

MSU - Center for Advanced Vehicular Systems P.O. Box 6343 Mississippi State, MS 39762

Dr. Mark E. Keenum

AGENCY ADDRESS CHIEF EXECUTIVE OFFICER

	Actual Expenses FY Ending June 30, 2014	Estimate Expenses FY Ending June 30, 2015	Requested for FY Ending June 30, 2016	Requested Increase (+) or Decrease (-) FY 2016 vs. FY 2015 (Col. 3 vs. Col. 2)	
				AMOUNT	PERCENT
I. A. PERSONAL SERVICES					
1. Salaries, Wages & Fringe Benefits (Base)	1,939,169	2,981,248	2,981,248		
a. Additional Compensation			1,000,000		
b. Proposed Vacancy Rate (Dollar Amount)					
c. Per Diem					
Total Salaries, Wages & Fringe Benefits	1,939,169	2,981,248	3,981,248	1,000,000	33.54%
2. Travel					
a. Travel & Subsistence (In-State)	17,148	32,000	32,000		
b. Travel & Subsistence (Out-of-State)	1,497				
c. Travel & Subsistence (Out-of-Country)					
Total Travel	18,645	32,000	32,000		
B. CONTRACTUAL SERVICES (Schedule B):					
a. Tuition, Rewards & Awards		2,500	2,500		
b. Communications, Transportation & Utilities	2,262	15,500	15,500		
c. Public Information					
d. Rents					
e. Repairs & Service	81,043	250	250		
f. Fees, Professional & Other Services		1,500	1,500		
g. Other Contractual Services	408,132	282,511	282,511		
h. Data Processing	70,293	58,520	58,520		
i. Other					
Total Contractual Services	561,730	360,781	360,781		
C. COMMODITIES (Schedule C):					
a. Maintenance & Construction Materials & Supplies					
b. Printing & Office Supplies & Materials	15,969	43,500	43,500		
c. Equipment, Repair Parts, Supplies & Accessories	17,501	5,500	5,500		
d. Professional & Scientific Supplies & Materials	35,176	13,400	13,400		
e. Other Supplies & Materials	20,767	22,600	22,600		
Total Commodities	89,413	85,000	85,000		
D. CAPITAL OUTLAY:					
1. Total Other Than Equipment (Schedule D-1)					
2. Equipment (Schedule D-2):					
b. Road Machinery, Farm & Other Working Equipment					
c. Office Machines, Furniture, Fixtures & Equipment					
d. IS Equipment (Data Processing & Telecommunications)					
e. Equipment - Lease Purchase					
f. Other Equipment					
Total Equipment (Schedule D-2)					
3. Vehicles (Schedule D-3)					
4. Wireless Comm. Devices (Schedule D-4)					
E. SUBSIDIES, LOANS & GRANTS (Schedule E):	719,169	469,097	469,097		
TOTAL EXPENDITURES	3,328,126	3,928,126	4,928,126	1,000,000	25.45%
II. BUDGET TO BE FUNDED AS FOLLOWS:					
Cash Balance-Unencumbered					
General Fund Appropriation (Enter General Fund Lapse Below)	3,328,126	3,785,344	4,785,344	1,000,000	26.41%
State Support Special Funds		142,782	142,782		
Federal Funds _____ Other Special Funds (Specify) _____					
Less: Estimated Cash Available Next Fiscal Period					
TOTAL FUNDS (equals Total Expenditures above)	3,328,126	3,928,126	4,928,126	1,000,000	25.45%
GENERAL FUND LAPSE					
III. PERSONNEL DATA					
Positions Authorized in Appropriation Bill					
Permanent: Full Time:	55	55	57	2	3.63%
Part Time:					
Time-Limited: Full Time:					
Part Time:	2	2	2		
Average Annual Vacancy Rate (Percentage)					
Permanent: Full Time:					
Part Time:					
Time-Limited: Full Time:					
Part Time:					

Approved by: _____
Official of Board or Commission

Budget Officer: Mr. Don Zant / dzant@budgetplan.msstate.edu

Phone Number: 662-325-2231

Submitted by: Dr. Mark E. Keenum
Name

Title: President

Date: July 22, 2014

REQUEST BY FUNDING SOURCE

Name of Agency MSU - Center for Advanced Vehicular Systems

Specify Funding Sources As Shown Below	FY 2014 Actual Amount	% Of Line Item	% Of Total Budget	FY 2015 Estimated Amount	% Of Line Item	% Of Total Budget	FY 2016 Requested Amount	% Of Line Item	% Of Total Budget
1. General State Support Special (Specify)	1,939,169	100.00%		2,838,466	95.21%		3,838,466	96.41%	
2. Budget Contingency Fund									
3. Education Enhancement Fund				142,782	4.78%		142,782	3.58%	
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Hurricane Disaster Reserve Fund									
7. Capital Expense Fund									
8.									
9. Federal Other Special (Specify)									
10.									
11.									
12.									
13.									
Total Salaries	1,939,169		58.26%	2,981,248		75.89%	3,981,248		80.78%
1. General State Support Special (Specify)	18,645	100.00%		32,000	100.00%		32,000	100.00%	
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Hurricane Disaster Reserve Fund									
7. Capital Expense Fund									
8.									
9. Federal Other Special (Specify)									
10.									
11.									
12.									
13.									
Total Travel	18,645		0.56%	32,000		0.81%	32,000		0.64%
1. General State Support Special (Specify)	561,730	100.00%		360,781	100.00%		360,781	100.00%	
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Hurricane Disaster Reserve Fund									
7. Capital Expense Fund									
8.									
9. Federal Other Special (Specify)									
10.									
11.									
12.									
13.									
Total Contractual	561,730		16.87%	360,781		9.18%	360,781		7.32%
1. General State Support Special (Specify)	89,413	100.00%		85,000	100.00%		85,000	100.00%	
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Hurricane Disaster Reserve Fund									
7. Capital Expense Fund									
8.									
9. Federal Other Special (Specify)									
10.									
11.									
12.									
13.									
Total Commodities	89,413		2.68%	85,000		2.16%	85,000		1.72%

REQUEST BY FUNDING SOURCE

Name of Agency MSU - Center for Advanced Vehicular Systems

Specify Funding Sources As Shown Below	FY 2014 Actual Amount	% Of Line Item	% Of Total Budget	FY 2015 Estimated Amount	% Of Line Item	% Of Total Budget	FY 2016 Requested Amount	% Of Line Item	% Of Total Budget
1. General _____ State Support Special (Specify) _____									
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Hurricane Disaster Reserve Fund									
7. Capital Expense Fund									
8.									
9. Federal _____ Other Special (Specify) _____									
10.									
11.									
12.									
13.									
Total Other Than Equipment									
1. General _____ State Support Special (Specify) _____									
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Hurricane Disaster Reserve Fund									
7. Capital Expense Fund									
8.									
9. Federal _____ Other Special (Specify) _____									
10.									
11.									
12.									
13.									
Total Equipment									
1. General _____ State Support Special (Specify) _____									
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Hurricane Disaster Reserve Fund									
7. Capital Expense Fund									
8.									
9. Federal _____ Other Special (Specify) _____									
10.									
11.									
12.									
13.									
Total Vehicles									
1. General _____ State Support Special (Specify) _____									
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Hurricane Disaster Reserve Fund									
7. Capital Expense Fund									
8.									
9. Federal _____ Other Special (Specify) _____									
10.									
11.									
12.									
13.									
Total Wireless Comm. Devices									

REQUEST BY FUNDING SOURCE

Name of Agency MSU - Center for Advanced Vehicular Systems

Specify Funding Sources As Shown Below	FY 2014 Actual Amount	% Of Line Item	% Of Total Budget	FY 2015 Estimated Amount	% Of Line Item	% Of Total Budget	FY 2016 Requested Amount	% Of Line Item	% Of Total Budget
1. General State Support Special (Specify)	719,169	100.00%		469,097	100.00%		469,097	100.00%	
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Hurricane Disaster Reserve Fund									
7. Capital Expense Fund									
8.									
9. Federal Other Special (Specify)									
10.									
11.									
12.									
13.									
Total Subsidies, Loans & Grants	719,169		21.60%	469,097		11.94%	469,097		9.51%
1. General State Support Special (Specify)	3,328,126	100.00%		3,785,344	96.36%		4,785,344	97.10%	
2. Budget Contingency Fund									
3. Education Enhancement Fund				142,782	3.63%		142,782	2.89%	
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Hurricane Disaster Reserve Fund									
7. Capital Expense Fund									
8.									
9. Federal Other Special (Specify)									
10.									
11.									
12.									
13.									
TOTAL	3,328,126		100.00%	3,928,126		100.00%	4,928,126		100.00%

