

RESEARCH WORKS

F Y 2 0 1 2 I D O T R E S E A R C H A T A G L A N C E



Illinois Department
of Transportation

RESEARCH WORKS

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The Physical Research Section – Research Coordination Unit of the Illinois Department of Transportation (IDOT) is responsible for directing and administering a research program consistent with the department's needs. Our comprehensive research programs feature a diverse range of projects in the following focus areas: Construction; Environment; Pavement Design, Management and Materials; Planning; Public and Multi-Modal Transportation; Safety; Structures, Hydraulics and Geotechnical; and Traffic Operations and Roadside Maintenance.

This research is funded primarily through federal State, Planning, and Research (SPR) Part 2 dollars, which are limited to research, development, and technology transfer activities. These federal dollars are focused on efforts to obtain the most benefit to IDOT and to Illinois' taxpayers.

We carry out this research by utilizing a contract research program administered by the Illinois Center for Transportation (ICT) and through participation in the Federal Highway Administration's (FHWA) Transportation Pooled Fund (TPF) Program with State and Federal partners.

Our research with ICT is governed by a cooperative inter-governmental agreement with the University of Illinois at Urbana-Champaign. ICT and their subcontractors provide a 25 percent match for IDOT's federal SPR funds to cover the federal matching requirements for research and planning activities. A small amount of state funds are used to pay the administrative costs of this contract research program since federal SPR funds may not be used for this purpose. A visual representation of all the FY2012 active projects underway through ICT is provided, showing project details and a graphical timeline for each project. Projects are grouped by focus area.

Participation in the TPF Program enables IDOT to pool limited resources with other federal, state, and local agencies having similar research goals in an efficient and cost-effective manner. IDOT has participated in numerous pooled fund studies led by FHWA or state DOTs with research conducted by universities, private companies, and foundations. A table is provided which shows the pooled fund studies, grouped by focus area, in which IDOT participated in FY2012. IDOT's contribution as a function of the total project cost is shown.

This report also includes pie charts detailing FY2012 Contract Research by Focus Area, FY2012 TPF Participation by Focus Area, and FY2012 SPR Part 2 Funding Distribution, representing all areas of our research program.

The projects highlighted in this report show the diversity and depth of research done at ICT and through our participation in the TPF Program. Together, they help IDOT provide safe, cost-effective transportation for Illinois, while enhancing quality of life, promoting economic prosperity, and demonstrating respect for our environment.

For more information on IDOT's research program, please contact the Research Coordination Unit at DOT.BMPR.RESEARCH@illinois.gov or at (217) 782-7200. Additional information on the ICT, including project status and published reports for IDOT projects, can be found at <http://ict.illinois.edu/index.aspx>.

