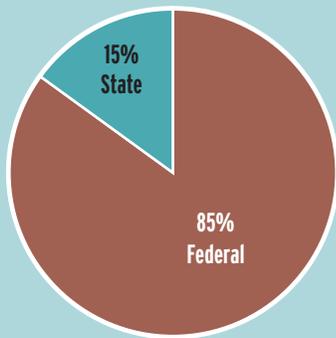


FY 2015 At-A-Glance

OCTOBER 1, 2014 - SEPTEMBER 30, 2015

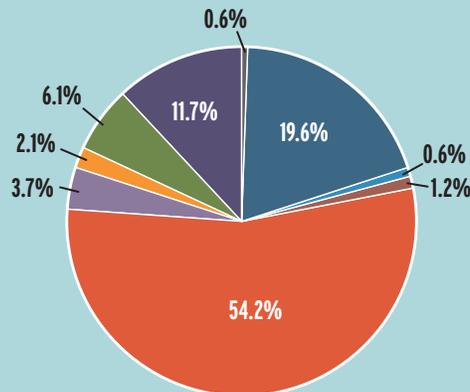
This publication presents a summary of Research and Library funding statistics and project progress for Fiscal Year (FY) 2015. The tables on pages 2 through 7 list all MDOT-funded research projects by topic area that were active or completed during 2015. These listings include both individual Michigan research projects and multi-state pooled fund projects.

FY 2015 SP&R Part II Expenditures by Funding Source



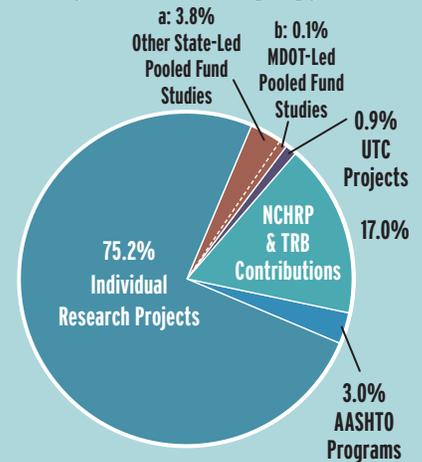
State Research Funds	\$ 964,534.89
Federal Research Funds	\$ 5,448,974.73
TOTAL	\$ 6,413,509.62

FY 2015 Research Project Expenditures by Focus Area



Administration	\$ 30,525.44
Bridges & Structures	\$ 1,007,227.87
Freight Rail	\$ 33,239.94
Geotechnical & Foundation Design	\$ 61,806.28
Intelligent Transportation Systems	\$ 2,778,959.34
Maintenance	\$ 191,574.64
Mobility, Systems & Signal Operations	\$ 110,243.00
Pavements & Materials	\$ 314,951.22
Transportation Safety	\$ 600,341.89
TOTAL	\$ 5,128,869.62

FY 2015 SP&R Part II Expenditures by Type



Individual Research Projects	\$ 4,822,674.46
Multi-State Pooled Fund Studies	
a: Participation in Pooled Fund Studies Led by Other States	\$ 241,500.00
b: Participation in MDOT-Led Pooled Fund Studies	\$ 6,912.38
UTC Projects	\$ 57,782.78
Research Project Expenditures	\$ 5,128,869.62
NCHRP & TRB Contributions	\$ 1,090,640.00
AASHTO Programs	\$ 194,000.00
TOTAL	\$ 6,413,509.62

MDOT 2015 Research

THESE TABLES ARE ORGANIZED BY FOCUS AREA:

RESEARCH PROJECTS:

- Completed research reports that were released in FY 2015: October 2014 to September 2015
- Research contracts that were active during FY 2015

POOLED FUND PROJECTS:

- Multi-state transportation pooled fund studies led by MDOT
- Other multi-state transportation pooled fund studies in which MDOT participates, either through an FY 2015 contribution or through past contributions that are still producing value for Michigan

ABBREVIATIONS:

FAM: Focus Area Manager
RM: Research Manager

A mark in the "Spotlight" column indicates a Research Spotlight for this project.

"Number of Participating States" for some pooled funds includes Canadian provinces and agencies such as FHWA.

The full FY 2015 annual report, completed project reports, and Research Spotlights can be found at www.michigan.gov/mdotresearch.