SPECIAL FUNDS DETAIL

MSU - Center for Advanced Vehicular Systems
Name of Agency

S. STATE SUPPORT SPECIAL FUNDS		(1) Actual Revenues FY 2014	(2) Estimated Revenues FY 2015	(3) Requested Revenues FY 2016
Source (Fund Number)	Detailed Description of Source			
	Cash Balance-Unencumbered			
Budget Contingency Fund	BCF - Budget Contingency Fund			
Education Enhancement Fund	EEF - Education Enhancement Fund		142,782	142,782
Health Care Expendable Fund	HCEF - Health Care Expendable Fund			
Tobacco Control Fund	TCF - Tobacco Control Fund			
Hurricane Disaster Reserve Fund	HDRF - Hurricane Disaster Reserve Fund			
Capital Expense Fund	CEF - Capital Expense Fund			
Section S TOTAL			142,782	142,782

A. FEDERAL FUNDS*		Percentage Match Requirement		(1) Actual Revenues FY 2014	(2) Estimated Revenues FY 2015	(3) Requested Revenues FY 2016
Source (Fund Number)	Detailed Description of Source	FY 2015	FY 2016			
	Cash Balance-Unencumbered					
Section A TOTAL						

B. OTHER SPECIAL FUNDS (NON-FED'L)		(1) Actual Revenues FY 2014	(2) Estimated Revenues FY 2015	(3) Requested Revenues FY 2016
Source (Fund Number)	Detailed Description of Source			
	Cash Balance-Unencumbered			
Section B TOTAL				

Section S + A + B TOTAL			142,782	142,782
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C. TREASURY FUND/BANK ACCOUNTS*			(1) Reconciled Balance as of 6/30/14	(2) Balance as of 6/30/15	(3) Balance as of 6/30/16
Name of Fund/Account	Fund/Account Number	Name of Bank (If Applicable)			

* Any non-federal funds that have restricted uses must be identified and narrative of restrictions attached.

**NARRATIVE OF SPECIAL FUNDS DETAIL
AND TREASURY FUND/BANK ACCOUNTS**

MSU - Center for Advanced Vehicular Systems

Name of Agency

STATE SUPPORT SPECIAL FUNDS

In CAVS' new focus area, funds will also be used to support major initiatives in energy related to petroleum and natural gas. New research and outreach activities are needed to help industry extract additional oil and gas from existing deposits in Mississippi and to find ways to more efficiently use fuels in the transportation sector. This support will link to efforts in the Swalm School of Chemical Engineering to work with the petroleum industry in Mississippi in outreach, research, and development efforts. Because of the expanding petroleum industry in Mississippi and the rest of the country, industrial outreach efforts will be needed to assist this growing industry which will significantly add to job growth in Mississippi.

CONTINUATION AND EXPANDED REQUEST

MSU - Center for Advanced Vehicular Systems

Program No. _____ of 2 Programs

AGENCY

SUMMARY OF ALL PROGRAMS

PROGRAM

	FY 2014 Actual				
	(1) General	(2) State Support Special	(3) Federal	(4) Other Special	(5) Total
Salaries, Wages, Fringe	1,939,169				1,939,169
Travel	18,645				18,645
Contractual Services	561,730				561,730
Commodities	89,413				89,413
Other Than Equipment					
Equipment					
Vehicles					
Wireless Comm. Devs.					
Subsidies, Loans & Grants	719,169				719,169
Total	3,328,126				3,328,126
No. of Positions (FTE)	57.00				57.00

	FY 2015 Estimate				
	(6) General	(7) State Support Special	(8) Federal	(9) Other Special	(10) Total
Salaries, Wages, Fringe	2,838,466	142,782			2,981,248
Travel	32,000				32,000
Contractual Services	360,781				360,781
Commodities	85,000				85,000
Other Than Equipment					
Equipment					
Vehicles					
Wireless Comm. Devs.					
Subsidies, Loans & Grants	469,097				469,097
Total	3,785,344	142,782			3,928,126
No. of Positions (FTE)	57.00				57.00

	FY 2016 Increase/Decrease for Continuation				
	(11) General	(12) State Support Special	(13) Federal	(14) Other Special	(15) Total
Salaries, Wages, Fringe	1,000,000				1,000,000
Travel					
Contractual Services					
Commodities					
Other Than Equipment					
Equipment					
Vehicles					
Wireless Comm. Devs.					
Subsidies, Loans & Grants					
Total	1,000,000				1,000,000
No. of Positions (FTE)	2.00				2.00

Note: FY2016 Total Request = FY2015 Estimated + FY2016 Incr(Decr) for Continuation + FY2016 Expansion/Reduction of Existing Activities + FY2016 New Activities.

CONTINUATION AND EXPANDED REQUEST

MSU - Center for Advanced Vehicular Systems _____

Program No. _____ of 2 Programs

AGENCY

SUMMARY OF ALL PROGRAMS

PROGRAM

FY 2016 Expansion/Reduction of Existing Activities				
(16) General	(17) State Support Special	(18) Federal	(19) Other Special	(20) Total
Salaries, Wages, Fringe				
Travel				
Contractual Services				
Commodities				
Other Than Equipment				
Equipment				
Vehicles				
Wireless Comm. Devs.				
Subsidies, Loans & Grants				
Total				
No. of Positions (FTE)				

FY 2016 New Activities				
(21) General	(22) State Support Special	(23) Federal	(24) Other Special	(25) Total
Salaries, Wages, Fringe				
Travel				
Contractual Services				
Commodities				
Other Than Equipment				
Equipment				
Vehicles				
Wireless Comm. Devs.				
Subsidies, Loans & Grants				
Total				
No. of Positions (FTE)				

FY 2016 Total Request				
(26) General	(27) State Support Special	(28) Federal	(29) Other Special	(30) Total
Salaries, Wages, Fringe	3,838,466	142,782		3,981,248
Travel	32,000			32,000
Contractual Services	360,781			360,781
Commodities	85,000			85,000
Other Than Equipment				
Equipment				
Vehicles				
Wireless Comm. Devs.				
Subsidies, Loans & Grants	469,097			469,097
Total	4,785,344	142,782		4,928,126
No. of Positions (FTE)	59.00			59.00

Note: FY2016 Total Request = FY2015 Estimated + FY2016 Incr(Decr) for Continuation + FY2016 Expansion/Reduction of Existing Activities + FY2016 New Activities.

**SUMMARY OF PROGRAMS
FORM MBR-1-03sum**

MSU - Center for Advanced Vehicular Systems _____
Agency Name

FUNDING REQUESTED FISCAL YEAR 2016

PROGRAM	GENERAL	ST.SUPP.SPECIAL	FEDERAL	OTHER SPECIAL	TOTAL
1. RESEARCH	3,990,647	142,782			4,133,429
2. PUBLIC SERVICE	794,697				794,697
SUMMARY OF ALL PROGRAMS	4,785,344	142,782			4,928,126

CONTINUATION AND EXPANDED REQUEST

MSU - Center for Advanced Vehicular Systems

Program No. 1 of 2 Programs

AGENCY

RESEARCH

PROGRAM

	FY 2014 Actual				
	(1) General	(2) State Support Special	(3) Federal	(4) Other Special	(5) Total
Salaries, Wages, Fringe	1,849,030				1,849,030
Travel	1,497				1,497
Contractual Services	513,474				513,474
Commodities	84,260				84,260
Other Than Equipment					
Equipment					
Vehicles					
Wireless Comm. Devs.					
Subsidies, Loans & Grants	333,763				333,763
Total	2,782,024				2,782,024
No. of Positions (FTE)	52.29				52.29

	FY 2015 Estimate				
	(6) General	(7) State Support Special	(8) Federal	(9) Other Special	(10) Total
Salaries, Wages, Fringe	2,481,288	142,782			2,624,070
Travel	7,000				7,000
Contractual Services	315,781				315,781
Commodities	40,000				40,000
Other Than Equipment					
Equipment					
Vehicles					
Wireless Comm. Devs.					
Subsidies, Loans & Grants	313,245				313,245
Total	3,157,314	142,782			3,300,096
No. of Positions (FTE)	52.29				52.29

	FY 2016 Increase/Decrease for Continuation				
	(11) General	(12) State Support Special	(13) Federal	(14) Other Special	(15) Total
Salaries, Wages, Fringe	833,333				833,333
Travel					
Contractual Services					
Commodities					
Other Than Equipment					
Equipment					
Vehicles					
Wireless Comm. Devs.					
Subsidies, Loans & Grants					
Total	833,333				833,333
No. of Positions (FTE)	2.00				2.00

Note: FY2016 Total Request = FY2015 Estimated + FY2016 Incr(Decr) for Continuation + FY2016 Expansion/Reduction of Existing Activities + FY2016 New Activities.

