

MS State Univ - Center for Advanced Vehicular Systems Post Office Box 5405, MS State, MS 39762

Dr. Mark E. Keenum

AGENCY	ADDRESS			CHIEF EXECUTIVE OFFICER	
	Actual Expenses June 30,2018	Estimated Expenses June 30,2019	Requested For June 30,2020	Requested Over/(Under) Estimated	
				AMOUNT	PERCENT
<b>I. A. PERSONAL SERVICES</b>					
1. Salaries, Wages & Fringe Benefits (Base)	2,547,575	2,402,313	2,955,459		
a. Additional Compensation					
b. Proposed Vacancy Rate (Dollar Amount)					
c. Per Diem					
<b>Total Salaries, Wages &amp; Fringe Benefits</b>	<b>2,547,575</b>	<b>2,402,313</b>	<b>2,955,459</b>	<b>553,146</b>	<b>23.03%</b>
2. Travel					
a. Travel & Subsistence (In-State)	20,914	32,000	32,000		
b. Travel & Subsistence (Out-Of-State)	196				
c. Travel & Subsistence (Out-Of-Country)					
<b>Total Travel</b>	<b>21,110</b>	<b>32,000</b>	<b>32,000</b>		
<b>B. CONTRACTUAL SERVICE S (Schedule B)</b>					
a. Tuition, Rewards & Awards	2,695	6,072	6,072		
b. Communications, Transportation & Utilities	3,961	16,000	16,000		
c. Public Information	4,636				
d. Rents	28,815	21,000	21,000		
e. Repairs & Service	91,787	64,500	64,500		
f. Fees, Professional & Other Services	34,000	2,500	2,500		
g. Other Contractual Services	650,741	628,000	628,000		
h. Data Processing	124,831	63,520	63,520		
i. Other					
<b>Total Contractual Services</b>	<b>941,466</b>	<b>801,592</b>	<b>801,592</b>		
<b>C. COMMODITIES (Schedule C)</b>					
a. Maintenance & Construction Materials & Supplies					
b. Printing & Office Supplies & Materials	85,686	109,700	109,700		
c. Equipment, Repair Parts, Supplies & Accessories	28,831	32,500	32,500		
d. Professional & Scientific Supplies & Materials	71,986	74,900	74,900		
e. Other Supplies & Materials	40,836	72,600	72,600		
<b>Total Commodities</b>	<b>227,339</b>	<b>289,700</b>	<b>289,700</b>		
<b>D. CAPITAL OUTLAY</b>					
<b>1. Total Other Than Equipment (Schedule D-1)</b>					
<b>2. Equipment (Schedule D-2)</b>					
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					
<b>Total Equipment (Schedule D-2)</b>					
<b>3. Vehicles (Schedule D-3)</b>					
<b>4. Wireless Comm. Devices (Schedule D-4)</b>					
<b>E. SUBSIDIES, LOANS &amp; GRANTS (Schedule E)</b>	<b>688,968</b>	<b>904,879</b>	<b>904,879</b>		
<b>TOTAL EXPENDITURES</b>	<b>4,426,458</b>	<b>4,430,484</b>	<b>4,983,630</b>	<b>553,146</b>	<b>12.49%</b>
<b>II. BUDGET TO BE FUNDED AS FOLLOWS:</b>					
Cash Balance-Unencumbered					
General Fund Appropriation (Enter General Fund Lapse Below)	4,283,676	4,287,702	4,840,848	553,146	12.90%
State Support Special Funds	142,782	142,782	142,782		
Federal Funds _____ Other Special Funds (Specify) _____					
Less: Estimated Cash Available Next Fiscal Period					
<b>TOTAL FUNDS (equals Total Expenditures above)</b>	<b>4,426,458</b>	<b>4,430,484</b>	<b>4,983,630</b>	<b>553,146</b>	<b>12.49%</b>
GENERAL FUND LAPSE					
<b>III: PERSONNEL DATA</b>					
Number of Positions Authorized in Appropriation Bill	a.) Perm Full	59	59	59	
	b.) Perm Part				
	c.) T-L Full				
	d.) T-L Part	2	2	2	
Average Annual Vacancy Rate (Percentage)	a.) Perm Full				
	b.) Perm Part				
	c.) T-L Full				
	d.) T-L Part				

Approved by: Dr. John Pearce  
Official of Board or Commission

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

Submitted by: Dr. John Pearce

Phone Number: 662-325-2231

Date: 7/20/2018 4:14 PM

Title: Assoc Commissioner

REQUEST BY FUNDING SOURCE

Name of Agency : MS State Univ - Center for Advanced Vehicular Systems

Specify Funding Sources As Shown Below	FY 2018 Actual Amount	% of Line Item	% of Total Budget	FY 2019 Estimated Amount	% of Line Item	% of Total Budget	FY 2020 Requested Amount	% of Line Item	% of Total Budget
1. General _____ State Support Special (Specify) _____	2,404,793	94.40%		2,259,531	94.06%		2,812,677	95.17%	
2. Budget Contingency Fund									
3. Education Enhancement Fund	142,782	5.60%		142,782	5.94%		142,782	4.83%	
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Capital Expense Fund									
7. Working Cash Stabilization Reserve Fund									
8. Federal _____ Other Special (Specify) _____									
9.									
10.									
11.									
12.									
<b>Total Salaries</b>	<b>2,547,575</b>		<b>57.55%</b>	<b>2,402,313</b>		<b>54.22%</b>	<b>2,955,459</b>		<b>59.30%</b>
1. General _____ State Support Special (Specify) _____	21,110	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. Capital Expense Fund									
7. Working Cash Stabilization Reserve Fund									
8. Federal _____ Other Special (Specify) _____									
9.									
10.									
11.									
12.									
<b>Total Travel</b>	<b>21,110</b>		<b>0.48%</b>	<b>32,000</b>		<b>0.72%</b>	<b>32,000</b>		<b>0.64%</b>
1. General _____ State Support Special (Specify) _____	941,466	100.00		801,592	100.00		801,592	100.00	
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Capital Expense Fund									
7. Working Cash Stabilization Reserve Fund									
8. Federal _____ Other Special (Specify) _____									
9.									
10.									
11.									
12.									
<b>Total Contractual</b>	<b>941,466</b>		<b>21.27%</b>	<b>801,592</b>		<b>18.09%</b>	<b>801,592</b>		<b>16.08%</b>
1. General _____ State Support Special (Specify) _____	227,339	100.00		289,700	100.00		289,700	100.00	
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Capital Expense Fund									
7. Working Cash Stabilization Reserve Fund									
8. Federal _____ Other Special (Specify) _____									
9.									
10.									
11.									
12.									
<b>Total Commodities</b>	<b>227,339</b>		<b>5.14%</b>	<b>289,700</b>		<b>6.54%</b>	<b>289,700</b>		<b>5.81%</b>

REQUEST BY FUNDING SOURCE

Name of Agency : MS State Univ - Center for Advanced Vehicular Systems

Specify Funding Sources As Shown Below	FY 2018 Actual Amount	% of Line Item	% of Total Budget	FY 2019 Estimated Amount	% of Line Item	% of Total Budget	FY 2020 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. Capital Expense Fund									
7. Working Cash Stabilization Reserve Fund									
8. Federal _____ Other Special (Specify) _____									
9.									
10.									
11.									
12.									
<b>Total Capital Other Than Equipment</b>									
1. General _____ State Support Special (Specify) _____									
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Capital Expense Fund									
7. Working Cash Stabilization Reserve Fund									
8. Federal _____ Other Special (Specify) _____									
9.									
10.									
11.									
12.									
<b>Total Capital Equipment</b>									
1. General _____ State Support Special (Specify) _____									
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Capital Expense Fund									
7. Working Cash Stabilization Reserve Fund									
8. Federal _____ Other Special (Specify) _____									
9.									
10.									
11.									
12.									
<b>Total Vehicles</b>									
1. General _____ State Support Special (Specify) _____									
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Capital Expense Fund									
7. Working Cash Stabilization Reserve Fund									
8. Federal _____ Other Special (Specify) _____									
9.									
10.									
11.									
12.									
<b>Total Wireless Communication Devs.</b>									