Bridges & Structures										
FAMs: Dave Juntunen and Corey Rogers, RM: Michael Townley										
Report Number	Title	Contractor	Investigator	Project Manager	Start Date	End Date	Total Budget	% Complete	FY 15 Expenditures	Spotlight
RC-1629	Remote Monitoring of Fatigue Sensitive Details on Bridges	WMU	Attanayake	Kahl	10/1/12	3/30/15	\$259,707.80	100%	\$52,002.24	
RC-1632	Evaluating Prestressing Strands and Post-Tensioning Cable in Concrete Structures Using Non-Destructive Evaluation (NDE) Methods Including Joint Shear Wave Analysis	LTU	Jensen	Curtis	10/18/12	11/25/15	\$264,495.42	100%	\$41,140.97	X
RC-1617	Evaluation of Bridge Decks Using Non-Destructive Evaluation (NDE) at Near Highway Speeds for Effective Asset Management	MTU	Ahlborn	Burns	11/1/12	3/31/16	\$247,819.01	94%	\$37,046.72	
RC-1618A	Research on Evaluation and Standardization of Accelerated Bridge Construction (ABC) Techniques	WMU	Aktan	Rogers	10/1/13	9/30/17	\$257,061.16	85%	\$122,290.51	
	Development, Characterization and Applications of a Non-Proprietary Ultra High Performance Concrete for Highway Bridges	UM	El-Tawil	Kahl	3/30/13	3/14/16	\$354,794.14	92%	\$121,597.28	
	Wireless Data Collection and Retrieval of Bridge Inspection/Management Information	MTU	Brooks	Kathrens	10/1/13	9/30/16	\$377,437.44	86%	\$153,757.19	
	Bridge Design System Analysis and Modernization	MTU	Colling	Guerrazzi	11/1/13	9/30/16	\$561,176.40	74%	\$226,477.53	
	Evaluating Long-Term Capacity and Ductility of Carbon Fiber Reinforced Polymer Prestressing and Post-Tensioning Strands	LTU	Grace	Chynoweth	10/1/13	9/30/17	\$721,223.28	31%	\$174,038.20	
	Statewide Overall Carbon Fiber Composite Cable Bridge Monitoring	LTU	Grace	Chynoweth	10/1/13	9/30/20	\$491,549.00	20%	\$61,964.85	

Bridges & Structures Pooled Fund Studies

Study Number	Title	MDOT Project Manager	Lead State or Agency	Number of Participating States	MI 2015 Expenditures	Expenditures Prior to 2015	Total MI Commitment	Start Date	End Date
TPF-5(254)	Evaluation and Analysis of Decked Bulb T-Beam Bridges	Juntunen	MI DOT	5	\$6,813.73	\$146,018.45	\$173,000.00	9/19/11	2/28/15
TPF-5(271)	Reorganization of Section 5, Concrete Structures, of the AASHTO LRFD Bridge Design Specifications	Chynoweth	KS DOT	17	\$10,000.00	\$20,000.00	\$30,000.00	10/1/12	9/30/15
TPF-5(308)	The Use of Bridge Management Software in the Network Analysis of Big Bridges	Curtis	MI DOT	7	\$98.65	\$0.00	\$95,000.00	10/1/15	9/30/17

Freight Rail Pooled Fund Study

Study Number	Title	MDOT Project Manager	Lead State or Agency	Number of Participating States	MI 2015 Expenditures	Expenditures Prior to 2015	Total MI Commitment	Start Date	End Date
126721	National University Rail Center for Research, Education and Technology Transfer (NURails) UTC	Johnson	MTU	N/A	\$33,239.94	\$0.00	\$99,997.35	1/1/15	12/31/16

Geotechnical & Foundation Design

FAM: Dick Endres, RM: André Clover

Report Number	Title	Contractor	Investigator	Project Manager	Start Date	End Date	Total Budget	% Complete	FY 15 Expenditures	Spotlight
RC-1619	Predictive Modeling of Freezing and Thawing of Frost-Susceptible Soils	MSU	Baladi	Endres	10/1/12	9/30/15	\$184,443.19	100%	\$61,806.28	X