CONTRACT RESEARCH PROJECTS UNDERWAY IN FY2012

6/30/2012	2009	2010	2011	2012	2013	2014	2015	2016
Project #	Tag	Title	Performing Organization	Principal Investigator	TRE Chair	Current Cost	% Completed	
R27-086	Construction	An Expert Systems Approach to Highway Construction Scheduling	Missouri State University	D. Slattery, K. Slattery, R. Bruce	Mike Ripka	\$ 89,112.68	100%	
R27-054	Environment	Storm Water Pollution, Erosion and Sediment Control Products Testing and Training Center	University of Illinois at Urbana-Champaign	P. Kalita, R. Cooke	Joe Vespa	\$ 499,229.00	87%	
R27-093	Environment	Transportation Conformity Particulate Matter Hot-Spot Air Quality Modeling	University of Illinois at Chicago	J. Lin	Walt Zyrnieuski	\$ 84,432.00	Past Due	
R27-102	Environment	Installation and Performance Testing of Ditch Checks and Inlet Protection Structures	University of Illinois at Urbana-Champaign / US Army Corps of Engineers Construction Engineering and Research Laboratory	P. Kalita, M. Garcia / H. Howard, N. Svendsen	Joe Vespa	\$ 300,001.00	29%	
R27-103	Environment	"Green Friendly" Best Management Practices for Interstate Rest Areas - Phase II (Environment, Operations)	University of Illinois at Urbana-Champaign	K. El-Raves, L. Liu	Mark Seppelt, Matt Sunderland	\$ 220,000.00	73%	
R27-104	Environment	Native Vegetation Establishment for IDOT Erosion Control Best Management Practices	University of Illinois at Urbana-Champaign / US Army Corps of Engineers Construction Engineering and Research Laboratory	P. Kalita / H. Howard, R. Busby	Scott Marlow	\$ 192,091.00	17%	
R27-114	Environment	Restoration Progress and Flood Disturbance at IDOT Wetland Mitigation Sites	Illinois State Geological Survey / Illinois Natural History Survey	G. Pociask / J. Matthews	Thomas Brooks	\$ 81,214.00	75%	
R27-126	Environment	Temporary Stabilization Improvement Investigation^	Southern Illinois University at Edwardsville	M. Grinter, P. Minchin, S. Morgan, W. Retzlaff	Matt Sunderland	\$ 250,000.00	0%	
R27-SP18	Environment	Developing Best Practices for Bicycle Trail Construction and Maintenance in Illinois	University of Illinois at Urbana-Champaign	B. Dempsey, B. Buttler	Todd Hill, Charles Wienrank	\$ 30,000.00	100%	
R27-SP21	Environment	2012 Update to Illinois Carbon Monoxide Screen for Intersection Modeling	University of Illinois at Urbana-Champaign	S. Peters	Walt Zyrnieuski	\$ 25,524.00	16%	
R27-064	Operations	Development of a Highway Incident Management Operational Guide	Southern Illinois University at Edwardsville	H. Zhou, R. Fries	Geno Koehler	\$ 136,400.00	100%	
R27-075	Operations	Cleanview Font in Traffic Signs: Assessing IDOT Experience and Needs*	Northwestern University	H. Mahmassani	Julia Fox	\$ 230,000.00	Past Due	
R27-076	Operations	LED Roadway Lighting Evaluation and Field Testing*	University of Illinois at Urbana-Champaign	R. Benekohal	Mark Seppelt	\$ 302,600.00	Past Due	
R27-091	Operations	Evaluation of Traffic Flow Monitoring Technologies: Cicero-Midway Smart Corridor Case Study	University of Illinois at Chicago	J. Eriksson	Jeff Galas	\$ 99,938.00	Past Due	
R27-094	Operations	Performance Evaluation of Snow and Ice Plows	Bradley University	S. Elhour, E. Mahmoud	Tim Peters	\$ 250,000.00	42%	
R27-095	Operations	Field Evaluation of Smart Sensor Vehicle Detectors at Intersections and RR Crossings*	University of Illinois at Urbana-Champaign	R. Benekohal	Yogi Gautam, Stan Milewski (IJC)	\$ 245,086.00	94%	
R27-096	Operations	Pedestrian/Bicyclist Warning Devices and Signs at Highway and Pathway-Rail Grade Crossings	University of Illinois at Chicago	P. Metaxatos, P.S. Sriraj	Kyle Armstrong	\$ 200,898.00	75%	
R27-108	Operations	Improving the Effectiveness of Nighttime Temporary Traffic Control Warning Devices (Operations, Construction, Safety)	Applied Research Associates, Inc.	D. Steele, W. Vavrik	Tim Kell	\$ 106,668.00	50%	
R27-109	Operations	Effects of Flaggers and Spotters in Directing Work Zone Traffic for Illinois Freeways and Expressways (Operations, Safety)	University of Illinois at Urbana-Champaign	K. El-Raves, L. Liu, N. El-Gohary	Steve Lynch, John Benda (ITHA)	\$ 167,066.00	33%	
R27-110	Operations	Training and Implementing Findings of Queue and Users' Costs in Highway Work Zones - Phase II (Operations, Safety)	University of Illinois at Urbana-Champaign	R. Benekohal	Steve Lynch	\$ 80,000.00	18%	
R27-118	Operations	Development of a Highway Incident Management Operational and Training Guide - Phase II	Southern Illinois University at Edwardsville	H. Zhou, R. Fries	Geno Koehler	\$ 300,001.00	44%	
R27-120	Operations	Evaluating All-Weather Pavement Markings and Lab Methods to Simulate Field Exposure	Iowa State University / Center for Transportation Research and Education at Iowa State University/ Texas Transportation Institute	N. Hawkins / O. Smadi / Paul Carlson	Kelly Morse	\$ -	0%	
R27-123	Operations	Street Lighting Technologies - Phase II of LED Street Lighting Evaluation (Operations, Environment)	University of Illinois at Urbana-Champaign	R. Benekohal	Mark Seppelt	\$ 282,000.00	20%	
R27-127	Operations	Safety and Efficiency Benefits of Implementing Adaptive Signal Control Technology in Illinois*	TBD	TBD	Kyle Armstrong	\$ 400,000.00	0%	
R27-SP20	Operations	Safety Benefits of Implementing Adaptive Signal Control Technologies	University of Illinois at Urbana-Champaign	R. Benekohal	Kyle Armstrong	\$ 30,000.00	50%	
R27-037	Pavement	Impact of High Reclaimed Asphalt Pavement Content on Pavement Structural Performance	University of Illinois at Urbana-Champaign	I. Al-Qadi, S. Carpenter	Jim Trepanier	\$ 320,937.00	100%	

