCAL YEAR 2010 - 2	201	11 ACCOMPLIS	HMENTS	5		
 Compared re Modified the Tested DSR 	ecove evap G*/si	ry by distilla oration met n delta on r	ation, to recovery by e hod to include evapor naterial recovered fro	va ati m	poration for C on on DSR m both methods	MS-1P old; and and for	; CSS-1HP; d und them to	emulsio be com	n; parable.
			FISCAL YEAR 2011-20	12	PROPOSED	CTIVITIE	S		
 Conduct Lite Collect emula Test MSCR f Perform addi Write final re 	 Conduct Literature Review; Collect emulsion samples from various emulsion suppliers; Test MSCR for polymer modified emulsions; Perform additional laboratory experiments; and Write final report. 								

Title:	Evaluat Bridge	tion Stru	of Design uctures	Methods to Detern	ine Scour Depths for Project Status: Ongoin						
Fundin	ng Source	e:	State: TT	-Reg	Budget Category: State						
				20000445		Ducie et Oterr	Deter			4/4/0000	
SIU:	ah Draiaa		una la avi	30000145		Project Start	Date:	(4/1/2009		
Resear			umber:	08-351		Completion	Date	(original)	4/1/2011		
Resear		;y.		LSU Dr. Couping, Zhang		Completion	Dale	(revised)		9/30/2011	
Principa		Jaio	<i>и</i> .	DI. Gouping Zhang)))	STATUS					
		т	otal Budge	+		STATUS	Estimat	ad 2011-2011	2 Budge	<u>.</u>	
Total C	oot (\$200.004		Total	LStimat	eu 2011-2012	2 Duuge	¢20 562	
Total C				\$200,004		TOTAL				\$20,30Z	
Fst Fr	nended tr			\$161 442		Salaries				\$20,000	
	EV	2 DO	10 - 2011 Bi	udget		Equipment	(expend			\$3.562	
EX Europer (original) \$100.004 Equipment (expendable)							φ0,002				
FY Funds (original) \$100,004 Equipment (non-expendable) (rourided) \$100,004 Travel								\$5,000			
Est FY	´ Expendit	ture		\$71 442		Other				φ3,000	
200.11	Experial			PURPOS					Į.		
charact fundam compor	teristics a nental frar nents and	nd s new /or	orks set by parameters	on the consideration of ont properties. The new y FHWA-approved H s in the models.	ewly EC-	developed te 18, but includ	chnique e some	e will still be new statisti	based c	on the rived	
			<u>.</u>	FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENTS	;			
 Finish clays Estab for the finish Surve labora Finish soils 	ned the so ; lished the e six bridg ned the hy eyed two a atory equ ned a cass (by assign	cour ges ydra add ipm e st ning	S-based m S-based m nulic analys itional meth ent to quar udy to exal a small m	ta analysis and hydtr nodels for the six brid sis of floods and wate nods used in Texas I ntify the erosion rate mine the sensitivity o ead particle size D50	romo Iges er flc DOT of c of tho)).	eteorological of and complete bw velocities u and Florida E ohesive soils; e HEC-18 met	data ana ed the a using HE DOT usi and thod and	alysis for six ssociated h EC-18 and V ng two diffe d its applica	t bridges ydrologi VASPR(rent type bility for	s situated on c analysis D programs; es of cohesive	
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S			
 To ge Texas To ful clays To co To pro 	To get familiar and run some experiments with the FLDOT's Rotating Erosion Test Apparatus (RETA) and Texas DOT's SRICOS-EFA apparatus; To further survey these two methods for their applicability and accuracy in estimating scour depth in soft clays; To complete the data analyses for the six selected bridges situated on cohesive soils; and To prepare and submit a final report.										

Title:	Suppo Healin	ort S g Se	tudy for A ealant for E	Shape Memory Polymer Based Self- xpansion Joint Project Status: Ongoing						
Fundir	ng Sourc	ce:	State: TT	-Reg		E	Budget	Category:	State	
				1 1		1			1	
SIO:				30000172		Project Start	t Date:		5/1/2009	
Resear	ch Proje	ect N	umber:	09-5ST		Completion	Date	(original)		11/1/2010
Resear	ch Agen	icy:		LSU		Completion	Date	(revised)		7/31/2011
Princip	al Invest	igato	or:	Dr. Guoqiang Li						
				Budg	ET	STATUS				
		Т	otal Budge	t			Estimat	ed 2011-201	2 Budge	t
Total C	ost	(orig	inal)	\$72,750		Total				\$30,050
		(revi	sed)							
Est. Expended to Date \$11,917 Salaries										\$30,050
	F	Y 20	10 - 2011 Bi	udget		Equipment	(expend	lable)		
FY Fur	nds	(orig	inal)	\$42,700		Equipment	(non-ex	pendable)		
		(revi	sed)	\$42,700		Travel				
Est. FY	'Expend	liture	9	\$42,700		Other				
				PURPOS	E A	ND SCOPE			_	
Shape coordin produc delivere	Memory nating the t and the ed on tim	Poly e sel e pla ne to	ymer based ection of tw cement and the IDEA I	d Self-healing Sealan to bridges to place th d the monitoring of th Program manager.	t fo e s e pi	r Expansion Jo elf-healing sea roduct, ensurin	oint." Th alant, re ng quar	ne support w viewing the terly progres	vill be in design ss repor	the form of the ts are
				FISCAL YEAR 2010 -	20 ⁻	11 ACCOMPLIS	HMENTS	;		
• Conti • Revie • Coord	nue worl ew additi dinate wi	king onal ith L	with the Pr progress re ADOTD to a	incipal Investigator; eports ; and select a bridge for ap	plic	ation of this te	echnolo	gy.		
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S		
• Conti	Continue to work with the Principal Investigator to install a joint.									

Title:	Develop Protectio	ment of Wav	ve and Surge Atlas f al Bridges in South	s for the Design and Project Status: Ongoing							
Fundin	ng Source:	State: TT	-Reg		Budget Category: State						
SIO:			30000118		Project Start	t Date:			5/2/2011		
Resear	ch Project	Number:	10-4ST		Completion	Date	(original)		10/1/2013		
Resear	rch Agency		Ocean Engineering Associates, Inc.		Completion	Date	(revised)				
Principa	al Investiga	itor:	Mr. D. Max Sheppa	rd							
			Budg	ET	STATUS						
		Total Budge	•t			Estimat	ed 2011-201	2 Budge	t		
Total C	ost (o	iginal)	\$309,117		Total				\$100,000		
	(re	vised)									
Est. Ex	Est. Expended to Date \$20,000 Salaries \$80,000										
	FY 2	2010 - 2011 B	udget	Equipment (expendable) \$10,0							
FY Fun	nds (o	iginal)	\$75,000		Equipment	(non-ex	pendable)				
	(re	vised)	\$55,000		Travel				\$5,000		
Est. FY	′ Expenditu	re	\$20,000		Other			\$5,000			
	•			E A				<u> </u>			
The ob • Asses • Devel Devel • Devel areas	jectives of ss the vulne lop a series opment; ar lop a series adjacent to	the proposed erability for c of site spec od of site-spec o a small nur	d research (Phase I) a oastal bridges in the ific surge atlas for vul tific wave atlas includi nber of most importar FISCAL YEAR 2010 -	are 100 Iner ing nt b	to: -year hurrican able bridges a information or ridge sites in s	ne flood and price n wave south Le	zone in sou witize for wa height and v ouisiana.	th Louis ve atlas vave pe	iana; riod in the		
_											
Started	Started Task 1: Performing a Literature Survey.										
			FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	s				
 Conti Starti frequ 	 Continue Task 1: Performing a Literature Survey; and Starting Task 2: Review LADOTD selected bridges and assess their vulnerability to a 100-year flood frequency. 										

Title:	Develop	ping	g Prestres:	sed Girder Transpor	Transportation Guidelines Project Status: Ongoing						
Fundin	ig Source	e:	State: TT	-Reg	Budget Category: State						
				1		1					
SIO:				30000138		Project Start	Date:			5/2/2011	
Resear	ch Projec	t Nu	umber:	10-5ST		Completion	Date	(original)		9/1/2012	
Resear	ch Agenc	;y:		Wiss, Janney, Elstner Associates, Inc.		Completion	Date	(revised)			
Principa	al Investig	gato	r:	Mr. Jonathan McGo	orm	nley					
				Budgi	ET	STATUS					
		Т	otal Budge	t			Estimat	ed 2011-2012	2 Budget	t	
Total C	ost (origi	nal)	\$199,961		Total				\$100,000	
	(revised)										
Est. Ex	Est. Expended to Date \$20,000 Salaries \$80,000										
	FY 2010 - 2011 Budget Equipment (expendable) \$10,00								\$10,000		
FY Fun	ids (origi	nal)	\$50,000		Equipment	(non-ex	pendable)			
	(revis	sed)	\$30,000		Travel				\$5,000	
Est. FY	´Expendit	ture	1	\$20,000		Other				\$5,000	
	-			PURPOSI	ΕA	ND SCOPE			<u> </u>		
The pur girders. subject transpo	rpose of t . This will to, and p orted from	he s l be rovi the	study is to o done by as ding recom plant to th	develop (or review an ssessing and analyzir nmendation that would be bridge site.	d u ng d e	update) the tra the effect of st ensure the safe	nsporta resses ety of su	ation guidelir that transpo uch girders v	nes for p orted gird while bei	restressed ders are ing	
				FISCAL YEAR 2010 - 2	20 [.]	11 ACCOMPLIS	HMENTS	6			
Started states.	Task 1: F	Rev	iew the sta	te of practice of trans	ро	rtation of pres	tressed	girders in L	ouisiana	and other	
				FISCAL YEAR 2011-20)12	PROPOSED A	CTIVITIE	S			
 Continutranspondent Start of plan set of the start of the	 Continuation of Task 1 started in previous Fiscal Year 10-11: Review the state of practice of transportation of prestressed girders in Louisiana and other states; Start of Task 2: Submit an instrumentation plan to the Project Review Committee (PRC). Instrumentation plan should be prepared for two prestressed girders that are transported to different construction sites. Instrumentation should be able to quantify stresses that a girder may experience during transportation and handling under different conditions, such as traffic speed, road geometry, sharp turns, and girder supports, and provide stress limit for transported girders; and Start of Task 3: Perform field work as approved as stated in Task 2. 										