Geotechnical & Foundation Design Pooled Fund Study

Study Number	Title	MDOT Project Manager	Lead State or Agency	Number of Participating States	MI 2015 Expenditures	Expenditures Prior to 2015	Total MI Commitment	Start Date	End Date
TPF-5(285)	Standardizing Lightweight Deflectometer Measurements for Quality Assurance (QA) and Modulus Determination in Unbound Bases and Subgrades	Endres	MD DOT	8	\$0.00	\$50,000.00	\$50,000.00	10/1/13	12/31/15

Intelligent Transportation Systems

FAM: Matt Smith, RM: André Clover

Report Number	Title	Contractor	Investigator	Project Manager	Start Date	End Date	Total Budget	% Complete	FY 15 Expenditures	Spotlight
RC-1625	Infrastructure Monitoring Data Management	Alfred Benesch	Darwish	Cook	10/1/09	7/15/15	\$216,322.36	100%	\$129,253.42	
RC-1631	Cost and Benefits of MDOT Intelligent Transportation System Deployments	WMU	Oh	Castle	6/3/13	7/31/15	\$233,632.69	100%	\$81,446.16	X
	MDOT Active Traffic Management (ATM) Technical Agenda Support	HNTB	Morris	Castle	7/1/15	4/15/16	\$54,857.00	27%	\$14,613.15	
	Advanced Applications of IntelliDrive Data Use Analysis and Processing 2 (DUAP2)	Mixon Hill	Mixon	Castle	8/9/11	1/31/17	\$4,860,029.81	87%	\$843,781.80	
	Connected Vehicle and Transportation Technology Research	UM	Sweatman	Ajegba	10/1/13	6/30/17	\$3,200,000.00	52%	\$1,659,864.81	

Intelligent Transportation Systems Pooled Fund Studies

Study Number	Title	MDOT Project Manager	Lead State or Agency	Number of Participating States	MI 2015 Expenditures	Expenditures Prior to 2015	Total MI Commitment	Start Date	End Date
TPF-5(206)	Research Program to Support the Research, Development and Deployment of System Operations Applications of Vehicle Infrastructure Integration (VII)	Smith	VA DOT	15	\$50,000.00	\$100,000.00	\$200,000.00	10/1/12	12/31/16
TPF-5(231)	ITS Pooled Fund Program (ENTERPRISE)	Nederveld	MI DOT	12	\$0.00	\$175,000.00	\$350,000.00	10/1/09	9/30/19

Maintenance

FAM: Gary Mayes, RM: André Clover

Report Number	Title	Contractor	Investigator	Project Manager	Start Date	End Date	Total Budget	% Complete	FY 15 Expenditures	Spotlight
RC-1616	Evaluating the Use of Unmanned Aerial Vehicles (UAVs) for Transportation Purposes	MTU	Brooks	Cook	5/22/13	4/30/15	\$269,123.91	100%	\$34,483.66	X
	Evaluating the Use of Tow Plows	LTU	Bandara	Croze	3/30/13	12/31/15	\$195,224.23	59%	\$57,090.98	

Maintenance Pooled Fund Studies

Study Number	Title	MDOT Project Manager	Lead State or Agency	Number of Participating States	MI 2015 Expenditures	Expenditures Prior to 2015	Total MI Commitment	Start Date	End Date
TPF-5(054)	Development of Maintenance Decision Support System	Cook	SD DOT	20	\$25,000.00	\$110,000.00	\$210,000.00	6/1/12	9/30/18
TPF-5(218)	Clear Roads Winter Highway Operations Pooled Fund	Droste	MN DOT	32	\$50,000.00	\$100,000.00	\$200,000.00	10/1/09	9/30/17

Maintenance Pooled Fund Studies, cont.

Study Number	Title	MDOT Project Manager	Lead State or Agency	Number of Participating States	MI 2015 Expenditures	Expenditures Prior to 2015	Total MI Commitment	Start Date	End Date
TPF-5(290)	Aurora Program	Gustafson	IA DOT	15	\$25,000.00	\$25,000.00	\$75,000.00	10/1/13	9/30/16
TPF-5(330)	No Boundaries Roadway Maintenance Practices	Bower	Ohio DOT	10	\$0.00	\$0.00	\$30,000.00	5/29/15	9/30/17