6/30/2012	2008	2009	2010	2011	2012	2013	2014	2015	2016
Project #	Title	Performing Organization	Principal Investigator	TRP Chair	Current Cost	% Completed			
R27-038 Pavement	High Plastic Concrete Temperatures Specification for Paving Mixtures	University of Illinois at Urbana-Champaign	J. Popovics, J. Roesler	Derek C. Parish	\$ 168,740.00	100%			
R27-042 Pavement	Thin, Quiet, Long-Lasting High Friction Surface Layer	University of Illinois at Urbana-Champaign	I. Al-Qadi, S. Carpenter	Tom Zehr	\$ 569,805.00	84%			
R27-060 Pavement	Mechanistic-Empirical Design Implementation and Monitoring for Flexible Pavements	University of Illinois at Urbana-Champaign	M. Thompson, I. Al-Qadi	Charles Wienrank	\$ 484,158.00	67%			
R27-061 Pavement	Mechanistic-Empirical Design Implementation and Monitoring for Rigid Pavements	University of Illinois at Urbana-Champaign	J. Roesler	Charles Wienrank	\$ 488,674.00	64%			
R27-077 Pavement	Evaluating the Compatibility of Durable Pavement Markings on Pavements	Applied Research Associates, Inc	C. Dwyer, W. Vavrik	Kelly Morse	\$ 300,000.00	86%			
R27-078 Pavement	Evaluating the Effects of Various Asphalt Binder Additives/Modifiers on Moisture Sensitivity in Hot Mix Asphalt	University of Illinois at Urbana-Champaign	I. Al-Qadi	Jim Trepanier	\$ 546,077.00	60%			
R27-079 Pavement	Designing, Producing, and Constructing Fine-Graded Hot Mix Asphalt on Illinois Roadways	University of Illinois at Urbana-Champaign / Murphy Pavement Technology / Heritage Research Group and Emulcoast, Inc.	W. Buitlar / T. Murphy / W. Pine	Matt Mueller, Laura Shanley	\$ 644,578.00	85%			
R27-100 Pavement	Best Practices for Implementation of Tack Coat TRP Recommendations	University of Illinois at Urbana-Champaign / Bradley University / Heritage Research Group and Emulcoast, Inc.	I. Al-Qadi / E. Mahmoud / W. Pine	Derek Parish	\$ 549,954.00	72%			
R27-112 Pavement	Testing of Portland Cement (Current ASTM C 150) with Limestone and Process Addition (ASTM C 465)	University of Illinois at Chicago	M. Issa	John Huang	\$ 399,987.00	44%			
R27-124 Pavement	Evaluation of Porous Granular Embankment Materials Used as Pavement Subgrade / Granular Subbase*	University of Illinois at Urbana-Champaign	E. Tutumluer	Shelia Beshears	\$ 460,000.00	0%			
R27-125 Pavement	Sustainable Aggregates Production - Green Applications for Aggregate By-Products*	University of Illinois at Urbana-Champaign	E. Tutumluer, H. Ozer	David Lippert	TBD	0%			
R27-128 Pavement	Testing Protocols to Insure Performance of High Asphalt Binder Replacement Mixes Using Reclaimed Asphalt Pavement and Reclaimed Asphalt Shingles*	University of Illinois at Urbana-Champaign	I. Al-Qadi	David Lippert	\$ 585,000.00	0%			
R27-129 Pavement	Implementation of Aggregate Imaging System in Measuring Aggregate Resistance to Polishing, Abrasion, Breakage*	TBD	TBD	Shelia Beshears	\$ 125,000.00	0%			