Title: Devel	opin	g Louisian	a Crash Reduction F	actors		Project S	tatus:	Ongoing
Funding Sour	ce:	State: TT	-Reg	E	Budget	Category:	State	
SIO			30000149	Project Start	Date:			11/1/2009
Research Proi	ect N	umber:	08-355		Date	(original)		10/31/2011
Research Age	ncv.			Completion	Date	(revised)		10/01/2011
Principal Inves	tigato	or:	Dr. Xiaoduan Sun	Completion	Date	(*******)		
	<u> </u>		BUDGE	T STATUS				
	т	otal Budge	t		Estimat	ted 2011-201	2 Budge	t
Total Cost	(origi	inal)	\$178,087	Total				\$68,087
	(revis	sed)						
Est. Expended	to Da	ate	\$110,000	Salaries				\$45,000
I	TY 20 ⁻	10 - 2011 Bi	udget	Equipment	(expen	dable)		
FY Funds	(origi	inal)	Equipment	(non-e	xpendable)			
	(revis	sed)		Travel				\$3,087
Est. FY Expen	diture	;	\$91,859	Other				\$20,000
			PURPOSE	AND SCOPE			-	
The primary go Particularly, thi • Document the • Determine th • Develop som • Develop a we	bal of is res e stat e CFI e CFI eb bas	this resear earch will: e-of-the-pra Rs to be de Rs with ava sed tool list	ch is to develop and d actice in CFR develop eveloped for Louisiana; ailable information und ting the published CFR	ocument a list o ment; ; er the budgetary &s and their deve	f CRFs / const elopme	to be used f raint; and nt informatic	by LADO on.	DTD.
			FISCAL YEAR 2010 - 2	011 ACCOMPLIS	HMENT	6		
Contacting the	enfo	rcement aç	gencies and Collecting	enforcement da	ıta.			
			FISCAL YEAR 2011-20	12 PROPOSED A	CTIVITIE	S		
Developing CN	ЛF ро	ossible for e	enforcement actions.					

Title: Automated Enforcement and Highway Safety Project Status: Ongoing												
Fundin	ng Sour	ce:	State: TT	-Reg		Budget Category:			State			
									1			
SIO:				30000203		Project Start	Date:		6/1/2011			
Resear	ch Proje	ect N	umber:	10-3SS		Completion I	Date	(original)	5/31/2013			
Resear	ch Agei	ncy:		Cambridge Systematics		Completion Date (revised)						
Principa	al Inves	tigato	or:	Dr. Susan Herbel								
				Budgi	ET \$	STATUS						
		Т	otal Budge	t		I	Estimat	ed 2011-2012	2 Budge	:		
Total C	ost	(orig	inal)	\$130,000		Total				\$65,000		
		(revi	sed)									
Est. Ex	pended	to D	ate			Salaries				\$40,000		
	F	TY 20	10 - 2011 Bu	udget		Equipment	(expend	dable)		\$600		
FY Fun	Y Funds (original)					Equipment	(non-ex	pendable)				
	(revised)					Travel			\$1,000			
Est. FY	Est. FY Expenditure					Other				\$23,400		
				PURPOSI	ΕA	ND SCOPE			-			
The ob enforce concern evaluat policies	jectives ement sons; quar tion for i s and sto	of th uppor ntify a mple ategi	is research rted and op and compar menting au ies designe	are to identify and qu posed by the public a re automatic enforcent tomatic enforcement ed to address public co	ian ind ner coi onc	tify the aspect develop polic it with tradition mpared to trac cerns; and dev	ts of au ies and nal enfo litional velop re	tomated red strategies a rcement; co enforcemen commended	l light rui addressi induct ai t with the d practic	nning ng public n economic e applied es.		
				FISCAL YEAR 2010 -	20 ⁻	11 ACCOMPLIS	HMENTS	;				
				FISCAL YEAR 2011-20)12		CTIVITIE	S				
 Identi proble Identi of suj Quan runnii Deve enfor 	Identify aspects of the automatic detection of red light running that the public find offensive or problematical and quantify the level of opposition on each aspect; Identify the aspects of automatic detection of red light running the public supports, and quantify the level of support on each aspect; Quantify the safety impact of automatic enforcement versus traditional enforcement in countering red light running; and Develop alternative policies and strategies aimed at addressing public concerns of automatic enforcement of red light running.											

Title:	Truck	Faci	ility Acces	s Design Guidelines		Project Status:		Ongoing	
Fundin	g Sour	ce:	State: TT	-Reg	E	Budget	Category:	State	
SIO:				30000202	Project Start	Date:			4/25/2011
Resear	ch Proje	ect N	umber:	10-4SS	Completion	Date	(original)		4/24/2013
Resear	ch Ager	ncy:		GEC, Inc.	Completion	Date	(revised)		
Principa	al Inves	tigato	or:	Ms. Lucy Kimbeng					
				BUDGET	STATUS				
		Т	otal Budge	t		Estimat	ed 2011-2012	2 Budge	t
Total C	ost	(orig	inal)	\$99,396	Total				\$64,378
		(revi	sed)						
Est. Ex	pended	to D	ate		Salaries				\$45,452
	F	Y 20	10 - 2011 Bu	udget	Equipment	(expen	dable)		
FY Funds(original)\$18,710Equipment(non-expendable)									\$4,500
(revised) Travel									
Est. FY	Expend	diture	Э	\$18,710	Other				\$14,426
				PURPOSE	AND SCOPE			•	
The ma from tru achieve Task 1: Task 2: Task 2: Task 3: Task 4: Task 5:	in purpo ick stop the de Identif highw Invent layout Recon Evalua Docun	ose c facil sired y exi ays a ory ti s; d goo ate c nent	of this proje ities adjoini objective. sting acces and for facil ruck stops a od and bad urrent pract recomment	ct is to develop design ng interstate highways s design standards/ gu ities accessed by mean adjoining interstates in I practice in truck facility ice and recommend pro-	guidelines for a in Louisiana. T idelines for truc is of an intercha Louisiana and r access design eferred guidelin	iccess I he follo k facilit ange in ecord o ; ies; and	by means of owing tasks w ties adjoining other states current acce	intercha will be p g intersta s; ss and t	ange, to and ursued to ate ruck stop
				FISCAL YEAR 2010 - 20	011 ACCOMPLIS	HMENTS	3		
The wo	rk relate	ed to	this project	t has not commenced y	et. Hence noth	ing is li	sted in this s	ection.	
				FISCAL YEAR 2011-201	2 PROPOSED A	CTIVITIE	S		
The foll	owing a	ctivit	ties are pro	posed for the fiscal yea	r 2011-2012.				
Task 1: Task 2:	 ask 1: Identify existing access design standards/ guidelines for truck facilities adjoining interstate highways and for facilities accessed by means of an interchange in other states; and ask 2: Inventory truck stops adjoining interstates in Louisiana and record current access and truck stop layouts. 								

Title:	Title:Developing Inexpensive Crash Countermeasures for Louisiana Local RoadsProject Status:Ongoing											
Fundin	g Sour	ce:	State: TT	-Reg		E	Budget	Category:	State			
010				20000040		Ducie et Ote at	Data			4/47/0044		
SIU:	ah Drai			30000240		Project Start	Date:	(1/17/2011		
Resear	ch Proje		umber:	10-555		Completion		(original)		1/16/2013		
Principa		tigate	or:	Dr Helmut Schnei	Schneider							
Тппсіре		iyan	JI.	Bung	ET	STATUS						
		т	otal Budge	t			Estimat	ed 2011-201	2 Budget	t		
Total Co	ost	(orig	inal)	\$100,000		Total				\$55,179		
		(revi	sed)									
Est. Expended to Date \$5,146 Salaries \$22,95										\$22,955		
	F	Y 20	10 - 2011 Bi	udget		Equipment	(expen	dable)				
FY Fun	FY Funds (original) \$2					Equipment	(non-e)	(pendable)				
		(revi	sed)			Travel						
Est. FY	Expen	diture	9	\$15,000		Other			\$32,224			
				PURPOS	SE A	ND SCOPE			-			
This pro roads th of all cra attentio importa a local n counter proposa will be o cost cou geomet road se projects guidelin	oject us nat are ashes in n neede road sa measur al deals develop unterme gment t s. Finall nes and	es a ranke n Lou ed to of the fety p res th with ed to easu ures that i y a lo proc	systems ap ed as high r reduce cra e overall eff program are both issues assess the res will be r and crash f ncorporates ocal road sa redures for	pproach to develop in risk with respect to cr on local roads local r ish frequencies. How forts to reduce crashe e hampered by the la ocal agencies to reduce s. First, statistical mode e risk of local road se esearched and recor requency and type o is the risk, benefits of afety improvement pr a systematic system-	exp ash oac eve es a ck o uce odel: gm f cra imp ogra	bensive crash a numbers and d safety improver, Local road of and their sever of an appropria crash frequents, a so called ents with resp ended for indiversion ashes. Thirdly, provements, and am will be dev le road improversion	counte //or sev /ement crash c crash c ity in L- ate risk cies wi safety p ect to c /idual r , a scor nd cost eloped rement	rmeasures for erity of crash programs h ountermease ouisiana. Th assessmen th limited bu performance crash frequen oad segmen re will be dev which allow to allow loca methodolog	or Louisi nes. Alth ave not ures are e efforts t and lov dgets. T functior ncies. So ts based veloped rs rankin al agence y.	ana local nough 40% received the an to develop v cost This ns (SPF), econdly, low d on current for each g of road cies with		
	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS											
At the e literatur this incl Louisiar Perform	At the end of Fiscal Year 2010-2011 two substantive aspects of the project will have occurred. First, the literature review will be submitted and presented to the PRC. Second, the data assessment will be started; this includes plans for data collection (crashes, AADT, geometric features of road segments) from the Louisiana Crash Database, the Local Road File of the Surface Transportation Log, the Highway Performance Management System and local agencies.											