Mobility, Systems & Signal Operations

FAM: Steve Cook, RM: André Clover

Report Number	Title	Contractor	Investigator	Project Manager	Start Date	End Date	Total Budget	% Complete	FY 15 Expenditures	Spotlight
RC-1622	Evaluating Michigan Commercial Vehicle Enforcement Strategies and Facilities	WMU	Kwigizile	Firman	5/7/13	3/30/15	\$272,290.52	100%	\$83,294.03	
RC-1630	Balancing the Costs of Mobility Investments in Work Zones	WSU	Gates	Owen	6/19/13	6/30/15	\$254,948.74	55%	\$1,948.97	

Mobility, Systems & Signal Operations Pooled Fund Study

Study Number	Title	MDOT Project Manager	Lead State or Agency	Number of Participating States	MI 2015 Expenditures	Expenditures Prior to 2015	Total MI Commitment	Start Date	End Date
TPF-5(319)	Transportation Management Center (TMC) Pooled Fund Study [Old SPR-2(207)]	Peplinski	FHWA	19	\$25,000.00	\$100,000.00	\$175,000.00	10/1/14	9/30/17

Pavements & Materials

FAMs: Curtis Bleach and John Staton, RM: André Clover

Report Number	Title	Contractor	Investigator	Project Manager	Start Date	End Date	Total Budget	% Complete	FY 15 Expenditures	Spotlight
	Performance of Michigan's Jointed Portland Cement Concrete (PCC) Pavements, Phase II	SME	Kohn	Robords	3/8/07	9/30/08	\$164,674.55	100%	\$415.00	
RC-1626	Improvement of Michigan Climatic Files in Pavement ME Design	MTU	You	Eacker	10/1/13	9/30/15	\$184,211.43	100%	\$44,436.68	
RC-1624	A Method to Assess the Use of New and Recycled Materials in Pavements	MSU	Kutay	Maack	10/1/13	6/30/15	\$198,655.00	88%	\$79,465.35	X
	Preparation of Implementation of the Mechanistic-Empirical Pavement Design Guide in Michigan	MSU	Buch	Eacker	10/1/11	10/31/14	\$427,453.56	98%	\$18,647.45	
	Performance Evaluation of Subgrade Stabilization with Recycled Materials	LTU	Bandara	Grazioli	10/1/13	12/31/15	\$219,692.48	64%	\$95,943.90	

Pavements & Materials Pooled Fund Studies

Study Number	Title	MDOT Project Manager	Lead State or Agency	Number of Participating States	MI 2015 Expenditures	Expenditures Prior to 2015	Total MI Commitment	Start Date	End Date
126401	Development of an Acceptance Test for Chip Seal Projects: Highway Pavement Preservation UTC	Chelotti	MSU	N/A	\$24,542.84	\$0.00	\$120,001.00	11/1/14	1/31/17
TPF-5(215)	Transportation Engineering and Road Research Alliance (TERRA)	Clover	MN DOT	6	\$7,000.00	\$30,500.00	\$58,500.00	10/1/09	9/30/15
TPF-5(242)	Traffic and Data Preparation for AASHTO MEPDG Analysis and Design	Eacker	LA DOT	8	\$0.00	\$50,000.00	\$50,000.00	6/1/12	9/30/16
TPF-5(267)	Accelerated Performance Testing for the NCAT Pavement Test Track	Bleech	AL DOT	18	\$0.00	\$0.00	\$990,000.00	4/15/15	9/30/17
TPF-5(269)	Development of an Improved Design Procedure for Unbonded Concrete Overlays	Krom	MN DOT	8	\$0.00	\$60,000.00	\$60,000.00	4/13/12	9/30/16
TPF-5(286)	Next Generation Concrete Pavement Road Map	Staton	IA DOT	5	\$15,000.00	\$30,000.00	\$75,000.00	10/1/12	9/30/15
TPF-5(297)	Improving Specifications to Resist Frost Damage in Modern Concrete Mixtures	Stallard	OK DOT	17	\$17,500.00	\$17,500.00	\$70,000.00	10/1/13	9/30/17
TPF-5(313)	Technology Transfer Concrete Consortium [Old TPF-5(159)]	Staton	IA DOT	31	\$12,000.00	\$0.00	\$60,000.00	10/1/14	9/30/19
TPF-5(320)	Base Funding for the North Central Superpave Center	Bower	IN DOT	7	\$0.00	\$0.00	\$50,000.00	6/1/15	9/30/16