R27-130 Pavement	Development of Improved Overlay Thickness Design Alternatives for Local Roads*	University of Illinois at Urbana-Champaign	E. Tutumluer	Kevin Burke	\$ 180,000.00	0%			
R27-SP-19 Pavement	Evaluation of Recycled Asphalt Shingle Effect on Some Mechanical Properties of an IDOT Asphalt Mixture*	University of Illinois at Urbana-Champaign	H. Ozer	David Lippert	\$ 30,000.00	Past Due			
R27-048 Planning	Travel Demand Modeling for Small and Medium Size Metropolitan Planning Organizations in Illinois	Champaign County Regional Planning Commission / University of Illinois at Chicago	R. Morocoina-Black / P. Metakatos	Susan Shitt	\$ 141,760.00	100%			
R27-083 Planning	Goods Movement Study in IL: Applications to Freight Transportation and Logistics *(Planning, Public Trans)	University of Illinois at Chicago	K. Mohammedi	Mike Garcia	\$ 211,365.00	Past Due			
R27-084 Planning	Develop Travel Reliability Inventory for Highway Networks	Northwestern University / University of Illinois at Chicago	M. Nie / P. Nelson, J. Dillenburg	Jeff Galas	\$ 125,407.00	Past Due			
R27-087 Planning	Implementing Pavement Management Systems for Local Agencies	Applied Pavement Technology / Bradley University	A. Wolters / K. Schattler	Kevin Burke	\$ 99,851.00	100%			
R27-131 Planning	Leveraging Traffic and Surveillance Video Cameras for Urban Traffic*	University of Illinois at Chicago	J. Eriksson	Rob Robinson	\$ 100,000.00	0%			
R27-132 Planning	Incorporating the National Environmental Policy Act into the Illinois Department of Transportation and Metropolitan Planning Organization Planning Process*	University of Illinois at Urbana-Champaign	N. El-Gohary	Susan Stitt, Charles Perrino	\$ 179,703.00	0%			
R27-050 Public Trans	Trip Chaining Behavior of Senior Citizens and Applications to Public Transportation Planning	University of Illinois at Chicago	K. Mohammedi	Charles Abraham	\$ 110,887.00	100%			
R27-051 Public Trans	Guidelines, Site Selection, and Design for Implementing Truck Parking/Rest facilities in Chicago's South Suburbs*	Illinois Institute of Technology	P. Bellemachi, L. Rohrer	Charles Abraham	\$ 80,536.00	Past Due			
R27-113 Public Trans	Modeling Seniors Activity - Travel Data - Phase II	University of Illinois at Chicago	K. Mohammedi	Amy Weik	\$ 125,062.00	66%			
R27-052 Safety	Studying and Minimizing Traffic-Related Work Zone Crashes in Illinois*	University of Illinois at Urbana-Champaign	K. El-Rayes, L. Liu	Marshall Metcalf	\$ 210,001.00	Past Due			
R27-066 Safety	Effectiveness of Innovative Speed Enforcement Techniques in Illinois	Northwestern University	H. Mahmassani, R. Chen	Priscilla Tobias, Scott Abbott (ISP)	\$ 225,000.00	89%			
R27-089 Safety	Illinois Highway Safety Manual Workshop*	University of Illinois at Urbana-Champaign	Y. Ouyang, S. Chakraborty	Priscilla Tobias	\$ 175,676.00	Past Due			