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

The proposed activities during fiscal year 2011-2012 are: develop a safety performance function, estimate safety risk levels of local road sections in Louisiana, identify crash countermeasures, and estimate the cost of these candidate countermeasures.

Title:	Establ at LTR	lishiı RC (P	ng an Intel Phase II)	ligent Transportatio	on S	Systems (ITS)	Lab	Project S	tatus:	Ongoing
Fundin	ng Sour	ce:	State: TT	-Reg		E	Budget Category:			
							_			
SIO:				30000140		Project Start	Date:			8/20/2010
Resear	ch Proje	ect N	umber:	10-6SS		Completion	Date	(original)		11/19/2011
Resear	ch Ager	ncy:		LSU		Completion	Date	(revised)		
Principa	al Invest	tigato	or:	Dr. Sherif Ishak						
				Buda	SET :	STATUS				
		Т	otal Budge	t			Estimat	ed 2011-2012	2 Budget	t
Total C	ost	(orig	inal)	\$87,474		Total				\$28,031
		(revi	sed)						1	
Est. Ex	pended	to Da	ate	\$34,443		Salaries				\$28,031
	FY 2010 - 2011 Budget					Equipment	(expend	dable)		
FY Fun	nds	(orig	inal)	\$71,809		Equipment	(non-ex	(pendable)		
		(revi	sed)	\$59,443		Travel				
Est. FY	'Expend	diture)	\$59,443		Other				
				PURPOS	SE A	ND SCOPE			-	
The lab to cond catalys detecto motion use in a effectiv LTRC s	o will add luct "lead t to colle ors and c data, et applicati ely supp support s	dress ding ect ar came c. Th ons o oort a study	the needs edge" rese nd store da eras), as we ne ITS lab v of their nee applications v 10-7SS.	of LADOTD, other a arch and training of g ta from various ITS s ill as other sources o vill also process this ds. The ultimate goa of immediate and lo	gen grac sour f da data l is f	icies, and the luate students ces such as tr ta such as cra a and make it to create a cent term needs. T	public, . The la affic mo ash data availab ntralize his proj	as well as se ab will prima phitoring sys a, planning o le to the inte d location fo ect works in	erve as a rily serve stems (e data, we rested a r data th conjunc	a foundation e as a .g. video igh-in- agencies for nat can ction with
				FISCAL YEAR 2010 -	· 20′	11 ACCOMPLIS	HMENTS	6		
The con wiring a video w other re A softw freeway	nference and renc vall by L elated ha vare prog ys, as w	e roo ovatic SU a ardwa gram ell as	m at LTRC on work has ind several are. Purch is currently s provides a	has been remodeled been completed by bids were received. ase requisition is bei being developed fo web interface for da	d an fac Cir ng p r tra atab	id partitioned t ility services. hemax was se prepared now. ansmitting and base queries.	o creat Reques lected f	e the design st for bids wa or acquisitio ng traffic da	nated lab as issue n of vide ta from t	o space. All d for the eo wall and the
	<u>, ,</u>		•	FISCAL YEAR 2011-2	2012	PROPOSED A	CTIVITIE	S		
 Acqui softw Setup Laund Devel Subm 	isition ar are, furr and tes ch the so lop lab c hit final n	nd ins niture sting oftwa opera	stallation of e; of the lab e are for data ating policie t.	workstations and ot equipment; archival and web int s; and	her erfa	computer hard	dware o	components	, video v	vall,

Title:	Measu	ring	Effectiver	ness of Ramp Meter	ing	Strategies o	n I-12	Project S	tatus:	Ongoing
Fundir	ng Sourc	e:	State: TT	-Reg		E	Budget	Category:	State	
				20000177		Ducie et Ctert	Data			4/4/2044
SIU:	rah Draia	at N		30000177		Project Start	Date:	(and address D		4/1/2011
Resear			umber:	11-255		Completion	Date	(original)		3/31/2013
Princip	ol Invocti	Cy.	Nr :	LOU Dr. Sharif Jahak		Completion	Dale	(Tevised)		
FIIICIP	al Investi	iyan	<u>л.</u>		· E T	STATUS				
		т	otal Budge	t Bobe		STATUS	Estimat	ed 2011-201	2 Budge	+
Total C	`eet	(orig		000 00 ⁰		Total	Lotinat	eu 2011-2012	z Duuge	¢50.000
Total C	JOSI	(ong		\$99,999		TOTAL				\$ 50,000
Est Ev	nended 1					Salaries				\$50,000
LSI. EX		v 20	10 - 2011 P	Idaet		Equipmont		dable)		φυυ,υυυ
EV Eur		1 2U		the solution		Equipment	(expen	(nondoble)		
FY Funds (original) \$26,205 Equipment (revised) \$15,000 Travel								(pendable)		
Ect EV	/ Expend	liture	seu)	\$15,000		Other				
	схрепи	nure	;	\$15,000 B upper					l	
 of this s Concordent other mete Ident durin Colle perio Concordent Concordent	study are duct a brid states. T ring bene ify the ra g the cou- ect traffic ds when duct thorce c data; ar elop a sta ent ramp rmance.	e to: ef lit This efits amp urse data ram ough nd tistic o me	erature rev is to identif and their re junctions (s of study, (1 a at each of p metering analysis to cal analysis tering strate	iew of the most received the successful state (y the successful state (study area) where ran (Task 2); (the identified location is turned on and off, (o evaluate the effection (s model to illustrate the (segies that would option)	nt re e-ol arch mp i ons o (Ta ven i ven i ne i miz	esearch finding f-the-practice f n study, (Task metering has a over a period o ask 2); ess of ramp m mpacts to trav e the metering	gs on ra techniq 1); already of at lea netering el alona param	amp meterin ues for asse been or will ast three mo on I-12 usin othe I-12 co neters and m	g applic ssment be impl nths inc ng the co nridor ar naximize	ations in of ramp emented luding ollected nd test
				FISCAL YEAR 2010 -	20	11 ACCOMPLIS	HMENTS	3		
The pro	oject star	ted	on April 1, 2	2011. Partial literatu	re r	eview has bee	en comp	pleted to dat	е.	
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S		
 Composite Coord on I-1 	olete the s; dinate wi 12;	liter: th L	ature reviev	w on ramp metering s begin the process of	stra [.] coll	tegies and suc ecting traffic d	ccessfu lata fro	l implementa m all ramp n	ations in netering	other locations
AnalyCond	vze the da luct traffic	ata t c an	o determin alysis as de	e its quality; and escribed in the resea	rch	proposal.				

Title: Rese	arch	Expansion	Program		Project S			tatus: Ongoing	
Funding Sou	rce:	State: TT	-Reg	E	Budget	Category:	State		
810.			20000400	Droiget Ster	t Data:			11/1/2000	
SIU: Research Pro	ioct N	umbor:		Completion	Date:	(original)		11/1/2000	
Research And		unber.		Completion	Date	(revised)		6/30/2012	
Principal Inve	stigate	or.	Dr Vijava Gopu	Completion	Date	(1011000)		0/00/2012	
	Jugan		BUDGE	T STATUS					
	1	fotal Budge	t		Estimat	ed 2011-2012	2 Budget		
Total Cost	(orig	jinal)	\$363,309	Total				\$240,884	
	(revi	sed)	\$1,088,594						
Est. Expende	d to D	ate	\$1,088,594	Salaries				\$230,384	
	FY 20	10 - 2011 B	udget	Equipment	(expen	dable)			
FY Funds	(orig	jinal)	\$229,913	Equipment	(non-e)	(pendable)			
	(revi	sed)		Travel				\$10,500	
Est. FY Exper	diture	Э	\$229,913	Other					
			PURPOSE	AND SCOPE			•		
To cover adm technology tra	inistra	ative costs f expansion	nandled under contract funding programs.	t to support the	LTRC r	esearch dev	relopme	nt and	

FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS

 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. Environmental Efficiency and Durability of Asphalt Mixtures, NCHRP-IDEA Program, \$182K; Application of NASA Satellite Rainfall Measurement, NASA, \$400K;
 Several proposals are under preparation for submission to funding agencies. Coordinated the TIER Program. Fifteen proposals were received and four awards were recommended for 11.12 fixed wears.
 Established a CAREER-BRIDGE Learning Community at LSU in cooperation with Dr. Roger Seals to assist junior faculty in developing competitive proposals for submission to NSF. The Learning Community will be expanded in the near future to include faculty at most Louisiana universities; Continued efforts to coordinate the assembly of research project data for the various DOT's in the SE Transportation Consortium;
 Chaired the industrial Advisory Board Meetings of the NSF University-industry Center for integration of Composites into Infrastructure held in Fort Lauderdale, FL, in February, 2011 and Raleigh, NC, in June, 2011;
 Served as a member of the Committee of Visitors for the NSF EFRI (Emerging Frontiers in Research and Innovation) Program in January, 2011. This is the highest level of service that can be offered to NSE.
 Served as a member of the Site Visit Teams for the NSF NEES Headquarters and the following Equipment Sites, Purdue University, NEES Headquarters September, 2010, University of Texas – Austin, NEES Geotech Equipment Site September, 2010, University of California - Los Angeles, NEES Portable Earthquake Equipment Site September, 2010, University of California - San Diego, NEES Large Shake Table Equipment Site March, 2011, Oregon State University – Corvallis, NEES Tsunami Wave Table Equipment Site April, 2011, University of California – Davis, NEES Centrifuge Equipment Site May, 2011;
 Served on the following NSF Review Panels, REU Site Review Panel, Washington, D.C. November, 2010 and NEES Research Proposals Reviewer (Mail reviews only) May, 2011; Served on the 2011 Tulane Engineering Forum Organizing Comm., and as the Co-Chair for the Infrastructure session:
 Presented a research paper at the Louisiana Engineering Conference, September, 2009; Attend the National Association of Home Builders Research Center Experts Meeting on Uplift in Buildings held in Washington, D.C. in July, 2010;
• Delivered a lecture on ASD & LRFD in Wood Construction to the New Orleans ASCE Structures Section in August, 2010;
 Held a Proposal Writing Workshop in collaboration with Prof. Seals at LSU in October, 2010; Delivered a Grand Challenges Lectureââ, ¬Â to the freshmen class at Tulane University in November, 2010;
 Attended the 7th Int. Bridge Engineering Conference in San Antonio, December, 2010 and the TRB Meeting in Washington, D.C., January, 2011; Coordinated and the choired the Senior Design Brainets econics at the Louisiana Transportation
 Conference held in Baton Rouge in January, 2011; Chaired the ASCE Committee on Wood Research meeting at the ASCE Structures Congress held in
Las Vegas, May 2011; and • Participated in the Educator Session at the AISC/NASC Conference held in Pittsburgh, PA, May, 2011.