CONTINUATION AND EXPANDED REQUEST

MSU - Center for Advanced Vehicular Systems

Program No. 1 of 2 Programs

AGENCY

RESEARCH

PROGRAM

FY 2016 Expansion/Reduction of Existing Activities				
(16) General	(17) State Support Special	(18) Federal	(19) Other Special	(20) Total
Salaries, Wages, Fringe				
Travel				
Contractual Services				
Commodities				
Other Than Equipment				
Equipment				
Vehicles				
Wireless Comm. Devs.				
Subsidies, Loans & Grants				
Total				
No. of Positions (FTE)				

FY 2016 New Activities				
(21) General	(22) State Support Special	(23) Federal	(24) Other Special	(25) Total
Salaries, Wages, Fringe				
Travel				
Contractual Services				
Commodities				
Other Than Equipment				
Equipment				
Vehicles				
Wireless Comm. Devs.				
Subsidies, Loans & Grants				
Total				
No. of Positions (FTE)				

FY 2016 Total Request				
(26) General	(27) State Support Special	(28) Federal	(29) Other Special	(30) Total
Salaries, Wages, Fringe	3,314,621	142,782		3,457,403
Travel	7,000			7,000
Contractual Services	315,781			315,781
Commodities	40,000			40,000
Other Than Equipment				
Equipment				
Vehicles				
Wireless Comm. Devs.				
Subsidies, Loans & Grants	313,245			313,245
Total	3,990,647	142,782		4,133,429
No. of Positions (FTE)	54.29			54.29

Note: FY2016 Total Request = FY2015 Estimated + FY2016 Incr(Decr) for Continuation + FY2016 Expansion/Reduction of Existing Activities + FY2016 New Activities.

CONTINUATION AND EXPANDED REQUEST

MSU - Center for Advanced Vehicular Systems

Program No. 2 of 2 Programs

AGENCY

PUBLIC SERVICE

PROGRAM

	FY 2014 Actual				
	(1) General	(2) State Support Special	(3) Federal	(4) Other Special	(5) Total
Salaries, Wages, Fringe	90,139				90,139
Travel	17,148				17,148
Contractual Services	48,256				48,256
Commodities	5,153				5,153
Other Than Equipment					
Equipment					
Vehicles					
Wireless Comm. Devs.					
Subsidies, Loans & Grants	385,406				385,406
Total	546,102				546,102
No. of Positions (FTE)	4.71				4.71

	FY 2015 Estimate				
	(6) General	(7) State Support Special	(8) Federal	(9) Other Special	(10) Total
Salaries, Wages, Fringe	357,178				357,178
Travel	25,000				25,000
Contractual Services	45,000				45,000
Commodities	45,000				45,000
Other Than Equipment					
Equipment					
Vehicles					
Wireless Comm. Devs.					
Subsidies, Loans & Grants	155,852				155,852
Total	628,030				628,030
No. of Positions (FTE)	4.71				4.71

	FY 2016 Increase/Decrease for Continuation				
	(11) General	(12) State Support Special	(13) Federal	(14) Other Special	(15) Total
Salaries, Wages, Fringe	166,667				166,667
Travel					
Contractual Services					
Commodities					
Other Than Equipment					
Equipment					
Vehicles					
Wireless Comm. Devs.					
Subsidies, Loans & Grants					
Total	166,667				166,667
No. of Positions (FTE)					

Note: FY2016 Total Request = FY2015 Estimated + FY2016 Incr(Decr) for Continuation + FY2016 Expansion/Reduction of Existing Activities + FY2016 New Activities.

CONTINUATION AND EXPANDED REQUEST

MSU - Center for Advanced Vehicular Systems

Program No. 2 of 2 Programs

AGENCY

PUBLIC SERVICE

PROGRAM

FY 2016 Expansion/Reduction of Existing Activities				
(16) General	(17) State Support Special	(18) Federal	(19) Other Special	(20) Total
Salaries, Wages, Fringe				
Travel				
Contractual Services				
Commodities				
Other Than Equipment				
Equipment				
Vehicles				
Wireless Comm. Devs.				
Subsidies, Loans & Grants				
Total				
No. of Positions (FTE)				

FY 2016 New Activities				
(21) General	(22) State Support Special	(23) Federal	(24) Other Special	(25) Total
Salaries, Wages, Fringe				
Travel				
Contractual Services				
Commodities				
Other Than Equipment				
Equipment				
Vehicles				
Wireless Comm. Devs.				
Subsidies, Loans & Grants				
Total				
No. of Positions (FTE)				

FY 2016 Total Request				
(26) General	(27) State Support Special	(28) Federal	(29) Other Special	(30) Total
Salaries, Wages, Fringe	523,845			523,845
Travel	25,000			25,000
Contractual Services	45,000			45,000
Commodities	45,000			45,000
Other Than Equipment				
Equipment				
Vehicles				
Wireless Comm. Devs.				
Subsidies, Loans & Grants	155,852			155,852
Total	794,697			794,697
No. of Positions (FTE)	4.71			4.71

Note: FY2016 Total Request = FY2015 Estimated + FY2016 Incr(Decr) for Continuation + FY2016 Expansion/Reduction of Existing Activities + FY2016 New Activities.

PROGRAM DECISION UNITS

MSU - Center for Advanced Vehicular Systems

1 - RESEARCH

AGENCY

PROGRAM NAME

	A	B	C	D	E	F	G	H
	FY 2015 Appropriation	Escalations By DFA	Non-Recurring Items	Personnel Cost Adjustments	Total Funding Change	FY 2016 Total Request		
EXPENDITURES:								
SALARIES	2,624,070			833,333	833,333	3,457,403		
GENERAL	2,481,288			833,333	833,333	3,314,621		
ST.SUP.SPECIAL	142,782					142,782		
FEDERAL								
OTHER								
TRAVEL	7,000					7,000		
GENERAL	7,000					7,000		
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
CONTRACTUAL	315,781					315,781		
GENERAL	315,781					315,781		
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
COMMODITIES	40,000					40,000		
GENERAL	40,000					40,000		
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
CAPITAL-OTE								
GENERAL								
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
EQUIPMENT								
GENERAL								
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
VEHICLES								
GENERAL								
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
WIRELESS DEV								
GENERAL								
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
SUBSIDIES	313,245					313,245		
GENERAL	313,245					313,245		
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
TOTAL	3,300,096			833,333	833,333	4,133,429		

FUNDING:

GENERAL FUNDS	3,157,314			833,333	833,333	3,990,647		
ST.SUP.SPCL.FUNDS	142,782					142,782		
FEDERAL FUNDS								
OTHER SP.FUNDS								
TOTAL	3,300,096			833,333	833,333	4,133,429		

POSITIONS:

GENERAL FTE	52.29			2.00	2.00	54.29		
ST.SUP.SPCL.FTE								
FEDERAL FTE								
OTHER SP FTE								
TOTAL FTE	52.29			2.00	2.00	54.29		

PRIORITY LEVEL:

	A	B	C	D	E	F	G	H
	FY 2015 Appropriation	Escalations By DFA	Non-Recurring Items	Personnel Cost Adjustments	Total Funding Change	FY 2016 Total Request		
EXPENDITURES:								
SALARIES	357,178			166,667	166,667	523,845		
GENERAL	357,178			166,667	166,667	523,845		
ST.SUP.SPECIAL								
FEDERAL								
OTHER								

PROGRAM DECISION UNITS

MSU - Center for Advanced Vehicular Systems

2 - PUBLIC SERVICE

AGENCY

PROGRAM NAME

	A	B	C	D	E	F	G	H
TRAVEL	25,000					25,000		
GENERAL	25,000					25,000		
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
CONTRACTUAL	45,000					45,000		
GENERAL	45,000					45,000		
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
COMMODITIES	45,000					45,000		
GENERAL	45,000					45,000		
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
CAPITAL-OTE								
GENERAL								
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
EQUIPMENT								
GENERAL								
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
VEHICLES								
GENERAL								
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
WIRELESS DEV								
GENERAL								
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
SUBSIDIES	155,852					155,852		
GENERAL	155,852					155,852		
ST.SUP.SPECIAL								
FEDERAL								
OTHER								
TOTAL	628,030			166,667	166,667	794,697		

FUNDING:

GENERAL FUNDS	628,030			166,667	166,667	794,697		
ST.SUP.SPCL.FUNDS								
FEDERAL FUNDS								
OTHER SP.FUNDS								
TOTAL	628,030			166,667	166,667	794,697		

POSITIONS:

GENERAL FTE	4.71					4.71		
ST.SUP.SPCL.FTE								
FEDERAL FTE								
OTHER SP FTE								
TOTAL FTE	4.71					4.71		

PRIORITY LEVEL:

				1				
--	--	--	--	---	--	--	--	--

PROGRAM NARRATIVE

Program Data Collected in Accordance with the
Mississippi Performance Budget and Strategic Planning Act of 1994
(To Accompany Form MBR-1-03)

MSU - Center for Advanced Vehicular Systems

1 - RESEARCH

AGENCY NAME

PROGRAM NAME

I. Program Description:

The Center for Advanced Vehicular Systems (CAVS) at Mississippi State University is an interdisciplinary center comprised of engineering, research, development, and technology transfer teams focused on enhancing human and payload mobility. The CAVS activities are clustered around material science, manufacturing process modeling, computational mechanics, computational fluid dynamics, multi-scale modeling, vehicular systems engineering, design optimization, human factors and ergonomics, alternative powered systems, and intelligent electronic systems. Research activities include efforts on vehicle weight reduction, improved crashworthiness, crash avoidance, new power generation, autonomous vehicle control (robotics) as well as advances in improved diagnostics, manufacturing, human interface, and computational design technologies. While CAVS projects generate timely solutions relevant to regional manufacturers, CAVS research seeks to expand knowledge that is essential for sustained economic development. Through direct involvement in various activities at CAVS, students gain valuable experience that leverages on their classroom learning.