REQUEST BY FUNDING SOURCE

Name of Agency : MS State Univ - Center for Advanced Vehicular Systems

Specify Funding Sources As Shown Below	FY 2018 Actual Amount	% of Line Item	% of Total Budget	FY 2019 Estimated Amount	% of Line Item	% of Total Budget	FY 2020 Requested Amount	% of Line Item	% of Total Budget
1. General _____ State Support Special (Specify) _____	688,968	100.00		904,879	100.00		904,879	100.00	
2. Budget Contingency Fund									
3. Education Enhancement Fund									
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Capital Expense Fund									
7. Working Cash Stabilization Reserve Fund									
8. Federal _____ Other Special (Specify) _____									
9.									
10.									
11.									
12.									
<b>Total Subsidies</b>	<b>688,968</b>		<b>15.56%</b>	<b>904,879</b>		<b>20.42%</b>	<b>904,879</b>		<b>18.16%</b>
1. General _____ State Support Special (Specify) _____	4,283,676	96.77%		4,287,702	96.78%		4,840,848	97.13%	
2. Budget Contingency Fund									
3. Education Enhancement Fund	142,782	3.23%		142,782	3.22%		142,782	2.87%	
4. Health Care Expendable Fund									
5. Tobacco Control Fund									
6. Capital Expense Fund									
7. Working Cash Stabilization Reserve Fund									
8. Federal _____ Other Special (Specify) _____									
9.									
10.									
11.									
12.									
<b>TOTAL</b>	<b>4,426,458</b>		<b>100.00%</b>	<b>4,430,484</b>		<b>100.00%</b>	<b>4,983,630</b>		<b>100.00%</b>

**SPECIAL FUNDS DETAIL**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

<b>S. STATE SUPPORT SPECIAL FUNDS</b>		<b>(1) Actual Revenues FY 2018</b>	<b>(2) Estimated Revenues FY 2019</b>	<b>(3) Requested Revenues FY 2020</b>
<b>Source (Fund Number)</b>	<b>Detailed Description of Source</b>			
Budget Contingency Fund	BCR - Budget Contingency Fund			
Education Enhancement Fund	EEF - Education Enhancement Fund	142,782	142,782	142,782
Health Care Expendable Fund	HCEF - Health Care Expendable Fund			
Tobacco Control Fund	TCF - Tobacco Control Fund			
Capital Expense Fund	CEF - Capital Expense Fund			
Working Cash Stabilization Reserve Fund	WCSSF - Working Cash Stabilization Reserve Fund			
<b>State Support Special Fund TOTAL</b>		<b>142,782</b>	<b>142,782</b>	<b>142,782</b>
STATE SUPPORT SPECIAL FUND LAPSE				

<b>A. FEDERAL FUNDS *</b>		<b>Percentage Match Requirement</b>	<b>(1) Actual Revenues FY 2018</b>	<b>(2) Estimated Revenues FY 2019</b>	<b>(3) Requested Revenues FY 2020</b>
<b>Source (Fund Number)</b>	<b>Detailed Description of Source</b>	<b>FY 2019 FY 2020</b>			
	Cash Balance-Unencumbered				
<b>Federal Fund TOTAL</b>					

<b>B. OTHER SPECIAL FUNDS (NON-FED'L)</b>		<b>(1) Actual Revenues FY 2018</b>	<b>(2) Estimated Revenues FY 2019</b>	<b>(3) Requested Revenues FY 2020</b>
<b>Source (Fund Number)</b>	<b>Detailed Description of Source</b>			
	Cash Balance-Unencumbered			
<b>Other Special Fund TOTAL</b>				

<b>SECTIONS S + A + B TOTAL</b>	<b>142,782</b>	<b>142,782</b>	<b>142,782</b>
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<b>C. TREASURY FUND/BANK ACCOUNTS *</b>	<b>Fund/Account Number</b>	<b>Name of Bank (If Applicable)</b>	<b>(1) Reconciled Balance as of 6/30/18</b>	<b>(2) Balance as of 6/30/19</b>	<b>(3) Balance as of 6/30/20</b>
<b>Name of Fund/Account</b>					

\* 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**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

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Name of Agency

**STATE SUPPORT SPECIAL FUNDS**

In CAVS' new focus area, funds will also be used to support major initiatives in the use of autonomous vehicles. New research and outreach activities are needed to help industry integrate autonomous vehicles into industrial applications. With the state's emphasis on manufacturing jobs it is critical to develop an understanding of how autonomous vehicles can help with productivity gains within the controlled spaces of Mississippi's manufacturing enterprise. Due to an expanding need for the use of autonomous vehicles in Mississippi and the rest of the country, industrial outreach efforts will be needed to assist MDOT, MDA, and Mississippi industry in preparing for this change in manufacturing practice and assist the state in workforce development and changes to manufacturing protocols

**CONTINUATION AND EXPANDED TOTAL REQUEST**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

SUMMARY OF ALL PROGRAMS

Name of Agency

Program

	FY 2018 Actual				
	(1) General	(2) State Support Special	(3) Federal	(4) Other Special	(5) Total
Salaries,Wages & Fringe	2,404,793	142,782			2,547,575
Travel	21,110				21,110
Contractual Services	941,466				941,466
Commodities	227,339				227,339
Other Than Equipment					
Equipment					
Vehicles					
Wireless Communication Devices					
Subsidies, Loans & Grants	688,968				688,968
<b>Total</b>	<b>4,283,676</b>	<b>142,782</b>			<b>4,426,458</b>
No. of Positions (FTE)	61.00				61.00

	FY 2019 Estimated				
	(6) General	(7) State Support Special	(8) Federal	(9) Other Special	(10) Total
Salaries,Wages & Fringe	2,259,531	142,782			2,402,313
Travel	32,000				32,000
Contractual Services	801,592				801,592
Commodities	289,700				289,700
Other Than Equipment					
Equipment					
Vehicles					
Wireless Communication Devices					
Subsidies, Loans & Grants	904,879				904,879
<b>Total</b>	<b>4,287,702</b>	<b>142,782</b>			<b>4,430,484</b>
No. of Positions (FTE)	61.00				61.00

	FY 2020 Increase/Decrease for Continuation				
	(11) General	(12) State Support Special	(13) Federal	(14) Other Special	(15) Total
Salaries,Wages & Fringe	553,146				553,146
Travel					
Contractual Services					
Commodities					
Other Than Equipment					
Equipment					
Vehicles					
Wireless Communication Devices					
Subsidies, Loans & Grants					
<b>Total</b>	<b>553,146</b>				<b>553,146</b>
No. of Positions (FTE)					

Note: FY2020 Total Request = FY2019 Estimated + FY2020 Incr(Decr) for Continuation + FY2020 Expansion/Reduction of Existing Activities + FY2020 New Activities.

**CONTINUATION AND EXPANDED TOTAL REQUEST**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

SUMMARY OF ALL PROGRAMS

Name of Agency	Program				
	FY 2020 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 Communication Devices					
Subsidies, Loans & Grants					
<b>Total</b>					
No. of Positions (FTE)					

	FY 2020 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 Communication Devices					
Subsidies, Loans & Grants					
<b>Total</b>					
No. of Positions (FTE)					

	FY 2020 Total Request				
	(26) General	(27) State Support Special	(28) Federal	(29) Other Special	(30) Total
Salaries,Wages & Fringe	2,812,677	142,782			2,955,459
Travel	32,000				32,000
Contractual Services	801,592				801,592
Commodities	289,700				289,700
Other Than Equipment					
Equipment					
Vehicles					
Wireless Communication Devices					
Subsidies, Loans & Grants	904,879				904,879
<b>Total</b>	<b>4,840,848</b>	<b>142,782</b>			<b>4,983,630</b>
No. of Positions (FTE)	61.00				61.00

Note: FY2020 Total Request = FY2019 Estimated + FY2020 Incr(Decr) for Continuation + FY2020 Expansion/Reduction of Existing Activities + FY2020 New Activities.



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

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

FUNDING REQUESTED FISCAL YEAR 2020

	PROGRAM	GENERAL	ST. SUPP. SPECIAL	FEDERAL	OTHER SPECIAL	TOTAL
1.	Research	3,683,973	142,782			3,826,755
2.	Public Service	1,156,875				1,156,875
	Summary of All Programs	4,840,848	142,782			4,983,630

**CONTINUATION AND EXPANDED REQUEST**

Program 1 of 2

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Research

Name of Agency	FY 2018 Actual				
	(1)	(2)	(3)	(4)	(5)
	General	State Support Special	Federal	Other Special	Total
Salaries,Wages & Fringe	2,048,273	142,782			2,191,055
Travel	2,340				2,340
Contractual Services	822,178				822,178
Commodities	189,114				189,114
Other Than Equipment					
Equipment					
Vehicles					
Wireless Communication Devices					
Subsidies, Loans & Grants	194,548				194,548
<b>Total</b>	<b>3,256,453</b>	<b>142,782</b>			<b>3,399,235</b>
No. of Positions (FTE)	54.29				54.29

	FY 2019 Estimated				
	(6)	(7)	(8)	(9)	(10)
	General	State Support Special	Federal	Other Special	Total
Salaries,Wages & Fringe	1,569,041	142,782			1,711,823
Travel	10,000				10,000
Contractual Services	718,594				718,594
Commodities	211,577				211,577
Other Than Equipment					
Equipment					
Vehicles					
Wireless Communication Devices					
Subsidies, Loans & Grants	750,000				750,000
<b>Total</b>	<b>3,259,212</b>	<b>142,782</b>			<b>3,401,994</b>
No. of Positions (FTE)	54.29				54.29

	FY 2020 Increase/Decrease for Continuation				
	(11)	(12)	(13)	(14)	(15)
	General	State Support Special	Federal	Other Special	Total
Salaries,Wages & Fringe	424,761				424,761
Travel					
Contractual Services					
Commodities					
Other Than Equipment					
Equipment					
Vehicles					
Wireless Communication Devices					
Subsidies, Loans & Grants					
<b>Total</b>	<b>424,761</b>				<b>424,761</b>
No. of Positions (FTE)					

Note: FY2020 Total Request = FY2019 Estimated + FY2020 Incr(Decr) for Continuation + FY2020 Expansion/Reduction of Existing Activities + FY2020 New Activities.