Project #	Title	Performing Organization	Principal Investigator	TRP Chair	Current Cost	% Completed	2008	2009	2010	2011	2012	2013	2014	2015	2016
Safety	R27-090 Investigation of Contributing Factors Regarding Wrong-Way Driving on Freeways*	Southern Illinois University at Edwardsville	H. Zhou, R. Fries, B. Vaughn, C. Lin	Priscilla Tobias	\$ 230,986.00	Past Due									
Safety	R27-097 Evaluation of Flashing Yellow Arrows for Protected/Permissive Left Turn Control (Safety, Operations)	Bradley University	K. Schattler	Randall Laninga	\$ 355,000.00	33%									
Safety	R27-111 Effects of Intersection Right-Turn Lane Design and Skew on Safety and Operations (Safety, Operations)	Bradley University	K. Schattler, M. Yamin	Sean Coyle	\$ 115,800.00	42%									
Safety	R27-116 Investigation of Methods and Approaches for Collecting and Recording Highway Inventory Data	Southern Illinois University at Edwardsville	H. Zhou, S. Hu, J. Gong, M. Grinter	Rob Robinson, Kim Kalody	\$ 215,000.00	14%									
Safety	R27-117 National State Safety and Engineers and Traffic Engineers Peer to Peer Workshop (Safety, Operations)	University of Illinois at Urbana-Champaign	Y. Ouyang	Priscilla Tobias, Aaron Weatherholt	\$ 150,000.00	0%									
Structures	R27-026 Free-Cutting Brass Breakaway Couplings	University of Illinois at Urbana-Champaign	D. Kuchma	Chris Hahin	\$ 52,500.00	100%									
Structures	R27-055 Instrumentation and Monitoring of "Extreme" Integral Abutment Bridges in Illinois*	University of Illinois at Chicago	S. Olson, J. Long	William Kramer, Gary Kowalski	\$ 363,000.00	Past Due									
Structures	R27-056 Transfer & Development Lengths in Prestressed Self-Consolidating Concrete Bridge Box and I-Girders	University of Illinois at Urbana-Champaign	B. Andrawes, A. Pozolo	Tom Domagalski	\$ 190,000.00	100%									
Structures	R27-057 Superiority and Constructability of Fibrous Additives for Bridge Deck Overlays	Indiana-Purdue Fort Wayne	M. Alhassan, S. Ashur	Gary Kowalski	\$ 160,000.00	100%									
Structures	R27-069 Improved Design for Driven Piles Based on a Pile Load Test Program in Illinois*	University of Illinois at Urbana-Champaign	J. Long	William Kramer	\$ 441,883.00	Past Due									
Structures	R27-070 Calibration and Refinement of Illinois' Earthquake Resisting System Bridge Design Methodology	University of Illinois at Urbana-Champaign	J. LaFave, J. Hajjar, L. Fahnestock, D. Foutch	Daniel Tobias	\$ 750,081.00	87%									
Structures	R27-080 Fatigue Testing of Brass Breakaway Couplings*	University of Illinois at Urbana-Champaign	I. Al-Qadi, G. Banas	Chris Hahin	\$ 85,000.00	Past Due									
Structures	R27-081 Field Performance Evaluations of IL Aggregates for Subgrade Replacement and Subbase - Phase II*	University of Illinois at Urbana-Champaign	E. Tutumluer	Greg Hechel	\$ 335,017.00	Past Due									
Structures	R27-082 Strengthening of Bridge Wood Pilings Retrofits for Moment Resistance	University of Illinois at Urbana-Champaign	B. Andrawes	Dan Tobias	\$ 200,000.00	96%									
Structures	R27-088 Bridge Decks: Mitigation of Cracking and Increased Durability (Structures, Pavement)	University of Illinois at Urbana-Champaign / St. Louis University	P. Mondal, D. Foutch / R. Hindi	Dan Tobias	\$ 334,372.00	71%									
Structures	R27-098 Evaluation of Concrete Cylinder Match Curing and Evaluation of 4"x8" Cylinders	University of Illinois at Urbana-Champaign	J. Popovics	Doug Dirks	\$ 230,000.00	Past Due									
Structures	R27-099 Improvement for Determining the Axial Capacity of Drilled Shafts in Shale in Illinois	University of Illinois at Urbana-Champaign	T. Stark, J. Long	Riyad Wahab, William Kramer	\$ 172,500.00	44%									
Structures	R27-105 Improvement of IDOT Bridge Scour Estimation Method at Sites with Cohesive Soils Using SRICOS Zmax - Phase II	US Geological Survey	A. Ishii, T. Straub	Neil Vanbebber	\$ 204,000.00	62%									
Structures	R27-106 Formability of New High Performance Grade 50 Structural Steel	Northwestern University	S. Vaynman, M. Fine, Y. W. Chung	Chris Hahin	\$ 90,000.00	58%									
Structures	R27-107 Load Testing of Rapid Deployment Plate and Tube Short-Span Bridge for County Roads*	TBD	TBD	Chris Hahin, Tom Winkelman	\$ 145,000.00	0%									
Structures	R27-115 Analysis of Superstructures of Integral Abutment Bridges	University of Illinois at Urbana-Champaign	J. LaFave, L. Fahnestock	Mark Shaffer	\$ 300,000.00	12%									
Structures	R27-122 Improvement of Driven Pile Installation and Design in Illinois: Phase I ^a	University of Illinois at Urbana-Champaign	J. Long	William Kramer	\$ 304,792.00	0%									
Structures	R27-133 Calibration and Refinement of Illinois Earthquake Resisting System Bridge Design Methodology - Phase I ^a	University of Illinois at Urbana-Champaign	J. LaFave	Dan Tobias, Mark Shaffer	\$ 300,000.00	0%									
Structures	R27-134 Strengthening of Bridge Wood Pilings Retrofits for Moment Resistance - Phase II ^a	University of Illinois at Urbana-Champaign	B. Andrawes	Jim Klein	\$ 350,000.00	0%									
Other	R27-073 Distance Technology Transfer Course Content Development	University of Illinois at Springfield / University of Illinois at Urbana-Champaign	J. Hall / W. Buctiar	Kevin Burke	\$ 300,002.00	Past Due									