II. Program Objective:

The objective of CAVS is to serve Mississippi State University, government, and industry through research and development of advanced computational modeling, simulation, and design of physical systems to solve real world problems. CAVS houses multiple research groups that provide cross-disciplinary research capabilities to address advancing technologies to solve complex problems for industry and our customers. As a result of CAVS' application-driven, team-oriented approach to basic and applied research on complex industrially-relevant engineering problems, we have contributed to:

- " improved vehicle performance and reduced design cycle time and cost;
- " timely generation of knowledge on the behavior and capabilities of missile, flight, naval vessels and other physical systems;
- " analysis of behavior and performance of engineering systems (including humans) under adverse or catastrophic conditions;
- " development of high-fidelity simulation tools and training;
- " simulation and design systems to both enable and support designers and manufacturers of land, sea, air and space vehicular systems.

III. Current program activities as supported by the funding in Columns 6-15 (FY 15 Estimated & FY 16 Increase/Decrease for continuations) of MBR-1-03 and designated Budget Unit Decisions, columns of MBR-1-03-A;**(D) Personnel Cost Adjustments:**

In order to meet rising personnel costs for PERS increases, enrollment increases, and to prevent further decline in competitive faculty salaries, funds are requested for personnel cost adjustments to maintain competitive salary and benefits for faculty. Also, 2 new faculty will be needed to focus on new energy research areas and in supporting outreach activities to Yokohama Tire, Severstal, and Toyota Blue Springs.

PROGRAM NARRATIVE

Program Data Collected in Accordance with the
Mississippi Performance Budget and Strategic Planning Act of 1994
(To Accompany Form MBR-1-03)

MSU - Center for Advanced Vehicular Systems

2 - PUBLIC SERVICE

AGENCY NAME

PROGRAM NAME

I. Program Description:

CAVS has proven to be a leading economic development engine for the State of Mississippi. In addition to the CAVS MSU campus facility, in support of its mission, CAVS also offers a direct interface to manufacturers and industries throughout the state and region via the CAVS Engineering Extension, located in Canton, Mississippi. The services offered by the CAVS Engineering Extension include discrete event simulation, Six Sigma, lean manufacturing, and metrology. Nissan and its suppliers in Mississippi are in a global labor competition, so securing lasting jobs is an important activity. Further, there is an increased demand for engineers and technologists to support the increasingly complex problems. According to surveys conducted by the Manufacturing Extension Partnership of Mississippi in the 5-year period of 2006-2012, CAVS has had more than \$5.6 billion economic impact on the state and is responsible for over 3,300 jobs created or retained. Similar projects on behalf of other Mississippi companies help secure jobs throughout the state.

II. Program Objective:

Although CAVS research, development, and extension activities are important to the automotive industry and its suppliers in attaining its goals, it is also clear CAVS has a broader impact. We are already playing a role with the new PACCAR engine plant and Severstal steel mill located near the Golden Triangle Regional airport and beginning a new program to support the state's petroleum industry. We are also working closely with Nucor, a more established steel firm in the state. CAVS current efforts have touched on many manufacturers and hundreds of employees in the State, especially via our workforce training efforts. From this foundation, CAVS brings the promise for enhanced productivity to further grow the employment base. Thus, the financial support for growing CAVS and its cadre of skilled technologists has significant and long-term implications to the State.

III. Current program activities as supported by the funding in Columns 6-15 (FY 15 Estimated & FY 16 Increase/Decrease for continuations) of MBR-1-03 and designated Budget Unit Decisions columns of MBR-1-03-A:

(D) Personnel Cost Adjustments:

In order to meet rising personnel costs for PERS increases, enrollment increases, and to prevent further decline in competitive faculty salaries, funds are requested for personnel cost adjustments to maintain competitive salary and benefits for faculty.

PROGRAM PERFORMANCE INDICATORS AND MEASURES
 Program Data Collected in Accordance with the Mississippi Performance Budget and Strategic
 Planning Act of 1994

MSU - Center for Advanced Vehicular Systems

1 - RESEARCH

AGENCY NAME

PROGRAM NAME

PROGRAM OUTPUTS: (This is the measure of the process necessary to carry out the goals and objectives of this program. This is the volume produced, i.e., how many people served, how many documents generated.)

	FY 2014 <u>ACTUAL</u>	FY 2015 <u>ESTIMATED</u>	FY 2016 <u>PROJECTED</u>
1 # Agency Proposals	29.00	75.00	76.00
2 # Company Proposals	40.00	16.00	20.00
3 \$ Agency Proposals (in millions)	19.20	48.00	48.50
4 \$ Company Proposals (in millions)	5.70	5.00	6.00
5 Expenditures - Internal (in millions)	4.60	5.50	6.00
6 Expenditures - Agency (in millions)	9.70	17.25	18.00
7 Expenditures - Company (in millions)	0.20	1.00	1.00
8 # Awards - Agency	16.00	43.00	45.00
9 # Awards - Company	14.00	15.00	16.00
10 \$ Agency Awards (in millions)	13.40	5.50	10.00
11 \$ Company Awards (in millions)	0.60	1.70	1.75
12 # Managers	4.00	4.00	4.00
13 # Academic Faculty	60.00	40.00	50.00
14 # Research Professionals	77.00	105.00	110.00
15 # Support Staff	21.00	29.00	32.00
16 # Post Docs	11.00	25.00	24.00
17 # PhD Students Employed	72.00	130.00	120.00
18 # MS Students Employed	37.00	47.00	50.00
19 # Undergraduate Students Employed	155.00	135.00	145.00
20 # Journal Articles Submitted	7.00	7.00	7.00
21 # Conference Papers Submitted	0.00	1.00	1.00
22 # Authors of Proposals	47.00	65.00	65.00

PROGRAM EFFICIENCIES: (This is the measure of the cost, unit cost or productivity associated with a given outcome or output. This measure indicates linkage between services and funding, i.e., cost per investigation, cost per student or number of days to complete investigation.)

	FY 2014 <u>ACTUAL</u>	FY 2015 <u>ESTIMATED</u>	FY 2016 <u>PROJECTED</u>
1 # Proposals / # Faculty & Managers	1.08	2.20	2.30
2 \$ Proposals / # Faculty & Managers (in millions)	0.40	1.40	1.45
3 Expenditures / # Faculty & Managers (in millions)	0.23	1.00	1.10
4 # Awards / # Faculty & Managers	0.47	2.20	2.25
5 Expenditures / # Support Staff & Others (in millions)	0.04	0.05	0.06
6 # Publications / # Faculty & Managers	1.60	1.50	1.60
7 # Conference Papers / # Faculty & Managers	0.61	0.85	0.88
8 # Technical Reports / # Faculty & Managers	0.14	0.45	0.48

PROGRAM PERFORMANCE INDICATORS AND MEASURES
Program Data Collected in Accordance with the Mississippi Performance Budget and Strategic
Planning Act of 1994

MSU - Center for Advanced Vehicular Systems
 AGENCY NAME

1 - RESEARCH
 PROGRAM NAME

PROGRAM OUTCOMES: (This is the measure of the quality or effectiveness of the services provided by this program. This measure provides an assessment of the actual impact or public benefit of your agency's actions. This is the results produced, i.e., increased customer satisfaction by x% within a 12-month period, reduce the number of traffic fatalities due to drunk drivers within a 12-month period.)