**CONTINUATION AND EXPANDED REQUEST**

Program 1 of 2

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Research

Name of Agency

Program

	FY 2020 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 Communication Devices					
Subsidies, Loans & Grants					
<b>Total</b>					
No. of Positions (FTE)					

	FY 2020 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 Communication Devices					
Subsidies, Loans & Grants					
<b>Total</b>					
No. of Positions (FTE)					

	FY 2020 Total Request				
	(26) General	(27) State Support Special	(28) Federal	(29) Other Special	(30) Total
Salaries,Wages & Fringe	1,993,802	142,782			2,136,584
Travel	10,000				10,000
Contractual Services	718,594				718,594
Commodities	211,577				211,577
Other Than Equipment					
Equipment					
Vehicles					
Wireless Communication Devices					
Subsidies, Loans & Grants	750,000				750,000
<b>Total</b>	<b>3,683,973</b>	<b>142,782</b>			<b>3,826,755</b>
No. of Positions (FTE)	54.29				54.29

Note: FY2020 Total Request = FY2019 Estimated + FY2020 Incr(Decr) for Continuation + FY2020 Expansion/Reduction of Existing Activities + FY2020 New Activities.

**CONTINUATION AND EXPANDED REQUEST**

Program 2 of 2

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Public Service

Name of Agency

Program

	FY 2018 Actual				
	(1) General	(2) State Support Special	(3) Federal	(4) Other Special	(5) Total
Salaries,Wages & Fringe	356,520				356,520
Travel	18,770				18,770
Contractual Services	119,288				119,288
Commodities	38,225				38,225
Other Than Equipment					
Equipment					
Vehicles					
Wireless Communication Devices					
Subsidies, Loans & Grants	494,420				494,420
<b>Total</b>	<b>1,027,223</b>				<b>1,027,223</b>
No. of Positions (FTE)	6.71				6.71

	FY 2019 Estimated				
	(6) General	(7) State Support Special	(8) Federal	(9) Other Special	(10) Total
Salaries,Wages & Fringe	690,490				690,490
Travel	22,000				22,000
Contractual Services	82,998				82,998
Commodities	78,123				78,123
Other Than Equipment					
Equipment					
Vehicles					
Wireless Communication Devices					
Subsidies, Loans & Grants	154,879				154,879
<b>Total</b>	<b>1,028,490</b>				<b>1,028,490</b>
No. of Positions (FTE)	6.71				6.71

	FY 2020 Increase/Decrease for Continuation				
	(11) General	(12) State Support Special	(13) Federal	(14) Other Special	(15) Total
Salaries,Wages & Fringe	128,385				128,385
Travel					
Contractual Services					
Commodities					
Other Than Equipment					
Equipment					
Vehicles					
Wireless Communication Devices					
Subsidies, Loans & Grants					
<b>Total</b>	<b>128,385</b>				<b>128,385</b>
No. of Positions (FTE)					

Note: FY2020 Total Request = FY2019 Estimated + FY2020 Incr(Decr) for Continuation + FY2020 Expansion/Reduction of Existing Activities + FY2020 New Activities.

CONTINUATION AND EXPANDED REQUEST

Program 2 of 2

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Public Service

Name of Agency

Program

	FY 2020 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 Communication Devices					
Subsidies, Loans & Grants					
<b>Total</b>					
No. of Positions (FTE)					

	FY 2020 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 Communication Devices					
Subsidies, Loans & Grants					
<b>Total</b>					
No. of Positions (FTE)					

	FY 2020 Total Request				
	(26) General	(27) State Support Special	(28) Federal	(29) Other Special	(30) Total
Salaries,Wages & Fringe	818,875				818,875
Travel	22,000				22,000
Contractual Services	82,998				82,998
Commodities	78,123				78,123
Other Than Equipment					
Equipment					
Vehicles					
Wireless Communication Devices					
Subsidies, Loans & Grants	154,879				154,879
<b>Total</b>	<b>1,156,875</b>				<b>1,156,875</b>
No. of Positions (FTE)	6.71				6.71

Note: FY2020 Total Request = FY2019 Estimated + FY2020 Incr(Decr) for Continuation + FY2020 Expansion/Reduction of Existing Activities + FY2020 New Activities.

**PROGRAM DECISION UNITS**

MS State Univ - Center for Advanced Vehicular Systems

1 - Research

Name of Agency	Program Name							
	A	B	C	D	E	F	G	H
<b>EXPENDITURES</b>	FY 2019 Appropriated	Escalations By DFA	Non-Recurring Items	Recover FY 2016	FY20 PERS Increase	Health Plan Cost Increase	Total Funding Change	FY 2020 Total Request
<b>SALARIES</b>	1,711,823			389,056	32,613	3,092	424,761	2,136,584
GENERAL	1,569,041			389,056	32,613	3,092	424,761	1,993,802
ST. SUP. SPECIAL	142,782							142,782
FEDERAL								
OTHER								
<b>TRAVEL</b>	10,000							10,000
GENERAL	10,000							10,000
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>CONTRACTUAL</b>	718,594							718,594
GENERAL	718,594							718,594
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>COMMODITIES</b>	211,577							211,577
GENERAL	211,577							211,577
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>CAPTITAL-OTE</b>								
GENERAL								
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>EQUIPMENT</b>								
GENERAL								
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>VEHICLES</b>								
GENERAL								
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>WIRELESS DEV</b>								
GENERAL								
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>SUBSIDIES</b>	750,000							750,000
GENERAL	750,000							750,000
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>TOTAL</b>	3,401,994			389,056	32,613	3,092	424,761	3,826,755

**FUNDING**

GENERAL FUNDS	3,259,212			389,056	32,613	3,092	424,761	3,683,973
ST. SUP. SPCL FUNDS	142,782							142,782
FEDERAL FUNDS								
OTHER SP. FUNDS								
<b>TOTAL</b>	3,401,994			389,056	32,613	3,092	424,761	3,826,755

**POSITIONS**

GENERAL FTE	54.29							54.29
ST. SUP. SPCL. FTE								
FEDERAL FTE								
OTHER SP. FTE								
<b>TOTAL</b>	54.29							54.29

**PRIORITY LEVEL :**

				1	2	3		
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**PROGRAM DECISION UNITS**

<b>EXPENDITURES</b>							
<b>SALARIES</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>TRAVEL</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>CONTRACTUAL</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>COMMODITIES</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>CAPTITAL-OTE</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>EQUIPMENT</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>VEHICLES</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>WIRELESS DEV</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>SUBSIDIES</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>TOTAL</b>							

**FUNDING**

GENERAL FUNDS							
ST. SUP. SPCL FUNDS							
FEDERAL FUNDS							
OTHER SP. FUNDS							
<b>TOTAL</b>							

**POSITIONS**

GENERAL FTE							
ST. SUP. SPCL. FTE							
FEDERAL FTE							
OTHER SP. FTE							
<b>TOTAL</b>							

**PRIORITY LEVEL :**

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**PROGRAM DECISION UNITS**

MS State Univ - Center for Advanced Vehicular Systems

2 - Public Service

Name of Agency

Program Name

	A	B	C	D	E	F	G	H
<b>EXPENDITURES</b>	FY 2019 Appropriated	Escalations By DFA	Non-Recurring Items	Recover FY16 Appropriations	FY20 PERS Increase	Health Plan Cost Increase	Total Funding Change	FY 2020 Total Request
<b>SALARIES</b>	690,490			117,594	9,857	934	128,385	818,875
GENERAL	690,490			117,594	9,857	934	128,385	818,875
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>TRAVEL</b>	22,000							22,000
GENERAL	22,000							22,000
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>CONTRACTUAL</b>	82,998							82,998
GENERAL	82,998							82,998
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>COMMODITIES</b>	78,123							78,123
GENERAL	78,123							78,123
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>CAPTITAL-OTE</b>								
GENERAL								
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>EQUIPMENT</b>								
GENERAL								
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>VEHICLES</b>								
GENERAL								
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>WIRELESS DEV</b>								
GENERAL								
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>SUBSIDIES</b>	154,879							154,879
GENERAL	154,879							154,879
ST. SUP. SPECIAL								
FEDERAL								
OTHER								
<b>TOTAL</b>	1,028,490			117,594	9,857	934	128,385	1,156,875