Fiscal Year 2011-2012

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

- Increase number of collaborative proposals submitted by university faculty and industrial collaborators through LTRC to external funding agencies. Active involvement of collaborators from other institutions is being sought because of the limited number of faculty engaged in transportation related research in the state;
- Continue effort to identify NHI courses than can be offered by Louisiana faculty;
- Pursue efforts to offer statewide ME program after the reorganization of the universities and management boards is completed in 2011;
- Offer a timber design course on a state-wide basis utilizing LTRC's distance learning capability;
- Continue coordination of TIER program;
- Expand the CAREER-BRIDGE Learning Community to involve faculty in various Louisiana universities; and
- Organize an EFRI workshop in cooperation with the EFRI program at NSF.

State Funded Research Program

PROPOSED RESEARCH

Title:	Addressing Traffic Data Requirements for Development of Axle Load Spectra and Implementation of MEPDG in Louisiana (Phase II)Project Status:Proposed										
Fundin	ng Sour	ce:	State: TT	-Reg		E	Budget	Category:	State		
SIO.						Project Start	Date:		12/1/2011		
Resear	ch Proi	ect N	umber:	12-10P		Completion	Date	(original)		12, 1, 2011	
Resear	ch Age	ncy:		LTRC		Completion Date (revised)					
Principa	al Inves	tigato	or:	Dr. Sherif Ishak		·					
				Budg	ET (Status					
		т	otal Budge	t			Estima	ted 2011-201	2 Budge	t	
Total C	ost	(orig	inal)	\$150,000		Total				\$50,000	
		(revi	sed)						•		
Est. Ex	pended	to D	ate			Salaries				\$50,000	
	FY 2010 - 2011 Budget					Equipment	(expen	dable)			
FY Fun	FY Funds (original)					Equipment	(non-e	xpendable)			
	(revised)					Travel					
Est. FY	' Expen	diture	9			Other					
				PURPOS	E A	ND SCOPE					
The sco Louisia improvi models design	ope of t na. All f ing traff and pr process	he sti indin ic dat ocedi s.	udy is limite gs and guid a quality fo ures will be	ed to the current prac delines will be geared or current and future p applied to identify th	tice I tov bave e m	s and traffic m wards the nee ement design ain traffic cha	nonitori ds of th practic racteris	ng system w ne LADOTD es. Appropria stics that infl	rithin the with the ate statis uence th	e state of purpose of stical ne pavement	
				FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENT	8			
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S			
Task 1: Task 2: Task 3: Task 4:	 ask 1: Update literature review and gather facts on data sources; ask 2: Establish a standard procedure to collect reliable WIM data; ask 3: Develop a procedure to collect data from LTPP and weight enforcement sites; and ask 4: Begin pilot study. 										

Title:	Chem Perfo	ical (rman	Characteri: Ice	zation of Asphalts F	Rela	ated to their Projec			tatus:	Proposed
Fundin	ng Sour	ce:	State: TT	-Reg		E	Budget	Category:	State	
SIO:						Project Start	Date:		4/1/2012	
Resear	ch Proje	ect N	umber:	12-3B		Completion	Date	(original)		4/1/2014
Resear	ch Agei	ncy:				Completion	Date	(revised)		
Principa	al Inves	tigato	or:							
				Budg	ET :	STATUS				
		Т	otal Budge	t			Estimat	ed 2011-2012	2 Budge	t
Total C	ost	(orig	inal)	\$200,000		Total				\$50,000
		(revi	sed)							
Est. Ex	pended	to D	ate			Salaries				\$50,000
	F	Y 20	10 - 2011 Bu	ıdget		Equipment	(expend	dable)		
FY Fun	Y Funds (original)					Equipment	(non-ex	pendable)		
	(revised)					Travel				
Est. FY	Est. FY Expenditure					Other				
				PURPOS	SE A	ND SCOPE			÷	
The ag recycle using g physica immedi constru nor acc work, if methoc conside • As • Cru • Wa	e harde d aspha el perm al prope iate env iction is curately succes d to iden eration f phalt biu umb rut arm mix	ning alt pa eatio rties ironn the f pred sful v tify F or GI nders ober o aspl	properties of vement, RA on chromato from the po nent (such a occus of this ict the RAP will verify sp RAP quantit PC applicat s; containing a nalts.	of asphalt materials a AP, used in construct ography. Bringing this int of view of their ch as air oxygen) in rela work. At present, the binder blends from a becification limits for l ies in mixtures confir ion are:	and ion s inf eem tion ere a de RAF min	the quantificat could be ident ormation to co- ical composition to their perfor are no method esign perspect P and new asp g design subn	tion of t tified wi ompare on and/ rmance ds to ve ds to ve ive with ohalt mi nittals.	he asphalt t th molecula to other mix or their reac in paving th erify percent out costly e xture blends Other mater	binder co r charac and bin ctivity tow ne roads ages of xtraction s and pro ials under	ontained in terization nder wards their or other RAP use, ns. This ovide a er
				FISCAL YEAR 2010 -	20	11 ACCOMPLIS	HMENTS	;		
				FISCAL YEAR 2011-2	012		CTIVITIE	S		
To be c	determir	ned u	pon award	of contract.						

Title:	A Nov Repai	el Fi r	Project S	tatus:	Proposed						
Fundir	ng Sour	ce:	State: TT	-Reg		E	Budget	Category:	State	I	
212							.			= 11/0011	
SIO:	ah Desi	t NI		30000310		Project Start	Date:	(a state a D		7/1/2011	
Resear	rch Proje		umber:	11-2TIRE		Completion	Date	(original)			
Resear	ch Ager	icy:		LSU Dr. Cofu li		Completion	Date	(revised)			
Princip	armves	ligat	JI.	DI. Gelu JI	ET.	STATUS					
		T	Total Budge	t			Estima	ted 2011-201	2 Budge		
Total C	ost	(orig	inal)	\$30,000		Total	Lotina		2 Buuge	\$30,000	
	/031	(revi		\$00,000		Total				400,000	
Fet Fv	nended		ate			Salaries				\$25 560	
	.pended	IU D	10 - 2011 B	udget		Equipment	(exper	dable)		\$4,431	
EV Eur	ude.		inal)		Equipment	(exper	vpendable)		ψ4,401		
FY Funds (original) Equipment (non-expendable) (revised) Travel											
			seu)			Other					
ESI. F I	Expend			Puesee							
The sci evaluat implem physica exposu The sci Task 1 Task 2 Task 3	ientific a te the no nent this al proper ire. ope of th : The se : The ev : The Ev	nd te ovel r nove rties ne wo lectio aluat valua	echnical ob nanoclay re el fire resist of FRP; an ork will be a on of raw m tion of nove tion of nove	jectives of this resear einforced intumescent ant FRP to enhance to d (3) to also increase accomplished through naterials and the fabri el fire resistant fiber re el fire resistant FRP-r FISCAL YEAR 2010 -	ch co the the the cati epa	work are ident ated fire-resist fire resistant, e residual stren e following: on of specime orced polymer aired reinforced	ified as tant FF thermangth of en; (FRP) d conc	s follows: (1) RP system, a al insulation, FRP repaire system; and rete (RC) be	design s showr mechan ed concr d ams.	and in Fig.1; (2) ical, and ete after fire	
Ot- ri . i	(Test 1							-			
Start of	r Task 1	•									
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	ES			
• Conti • Subm	nuation nittal of a	of Ta a fina	asks 1,2, ar Il report.	nd 3; and							

Title:	An Ul Monit	tra-L oring	ow Cost W g of Strand	/ireless Sensor Net s in Cable Stay Brid	wor dge	ork for Real-Time Proj			Project Status:		
Fundir	ng Sour	ce:	State: TT	-Reg		E	Budget	Category:	State		
			•			1					
SIO:				30000311		Project Start	Date:			7/1/2011	
Resear	ch Proj	ect N	umber:	11-3TIRE		Completion	Date	(original)			
Resear	ch Age	ncy:		LTU		Completion	Date	(revised)			
Princip	al Inves	tigato	or:	Dr. Arun Jaganath	an						
				Bude	SET :	STATUS					
		Т	Total Budge	t			Estimat	ed 2011-2012	2 Budge	t	
Total C	ost	(orig	inal)	\$30,000		Total				\$30,000	
		(revi	sed)								
Est. Ex	t. Expended to Date					Salaries				\$24,400	
	FY 2010 - 2011 Budget					Equipment	(expen	dable)		\$3,500	
FY Fur	Y Funds (original)					Equipment	(non-e)	(pendable)			
		(revi	sed)			Travel	1		\$2,000		
Est. FY	' Expen	diture	Э			Other				\$100	
				Purpos	SE A	ND SCOPE			-		
The pu which c base st The sc AE tecl Task 1. Task 2. Task 3. Task 4. Task 5.	rpose o can be o tation w ope of t hnique i . Carryin cause . Desigr . Develo . Field to	f the distrib hen a he pr n spe ng ou d dui n and opme esting	study is to a buted along any abnorm oposed wo ecific to the at laboratory ring a wire l fabrication nt of neural g to obtain t g of the fina	fabricate, test and ex the cable stays for re al activity is detected rk is to carry out expl wireless application tests using a loaded break and oscillation of MSP430 based s I network based sign the AE signatures ca I prototype and repo	cploi eal- d. lora on d ca ca ca al d use rt ge	re the applicat time monitorin tory research cable stays. T ble to obtain a or node and b etection and c d by traffic and eneration.	bility of lig and v to inves This will acoustic ase sta lassific d backo	an ultra-low wireless com stigate the va be accomple c emission (/ ation; ation algorith ground noise	cost se nmunica arious a lished th AE) sign hm; e; and	nsor node tion with the spects of irough: atures	
				FISCAL YEAR 2010 -	· 20′	11 ACCOMPLIS	HMENTS	3			
Start of	Task 1										
				FISCAL YEAR 2011-2	2012	PROPOSED A	CTIVITIE	S			
ContiSubrr	nuation hittal of a	of Ta a fina	asks 1 throu al report.	ugh 5; and							