	<u>FY 2014</u> <u>ACTUAL</u>	<u>FY 2015</u> <u>ESTIMATED</u>	<u>FY 2016</u> <u>PROJECTED</u>
1 Book/Book Chapters Published	3.00	2.00	3.00
2 Articles Published in Trade Journals	2.00	4.00	4.00
3 Articles Published in Peer-reviewed Journals	97.00	63.00	80.00
4 Peer-reviewed Conference Papers	39.00	40.00	40.00
5 Peer-reviewed Conference Abstracts & Posters	15.00	20.00	21.00
6 Theses/Dissertations	7.00	7.00	7.00
7 Technical Reports	9.00	19.00	20.00
8 Awards/Recognitions	2.00	8.00	8.00
9 Non-refereed Conf. Papers/Abstracts/Posters	20.00	20.00	20.00

PROGRAM PERFORMANCE INDICATORS AND MEASURES
 Program Data Collected in Accordance with the Mississippi Performance Budget and Strategic
 Planning Act of 1994

MSU - Center for Advanced Vehicular Systems
 AGENCY NAME

2 - PUBLIC SERVICE
 PROGRAM NAME

PROGRAM OUTPUTS: (This is the measure of the process necessary to carry out the goals and objectives of this program. This is the volume produced, i.e., how many people served, how many documents generated.)

	<u>FY 2014</u> <u>ACTUAL</u>	<u>FY 2015</u> <u>ESTIMATED</u>	<u>FY 2016</u> <u>PROJECTED</u>
1 # Agency Proposals	1.00	8.00	8.00
2 # Company Proposals	4.00	6.00	6.00
3 \$ Agency Proposals (in millions)	0.30	4.00	4.00
4 \$ Company Proposals (in millions)	0.20	0.30	0.30
5 Expenditures - Internal (in millions)	0.80	0.80	0.80
6 Expenditures - Agency (in millions)	0.30	0.40	0.40
7 Expenditures - Company (in millions)	0.03	0.20	0.20
8 # Awards - Agency	7.00	8.00	9.00
9 # Awards - Company	4.00	6.00	6.00
10 \$ Agency Awards (in millions)	1.40	1.40	1.40
11 \$ Company Awards (in millions)	0.20	0.15	0.25
12 # Managers	2.00	2.00	2.00
13 # Academic Faculty	2.00	2.00	2.00
14 # Research Professionsals	19.00	19.00	19.00
15 # Support Staff	3.50	4.50	4.50
16 # Undergraduate Students Employed	4.00	4.00	4.00
17 # Books/Articles Submitted or Awaiting Publication	0.00	1.00	1.00
18 # Conf Papers Submitted or Awaiting Publication	0.00	1.00	1.00
19 # of Authors of Proposals	14.00	14.00	14.00

PROGRAM EFFICIENCIES: (This is the measure of the cost, unit cost or productivity associated with a given outcome or output. This measure indicates linkage between services and funding, i.e., cost per investigation, cost per student or number of days to complete investigation.)

	<u>FY 2014</u> <u>ACTUAL</u>	<u>FY 2015</u> <u>ESTIMATED</u>	<u>FY 2016</u> <u>PROJECTED</u>
1 # Proposals / # Faculty & Managers	1.25	5.50	5.50
2 \$ Proposals / # Faculty & Managers (in millions)	0.12	1.03	1.03
3 Expenditures / # Faculty & Managers (in millions)	0.28	0.28	0.28
4 # Awards / # Faculty & Managers	2.75	3.00	3.00
5 Expenditures / # Support Staff & Others (in millions)	0.05	0.05	0.05
6 # Publications / # Faculty & Managers	0.00	0.01	0.01
7 # Papers Presented / # Faculty & Managers	0.00	0.01	0.01
8 # Technical Reports / # Faculty & Managers	4.00	3.50	4.00

PROGRAM OUTCOMES: (This is the measure of the quality or effectiveness of the services provided by this program. This measure provides an assessment of the actual impact or public benefit of your agency's actions. This is the results produced, i.e., increased customer satisfaction by x% within a 12-month period, reduce the number of traffic fatalities due to drunk drivers within a 12-month period.)

	<u>FY 2014</u> <u>ACTUAL</u>	<u>FY 2015</u> <u>ESTIMATED</u>	<u>FY 2016</u> <u>PROJECTED</u>
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PROGRAM PERFORMANCE INDICATORS AND MEASURES
Program Data Collected in Accordance with the Mississippi Performance Budget and Strategic
Planning Act of 1994

<u>MSU - Center for Advanced Vehicular Systems</u>		<u>2 - PUBLIC SERVICE</u>		
AGENCY NAME		PROGRAM NAME		
1	Technical Reports	44.00	50.00	51.00
2	Awards/Recognitions	1.00	2.00	3.00

PROGRAM 3% GENERAL FUND REDUCTION AND NARRATIVE EXPLANATION

MSU - Center for Advanced Vehicular Systems

	Fiscal Year 2015 Funding			FY 2015 GF PERCENT REDUCED
	Total Funds	Reduced Amount	Reduced Funding Amount	
Program Name: (1) RESEARCH				
GENERAL	3,157,314	(94,719)	3,062,595	(2.99%)
ST.SUPPORT SPECIAL	142,782		142,782	
FEDERAL				
OTHER SPECIAL				
TOTAL	3,300,096	(94,719)	3,205,377	
Narrative Explanation: A 3% reduction in funding would be absorbed by covering more contractual costs with discretionary funding.				
Program Name: (2) PUBLIC SERVICE				
GENERAL	628,030	(18,841)	609,189	(3.00%)
ST.SUPPORT SPECIAL				
FEDERAL				
OTHER SPECIAL				
TOTAL	628,030	(18,841)	609,189	
Narrative Explanation: A 3% reduction in funding would be absorbed by covering more contractual costs with discretionary funding.				
SUMMARY OF ALL PROGRAMS				
GENERAL	3,785,344	(113,560)	3,671,784	(2.99%)
ST.SUPPORT SPECIAL	142,782		142,782	
FEDERAL				
OTHER SPECIAL				
TOTAL	3,928,126	(113,560)	3,814,566	

BOARD OF TRUSTEES OF INSTITUTIONS OF HIGHER LEARNING MEMBERS

MSU - Center for Advanced Vehicular Systems

Agency

A. Explain Rate and manner in which board members are reimbursed:

Board members are reimbursed through the Institutions of Higher Learning System Administration budget with a per diem of \$40 plus expenses.

B. Estimated number of meetings FY2015

12 (twelve)

C.	Names of Members	City, Town, Residence	Appointed By	Date of Appointment	Length of Term
1.	<u>Ms. Karen L. Cummins</u>	<u>Oakland, MS</u>	<u>Bryant</u>	<u>May 2012</u>	<u>9 years</u>
2.	<u>Dr. Bradford J. Dye, III</u>	<u>Oxford, MS</u>	<u>Bryant</u>	<u>May 2012</u>	<u>9 years</u>
3.	<u>Mr. Shane Hooper</u>	<u>Tupelo, MS</u>	<u>Bryant</u>	<u>May 2012</u>	<u>9 years</u>
4.	<u>Mr. Hal Parker</u>	<u>Bolton, MS</u>	<u>Bryant</u>	<u>May 2012</u>	<u>9 years</u>
5.	<u>Mr. Ed Blakeslee</u>	<u>Gulfport, MS</u>	<u>Barbour</u>	<u>May 2004</u>	<u>11 years</u>
6.	<u>Mr. Bob Owens</u>	<u>Terry, MS</u>	<u>Barbour</u>	<u>May 2004</u>	<u>11 years</u>
7.	<u>Mr. Aubrey Patterson</u>	<u>Tupelo, MS</u>	<u>Barbour</u>	<u>May 2004</u>	<u>11 years</u>
8.	<u>Ms. Robin Robinson</u>	<u>Laurel, MS</u>	<u>Barbour</u>	<u>May 2004</u>	<u>11 years</u>
9.	<u>Mr. Alan W. Perry</u>	<u>Jackson, MS</u>	<u>Barbour</u>	<u>May 2008</u>	<u>10 years</u>
10.	<u>Ms. Christine L. Pickering</u>	<u>Biloxi, MS</u>	<u>Barbour</u>	<u>May 2008</u>	<u>10 years</u>
11.	<u>Mr. C.D. Smith, Jr.</u>	<u>Meridian, MS</u>	<u>Barbour</u>	<u>May 2008</u>	<u>10 years</u>
12.	<u>Dr. Douglas W. Rouse</u>	<u>Hattiesburg, MS</u>	<u>Barbour</u>	<u>May 2008</u>	<u>10 years</u>

Identify Statutory Authority (Code Section or Executive Order Number)*

Constitutional Amendment 213A of the Constitution of the State of Mississippi

*If Executive Order, please attach copy.