**FUNDING**

GENERAL FUNDS	1,028,490			117,594	9,857	934	128,385	1,156,875
ST. SUP. SPCL FUNDS								
FEDERAL FUNDS								
OTHER SP. FUNDS								
<b>TOTAL</b>	1,028,490			117,594	9,857	934	128,385	1,156,875

**POSITIONS**

GENERAL FTE	6.71							6.71
ST. SUP. SPCL. FTE								
FEDERAL FTE								
OTHER SP. FTE								
<b>TOTAL</b>	6.71							6.71

**PRIORITY LEVEL :**

				1	2	3		
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**PROGRAM DECISION UNITS**

<b>EXPENDITURES</b>							
<b>SALARIES</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>TRAVEL</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>CONTRACTUAL</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>COMMODITIES</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>CAPTITAL-OTE</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>EQUIPMENT</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>VEHICLES</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>WIRELESS DEV</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>SUBSIDIES</b>							
GENERAL							
ST. SUP. SPECIAL							
FEDERAL							
OTHER							
<b>TOTAL</b>							

**FUNDING**

GENERAL FUNDS							
ST. SUP. SPCL FUNDS							
FEDERAL FUNDS							
OTHER SP. FUNDS							
<b>TOTAL</b>							

**POSITIONS**

GENERAL FTE							
ST. SUP. SPCL. FTE							
FEDERAL FTE							
OTHER SP. FTE							
<b>TOTAL</b>							

**PRIORITY LEVEL :**

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**PROGRAM NARRATIVE**

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

MS State Univ - Center for Advanced Vehicular Systems

1 - Research

Name of Agency

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, logistics and supply chain, vehicular systems engineering, design optimization, human factors and ergonomics, alternative powered systems, and intelligent electronic systems. Research activities include efforts on life cycle costs, additive manufacturing, combustion engine technologies, 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:

- new products for existing Mississippi industry;
- retention and creation of new manufacturing jobs;
- 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 2019 & FY 2020 Increase/Decrease for continuations) of MBR-1-03 and designated Budget Unit Decisions columns of MBR-1-03-A:****(D) Recover FY 2016 Appropriations:**

Funds are requested to replenish appropriations budget to FY2016 levels.

**(E) FY20 PERS Increase:**

Funds are requested to implement the PERS employer contribution increase effective 7-1-2019.

**(F) Health Plan Cost Increase:**

Funds are requested to implement the Health Plan Cost increase effective 7-1-2019.

**PROGRAM NARRATIVE**

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

MS State Univ - Center for Advanced Vehicular Systems

2 - Public Service

Name of Agency

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. To better serve CAVS' statewide clientele new extension offices have been opened in Biloxi and Starkville, MS. The services offered by the CAVS Engineering Extension include discrete event simulation, professional training in such topics as Six Sigma, lean manufacturing, and metrology. Mississippi's automotive industry and its suppliers 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 11-year period of 2006-2017, CAVS has had more than \$5.96 billion economic impact on the state and is responsible for over 4,700 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 SDI steel mill located near the Golden Triangle Regional airport and beginning a new program to support the state's petroleum industry and how to integrate the use of autonomous vehicles into the Mississippi industrial base. We are also initiating a more focused activity to support the manufacturing industry on the Gulf coast. 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 2019 & FY 2020 Increase/Decrease for continuations) of MBR-1-03 and designated Budget Unit Decisions columns of MBR-1-03-A:**

**(D) Recover FY16 Appropriations:**

Funds are requested to replenish appropriations budget to FY2016 levels.

**(E) FY20 PERS Increase:**

Funds are requested to implement the PERS employer contribution increase effective 7-1-2019.

**(F) Health Plan Cost Increase:**

Funds are requested to implement the Health Plan Cost increase effective 7-1-2019.

**Elements of Quality Program Design**

For the Evaluation of Requests to Fund New Programs or New Activity in an Existing Program  
(To Accompany Form MBR-1-03A)

**PROGRAM PERFORMANCE MEASURES**

Program Data Collected in Accordance with the Mississippi Performance Budget and Strategic Planning Act of 1994

MS State Univ - Center for Advanced Vehicular Systems (252-01)

1 - Research

Name of Agency

PROGRAM NAME

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

	FY 2018 APPRO	FY 2018 ACTUAL	FY 2019 ESTIMATED	FY 2020 PROJECTED
1 # Agency Proposals	76.00	36.00	76.00	76.00
2 # Company Proposals	24.00	17.00	25.00	25.00
3 \$ Agency Proposals (in millions)	50.00	26.50	51.00	51.00
4 \$ Company Proposals (in millions)	7.00	2.40	7.20	7.30
5 Expenditures - Internal (in millions)	7.50	6.50	7.50	7.50
6 Expenditures - Agencies (in millions)	18.00	13.60	18.50	18.50
7 Expenditures - Company (in millions)	1.00	0.26	1.00	1.00
8 Awards - Agencies	47.00	77.00	50.00	50.00
9 Awards - Company	18.00	8.00	19.00	20.00
10 \$ Agency Awards (in millions)	12.00	25.27	13.00	13.00
11 \$ Company Awards (in millions)	2.00	1.00	2.20	2.20
12 # Managers	4.00	2.00	4.00	4.00
13 # Academic Faculty	56.00	96.00	58.00	58.00
14 # Research Professionals	116.00	87.00	120.00	120.00
15 # Support Staff	32.00	23.00	32.00	32.00
16 # Post Docs	24.00	18.00	25.00	25.00
17 # PhD Students Employed	120.00	98.00	130.00	130.00
18 # MS Students Employed	55.00	95.00	58.00	58.00
19 # Undergraduate Students Employed	170.00	257.00	175.00	175.00
20 # Books/Articles Submitted or Awaiting Publication	7.00	39.00	7.00	7.00
21 # Conf Papers Submitted or Awaiting Publication	1.00	20.00	1.00	1.00
22 # Authors of Proposals	66.00	59.00	66.00	66.00

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 2018 APPRO	FY 2018 ACTUAL	FY 2019 ESTIMATED	FY 2020 PROJECTED
1 # Proposals / # Faculty & Managers	2.30	0.54	2.30	2.30
2 \$ Proposals / # Faculty & Managers (in millions)	1.45	0.30	1.45	1.45
3 Expenditures / # Faculty & Managers (in millions)	1.10	0.21	1.10	1.10
4 # Awards / # Faculty & Managers	2.25	0.87	2.25	2.25
5 Expenditures / # Support Staff and Others (in millions)	0.06	0.35	0.06	0.06
6 # Books-Chapters-Articles/# Faculty & Mgrs	1.60	0.70	1.60	1.60
7 # Peer-reviewed Conf Papers/# Faculty & Mgrs	0.88	0.36	0.88	0.88
8 # Tech Reports / # Faculty & Mgrs	0.48	0.02	0.48	0.00

**PROGRAM PERFORMANCE MEASURES**

Program Data Collected in Accordance with the Mississippi Performance Budget and Strategic Planning Act of 1994

MS State Univ - Center for Advanced Vehicular Systems (252-01)

1 - Research

Name of Agency

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.