Title:Design, Fabrication and Testing of a Low Cost, Highly Durable, "Green" Median BarrierProje										Proposed
Funding	Sourc	e:	State: TT	-Reg		В	Budget	Category:	State	
SIO				30000312		Project Start	Date:			7/1/2011
Research	n Proie	ct N	umber:	11-4TIRE		Completion I	Date	(original)		
Research	n Agen	cy:		LTU		Completion I	Date	(revised)		
Principal	Investi	igato	or:	Dr. Erez Allouche		•				
				Budgi	ЕТ 🕄	Status				
		т	otal Budge	t		l	Estimat	ed 2011-2012	2 Budge	t
Total Cos	st	(origi	inal)	\$30,000		Total				\$30,000
		(revi	sed)							
Est. Expe	ended	to Da	ate			Salaries				\$23,780
	F	Y 20 [.]	10 - 2011 Bu	udget		Equipment	(expen	dable)		\$4,620
FY Funds	S	(origi	inal)			Equipment	(non-e	(pendable)		
		(revis	sed)			Travel			\$600	
Est. FY E	xpend	liture	;			Other				\$1,000
				PURPOSE		ND SCOPE			<u> </u>	
The purp cementitie manufact	ose of ous ma turing a	this ateria and o	study is to als as a 10 casting of a	use inorganic polyme 0% substitute Portlan precast concrete bar	er co d c riei	oncrete (geop ement as the [.] .	olymer binder), an emergi in the matrix	ng class (in the	s of
The scop	e of th	is pr	oject will be	e as follow:						
Task 1: Phase 2: Phase 3:	Literat Establ Exper	ure i lishn imer	review; nent of mix ntal evaluat	design for geopolyme ion of structural respo	er c	oncrete based e.	d on lo	cally availab	le mater	ials; and
				FISCAL YEAR 2010 - 2	201	1 ACCOMPLIS	HMENT	6		
Start of T	ask 1⊺	Liter	ature.							
				FISCAL YEAR 2011-20)12	PROPOSED A	CTIVITIE	S		
 Continu Task 2: Task 3: Task 4: 	uation d Estab Manut Barrie Prepa	of Ta lishr factu er; an iratic	ask 1; nent of mix uring of a co nd on of Final I	design for geopolyme oncrete barrier and ex Report.	er c cpe	concrete base	d on lo lation c	cally availab f structural r	le mater response	ials; e of the

Title: Traffic Counting Using Existing Video Detection Cameras							Project S	Project Status:			
Funding Source: State: TT-Reg					Budget Category: State						
			[<u> </u>			7/4/00/44		
SIO:			40.400		Project Start	Date:	/ · · · · · · · · · · · · · · · · · · ·		7/1/2011		
Research Pl		lumper:	12-155		Completion		(original)		6/30/2013		
Research A	jency:				Completion	Date	(revised)				
Principal Inv											
		l otal Budge	t			Estima	ted 2011-201	2 Budge	t		
Total Cost	(orig	ginal)	\$150,000		Total				\$50,000		
	(rev	ised)									
Est. Expend	ed to D	late			Salaries				\$30,000		
	FY 20	010 - 2011 B	udget		Equipment	(exper	dable)				
FY Funds	(orig	ginal)			Equipment (non-expendable)						
	(rev	ised)			Travel						
Est. FY Exp	enditur	е			Other				\$20,000		
			PURPOS	ΕA	ND SCOPE			-			
The purpose of the project is to establish software programs that are capable of processing the data collected by existing video detection cameras and producing estimates of daily, monthly, and seasonal adjustment factors that will allow daily estimates of AADT. The scope of the project is limited to video detection cameras in Baton Rouge.											
			FISCAL YEAR 2010 -	20 [,]	11 ACCOMPLIS	HMENT	S				
			FISCAL YEAR 2011-20	012	PROPOSED A	CTIVITIE	S				
 Review existing software programs available from the manufacturer of the video detection equipment; Evaluate the software programs to determine whether they are capable of establishing the adjustment factors required in the study; If necessary, develop additional software to estimate adjustment factors; and Demonstrate use of the software programs in sample applications. 											

Title:	itle: Creation of a Strategic Plan for Highway Safety Research						Project S	Project Status:		
Funding Source: State: TT-Reg				Budget Category: State						
									1	
SIO:						Project Start	Date:			7/1/2011
Researc	ch Proje	ect N	umber:	12-2SA		Completion	Date	(original)		6/30/2012
Researc	ch Ager	ncy:				Completion	Date	(revised)		
Principa	al Invest	tigato	or:							
BUDGET STATUS										
		Т	otal Budge			I	Estimate	ed 2011-2012	2 Budge	:
Total Co	ost	(orig	inal)	\$50,000		Total				\$50,000
		(revi	sed)							
Est. Exp	pended	to D	ate			Salaries				\$50,000
	F	Y 20	10 - 2011 Bu	udget		Equipment	(expend	dable)		
FY Fun	ds	(orig	inal)			Equipment	(non-ex	pendable)		
		(revi	sed)			Travel				
Est. FY	Expend	diture	;			Other				
				Purpos	SE A	ND SCOPE			-	
Currently, there is a national effort underway for a strategic focus to highway safety research. Strategic research planning provides the framework for a state and its partners to collaborate and ensure research resources are directed to the most crucial highway safety research needs. Creating a strategic plan for Louisiana's highway safety research would guide what research is proposed and selected based on need. By adopting a research plan with consideration to strategic highway safety deployment, LADOTD and stakeholders would ensure selected projects support the needs of Louisiana's Strategic Highway Safety Plan. Develop a strategic plan for highway safety research in Louisiana. This plan would also include a management framework to ensure a cooperative and coordinated effort between diverse research projects that support the deployment of effective highway safety countermeasures. The research program would include a comprehensive approach to safety including the multi-disciplinary approach										
				FISCAL YEAR 2010	· 201	11 ACCOMPLIS	HMENTS	5		
	FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES									
To be determined upon award of contract.										

Title:	Title: History of the Implementation of AASHTO and Louisiana DOTD Road Design Standards							Project Status:		
Funding Source: State: TT-Reg					B	Budget	Category:	State		
SIO:					Project Start	Date:			7/1/2011	
Resear	ch Proj	ect N	umber:	12-2SS	Completion I	Date	(original)		6/30/2013	
Resear	ch Age	ncy:			Completion I	Date	(revised)			
Principa	al Inves	tigato	or:							
BUDGET STATUS										
		Т	otal Budget	1	I	Estima	ted 2011-2012	2 Budge	t	
Total C	ost	(orig	inal)	\$250,000	Total			\$80,00		
		(revi	sed)							
Est. Ex	pended	to D	ate		Salaries				\$60,000	
	F	TY 20	10 - 2011 Bu	udget	Equipment	(expen	dable)			
FY Fun	ds	(orig	inal)		Equipment	(non-e	xpendable)			
		(revi	sed)		Travel	Travel				
Est. FY	Expen	diture	9		Other		\$20.000			
				PURPOSE	AND SCOPE				. ,	
The main purpose of this project is to develop comparative historical time lines for the implementation of national and state road design standards for use in tort liability cases and for knowledge management purposes. The scope of the project is limited to implementation of national and state road design standards for Baton Rouge, Louisiana.										
				FISCAL YEAR 2010 - 20	011 ACCOMPLIS	HMENT	S			
				FISCAL YEAR 2011-201	2 PROPOSED A	CTIVITIE	S			
 Conduct Literature search of the history of national and state road design standards; Conduct Research on State and Federal Laws regarding implementation of road design standards; Conduct File search of the state road design standards and FHWA Stewardship Agreements; Conduct Personal and/or Telephone Interviews of current and retired national and state design officials; and Prepare a report summarizing the results of various activities and present/describe developed-time lines for National and State Design Standards. 										

Title:	itle: Calibration of the Louisiana Highway Safety Manual (Phase 1)						Project S	tatus:	Proposed		
Funding Source: State: TT-Reg					E	Budget	Category:	State	I		
									1		
SIO:						Project Start	Date:			7/1/2011	
Resear	rch Proj	ect N	umber:	12-3SA		Completion	Date	(original)			
Resear	rch Age	ncy:				Completion	Date	(revised)			
Princip	al Inves	tigato	or:								
	BUDGET STATUS										
		Т	otal Budge	t			Estimat	ed 2011-201	2 Budge	t	
Total C	Cost	(orig	inal)	\$200,000		Total				\$100,000	
		(revi	sed)								
Est. Ex	pended	to D	ate			Salaries				\$100,000	
	F	TY 20	10 - 2011 Bi	udget		Equipment	Equipment (expendable)				
FY Fur	nds	(orig	inal)			Equipment (non-expendable		pendable)			
		(revi	sed)			Travel					
Est. FY	' Expen	diture	9			Other					
				PURPOSE	e ai	ND SCOPE			-		
The ob three ty highwa proced • Identi • Selec • Obtain • Apply a who • Comp	The objective of this proposed project is to use the state data to calibrate the safety prediction models for three types of highways: rural 2-lane, rural multiple lane and urban and suburban arterials. For each type of highway, the calibration will be done for both segment and intersections. The basic steps for the calibration procedure are: • Identify facility types for which the applicable safety prediction model is to be calibrated; • Select sites for calibration of the model for each facility type; • Obtain data for each facility type applicable to a specific calibration period; • Apply the applicable model to predict total accident frequency for each site during the calibration period as a whole; and • Compute calibration factors for use in safety prediction models.										
				FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENTS	5			
				FISCAL YEAR 2011-20)12	PROPOSED A	CTIVITIE	S			
To be determined upon award of contract.											