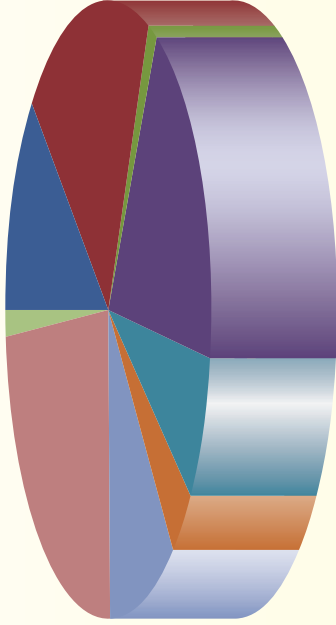


^a Funding is approved, project is upcoming
 * Research Project substantially complete, Final Report pending approval and publication
 Projects in green were completed in FY2012
 Projects in red were past due as of June 30, 2012
 All Data as of June 30, 2012

POOLED FUND INVESTMENTS

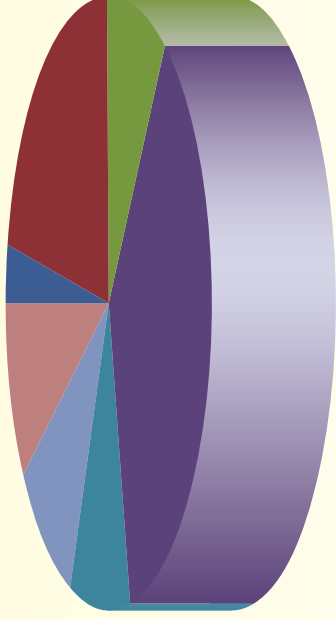
TAG/FOCUS AREA	TPF NUMBER	TITLE	LEAD AGENCY	IDOT'S TECHNICAL CONTACT	IDOT TOTAL CONTRIBUTION	TOTAL PROJECT COST
Environment	TPF-5(002)	Updating A Guide to Standardized Highway Lighting Pole Hardware	Wyoming Department of Transportation	Mark Seppelt	\$ 20,000.00	\$ 355,000.00
Operations	SPR-3(042)	Aurora Program	Iowa Department of Transportation	Tim Peters	\$ 325,000.00	\$ 3,647,500.00
Operations	TPF-5(009)	Computer Based, Self Operating Training System on Anti icing/Road Weather Information Systems (AI/RWIS)	Iowa Department of Transportation	Tim Peters	\$ 30,000.00	\$ 189,000.00
Operations	TPF-5(052)	Transportation Management Center Pooled Fund Study	FHWA	Jeff Galas	\$ 330,000.00	\$ 5,632,267.31
Operations	TPF-5(065)	Traffic Control Device (TCD) Consortium	FHWA	Larry Gregg	\$ 50,000.00	\$ 2,265,000.00
Operations	TPF-5(218)	Clear Roads Winter Highway Operations Pooled Fund - continued from TPF-5(092)	Minnesota Department of Transportation	Tim Peters	\$ 75,000.00	\$ 2,005,000.00
Operations	TPF-5(231)	ITS Pooled Fund Program (ENTERPRISE)	Michigan Department of Transportation	Stephen Travia	\$ 90,000.00	\$ 1,585,000.00
Operations	TPF-5(245)	2012 Multi-State Asset Management Implementation Workshop	FHWA	Aaron Weatherholt, Justan Mann	\$ 10,000.00	\$ 120,000.00
Other	TPF-5(237)	Transportation Library Connectivity and Development	Missouri Department of Transportation	Karen Perrin	\$ 20,000.00	\$ 900,528.28
Other	TPF-5(261)	Core Program Services for a Highway RD&T Program - FY 2012 (TRB FY 2013)	TRB	Amy Schutzbach	\$ 230,933.00	\$ 7,492,932.00
Other	TPF-5(412)	FY2012 National Cooperative Highway Research Program	NCHRP	Amy Schutzbach	\$ 1,480,246.00	\$ 39,431,677.00
Pavements	SPR-3(097)	Machinability of High-Performance Steel	FHWA	Chris Hahin	\$ 45,000.00	\$ 95,000.00
Pavements	TPF-5(004)	Long-Term Pavement Performance (LTPP) Specific Pavement Study (SPS) Traffic Data Collection	FHWA	Mark Gawedzinski	\$ 410,000.00	\$ 3,563,361.00
Pavements	TPF-5(021)	Base Funding for the North Central Superpave Center	Indiana Department of Transportation	Jim Trepanier	\$ 195,000.00	\$ 1,120,000.00
Pavements	TPF-5(063)	Improving the Quality of Pavement Profiler Measurement	FHWA	LaDonna Rowden	\$ 125,000.00	\$ 1,925,500.00