	FY 2018 APPRO	FY 2018 ACTUAL	FY 2019 ESTIMATED	FY 2020 PROJECTED
1 Books/Book Chapters Published	3.00	3.00	3.00	4.00
2 Articles Published in Trade Journals	4.00	0.00	4.00	4.00
3 Articles Published in Peer-reviewed Journals	80.00	66.00	80.00	80.00
4 Peer-reviewed Conference Papers	40.00	35.00	40.00	41.00
5 Peer-reviewed Conference Abstracts & Posters	21.00	11.00	21.00	21.00
6 Theses/Dissertations	7.00	1.00	7.00	7.00
7 Technical Reports	20.00	2.00	20.00	20.00
8 Awards/Recognitions	8.00	0.00	8.00	8.00
9 Non-refereed Conf Papers/Abstracts/Posters	20.00	3.00	20.00	20.00

**PROGRAM PERFORMANCE MEASURES**

Program Data Collected in Accordance with the Mississippi Performance Budget and Strategic Planning Act of 1994

MS State Univ - Center for Advanced Vehicular Systems (252-01)

2 - Public Service

Name of Agency

PROGRAM NAME

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

	FY 2018 APPRO	FY 2018 ACTUAL	FY 2019 ESTIMATED	FY 2020 PROJECTED
1 # Agency Proposals	8.00	4.00	8.00	8.00
2 # Company Proposals	6.00	4.00	6.00	6.00
3 \$ Agency Proposals (in millions)	4.00	0.87	4.20	4.20
4 \$ Company Proposals (in millions)	0.30	0.14	0.40	0.40
5 Expenditures - Internal (in millions)	0.90	1.12	1.00	1.00
6 Expenditures - Agencies (in millions)	0.40	0.38	0.45	0.45
7 Expenditures - Company (in millions)	0.20	0.01	0.25	0.25
8 Awards - Agencies	9.00	3.00	9.00	9.00
9 Awards - Company	6.00	3.00	6.00	6.00
10 \$ Agency Awards (in millions)	1.40	0.37	1.50	1.50
11 \$ Company Awards (in millions)	0.25	0.13	0.30	0.30
12 # Managers	2.00	2.00	2.00	2.00
13 # Academic Faculty	2.00	1.00	2.00	2.00
14 # Research Professionals	26.00	27.00	28.00	28.00
15 # Support Staff	4.50	11.00	4.50	4.50
16 # Undergraduate Students Employed	6.00	7.00	6.00	6.00
17 # Books/Articles Submitted or Awaiting Publication	1.00	2.00	1.00	1.00
18 # Conf Papers Submitted or Awaiting Publication	1.00	1.00	1.00	1.00
19 # Authors of Proposals	18.00	13.00	19.00	19.00

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 2018 APPRO	FY 2018 ACTUAL	FY 2019 ESTIMATED	FY 2020 PROJECTED
1 # Proposals / # Faculty & Managers	5.50	2.67	5.50	5.50
2 \$ Proposals / # Faculty & Managers (in millions)	1.03	0.34	1.05	1.05
3 Expenditures / # Faculty & Managers (in millions)	0.75	0.50	0.80	0.80
4 # Awards / # Faculty & Managers	3.00	2.00	3.30	3.30
5 Expenditures / # Support Staff and Others (in millions)	0.20	0.04	0.25	0.25
6 # Books-Chapters-Articles/# Faculty & Mgrs	0.01	0.00	0.01	0.01
7 # Peer-reviewed Conf Papers/# Faculty & Mgrs	1.00	0.33	1.20	1.20
8 # Tech Reports / # Faculty & Mgrs	9.00	0.17	10.00	10.00

**PROGRAM PERFORMANCE MEASURES**

Program Data Collected in Accordance with the Mississippi Performance Budget and Strategic Planning Act of 1994

MS State Univ - Center for Advanced Vehicular Systems (252-01)

2 - Public Service

Name of Agency

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.

	FY 2018 APPRO	FY 2018 ACTUAL	FY 2019 ESTIMATED	FY 2020 PROJECTED
1 Awards/Recognitions	0.00	0.00	0.00	0.00
2 Technical Reports	0.00	0.00	0.00	0.00
3 Peer-reviewed Conference Abstracts & Posters	0.00	0.00	0.00	0.00
4 Peer-reviewed Conference Papers	0.00	2.00	0.00	0.00
5 Articles Published in Peer-reviewed Journals	0.00	1.00	0.00	0.00
6 Articles Published in Trade Journals	53.00	1.00	55.00	55.00
7 Books/Book Chapters Published	1.00	3.00	1.00	1.00



**PROGRAM 3% GENERAL FUND REDUCTION AND NARRATIVE EXPLANATION**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

	Fiscal Year 2019 Funding			FY 2019 GF PERCENT REDUCED
	Total Funds	Reduced Amount	Reduced Funding Amount	

<b>Program Name:</b> (1) Research				
General	3,259,212	(97,776)	3,161,436	(3.00%)
State Support Special	142,782		142,782	
Federal				
Other Special				
<b>TOTAL</b>	<b>3,401,994</b>	<b>(97,776)</b>	<b>3,304,218</b>	

**Narrative Explanation:**

A 3% reduction in funding would be absorbed by covering more contractual costs with discretionary funding.

<b>Program Name:</b> (2) Public Service				
General	1,028,490	(30,855)	997,635	(3.00%)
State Support Special				
Federal				
Other Special				
<b>TOTAL</b>	<b>1,028,490</b>	<b>(30,855)</b>	<b>997,635</b>	

**Narrative Explanation:**

A 3% reduction in funding would be absorbed by covering more contractual costs with discretionary funding.

<b>Program Name:</b> (99) Summary of All Programs				
General	4,287,702	(128,631)	4,159,071	(3.00%)
State Support Special	142,782		142,782	
Federal				
Other Special				
<b>TOTAL</b>	<b>4,430,484</b>	<b>(128,631)</b>	<b>4,301,853</b>	

**BOARD OF TRUSTEES OF STATE INSTITUTIONS OF HIGHER LEARNING MEMBERS**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of 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 FY 2019:

12 (twelve)

<b>C. Names of Members</b>	<b>City, Town, Residence</b>	<b>Appointed By</b>	<b>Date of Appointment</b>	<b>Length of Term</b>
1. Dr. Bradford J. Dye, III	Oxford, MS	Bryant	5- 8- 2012	9 years
2. Dr. Steven Cunningham	Hattiesburg, MS	Bryant	5- 8- 2018	9 years
3. Ms. Jeanne Carter Luckey	Ocean Springs, MS	Bryant	5- 8- 2018	9 years
4. Mr. Bruce Martin	Meridian, MS	Bryant	5- 8- 2018	9 years
5. Mr. Powell Gee Ogletree Jr.	Flowood, MS	Bryant	5- 8- 2018	9 years
6. Mr. Hal Parker	Bolton, MS	Bryant	5- 8- 2012	9 years
7. Mr. Shane Hooper	Tupelo, MS	Bryant	5- 8- 2012	9 years
8. Dr. J. Walt Starr	Columbus, MS	Bryant	5- 8- 2015	9 years
9. Mr. Chip Morgan	Leland, MS	Bryant	5- 8- 2015	9 years
10. Dr. Alfred E. McNair, JR	Gautier, MS	Bryant	5- 8- 2015	9 years
11. Mr. Thomas Duff	Hattiesburg, MS	Bryant	5- 8- 2015	9 years
12. Ms. Ann H. Lamar	Senatobia, MS	Bryant	2- 8- 2017	4 years

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**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2018	(2) Estimated Expenses FY Ending June 30, 2019	(3) Requested for FY Ending June 30, 2020
<b>A. Tuition, Rewards &amp; Awards (61050xxx-61080xxx)</b>			
61010 Tuition		2,500	2,500
61020 Employee Training	2,695	3,572	3,572
<b>Total</b>	<b>2,695</b>	<b>6,072</b>	<b>6,072</b>
<b>B. Transportation &amp; Utilities (61100xxx-61200xxx)</b>			
61110 Postage, Box Rental, etc	127		
611XX Transportation of Goods (61180-61190)	2,719	15,000	15,000
61210 Electricity	1,115	1,000	1,000
<b>Total</b>	<b>3,961</b>	<b>16,000</b>	<b>16,000</b>
<b>C. Public Information (61300xxx-6131xxxx)</b>			
61310 Advertising & Public Information	4,636		
<b>Total</b>	<b>4,636</b>		
<b>D. Rents (61400xxx-61490xxx)</b>			
61420 Building and Floor Space		1,000	1,000
61490 Other Rentals	28,815	20,000	20,000
<b>Total</b>	<b>28,815</b>	<b>21,000</b>	<b>21,000</b>
<b>E. Repairs &amp; Service (61500xxx)</b>			
61500 Grounds, Walks, Fences, & Lots	35,083	32,000	32,000
61520 Buildings	55,769	31,000	31,000
61540 Motor Vehicles	935	1,500	1,500
<b>Total</b>	<b>91,787</b>	<b>64,500</b>	<b>64,500</b>
<b>F. Fees, Professional &amp; Other Services (6161xxxx-61699xxx)</b>			
61670 Laboratory & Testing Fees		2,500	2,500
XXX Consultant Fees	34,000		
<b>Total</b>	<b>34,000</b>	<b>2,500</b>	<b>2,500</b>
<b>G. Other Contractual Services (61700xxx-61790xxx, 61900xxx)</b>			
61710 Insurance & Fidelity Bonds	2,451	1,200	1,200
61720 Membership Dues	720		
61721 Subscriptions	881	500	500
61730 Laundry, Dry Cleaning, & Towel Service	186	150	150
XXX Custodial Services	53,150	45,000	45,000
XXX Software Maintenance	62,665	60,000	60,000
XXX Maintenance Contracts - Equipment	111,361	100,000	100,000