Development of a Model to Guide the Number of StaffTitle:Resources Needed for Quality Assurance on Construction Projects						Project S	Project Status:				
Funding Source: State: TT-Reg					E	Budget	Category:	State			
			I I			_		1			
SIO:						Project Start	Date:			7/1/2011	
Resear	ch Proje	ect N	umber:	12-3SS		Completion	Date	(original)		6/30/2013	
Resear	ch Age	ncy:				Completion	Date	(revised)			
Principa	al Inves	tigato	or:			-					
		٦	otal Budge	t			Estima	ted 2011-201	2 Budge	t	
Total C	ost	(orig	inal)	\$20,000		Total				\$50,000	
		(revi	sed)						·		
Est. Ex	pended	to D	ate			Salaries	-			\$30,000	
	F	FY 20	10 - 2011 B	udget		Equipment	(exper	ndable)			
FY Fun	lds	(orig	inal)			Equipment (non-exper		xpendable)			
		(revi	sed)			Travel					
Est. FY	'Expen	diture	9			Other				\$20,000	
				PURPOSI	e ai	ND SCOPE					
The purpose of this project is to develop an analytical method to guide the number of construction staff needed on construction projects factoring in the scope, size and type of construction projects in consideration of the LADOTD standard specifications, quality assurance manuals, and sampling and testing manuals. The scope of the project is limited to construction projects related to LADOTD.											
				FISCAL YEAR 2010 -	20 1	11 ACCOMPLIS	HMENT	S			
				FISCAL YEAR 2011-20	012	PROPOSED A	СТІVІТІ	ES			
 Conduct a Literature Review to explore the existing analytical methods that are used by other DOT's; If any methods are found in activity 1 then evaluate them for their applicability by adopting them and applying them in the construction projects that are related LADOTD; Develop a new analytical method if there is no existing analytical method; Demonstrate the effectiveness of newly developed analytical method/ adopted analytical method by applying it on a current ongoing construction project related to LADOTD; and Write a report summarizing all the activities, document the procedure used in analytical model development, outline the steps needed to apply the newly developed model and state the limitations of the model if any. 											

Title:	le: A Tool for Documenting, Tracking, Recording, and Analyzing Intersection Site Improvements						Project Status:		Proposed	
Funding Source: State: TT-Reg					Budget Category:			State		
							_			
SIO:	<u> </u>			40.404		Project Start	Date:			7/1/2011
Resear	ch Proje	ect N	umber:	12-4SA		Completion	Date	(original)		
Resear	ch Agen	icy:				Completion	Date	(revised)		
Principa										
Total Budget										
Total C	oot	(orig		\$200,000		Total	Estimat	eu 2011-201		¢50.000
Total C	051	(ong		φ200,000		TOTAL				\$50,000
Lot Dv	nondod		seu)			Salariaa				¢50.000
	pended					Salaries	(0)/0000	doblo)		φ30,000
	r da	1 20		laget		Equipment	(expend			
FTFUI	us	(ong				Travel	peridable)			
		(revi	sed)							
EST. FY	Expend	liture)						<u> </u>	
				PURPOS	SE A	ND SCOPE				
One of the SHSP emphasis areas is Infrastructure and Operations which is comprised of "intersection crashes" and "roadway departure crashes". To address intersection safety LADOTD used extensive data analysis and research to develop an intersection safety improvement program. An interactive electronic tool to identify and document the sites, types and characteristics of the facilities, and the improvements installed, as well as calculate the results in terms of crash reductions associated with the targeted improvements, is needed.										
This research would build and populate the tool and train LADOTD personnel on data input methods. It would also result in preliminary analyses. To the extent possible, the crash results at the improved sites would be compared to unimproved sites with the same or similar characteristics to control for potential regression to the mean.										
				FISCAL YEAR 2010	· 201	11 ACCOMPLIS	HMENTS	5		
				FISCAL YEAR 2011-2	2012	PROPOSED A	CTIVITIE	s		
To be determined upon award of contract.										
Title:	Develo Growt	opm h ma	ent of Min anagemen	imum State Requiren t Policies-Phase 1	rements for Local Project Status: Proposed					
--	--	---	--	--	--	---	---	---	---	--
Fundin	ig Sourc	ce:	State: TT	-Reg	E	Budget Category: State			1	
				1				1		
SIO:					Project Star	Project Start Date:			7/1/2000	
Resear	ch Proje	ect N	umber:	12-4SS	Completion	Date	(original)		6/30/2013	
Resear	ch Agen	icy:			Completion	Date	(revised)			
Principa	al Invest	igato	or:							
				Budge	T STATUS					
		Т	otal Budge	et		Estima	ted 2011-201	2 Budge	t	
Total Co	ost	(orig	inal)	\$250,000	Total \$70					
		(revi	sed)							
Est. Exp	pended	to D	ate		Salaries				\$50,000	
FY 2010 - 2011 Budget				udget	Equipment	(exper	idable)			
FY Fun	ds	(orig	inal)		Equipment	Equipment (non-expendable)				
		(revi	sed)		Travel	Travel				
Est. FY	Est. FY Expenditure				Other				\$20.000	
				PURPOSE				-	. ,	
policies researc project	s for use th will be is limited	in La limi d to	ouisiana. T ted to defii state of Lo	The research will be con ning minimum requiren uisiana. Fiscal Year 2010 - 2	nducted in three nents with respe 2011 AccompLis	phase ct to tr HMENT	s. The first p ansportation s	hase of . The sc	this ope of this	
				FISCAL YEAR 2011-20	12 PROPOSED A	СТІVІТІ	ES			
 Condumana Condupraction Estable and performand performand performance Condumating to transition 	uct litera gement uct a sur ices in g lish a ta parish pu planners uct a ser aim of th nsportat	iture rvey rowt sk fo iblic ; ries nis m ion:	review to of other st h manager prce compr works eng of consens neetings wi and	gain an understanding ates and a cross-section ment that are currently ising of representatives ineers and municipal a sus building meetings will be to develop/definin	of existing state on of municipalit in use; s from metropoli nd parish planni vith the task forc ig minimum grov	e-of-the ies to i tan pla ng offi e estal vth ma	-practice cor nvestigate th inning organi cials and LAI olished in pre nagements p	ncerning le state- izations, DOTD e eceding policies	growth of-the- , municipal ngineers activity. The with respect	
• Summarize the results of various activities and document the developed minimum requirements for local growth management policies.										

Title:	Photo and W	ocata /ater	lytic Previe Quality Im	ous Concrete for An provement	ent Air Purific	cation	Project Status:		Proposed		
Fundin	ng Sour	ce:	State: TT	-Reg		Budget Category: State					
SIO:				30000309		Project Start	Date:	Г	7/1/2011		
Resear	ch Proj	ect N	umber:	11-1TIRE		Completion Date (original)				6/30/2012	
Resear	ch Age	ncy:		LSU		Completion	Date	(revised)			
Principa	al Inves	tigato	or:	Dr. Marwa Hassan							
				Budg	ET	STATUS					
		T	Total Budge	t			Estimat	ted 2011-201	2 Budge	t	
Total C	ost	(orig	jinal)	\$30,000		Total				\$30,000	
	(revised)										
Est. Ex	pended	to D	ate			Salaries				\$25,000	
	F	FY 20	10 - 2011 Bi	udget		Equipment	(expen	dable)		\$5,000	
FY Fun	nds	(orig	inal)			Equipment (non-exp		xpendable)			
		(revi	sed)			Travel					
Est. FY	'Expen	diture	Э			Other					
	•			Purpos	ΕA				-		
The ob photoca varying perviou	jective c atalytic porosit is concr	of this agen ies a rete d	s project is t to trap and nd thicknes lesign and f	to determine the effect d degrade air pollutar ses. Air purification for comparison agains	ctiv nts. exp st ir	eness of pervi Pervious con periments will t mpervious pho	ous co icrete s be usec itocata	ncrete mixtu samples will d to determir lytic contrete	res to po be produ ne the m e.	erform as a uced with ost efficient	
				FISCAL YEAR 2010 -	20 ⁻	11 ACCOMPLIS	HMENT	5			
	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS										
				FISCAL YEAR 2011-2	012	PROPOSED A	CTIVITIE	S			
 Prepare pervious concrete samples; Determine the environmental benefits of pervious concrete; Determine the levels of nitrate after photocatalytic activities; Measure the mechanical performance of pervious concrete; and Prepare a final report that documents the research effort in this study. 											