Pavements	TPF-5(090)	Pavement Tools Consortium	Washington State Department of Transportation	Amy Schutzbach	\$ 100,000.00	\$ 910,000.00
Pavements	TPF-5(117)	Development of Performance Properties of Ternary Mixes	Iowa Department of Transportation	Doug Dirks	\$ 75,000.00	\$ 730,000.00
Pavements	TPF-5(159)	Technology Transfer Concrete Consortium	Iowa Department of Transportation	Doug Dirks	\$ 25,000.00	\$ 662,000.00
Pavements	TPF-5(178)	Implementation of the Asphalt Mixture Performance Tester (AMPT) for Superpave Validation	FHWA	Jim Trepanier	\$ 105,000.00	\$ 2,095,000.37
Pavements	TPF-5(179)	Evaluation of Test Methods for Permeability (Transport) and Development of Performance Guidelines for Durability	Indiana Department of Transportation	Doug Dirks	\$ 87,000.00	\$ 843,000.00
Pavements	TPF-5(197)	The Impact of Wide-Base Tires on Pavement Damage: A National Study	FHWA	David Lippert	\$ 100,000.00	\$ 700,000.00
Pavements	TPF-5(213)	Performance of Recycled Asphalt Shingles in Hot Mix Asphalt	Missouri Department of Transportation	Jim Trepanier	\$ 85,000.00	\$ 807,500.00
Pavements	TPF-5(270)	Recycled Materials Resource Center - Third Generation	Wisconsin Department of Transportation	Matt Mueller	\$ 25,000.00	\$ 300,000.00
Planning	TPF-5(154)	Census Transportation Planning Products (CTPP) from the American Community Survey	FHWA	Susan Stitt	\$ 244,357.00	\$ 1,609,704.00
Planning	TPF-5(156)	Mid America Freight Coalition Pooled Fund Program	Wisconsin Department of Transportation	Britt Edwards	\$ 150,000.00	\$ 1,325,000.00
Planning	TPF-5(192)	Loop and Length Based Classification Pooled Fund	Minnesota Department of Transportation	Rob Robinson	\$ 30,000.00	\$ 485,000.00
Safety	TPF-5(099)	Evaluation of Low Cost Safety Improvements	FHWA	Priscilla Tobias	\$ 90,000.00	\$ 3,235,000.00
Safety	TPF-5(193)	Midwest States Pooled Fund Crash Test Program	Nebraska Department of Roads	Dave Piper	\$ 245,000.00	\$ 2,471,005.00
Safety	TPF-5(255)	Highway Safety Manual Implementation	FHWA	Priscilla Tobias	\$ 40,000.00	\$ 1,085,000.00
Structures	TPF-5(189)	Enhancement of Welded Steel Bridge Girders Susceptible to Distortion-Induced Fatigue	Kansas Department of Transportation	Sheila Moynihan, Tom Domagalski	\$ 110,000.00	\$ 1,045,000.00
Structures	TPF-5(219)	Structural Health Monitoring System	Iowa Department of Transportation	Tom Domagalski	\$ 120,000.00	\$ 840,000.00
Structures	TPF-5(232)	Study of the Impacts of Implements of Husbandry on Bridges	Iowa Department of Transportation	James Klein	\$ 20,000.00	\$ 230,000.00