**SCHEDULE B  
CONTRACTUAL SERVICES**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2018	(2) Estimated Expenses FY Ending June 30, 2019	(3) Requested for FY Ending June 30, 2020
XXX Garbage Disposal	6,531	3,000	3,000
XXX Contractual Services - HPC Retainage	410,946	417,150	417,150
XXX Other Misc Contractual Services (includes MTA)	1,850	1,000	1,000
<b>Total</b>	<b>650,741</b>	<b>628,000</b>	<b>628,000</b>

<b>H. Information Technology (61800xxx-61890xxx)</b>			
61902 IT Professional Fees - Outside Vendor	1,809	1,500	1,500
61921 Software Acquisition, Installation and Maintenance	66,503		
61923 Basic Telephone Monthly	38,544	38,000	38,000
61924 Long Distance Charges - Outside Vendor	14,815	15,000	15,000
61925 Long Distance Charges - ITS	1,270	5,000	5,000
61928 Private Network Access Charges - Outside Vendor	1,890	4,020	4,020
<b>Total</b>	<b>124,831</b>	<b>63,520</b>	<b>63,520</b>

<b>Grand Total</b> <i>(Enter on Line 1-B of Form MBR-1)</i>	<b>941,466</b>	<b>801,592</b>	<b>801,592</b>
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<b>Funding Summary:</b>			
General Funds	941,466	801,592	801,592
State Support Special Funds			
Federal Funds			
Other Special Funds			
<b>Total Funds</b>	<b>941,466</b>	<b>801,592</b>	<b>801,592</b>

**SCHEDULE C  
COMMODITIES**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2018	(2) Estimated Expenses FY Ending June 30, 2019	(3) Requested for FY Ending June 30, 2020
<b>A. Maintenance &amp; Constr. Materials &amp; Supplies (62000xxx, 62015xxx)</b>			
62040 Lumber Parts			
62060 Paints			
<b>Total</b>			
<b>B. Printing &amp; Office Supplies &amp; Materials (62010xxx, 62085xxx, 62100xxx, 62125xxx, 62400xxx)</b>			
62110 Printing, Binding, & Padding	3,079	3,200	3,200
62120 Duplication and Reproduction	95		
62130 Office Supplies and Materials	15,192	15,000	15,000
62140 Paper Supplies	1,005	1,500	1,500
62160 Office Equipment (not capital outlay)	66,315	90,000	90,000
<b>Total</b>	<b>85,686</b>	<b>109,700</b>	<b>109,700</b>
<b>C. Equipment Repair Parts, Supplies &amp; Acces. (6205xxxx, 62072xxx, 62110xxx, 62115xxx, 62120xxx, 62130xxx)</b>			
62210 Fuels - Gasoline	2,079	2,500	2,500
62290 Other Equipment Repair Parts	26,752	30,000	30,000
<b>Total</b>	<b>28,831</b>	<b>32,500</b>	<b>32,500</b>
<b>D. Professional &amp; Sci. Supplies and Materials (62025xxx, 62030xxx, 62070xxx, 62095xxx, 62105xxx, 6212xxxx)</b>			
62330 Photographic Supplies		400	400
62340 Drugs Chemicals - Medical and Lab Use	18,610	22,000	22,000
62390 Other Professional Scientific	53,376	52,500	52,500
<b>Total</b>	<b>71,986</b>	<b>74,900</b>	<b>74,900</b>
<b>E. Other Supplies &amp; Materials (62005xxx, 62015xxx, 62020xxx, 62035xxx, 62040xxx, 62045xxx, 62060xxx, 62065xxx, 62075xxx-62080xxx, 62090xxx, 62115xxx, 62135xxx, 62140xxx, 62405xxx, 62415xxx, 62500xxx-62999xxx)</b>			
62420 Hardware, Plumbing, and Electrical	24	1,000	1,000
62450 Janitor Supplies and Cleaning	4,116	4,500	4,500
62460 Wearing Material		100	100
6247X Food	140	2,000	2,000
62590 Other Supplies and Materials	19,735	15,000	15,000
62595 Other Equipment - Comp	16,821	50,000	50,000
<b>Total</b>	<b>40,836</b>	<b>72,600</b>	<b>72,600</b>
<b>Grand Total</b> <i>(Enter on Line 1-C of Form MBR-1)</i>	<b>227,339</b>	<b>289,700</b>	<b>289,700</b>
<b>Funding Summary:</b>			
General Funds	227,339	289,700	289,700
State Support Special Funds			

**SCHEDULE C  
COMMODITIES**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2018	(2) Estimated Expenses FY Ending June 30, 2019	(3) Requested for FY Ending June 30, 2020
Federal Funds			
Other Special Funds			
<b>Total Funds</b>	<b>227,339</b>	<b>289,700</b>	<b>289,700</b>

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

MS State Univ - Center for Advanced Vehicular Systems (252-01)  
Name of Agency \_\_\_\_\_

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2018	(2) Estimated Expenses FY Ending June 30, 2019	(3) Requested for FY Ending June 30, 2020
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<b>Grand Total</b> <i>(Enter on Line 1-D-1 of Form MBR-1)</i>			
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<b>Funding Summary:</b>			
General Funds			
State Support Special Funds			
Federal Funds			
Other Special Funds			
<b>Total Funds</b>			

**SCHEDULE D-2  
CAPITAL OUTLAY EQUIPMENT**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

EQUIPMENT BY ITEM	Act. FY Ending June 30, 2018		Est. FY Ending June 30, 2019		Req. FY Ending June 30, 2020	
	No. of Units	Total Cost	No. of Units	Total Cost	No. of Units	Total Cost

<b>Grand Total</b> <i>(Enter on Line 1-D-2 of Form MBR-1)</i>						
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<b>Funding Summary:</b>						
General Funds						
State Support Special Funds						
Federal Funds						
Other Special Funds						
<b>Total Funds</b>						



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

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

MINOR OBJECT OF EXPENDITURE	Vehicle Inventory June 30, 2018	Act. FY Ending June 30, 2018		Est. FY Ending June 30, 2019		Req. FY Ending June 30, 2020	
		No. of Units	Total Cost	No. of Units	Total Cost	No. of Units	Total Cost

<b>GRAND TOTAL</b> <i>(Enter on Line 1-D-3 of Form MBR-1)</i>							
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<b>Funding Summary:</b>			
General Funds			
State Support Special Funds			
Federal Funds			
Other Special Funds			
<b>Total Funds</b>			

**SCHEDULE D-4  
WIRELESS COMMUNICATION DEVICES**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

MINOR OBJECT OF EXPENDITURE	Device Inventory June 30, 2018	Act. FY Ending June 30, 2018		Est. FY Ending June 30, 2019		Req. FY Ending June 30, 2020	
		No. of Devices	Actual Cost	No. of Devices	Estimated Cost	No. of Devices	Requested Cost

<b>Grand Total</b> <i>(Enter on Line 1-D-4 of Form MBR-1)</i>							
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<b>Funding Summary:</b>							
General Funds							
State Support Special Funds							
Federal Funds							
Other Special Funds							
<b>Total Funds</b>							

**SCHEDULE E**  
**SUBSIDIES, LOANS & GRANTS**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

MINOR OBJECT OF EXPENDITURE	(1) Actual Expenses FY Ending June 30, 2018	(2) Estimated Expenses FY Ending June 30, 2019	(3) Requested for FY Ending June 30, 2020
<b>E. Other (67000xxx-67019xxx, 67021xxx-67199xxx, 67998xxx, 68500xxx-68860xxx, 70045xxx-70080xxx, 80000xxx-80500xxx)</b>			
Start-up Commitments	77,809	112,879	112,879
Fellowships		12,000	12,000
Cost Share on Joint Industry/University/Federal	611,159	780,000	780,000
<b>Total</b>	<b>688,968</b>	<b>904,879</b>	<b>904,879</b>
<b>Grand Total</b>			
<i>(Enter on Line 1-E of Form MBR-1)</i>	<b>688,968</b>	<b>904,879</b>	<b>904,879</b>
<b>Funding Summary:</b>			
General Funds	688,968	904,879	904,879
State Support Special Funds			
Federal Funds			
Other Special Funds			
<b>Total Funds</b>	<b>688,968</b>	<b>904,879</b>	<b>904,879</b>

**NARRATIVE**  
**2020 BUDGET REQUEST**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

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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, logistics and supply chain, vehicular systems engineering, design optimization, human factors and ergonomics, alternative powered systems, and intelligent electronic systems. Research activities include efforts on life cycle costs, additive manufacturing, 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 300 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 recruitment of Continental Tire 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 11-year period of 2006-2017, CAVS has had more than \$5.96 billion economic impact on the state and is responsible for over 4,700 jobs created or retained. In a new focus area, funds will also be used to support the transportation industry's move toward autonomous vehicles. New research and outreach activities are needed to help the state compete and to develop policies for nurturing this burgeoning industry. This support will link to efforts across the university and state agencies (e.g., MDOT, MDA). Because of the expanding petroleum industry in Mississippi and the rest of the country, industrial outreach efforts will also be continued to assist this growing industry which has the potential to 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 serves as an active board 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, Yokohama Tire in West Point, Hol-Mac Corporation in Bay Springs, and PACCAR Engines in Columbus, to name a few. 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 and in supporting the existing industries. The State infrastructure funds allow CAVS to build toward its basic mission, with already much 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

**NARRATIVE**  
**2020 BUDGET REQUEST**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

---

Name of Agency

organization satisfying the obligations of CAVS to our partners, the state, and the university.