LTRC Annual Research Program

Fiscal Year 2011-2012 2011 RPIC PROBLEM STATEMENTS

FINAL RANKING	PROBLEM STATEMENT TITLE
1	Minimizing Shrinkage Cracking in Cement-Stabilized Bases Through the Use of Microcracking
2	Full Application of HSM in Louisiana
3	Traffic Counting Using Existng Video Detection Cameras.
4	A Tool for Documenting, Tracking, Recording, and Analyzing Intersection Site Improvements
5	Creation of a Strategic Plan for Highway Safety Research
6	Comparison of Conventional Concrete and Self Consolidation Concrete in Drilled Shaft Construction
7	Development of a Model to Guide the Number of Staff Resources Needed for Quality Assurance on Construction Projects
8	Development of Minimum State Requirements for Local Growth Management Policies – Phase I
9	History of the Implementation of AASHTO and Louisiana DOTD Road Design Standards
10	Construction and evaluation of several test sections for mitigating shale gas exploration and mining efforts
11	Joint Repair Using Polymer Concrete Products
12	Development of Standards for GPS Elevation Accuracy
13	Chemical Characterization of Asphalts as Related to Their Performance
14	Development of Design Method for Post Grouted Drilled Shafts
15	Travel time estimation in urban areas using Bluetooth receivers
16	Develop a GIS based map showing all protected land by the levees with a 100 year flood frequency event or greater within the State of Louisiana.
17	ground-in rumble strips: a detriment to flexible pavement structure?
18	New Concrete Mix with Self-Curing Capabilities
19	Reversing cross slopes on multi lane roads causes water to pond.
20	NCHRP 1-40D Soil Unit Map Data for Louisiana
21	Determination of Pile Splices Transition Length Requirement
22	Development of Geotechnical Manual for LADOTD
23	Louisiana Highway Construction Cost Index Monitoring System
24	Development of a Short-Term Traffic Prediction Model for Travel Times on I-10/I-12
25	Determination of chemical characteristics of fly ash to predict behavior
26	Development of a Graphical Web-Based H&H Programs for LDOTD
27	Development of an Automated Data Collection, Tracking and Notification System/Service for LADOTD District Level Operations

Self Generated Funded Research Program

CONTINUING RESEARCH

Title:	LOOP Beach	Env Veg	ironmenta jetation, La	I Monitoring: 2011-2 and Loss and Habita	I-2013 Beach Elevation, itat Changes Surveys Project Status: Ongoing					
Funding	g Sour	ce:	LOOP			E	Budget	Category:	Self-G	enerated
				1		1				
SIO:				30000200		Project Start Date:			4/12/2011	
Researc	ch Proje	ect N	umber:	11-3SS		Completion	Date	(original)		4/11/2014
Researc	ch Ager	ncy:		C-K Associates		Completion	Date	(revised)		
Principa	al Invest	igato	or:	Ms. Tre Wharton						
				Budg	ЕТ 🖁	STATUS				
		Т	otal Budge	t			Estimat	ed 2011-201	2 Budge	t
Total Co	ost	(orig	inal)	\$136,247		Total				\$50,000
		(revi	sed)							
Est. Exp	pended	to D	ate			Salaries				\$50,000
	FY 2010 - 2011 Budget			udget		Equipment	(expen	dable)		
FY Fund	ds	(orig	inal)			Equipment	(non-e)	(pendable)		
		(revi	sed)			Travel				
Est. FY	Expend	diture	;			Other				
				PURPOS	E A	ND SCOPE				
The pur pipeline the pipe	rpose of in term eline.	this s of	project is to beach eros	o provide ongoing sui ion, impact on vegeta	rvei atio	llance of the e n, and any infl	environi luence	mental impa on the habit	ct of the at in the	LOOP vicinity of
				FISCAL YEAR 2010 -	201	11 ACCOMPLIS	HMENTS	6		
	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS									
				FISCAL YEAR 2011-20	012	PROPOSED A	CTIVITIE	S		
To be d	To be determined upon award of contract.									

Title:	Field Prope	versi	us Laborat	ory Volumetrics and	olumetrics and Mechanical Project Status: Ongoing					
Fundir	ng Sour	ce:	NCHRP			E	Budget	Category:	Self-G	enerated
							_			
SIO:				30000133		Project Start	Date:		8/1/2009	
Resear	ch Proje	ect N	umber:	10-1B		Completion	Date	(original)		2/29/2012
Resear	ch Ager	ncy:				Completion	Date	(revised)		
Princip	al Inves	tigato	or:	Dr. Louay Mohamma	ad					
				BUDGE	т	STATUS				
		Т	otal Budge	t			Estimat	ed 2011-2012	2 Budge	t
Total C	ost	(orig	inal)	\$500,000		Total				\$153,247
		(revi	sed)							
Est. Expended to Date \$300,000 Salaries						\$103,247				
	F	Y 20	10 - 2011 Bu	udget		Equipment	(expend	lable)		
FY Fur	nds	(orig	inal)	\$150,000		Equipment	(non-ex	pendable)		
		(revi	sed)			Travel			\$3,000	
Est. FY	'Expend	diture)	\$150,000		Other				\$47,000
				PURPOSE	A١	ND SCOPE			-	
The ob volume may be laborat practice (b) mix	jectives etric and e encour ory com e for sta design	of th mec ntere pacte te D and	is study are hanical pro d in QA and ed [PL], and DT's to inco verification	e (.) quantify sources a perties of dense-grade d mix design activities (d plant mixed and field prporate these results in or validation, and (c) s	nd (la cc n s tru	I causes of va asphalt mixtu boratory mixe ompacted [PF specifications uctural design	riability res for t ed and c]), and and cri and for	in the meas three types compacted [(2) develop teria for (a) ensic studie	suremen of specin LL], plar a recom quality a es.	Its of mens that nt mixed and imended issurance;
				FISCAL YEAR 2010 - 2	01	1 ACCOMPLIS	HMENTS			
Comple Task Task Task	eted the 1A: Co 2A: Co 3A: De	e Foll ompr ondu esign	owing Task ehensive Li ct A Meta-A An update	ks for Phase 1A iterature Review; Analysis Of Collected D d Experimental Work F)at Pla	a; and an And Submi	t An Int	erim Report		
Perforn • Cor	ned the iduct La	follov bora	wing Tasks tory Experii	: ments approved in Tas	sk :	3				
				FISCAL YEAR 2011-201	12	PROPOSED A	CTIVITIE	s		
 Perform The Following Tasks: Task 4: Conduct Laboratory Experiments approved in Task 3; Task 5: Based on the results of Tasks 2 and 4, prepare a recommended practice for state agencies that discusses the cause and magnitude of variability in measured volumetric and mechanical properties with the three specimen types of interest and provides guidance on incorporating these results into specifications and criteria for(a) mix design verification or validation, (b) quality control and acceptance, and (c) structural design and forensic studies. It is anticipated that a time extension of 6 months will be requested due to the additional work of Phase I that was requested by the Project Panel. 										

Title:	Modul Unbou	us E Ind /	Based Cons Aggregate	struction Specificati	ruction Specification of Earthwork and Project Status: Ongoing						
Fundir	ng Sour	ce:	NCHRP			E	Budget	Category:	Self-G	enerated	
				[]		1					
SIO:				30000260		Project Start	t Date:		10/7/2010		
Resear	ch Proje	ect N	umber:	11-4B		Completion Date (original)				4/6/2013	
Resear	ch Ager	ncy:		LTRC		Completion	Date	(revised)			
Princip	al Invest	tigato	or:	Dr. Louay Mohamm	nad						
				Budg	ЕΤ	STATUS					
		٦	otal Budge	t			Estimat	ed 2011-201	2 Budge	t	
Total C	ost	(orig	inal)	\$154,037		Total				\$70,250	
		(revi	sed)								
Est. Expended to Date\$10,000Salaries\$60							\$60,250				
	F	Y 20	10 - 2011 Bi	udget		Equipment	(expen	dable)			
FY Fur	nds	(orig	inal)	\$10,000		Equipment	(non-ex	(pendable)			
		(revi	sed)			Travel	Travel			\$2,000	
Est. FY	'Expend	diture	Э	\$10,000	\$10,000 Other					\$8,000	
				PURPOS	ΕA	ND SCOPE			-		
researd unbour stiffnes design	s a subc ch is to c nd aggre s or moo modulus	level gate dulus s val	op a modul LTRC will and moist ues.	us-based constructio assist in gathering th ure content of compa	n s le n cte	pecification fo lecessary data d earthwork a	a to dev nd unb	action of ear elop specific ound aggree	rthwork cation lii gate rela	and mits on Ited to	
				FISCAL YEAR 2010 -	20 ′	11 ACCOMPLIS	HMENTS	3			
Comple Task Task Task Task Task Task	Completed the Following Tasks: Task 1: Comprehensive Literature Review; Task 2: Review and summarize current state DOT practice on the measurement of the field stiffness; Task 3: Identify appropriate moisture and suction prediction models for evaluation in Phase II; Task 4: Identify appropriate test methods and devices for in situ measurement of stiffness evaluation in Phase II; Task 5: Prepare an updated, detailed work plan; and Task 6: Submit an interim report.										
				FISCAL YEAR 2011-20	012	PROPOSED A	CTIVITIE	S			
 Perform The Following Tasks: Task 7: Conduct the work plan approved in Task 6; and Task 8: Using the results of Task 7, prepare a draft modulus-based construction specification for compaction of earthwork and unbound aggregate. 											

Title: A SEX	A Shape Memory Polymer based Self-healing Sealant for Expansion Joint							tatus:	Ongoing
Funding S	ource:	NCHRP			В	udget	Category:	Self-G	enerated
SIO:			30000171		Project Start	Date:		5/1/2009	
Research F	roject N	lumber:	09-4ST		Completion Date (original)			11/1/2010	
Research A	gency:		LSU		Completion I	Date	(revised)		7/31/2011
Principal In	/estigat	or:	Dr. Guoqiang Li		·		•		
			Budg	ET	STATUS				
	•	Total Budge	•t		E	Estimat	ted 2011-2012	2 Budge	t
Total Cost	(ori	ginal)	\$135,000		Total \$1				\$15,000
	(rev	ised)						-	
Est. Expend	ded to D	Date	\$90,000		Salaries				\$10,000
	FY 20)10 - 2011 B	Budget Equipment (expendable)				dable)		
FY Funds	(ori	ginal)	\$120,000		Equipment (non-expendable)				\$3,000
	(rev	ised)	\$120,000		Travel				
Est. FY Exp	xpenditure \$120,000 Other \$					\$2,000			
			PURPOS	ΕA	ND SCOPE			-	
The objection sealant white adhesive fat concrete. T This study for Program.	ve of thi ch will b ilure by he prop nas bee	s study is to be able to se consistentl osed novel n approved	o develop a Novel Sha elf-heal cohesive dam y and autonomously a sealant belongs to th and is TRB funded th	ape iage app e ca	Memory Poly by its shape lying a compre ategory of com ugh the Ideas I	mer (S memo essive pressi Deserv	MP) based s ry characteri stress to the on seal joint ving Explorat	syntactions stic and edge of .	c foam joint avoid f the lysis (IDEA)
			FISCAL YEAR 2010 -	20	11 ACCOMPLISI	HMENT	S		
 2-D programming of the foam sealant; Stress-strain behavior of the sealant under 2-D stress condition; and Lab-scale testing. 									
			FISCAL YEAR 2011-2	012	PROPOSED AC	CTIVITIE	S		
• Field-level installation.									