**SCHEDULE B
CONTRACTUAL SERVICES**

MSU - Center for Advanced Vehicular Systems

Name of Agency

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2014	(2) Estimated Expenses FY Ending June 30, 2015	(3) Requested for FY Ending June 30, 2016
A. TUITION, REWARDS & AWARDS (61010-61099)			
61010 Tuition		2,500	2,500
61020 Employee Training			
61030 Travel Related Registration			
TOTAL (A)		2,500	2,500
B. TRANSPORTATION & UTILITIES (61100-61299)			
61110 Postage, Box Rent, etc.			
611XX Transportation of Goods (61180-61190)	1,730	15,000	15,000
61210 Electricity	532	500	500
61220 Gas			
61230 Water & Sewage			
TOTAL (B)	2,262	15,500	15,500
C. PUBLIC INFORMATION (61300-61399)			
61310 Advertising & Public Information			
61340 Signs & Billboards			
61350 Exhibits & Displays			
TOTAL (C)			
D. RENTS (61400-61499)			
61420 Building & Floor Space			
61430 Land			
61440 Office Equipment			
61460 Other Equipment			
61470 Capitol Facilities - Rental			
61480 Exhibits, Displays & Conference Rooms			
61490 Other Rentals			
TOTAL (D)			
E. REPAIRS & SERVICES (61500-61599)			
61500 Grounds, Walks, Fences & Lots	21,611		
61520 Buildings	58,709		
61530 Machinery & Field Equipment			
61540 Motor Vehicles	723	250	250
61550 Office Equipment & Furniture			
61580 Shop Equipment			
61590 Miscellaneous Items of Equipment			
TOTAL (E)	81,043	250	250
F. FEES, PROFESSIONAL & OTHER SERVICES (61600-61699)			
61610 Engineering			
61615 SAAS Fees - DFA			
61616 MMRS Fees			
61620 Department of Audit			
6162X Accounting (61621-61624)			
6163X Legal (61630-61636)			
6164X Medical Services (61640-61646)			
61650 State Personnel Board			
6165X Personnel Services Contracts (61651-61653)			
61658 Personnel Services Contracts - SPAHRS			
6166X Court Costs & Reporters (61659-61660)			
61670 Laboratory & Testing Fees		1,500	1,500

**SCHEDULE B
CONTRACTUAL SERVICES CONTINUED**

MSU - Center for Advanced Vehicular Systems

Name of Agency

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2014	(2) Estimated Expenses FY Ending June 30, 2015	(3) Requested for FY Ending June 30, 2016
F. FEES, PROFESSIONAL & OTHER SERVICES (61600-61699)			
6168X Contract Worker (61682-61688)			
61690 Other Fees & Services			
TOTAL (F)		1,500	1,500
G. OTHER CONTRACTUAL SERVICES (61700-61899)			
61700 Liability Insurance Pool Contributions (Tort Claims)			
61710 Insurance & Fidelity Bonds	125		
61715 Insurance Computer Equipment			
61718 Service Charge - Bank Accounts			
61720 Membership Dues	375		
61721 Subscriptions	338	1,000	1,000
61730 Laundry, Dry Cleaning & Towel Service	196		
61740 Salvage, Demolition & Removal Service			
61800 Procurement Card/Contractual Purchases			
Custodial Services	42,720	40,000	40,000
Software Maintenance	68,224	40,000	40,000
Maintenance Contracts - Equipment	72,360	3,000	3,000
Garbage Disposal	5,894	1,550	1,550
Contractual Services - HPC Retainage	216,825	196,661	196,661
Other Miscellaneous Contractual Services (Includes MTA)	1,075	300	300
TOTAL (G)	408,132	282,511	282,511
H. INFORMATION TECHNOLOGY (61900-61990)			
61902 IT Professional Fees - Outside Vendor	1,498	1,500	1,500
61905 IT Professional Fees - ITS			
6191X IS Training/Education			
61917 Service Charges to State Data Center			
61921 Software Acquisition, Installation and Maintenance	12,380		
61922 Basic Telephone Monthly - Outside Vendor			
61923 Basic Telephone Monthly - ITS	37,158	38,000	38,000
61924 Long Distance Charges - Outside Vendor			
61925 Long Distance Charges - ITS	15,513	15,000	15,000
61926 Private Data Line Monthly Charges - Outside Vendor			
61927 Private Data Line Monthly Charges - ITS			
61928 Private Network Access Charges - Outside Vendor	3,744	4,020	4,020
61929 Public Network Access Charges - ITS			
61932 Rental of IT Equipment - Outside Vendor			
61938 Pager Usage Time - Outside Vendor			
61939 Cellular Usage Time - Outside Vendor			
61940 Wireless Data Usage (Non-Cellular)			
61941 Satellite Voice Service			
61942 IT Offsite Storage - Data or Software			
61961 Maintenance/Repair of IS Equipment - Outside Vendor			
TOTAL (H)	70,293	58,520	58,520
I. OTHER (61991-61999)			
6199X Prior Year Expense (61996-61998)			
61999 Contractual Services - No PO Required			
TOTAL (I)			

**SCHEDULE B
CONTRACTUAL SERVICES CONTINUED**

MSU - Center for Advanced Vehicular Systems

Name of Agency

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2014	(2) Estimated Expenses FY Ending June 30, 2015	(3) Requested for FY Ending June 30, 2016
GRAND TOTAL <i>(Enter on Line I-B of Form MBR-1)</i>	561,730	360,781	360,781
FUNDING SUMMARY:			
GENERAL FUNDS	561,730	360,781	360,781
STATE SUPPORT SPECIAL FUNDS			
FEDERAL FUNDS			
OTHER SPECIAL FUNDS			
TOTAL FUNDS	561,730	360,781	360,781

**SCHEDULE C
COMMODITIES**

MSU - Center for Advanced Vehicular Systems
Name of Agency

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2014	(2) Estimated Expenses FY Ending June 30, 2015	(3) Requested for FY Ending June 30, 2016
A. MAINTENANCE & CONSTR. MATERIALS & SUPPLIES (62010-62099)			
62040 Lumber Parts			
62050 Steel & Other Metals			
62060 Paints			
Total (A)			
B. PRINTING & OFFICE SUPPLIES & MATERIALS (62100-62199)			
62110 Printing Binding	3,726		
62120 Duplication & Reproduction Supplies			
62130 Office Supplies & Materials	10,920	35,000	35,000
62140 Paper Supplies	1,158	1,500	1,500
62150 Maps, Manuals, Library Books			
62160 Office Equipment (not capital outlay)	165	7,000	7,000
Total (B)	15,969	43,500	43,500
C. EQUIPMENT REPAIR PARTS, SUPPLIES & ACCES. (62200-62299)			
62210 Fuels - Gasoline	3,800	2,000	2,000
62251 Expendable Vehicle Repairs and Parts			
62270 Radio & TV Supply & Repair			
62290 Other Equipment Repair Parts	13,701	3,500	3,500
Total (C)	17,501	5,500	5,500
D. PROFESSIONAL & SCI. SUPPLIES AND MATERIALS (62300-62399)			
62330 Photographic Supplies		400	400
62340 Drugs & Chemicals - Medical & Lab Use	11,338	1,000	1,000
62390 Other Professional Scientific	23,838	12,000	12,000
Total (D)	35,176	13,400	13,400
E. OTHER SUPPLIES & MATERIALS (62400-62999)			
62420 Hardware, Plumbing & Electrical	220	4,000	4,000
62450 Janitor Supplies & Cleaning	3,427	7,500	7,500
62460 Wearing Material		100	100
6247X Foods	267		
62520 Decal Signs			
62530 Uniforms & Wearing Apparel			
62555 IS Equipment Repair Parts			
62560 Eating Utensils and Cafeteria Supplies			
62590 Other Supplies & Materials	11,150	9,000	9,000
62595 Other Equipment - Comp	5,703	2,000	2,000
62800 Procurement Card/Commodity Purchases			
62994 Petty Cash Expense			
62998 Prior Year Expenses			
Total (E)	20,767	22,600	22,600

**SCHEDULE C
COMMODITIES CONTINUED**

MSU - Center for Advanced Vehicular Systems
Name of Agency _____

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2014	(2) Estimated Expenses FY Ending June 30, 2015	(3) Requested for FY Ending June 30, 2016
GRAND TOTAL (A, B, C, D & E) <i>(Enter on Line I-C of Form MBR-1)</i>	89,413	85,000	85,000
FUNDING SUMMARY:			
GENERAL FUNDS	89,413	85,000	85,000
STATE SUPPORT SPECIAL FUNDS			
FEDERAL FUNDS			
OTHER SPECIAL FUNDS			
TOTAL FUNDS	89,413	85,000	85,000