For FY 2020, 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 Continental Tire manufacturing facility, Toyota and petroleum production) and to expand the engineering extension component of CAVS to the Gulf coast. 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 supporting the manufacturing enterprise of the entire state of Mississippi. 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 funding 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 2020**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

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 2018 on Form Mbr-1, line 1.A.2.b.

<b>Employee's Name</b>	<b>Destination</b>	<b>Purpose</b>	<b>Travel Cost</b>	<b>Funding Source</b>
Burgreen, Stephen	Grand Bay, AL	To attend Tennessee Tombigbee Conference and meet with Mississippi Department of Transportation personnel to discuss ongoing projects	196	General Funds
<b>Total Out of State Cost</b>			<b>\$ 196</b>	

**FEES, PROFESSIONAL AND OTHER SERVICES**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

TYPE OF FEE AND NAME OF VENDOR	Retired w/ PERS	(1) Actual Expenses FY Ending June 30, 2018	(2) Estimated Expenses FY Ending June 30, 2019	(3) Requested Expenses FY Ending June 30, 2020	Fund Source
61670 Laboratory & Testing Fees					
Laboratory & Testing Fees/Testing					
<i>Comp. Rate: 15.00/hour</i>					
	No		2,500	2,500	General Funds
<b>Total 61670 Laboratory &amp; Testing Fees</b>			<b>2,500</b>	<b>2,500</b>	
XXX Consultant Fees					
Consultant Fees/Custom Application Development					
<i>Comp. Rate: \$34000/custom application</i>					
	No	34,000			General Funds
<b>Total XXX Consultant Fees</b>		<b>34,000</b>			
<b>GRAND TOTAL</b>		<b>34,000</b>	<b>2,500</b>	<b>2,500</b>	

**VEHICLE PURCHASE DETAILS**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

<b>Year</b>	<b>Model</b>	<b>Person(s) Assigned To</b>	<b>Vehicle Purpose/Use</b>	<b>Replacement Or New?</b>	<b>FY2020 Req. Cost</b>
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**TOTAL VEHICLE REQUEST**



**VEHICLE INVENTORY  
AS OF JUNE 30, 2018**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

Vehicle Type	Vehicle Description	Model Year	Model	Person(s) Assigned To	Purpose/Use	Tag Number	Mileage on 6-30-2018	Average Miles per Year	Replacement Proposed	
									FY2019	FY2020

**VEHICLE POOL MEMBER LIST  
2020 BUDGET REQUEST**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

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Name of Agency

**PRIORITY OF DECISION UNITS  
FISCAL YEAR 2020**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

Program	Decision Unit	Object	Amount
<b>Priority # 1</b>			
Program # 1: Research			
Recover FY 2016 Appropriations			
		Salaries	389,056
		<b>Totals</b>	<u>389,056</u>
		General Funds	389,056
Program # 2: Public Service			
Recover FY16 Appropriations			
		Salaries	117,594
		<b>Totals</b>	<u>117,594</u>
		General Funds	117,594
<b>Priority # 2</b>			
Program # 1: Research			
FY20 PERS Increase			
		Salaries	32,613
		<b>Totals</b>	<u>32,613</u>
		General Funds	32,613
Program # 2: Public Service			
FY20 PERS Increase			
		Salaries	9,857
		<b>Totals</b>	<u>9,857</u>
		General Funds	9,857
<b>Priority # 3</b>			
Program # 1: Research			
Health Plan Cost Increase			
		Salaries	3,092
		<b>Totals</b>	<u>3,092</u>
		General Funds	3,092
Program # 2: Public Service			
Health Plan Cost Increase			
		Salaries	934
		<b>Totals</b>	<u>934</u>
		General Funds	934

**CAPITAL LEASES**

MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

VENDOR/ ITEM LEASED	Original Date of Lease	Original No. of Months of Lease	No. of Months Remaining on 6-30-18	Last Payment Date	Interest Rate	Amount of Each Payment			Total of Payments To Be Made												
						Actual FY 2018			Estimated FY 2019			Requested FY 2020									
						Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total							

**Summary of 3% General Fund Program Reduction to FY 2019 Appropriated Funding by Major Object**

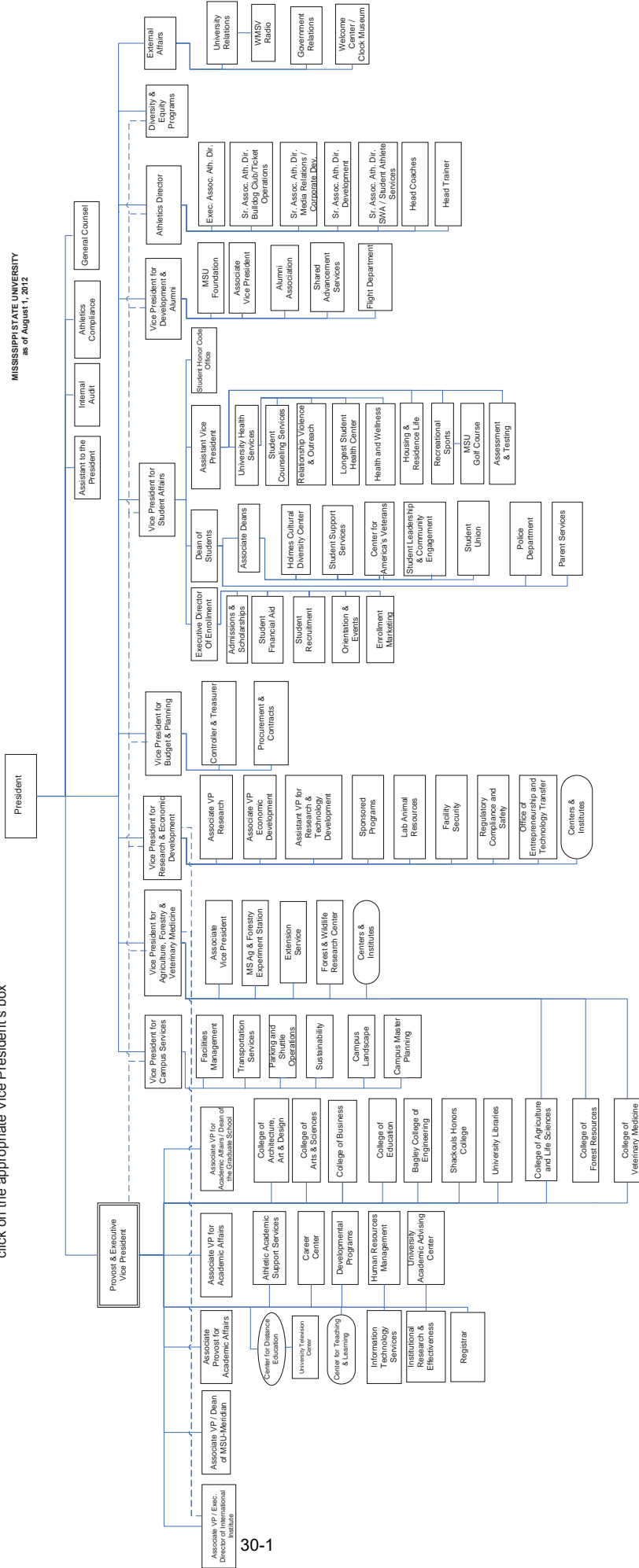
MS State Univ - Center for Advanced Vehicular Systems (252-01)