Self Generated Funded Research Program

PROPOSED RESEARCH

Title:	Performance of WMA Technologies: Stage II – Long-term Field Performance							Project S	tatus:	Proposed		
Fundin	ng Sour	ce:	NCHRP			E	Budget	Category:	Self-G	enerated		
				I		1						
SIO:						Project Start	Date:	1	4/7/2011			
Resear	ch Proje	ect N	umber:	12-4B		Completion Date (original)				10/6/2013		
Resear	ch Age	ncy:		LTRC		Completion Date (revised)						
Principa	al Inves	tigato	or:	Dr. Louay Mohami	mac	ad						
				Budo	JET	STATUS						
		Т	otal Budge	t		[Estima	ted 2011-201	2 Budge	t		
Total C	ost	(orig	inal)	\$103,796		Total \$50,						
		(revi	sed)									
Est. Ex	pended	to D	ate			Salaries				\$48,000		
	F	Y 20	10 - 2011 Bu	udget		Equipment	(exper	dable)				
FY Funds (original)					Equipment	(non-e	xpendable)					
		(revi	sed)			Travel	L		\$2,000			
Est. FY	Est. FY Expenditure					Other						
LTRC i researc • Identi their k • Recor The ma	s a subo ch are to fy the m ong-terr mmend ain task	contra b: ateri n fiel best for L	actor to Wa al and engi d performan practices fo TRC in this	neering properties of nce; and or the use of WMA te effort is in supportin	ersit WI echr g th	ty on this NCH MA pavements nologies. e loaded whee	IRP 9-4 s that a el testir	19 project. Ti re significan ng requireme	he objec t determ ents of th	tives of this ninants of nis study.		
				FISCAL YEAR 2010	· 20	11 ACCOMPLIS	HMENT	S				
Perforn Task	Performed the following task Task 1: Select WMA Candidate Projects.											
	FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES											
Perforn Task Task Task Task	Perform the following tasks: Task 1: Select WMA Candidate Projects; Task 2: Develop Experimental Design; and Task 3: Conduct Field Characterization of WMA Projects.											

Federal Funded Projects

Title: Enha	ncing nunio	g Calibrate cation Edu	d Peer Review for Im cation	Peer Review for Improved Engineering Project Status: Ongoing						
Funding Sour	ce:	NSF		E	Budget Category:			al		
SIO:			30000148	Project Start	Date:		9/1/2008			
Research Proj	ect N	lumber:	09-2SS	Completion	Completion Date (original)			9/1/2011		
Research Age	ncy:		LTRC	Completion	Completion Date (revised) 8/31/2					
Principal Inves	tigate	or:	Dr. Chester Wilmot							
			Budge	T STATUS						
	٦	Fotal Budge	t		Estimat	ed 2011-2012	2 Budge	t		
Total Cost	(orig	jinal)	\$50,050	Total				\$10,397		
	(revi	ised)								
Est. Expended	l to D	ate	\$33,069	Salaries				\$5,198		
	FY 20	10 - 2011 Bu	udget	Equipment	Equipment (expendable)					
FY Funds	(orig	jinal)	\$19,752	Equipment	Equipment (non-expendable)					
	(revi	ised)		Travel	Travel					
Est. FY Expen	diture	Э	\$19,653	Other				\$5,198		
			PURPOSE	AND SCOPE						
The purpose of written commu- project is limite Engineering. S evaluation with evaluate a pre	f this inicat ed to Stude that senta	project is to tion skills, to visual and o ents learn th of an expe ation similar	o extend the existing C o enhancing visual and oral communication sk nese skills by reviewing rt. The process is rep ly to the expert, and is	Calibrated Peer F d oral communica ills used in prese g presentations of eated on other p s therefore consid	Review ation sl enting a of their presenta dered "	(CPR) proc kills as well. a Capstone I peers and th ations until th calibrated".	ess whic The sco Design i hen com he stude	ch enhances ope of the n Civil oparing their ent is able to		
			FISCAL YEAR 2010 - 2	2011 ACCOMPLIS	HMENTS	6				
 FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS In Spring, 2010, students in the first semester of the Civil Engineering Capstone Design course went Through up to 3 cycles of the peer review process on presentations made by students in the course. Deviations of their evaluations from those of an expert presenter were noted on each cycle, quantified, and fed back to the student; Students displayed improvement on each cycle mentioned above. ON a five-point evaluation scale, the Standard deviation of the student's scores to those of the expert evaluator decreased from 1.12 on the first iteration, to 0.88 on the second, and 0.84 on the third; The University of North Carolina, Chapel Hill, conducted an assessment of the new procedure allowing Development of visual and oral skills, and found that the majority of the students were of the opinion that they learned from the process; and The Principal Investigator attended the "Communication Across the Curriculum" Faculty Summer Institute, June 2-4, 2010. 										

Fiscal Year 2011-2012

FISCAL YEAR 2011-2012 PROPOSED ACTIVITIES

- Obtain the services of multiple expert presentation experts to evaluate several presentations that range in standard in a comprehensive and well-balanced manner;
- Video recording of presentations must improve to provide good sound, and pan speaker, screen, and audience;
- The enhanced CPR process must be computerized to store presentations, assign them to individuals, receive evaluations back from students, compare them with the expert evaluation, calculate statistics, return evaluation with a new assignment if acceptable standard of evaluation has not been met, and accumulate overall statistics and overall assessment; and
- Other members of this Collaborative Research Project (members UNC, Rose-Hulman, UCLA, LSU, LTRC) are planning to request a no cost extension to the project.

Other DOTD Funded Projects

Title:	Safety Improvement from Edge Lines of Rural Two-Lane Highway							tatus:	Ongoing		
Fundir	ng Sour	ce:	Safety		E	Budget	Other Sectio	Other DOTD Sections			
SIO:				200004880	Project Start	Date:		9/1/2007			
Resear	rch Proje	ect N	umber:	07-7P	Completion	Completion Date (original)			8/31/2010		
Resear	rch Ager	ncy:		ULL	Completion	Date	(revised)		8/31/2011		
Princip	al Inves	tigato	or:	Dr. Xiaoduan Sun							
				Budge	T S TATUS						
		٦	Fotal Budge	t	I	Estimated 2011-2012 Budget					
Total C	Cost	(orig	inal)	\$107,060	Total						
		(revi	sed)								
Est. Ex	pended	to D	ate	\$100,000	Salaries				\$3,560		
	F	TY 20	10 - 2011 B	udget	Equipment	Equipment (expendable)					
FY Fur	nds	(orig	inal)	\$107,060	Equipment (non-expendable)						
		(revi	sed)		Travel				\$2,000		
Est. FY Expenditure \$100,000					Other				\$1,500		
				PURPOSE	AND SCOPE						
The go the res • Identi • Imple • Cond	al of this earch te fy the se ment pa uct the F	s pro eam v egme ivem Befor	ject is to im will: ents that wil ent edge lir re-and-After	prove the safety of nar I benefit from impleme hes at selected locatior r study at these locatio	rrow rural two-la nting the pavem ns; and ns to estimate th	ne higl nent ed ne cras	nways in Lou ge line the m sh reduction	uisiana. nost; factors.	Specifically,		
				FISCAL YEAR 2010 - 2	011 ACCOMPLIS	HMENT	S				
Perforr	Perform the before-and-after crash data analysis.										
				FISCAL YEAR 2011-20	12 PROPOSED A	CTIVITIE	S				
Finish	the final	repo	ort by Augus	st, 2011.							

Title:	Quant	tifyin	g the Key	Factors that Create F	Project S	tatus:	Proposed				
Fundin	ig Sour	ce:	Operatio	ns	E	Budget	Category:	Other Sectio	DOTD ns		
SIO:					Proiect Star	Date:					
Resear	ch Proj	ect N	umber:	11-6GT	Completion	Completion Date (original)					
Resear	ch Age	ncy:		ULL	Completion	Completion Date (revised)					
Principa	al Inves	tigato	or:	Dr. Roy Dokka							
				BUDGE	T STATUS						
		т	otal Budge	t		Estimat	ed 2011-2012	2 Budge	1		
Total C	ost	(orig	inal)	\$50,000	Total				\$50,000		
	(revised)										
Est. Ex	pended	to D	ate		Salaries				\$49,675		
	FY 2010 - 2011 Budget			udget	Equipment	(expen	dable)				
FY Fun	ds	(orig	inal)		Equipment	Equipment (non-expendable)			\$175		
(revised)		Travel				\$150					
Est. FY	Expen	diture)		Other						
				PURPOSE	AND SCOPE			-			
The obj operations outh L	jective o onal ins .ouisian	of this trume a.	s proposal ent that wil	is to develop a near rea I synthesize the flood h	al-time, data driv nazard for emerc	ven dec gency e	cision suppo vacuation rc	rt model bad segr	and nents in		
				FISCAL YEAR 2010 - 2	2011 ACCOMPLIS	HMENTS	6				
	FISCAL YEAR 2010 - 2011 ACCOMPLISHMENTS										
				FISCAL YEAR 2011-20	12 PROPOSED A	CTIVITIE	S				
 Collec Devel Perfor Desig Docur Report 	 Collect and measure data on commonly flooded road segments; Develop a deterministic, scenario-based flood inundation model; Perform vehicle vulnerability and risk analysis Design map interface and reporting tool; Document metadata and reporting tool; and Report review and delivery. 										