**SCHEDULE D-1
CAPITAL OUTLAY
OTHER THAN EQUIPMENT**

MSU - Center for Advanced Vehicular Systems
Name of Agency _____

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2014	(2) Estimated Expenses FY Ending June 30, 2015	(3) Requested for FY Ending June 30, 2016
A. LANDS (63100-63199)			
63110 Land for Buildings			
63120 Land for Right-of-Way			
63170 Land Purchased for Other Purposes			
TOTAL (A)			
B. BUILDINGS & IMPROVEMENTS (63200-63299)			
63230 Building Additions & Betterments (except MDOT)			
63250 Buildings - Purchased, Constructed, Remodeled			
TOTAL (B)			
C. INFRASTRUCTURE & OTHER (63500-63999)			
635XX Other			
TOTAL (C)			
GRAND TOTAL <i>(Enter on Line I-D-1 of Form MBR-1)</i>			
FUNDING SUMMARY:			
GENERAL FUNDS			
STATE SUPPORT SPECIAL FUNDS			
FEDERAL FUNDS			
OTHER SPECIAL FUNDS			
TOTAL FUNDS			

**SCHEDULE D-2
CAPITAL OUTLAY EQUIPMENT**

MSU - Center for Advanced Vehicular Systems

Name of Agency

EQUIPMENT BY ITEM	Act. FY Ending June 30, 2014		Est. FY Ending June 30, 2015		Req. FY Ending June 30, 2016		
	No. of Units	Total Cost	No. of Units	Total Cost	No. of Units	Cost Per Unit	Total Cost
A. VEHICLES (see form MBR-1-D-3)							
B. ROAD MACHINERY, FARM & OTHER EQUIPMENT							
63320 Road Machinery							
TOTAL (B)							
C. OFFICE MACHINES, FURNITURE, FIXTURES, EQUIP.							
63330 Office Equipment, Furniture							
TOTAL (C)							
D. IS EQUIPMENT (DP & TELECOMMUNICATIONS)							
63421 IT/IS Equipment							
TOTAL (D)							
E. EQUIPMENT - LEASE PURCHASE (63460-63476)							
63460 Lease-Purchase - Copy Machines							
63462 Lease-Purchase - Information Systems Equipment							
63476 Lease-Purchase - Other Equipment							
TOTAL (E)							
F. OTHER EQUIPMENT							
63396 Betterments/Accessrs for Vehicles							
63405 Lawn and Garden Equipment							
63490 Other Equipment							
63495 Betterments/Accessrs for Other than Vehicles							
TOTAL (F)							
GRAND TOTAL <i>(Enter on Line I-D-2 of Form MBR-1)</i>							
FUNDING SUMMARY:							
GENERAL FUNDS							
STATE SUPPORT SPECIAL FUNDS							
FEDERAL FUNDS							
OTHER SPECIAL FUNDS							
TOTAL FUNDS							

**SCHEDULE D-3
PASSENGER/WORK VEHICLES**

MSU - Center for Advanced Vehicular Systems

Name of Agency

MINOR OBJECT OF EXPENDITURE	Vehicle Inventory June 30, 2014	FY Ending June 30, 2014		FY Ending June 30, 2015		FY Ending June 30, 2016	
		No. of Vehicles	Actual Cost	No. of Vehicles	Estimated Cost	No. of Vehicles	Requested Cost
A. PASSENGER & WORK VEHICLES (63310, 63390-63400)							
63310 Passenger, Basic Economy							
63310 Passenger, Basic Sporty							
63310 Passenger, Entry Level							
63310 Passenger, Lower Middle							
63310 Passenger, Traditional Large							
63310 Passenger, Upper Middle							
63310 Passenger, Upper Middle Specialty							
63390 Truck, Compact Pickup							
63390 Truck, Fullsize Pickup							
63390 Truck, Fullsize Utility							
63390 Truck, Midsize Pickup							
63391 Truck, Heavy Duty Station Wagon							
63391 Truck, Heavy Duty Trucks							
63392 Truck, Mini Sport Utility							
63392 Truck, Sport Utility							
63393 Truck, Fullsize Van (Cargo)							
63393 Truck, Minivan (Cargo)							
63393 Truck, Minivan (Passenger)							
63393 Truck, Window Van (Passenger)							
63400 Other Vehicles							
TOTAL (A)							
B. BETTERMENTS OR ACCESSORIES FOR VEHICLES (63395)							
63395 Betterments or Accessories for Vehicles							
TOTAL (B)							
GRAND TOTAL <i>(Enter on Line I-D-3 of Form MBR-1)</i>							
FUNDING SUMMARY:							
GENERAL FUNDS							
STATE SUPPORT SPECIAL FUNDS							
FEDERAL FUNDS							
OTHER SPECIAL FUNDS							
TOTAL FUNDS							

**SCHEDULE D-4
WIRELESS COMMUNICATION DEVICES**

MSU - Center for Advanced Vehicular Systems
Name of Agency _____

MINOR OBJECT OF EXPENDITURE	Device Inventory	Act FY Ending June 30, 2014		Est FY Ending June 30, 2015		Req FY Ending June 30, 2016	
	June 30, 2014	No. of Devices	Actual Cost	No. of Devices	Estimated Cost	No. of Devices	Requested Cost
A. CELLULAR PHONES (63435)							
63435 Cellular Phones							
Total (A)							
B. PAGERS (63434)							
63434 Pagers, Paging Equipment							
Total (B)							
C. WIRELESS PERSONAL DIGITAL ASSISTANTS (63435)							
63435 Wireless PDAs, Blackberry, etc							
Total (C)							
GRAND TOTAL <i>(Enter on Line I-D-4 of Form MBR-1)</i>							
FUNDING SUMMARY:							
GENERAL FUNDS							
STATE SUPPORT SPECIAL FUNDS							
FEDERAL FUNDS							
OTHER SPECIAL FUNDS							
TOTAL FUNDS							

**SCHEDULE E
SUBSIDIES, LOANS & GRANT**

MSU - Center for Advanced Vehicular Systems

Name of Agency

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2014	(2) Estimated Expenses FY Ending June 30, 2015	(3) Requested for FY Ending June 30, 2016
A. SCHOOL GRANTS TO COUNTIES & MUNICIPALITIES (64000-64599)			
TOTAL (A)			
B. GRANTS TO I.H.L. & OTHER POLITICAL SUBDIVISIONS (64600-64699)			
TOTAL (B)			
C. GRANTS TO NON-GOVERNMENT INSTNS & INDS (64700-64999)			
TOTAL (C)			
D. DEBT SERVICE & JUDGEMENTS (65000-65399)			
65040 Interest on Lease Purchases			
6504x Other Indebtedness			
TOTAL (D)			
E. OTHER (66000-89999)			
Cost Share on Joint Industry / University / Federal	719,169	350,000	350,000
Fellowships		12,000	12,000
Start-up Commitments		107,097	107,097
TOTAL (E)	719,169	469,097	469,097
GRAND TOTAL <i>(Enter on Line I-E of Form MBR-1)</i>	719,169	469,097	469,097
FUNDING SUMMARY:			
GENERAL FUNDS	719,169	469,097	469,097
STATE SUPPORT SPECIAL FUNDS			
FEDERAL FUNDS			
OTHER SPECIAL FUNDS			
TOTAL FUNDS	719,169	469,097	469,097

NARRATIVE
2016 BUDGET REQUEST

MSU - Center for Advanced Vehicular Systems
Name of Agency

The Center for Advanced Vehicular Systems (CAVS) at Mississippi State University is an interdisciplinary center comprised of engineering, research, development, and technology transfer teams focused on enhancing human and payload mobility. The CAVS activities are clustered around material science, manufacturing process modeling, computational mechanics, computational fluid dynamics, multi-scale modeling, vehicular systems engineering, design optimization, human factors and ergonomics, alternative powered systems, and intelligent electronic systems. Research activities include efforts on vehicle weight reduction, structural integrity, hybrid power train design, energetics, advances in improved design and predictability as well as advances in improved diagnostics, manufacturing, training systems, and computational design technologies. While CAVS projects generate timely solutions relevant to regional manufacturers, CAVS research seeks to expand knowledge that is essential for sustained economic development. Through direct involvement in various activities at CAVS, students gain valuable experience that leverages on their classroom learning.

The research groups within CAVS are dynamic with the ability to maximize the utilization of advancing technologies. In recognition that today's complex problems facing manufacturing competitiveness and product safety and reliability must be addressed by cross-disciplinary teams, CAVS researchers approach the problems from diverse viewpoints to arrive at appropriate solutions. Each group at CAVS shares a passion for helping industry realize and sustain a competitive advantage within the global economy.

In support of its mission, CAVS also offers a direct interface to manufacturers and industries throughout the state and region via the CAVS Engineering Extension, located in Canton, Mississippi. The services offered by the CAVS Engineering Extension include discrete event simulation, Six Sigma, lean manufacturing, and metrology. With a staff of about 220 faculty, research staff, postdocs, and students, the engineering enterprise of the Center for Advanced Vehicular Systems is well situated to support the research needs of industry.