FY2012 Contract Research by Focus Area



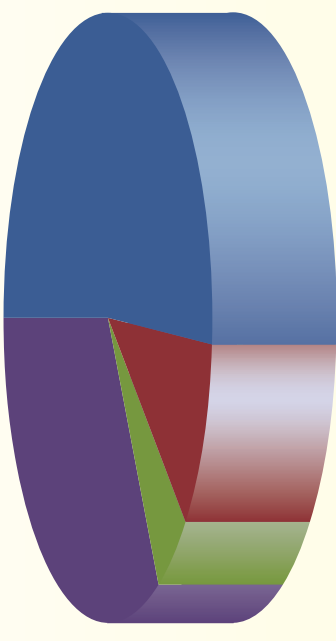
Environment - 9 Projects (11.9%)
 Traffic Operations & Roadside Maintenance - 15 Projects (19.7%)
 Other - 1 Project (1.3%)
 Planning - 6 Projects (7.9%)
 Public Transportation/Multi-Modal - 3 Projects (3.9%)
 Safety Engineering - 8 Projects (10.5%)
 Structures/Hydraulics/Geotechnical - 18 Projects (23.8%)
 Construction - 1 Project (1.3%)

FY2012 TPF Participation by Focus Area



Environment - 1 Project (3.1%)
 Traffic Operations and Roadside Maintenance - 7 projects (21.9%)
 Other - 3 projects (9.4%)
 Planning - 3 projects (9.4%)
 Safety Engineering - 3 projects (9.4%)
 Structures/Hydraulic/Geotechnical - 3 projects (9.4%)

FY2012 SPR Part 2 Funding Distribution



Contract Research - \$2.31 Million
 Transportation Pooled Funds - \$0.46 Million
 Transportation Research Board (TRB) - \$0.23 Million
 National Cooperative Highway Research Program (NCHRP) - \$1.48 Million



State of Illinois
Illinois Department of Transportation



**Illinois Department
of Transportation**

Illinois Department of Transportation
Bureau of Materials & Physical Research
Physical Research Section
126 East Ash St., Springfield, Illinois 62704-4766
(217)782-7200