Transportation Safety

FAM: Mark Bott, RM: Michael Townley

Report Number	Title	Contractor	Investigator	Project Manager	Start Date	End Date	Total Budget	% Complete	FY 15 Expenditures	Spotlight
RC-1612	Study of High-Tension Cable Barrier on Michigan Roadways	WSU	Savolainen	Torres	10/1/11	12/31/14	\$236,435.73	100%	\$2,953.96	X
RC-1627	Evaluation of Non-Freeway Rumble Strips, Phase II	WSU	Datta	Bramble	2/8/13	3/31/15	\$249,999.90	100%	\$40,396.84	X
RC-1628	Michigan Urban Trunkline Intersections Safety Performance Functions (SPFs) Development and Support	WSU	Gates	Kanitz	9/1/13	6/30/15	\$250,100.20	100%	\$195,664.02	
RC-1609A	Evaluating the Costs and Benefits of Non-Differential Freeway Speed Limits for Trucks and Buses, and the Outcomes of Raising All Vehicle Speed Limits	WSU	Gates	Bott	2/26/13	7/31/15	\$311,963.42	100%	\$21,265.60	
RC-1636	Evaluation of Michigan's Engineering Improvements for Older Drivers	WMU	Kwigizile	Lariviere	10/1/13	9/30/15	\$306,992.41	100%	\$197,955.50	X
	Comparison of Alternative Pedestrian Crossing Treatments	WMU	Van Houten	McQuiston	10/1/13	1/31/16	\$243,320.33	79%	\$108,379.74	
	Michigan Urban Trunkline Segments Safety Performance Functions (SPFs) Development and Support	WSU	Gates	Kanitz	3/1/14	2/28/16	\$250,000.00	16%	\$33,726.23	

Administration

Report Number	Title	Contractor	Investigator	Project Manager	Start Date	End Date	Total Budget	% Complete	FY 15 Expenditures	Spotlight
	Research Administration Section Planning and Communications	CTC	Casey	Polsdofer	1/31/12	12/31/15	\$239,863.00	91%	\$25,525.44	

Administration Pooled Fund Study

Study Number	Title	MDOT Project Manager	Lead State or Agency	Number of Participating States	MI 2015 Expenditures	Expenditures Prior to 2015	Total MI Commitment	Start Date	End Date
TPF-5(237)	Transportation Library Connectivity and Development	Briseno	MO DOT	26	\$5,000.00	\$20,000.00	\$25,000.00	5/1/11	9/30/15

National Initiatives

Study Number	Title	MDOT Project Manager	Lead State or Agency	Number of Participating States	MI 2015 Expenditures	Expenditures Prior to 2015	Total MI Commitment	Start Date	End Date
126199	AASHTOWare Development Project–Project Bids Software (PBS)	Mullins	AASHTO	N/A	\$81,000.00	\$0.00	\$162,000.00	10/1/14	9/30/16
SPR1284(007)	Environmental Technical Assistance Program (ETAP)	Barondess	AASHTO	N/A	\$8,000.00	\$16,000.00	\$64,000.00	10/1/13	9/30/20
SPR1284(019)	AASHTO Engineering Technical Service Programs	Clover	AASHTO/ FHWA	N/A	\$105,000.00	\$0.00	\$105,000.00	10/1/14	9/30/15
TPF-5(321)	TRB Core Program Activities, Period Covering FY 2015 (TRB FY 2016)	Clover	FHWA	N/A	\$175,602.00	\$0.00	\$181,766.00	10/1/14	9/30/15
TPF-5(415)	National Cooperative Highway Research Program (NCHRP) for FY 2015	Clover	FHWA	N/A	\$915,038.00	\$0.00	\$1,100,000.00	10/1/14	9/30/15

RESEARCH SERVICES STATISTICS (FY 2015)

Amendments	3
Closed individual research projects	15
New individual research projects	0
Individual research projects	32
Pooled fund studies and other national research initiatives	27

LIBRARY SERVICES STATISTICS (FY 2015)

Total circulation (MDOT and C&T Library)	19,079
New materials	518
Reference services	466
Interlibrary loans	106
Visitors (MDOT Library only)	482

The Research Administration Team



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MISSION

Promoting innovative research for economic benefit and improved quality of life

VALUES

Quality
Teamwork
Customer Orientation
Integrity
Pride



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