CAVS is continuing to serve as a regional resource for the recruiting of automotive and related industries. The recent recruitment of Yokohama Tire Corporation to the state of Mississippi was facilitated by the core competencies in research, extension, and automotive related academic prowess at CAVS. As the US economy is turning around, the manufacturing enterprise of the state of Mississippi will be in need of support from CAVS for a multitude of research, design, training, and warranty issues. CAVS has also been proven to be a leading economic development engine for the State of Mississippi. According to surveys conducted by the Manufacturing Extension Partnership of Mississippi in the 6-year period of 2006-2012, CAVS has had more than \$5.6 billion economic impact on the state and is responsible for over 3,300 jobs created or retained. In a new focus area, funds will also be used to support major initiatives in energy related to petroleum and natural gas. New research and outreach activities are needed to help industry extract additional oil and gas from existing deposits in Mississippi and to find ways to more efficiently use fuels in the transportation sector. This support will link to efforts in the Swalm School of Chemical Engineering to work with the petroleum industry in Mississippi in outreach, research, and development efforts. Because of the expanding petroleum industry in Mississippi and the rest of the country, industrial outreach efforts will be needed to assist this growing industry which will significantly add to job growth in Mississippi.

CAVS represents a commitment by the State of Mississippi to work with and support Mississippi industry through project-based activities. The management at CAVS and the research team in general, recognize the need to generate economic development via technological and scientific discovery. This means CAVS serves as a knowledge resource for existing and future Mississippi industries. As with all academic research centers, CAVS is dependent on stable infrastructure support to ensure the best and brightest engineering talent is brought to bear on the regional growth initiatives and development of a strong R&D infrastructure to support the emerging Southern Automotive Corridor. CAVS now serves as an active member of the Mississippi Automotive Manufacturers Association (MAMA) and the Mississippi Energy Institute (MEI). It has established a close working relationship with the Nissan assembly facility in Canton, Toyota in Blue Springs, and PACCAR Engines in Columbus. CAVS faculty and staff are continuing to work closely with MDA and local economic development authorities throughout the state in recruiting new industry to the state. The State infrastructure funds allow CAVS to build toward its basic mission, with already much

NARRATIVE
2016 BUDGET REQUEST

MSU - Center for Advanced Vehicular Systems

Name of Agency

evidence of impact via an effective engineering capability to support Mississippi industry. Having access to knowledgeable researchers and providing leading edge capabilities is an important asset for the State.

Recurring State funding for CAVS is required as the foundation continues to be built via the development of the facilities, staff, and knowledge base. Current state funding is critical to supporting the infrastructure while seeding new research initiatives, student activities, and engineering extension. Further, many recent activities have helped Mississippi industry via workforce training, short courses, and partnerships designed to attract federal and industrial funding. At present, the State support is providing less than 20 percent of the total CAVS operating funds. Continued leveraging of the State funding is critical to building a self-sustaining organization satisfying the obligations of CAVS to our partners, the state, and the university.

For FY 2016, CAVS has requested an increase in its State funding. This request is asked to help with infrastructural costs associated with new industry that need technical support (e.g., the new Yokohama Tire Corporation manufacturing facility, Toyota and petroleum production) and to expand the engineering extension component of CAVS. When CAVS was initially envisioned it was focused on conventional automotive vehicles (i.e., gasoline fueled internal combustion engines) and a manufacturing focus in the Canton area. We are now dealing with the reality that the industry is changing to biofuels and electric hybrids. Also, that new automotive components (tires) will require CAVS to invest in new infrastructure to be able to support the needs of this new industry. Also, with PACCAR building large diesel engines in Columbus, there is a need to expand CAVS engine test facilities to better accommodate PACCAR's need for engineering test capability. Also, there is a need to reach out beyond the Canton based engineering extension activity and to better support statewide industry. This additional fund will be used to situate CAVS to be better able to support Mississippi industry over the next 5 years.

**OUT-OF-STATE TRAVEL
FISCAL YEAR 2014**

MSU - Center for Advanced Vehicular Systems

Agency Name

Note: All expenditures recorded on this form must be totaled and said total must agree with the out-of-state travel amount indicated for FY 2014 on Form Mbr-1, line I.A.2.b.

Employee's Name	Destination	Purpose	Travel Cost	Funding Source
Phillips, Dianne	Washington, DC	ATTEND NATIONAL COUNCIL OF UNIVERSITY RESEARC	1,497	General Funds
Total Out of State Travel Cost			\$1,497	

FEEES, PROFESSIONAL AND OTHER SERVICES
(EXPENDITURE CODES 61600-61699)

MSU - Center for Advanced Vehicular Systems

Name of Agency

TYPE OF FEE AND NAME OF VENDOR	Retired w/ PERS	(1) Actual Expenses FY Ending June 30, 2014	(2) Estimated Expenses FY Ending June 30, 2015	(3) Requested for FY Ending June 30, 2016	Fund Num.
61610 Engineering					
TOTAL 61610 Engineering					
61615 SAAS Fees - DFA					
TOTAL 61615 SAAS Fees - DFA					
61616 MMRS Fees					
TOTAL 61616 MMRS Fees					
61620 Department of Audit					
TOTAL 61620 Department of Audit					
6162X Accounting (61621-61624)					
TOTAL 6162X Accounting (61621-61624)					
6163X Legal (61630-61636)					
TOTAL 6163X Legal (61630-61636)					
6164X Medical Services (61640-61646)					
TOTAL 6164X Medical Services (61640-61646)					
61650 State Personnel Board					
TOTAL 61650 State Personnel Board					
6165X Personnel Services Contracts (61651-61653)					
TOTAL 6165X Personnel Services Contracts (61651-61653)					
61658 Personnel Services Contracts - SPAHRS					
TOTAL 61658 Personnel Services Contracts - SPAHRS					
6166X Court Costs & Reporters (61659-61660)					
TOTAL 6166X Court Costs & Reporters (61659-61660)					
61670 Laboratory & Testing Fees					
CAVS Service Center / Scientific Testing			1,500	1,500	
<i>Comp. Rate: \$75.00/hour</i>					
TOTAL 61670 Laboratory & Testing Fees			1,500	1,500	
6168X Contract Worker (61682-61688)					
TOTAL 6168X Contract Worker (61682-61688)					
61690 Other Fees & Services					
TOTAL 61690 Other Fees & Services					
GRAND TOTAL (61600-61699)			1,500	1,500	

VEHICLE PURCHASE DETAILS

MSU - Center for Advanced Vehicular Systems

Name of Agency

Year	Model	Person(s) Assigned To	Vehicle Purpose/Use	Replacement or New?	FY2016 Req. Cost
				New	0
					<hr/>
					0
TOTAL VEHICLE REQUEST					0

**VEHICLE INVENTORY
AS OF JUNE 30, 2014**

MSU - Center for Advanced Vehicular Systems _____

Name of Agency

Veh. Type	Vehicle Descript.	Model Year	Model	Person(s) Assigned To	Purpose/Use	Tag Number	Mileage On 6-30-14	Average Miles per Year	Replacement Proposed	
									FY 2015	FY 2016

Vehicle Type = Passenger/Work

**PRIORITY OF DECISION UNITS
FISCAL YEAR**

MSU - Center for Advanced Vehicular Systems _____
Agency Name

Program	Decision Unit	Object	Amount
Priority # 1			
Program # 1 : RESEARCH			
	Personnel Cost Adjustments		
		Salaries	833,333
		Total	833,333
		General Funds	833,333
Program # 2 : PUBLIC SERVICE			
	Personnel Cost Adjustments		
		Salaries	166,667
		Total	166,667
		General Funds	166,667

CAPITAL LEASES

MSU - Center for Advanced Vehicular Systems

Name of Agency

Vendor/ Item Leased	Original Date of Lease	Original Number of Months of Lease	Number of Months Remaining on 6-30-14	Last Payment Date	Interest Rate	Amount of Each Payment			Total of Payments to be Made								
						Principal	Interest	Total	Actual FY 2014	Estimated FY 2015			Requested FY 2016				
										Principal	Interest	Total	Principal	Interest	Total		
/	//	0	0	//	.000												

Summary of 3% General Fund Program Reduction to FY2015 Appropriated Funding by Major Object

MSU - Center for Advanced Vehicular Systems _____

Major Object	FY2015 GENERAL FUND REDUCTION	EFFECT ON FY2015 STATE SUPPORT SPECIAL FUNDS	EFFECT ON FY2015 FEDERAL FUNDS	EFFECT ON FY2015 OTHER SPECIAL FUNDS	TOTAL 3% REDUCTIONS
PERSONAL SERVICES					
TRAVEL					
CONTRACTUAL SERVICES	(113,560)				(113,560)
COMMODITIES					
OTHER THAN EQUIPMENT					
EQUIPMENT					
VEHICLES					
WIRELESS COMM. DEVICES					
SUBSIDIES, LOANS, ETC					
TOTALS	(113,560)				(113,560)