Name of Agency

<b>Major Object</b>	<b>FY2019 General Fund Reduction</b>	<b>EFFECT ON FY2019 STATE SUPPORT SPECIAL FUNDS</b>	<b>EFFECT ON FY2019 FEDERAL FUNDS</b>	<b>EFFECT ON FY2019 OTHER SPECIAL FUNDS</b>	<b>TOTAL 3% REDUCTIONS</b>
<b>SALARIES, WAGES, FRINGE</b>					
<b>TRAVEL</b>					
<b>CONTRACTUAL</b>	(128,631)				(128,631)
<b>COMMODITIES</b>					
<b>OTHER THAN EQUIPMENT</b>					
<b>EQUIPMENT</b>					
<b>VEHICLES</b>					
<b>WIRELESS COMM. DEVS.</b>					
<b>SUBSIDIES, LOANS, ETC</b>					
<b>TOTALS</b>	(128,631)				(128,631)

To view each divisional organizational chart, please click on the appropriate Vice President's box

MISSISSIPPI STATE UNIVERSITY  
as of August 1, 2012



**Center for Advanced Vehicular Systems**  
**Clayton T. Walden, Director**

Corporate Engagement  
 Matthew Doude

Mark Horstermeyer  
 Chief Technology Officer

**Human Factors**  
 Daniel Carruth  
 Associate Director

- Human Factors
- Ergonomics
- Biomechanics
- Product Lifecycle Management
- Cyberinfrastructure
- Augmented Reality
- Visualization

**Computational Engineering Mechanics & Material Science**  
 Hongjoo Rhee  
 Associate Director

- Multi-scale Experimentation
- Materials Characterization
- Materials Processing
- Nano-microstructure Analysis
- Lightweight Materials
- Bio-materials
- Particulate Materials
- V&V
- Multi-scale Modeling
- Material Models
- Theoretical Mechanics
- Design Optimization
- Uncertainty Analysis
- Bio-inspired Design
- Process Modeling
- Manufacturing

**Computational Engineering Mechanics**  
 Raj Prabhu  
 Associate Director

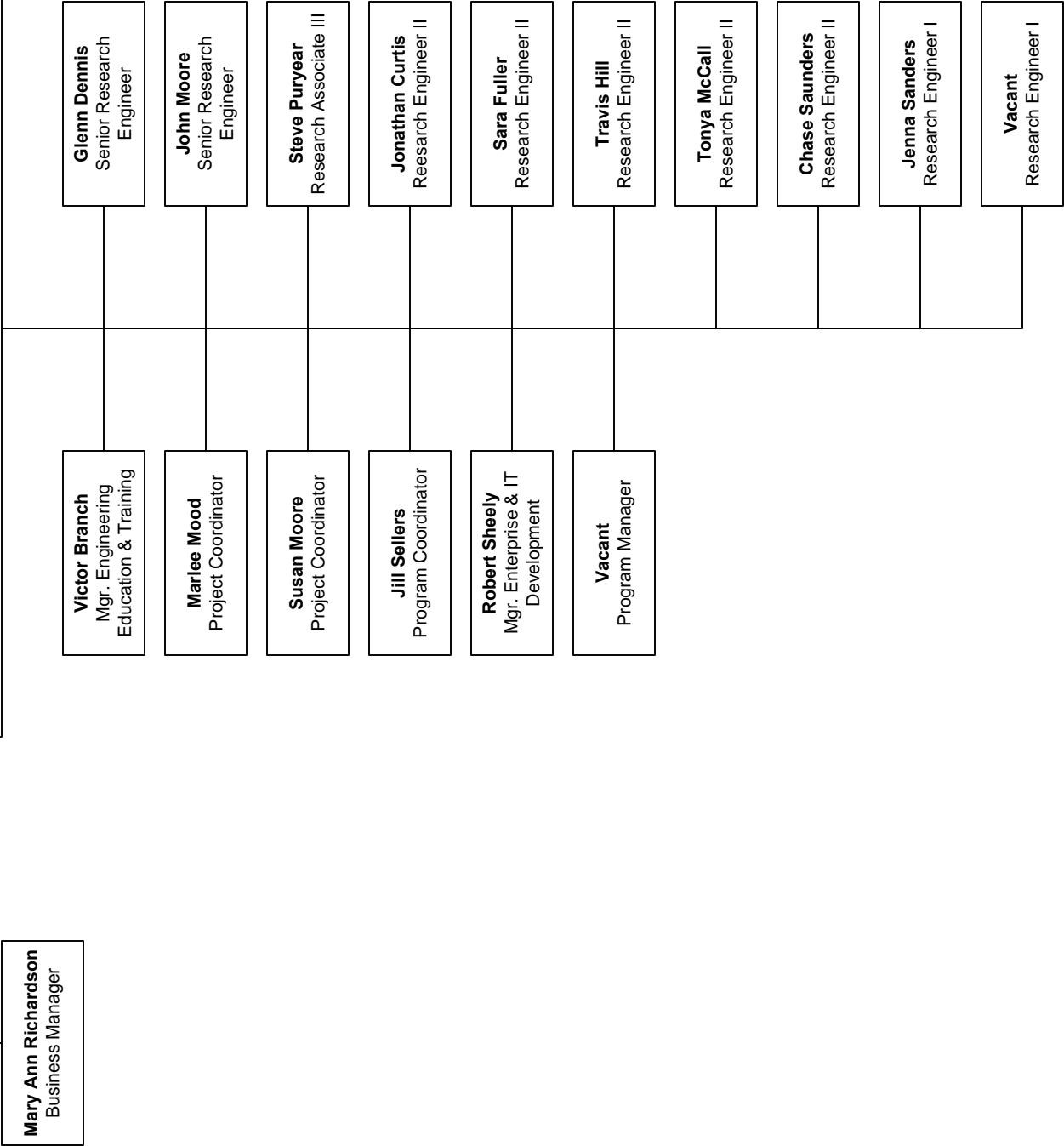
**Computational Fluid Dynamics**  
 Shanti Bhushan  
 Associate Director

- Mesh Generation
- Simulation Tools
- Energetics
- Thermal Mgt.
- Aerodynamics
- Chemically reacting flow
- Multidisciplinary design optimization
- Fluid-structure interaction

**Advanced Vehicle Systems**  
 Daniel Carruth  
 Interim Assoc. Director

- Automotive Electronics
- Hybrid Technologies
- IC Engines
- Dynamometer
- Noise, Vibration & Harshness
- Emissions
- Mobility
- Autonomy

**Center for Advanced Vehicular Systems - Extension**  
**H. Glenn Dennis, Director**

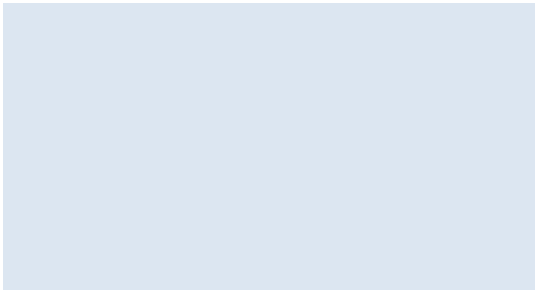
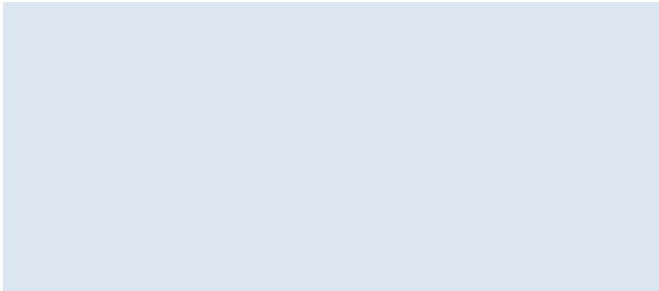




**BOARD OF TRUSTEES OF STATE  
INSTITUTIONS OF HIGHER LEARNING  
STATE OF MISSISSIPPI**

Schedule A  
Salaries and Wages

Agency: MSU - CENTER FOR ADVANCED VEHICULAR SYSTEMS 252-01

	Actual Expenses FY Ending 30-Jun-18		Estimated Expenses FY Ending 30-Jun-19		Required for FY Ending 30-Jun-20	
	FTE	Dollars	FTE	Dollars	FTE	Dollars
<b>CURRENT POSITIONS:</b>						
1100 - Exec, Admin & Managerial	3.85	396,625	3.85	374,010	3.85	452,889
1200 - Faculty						
9 month	2.30	111,513	2.30	105,155	2.30	127,332
12 month	9.25	465,342	9.25	438,808	9.25	531,353
Other	0.00	0	0.00	0	0.00	0
Total Faculty	15.40	576,855	15.40	543,963	15.40	658,685
1300 - Professional Non-faculty	21.00	558,772	21.00	526,911	21.00	638,037
1400 - Clerical and Secretarial	17.60	171,388	17.60	161,616	17.60	195,701
1500 - Technical & Paraprofessional	5.00	128,592	5.00	121,260	5.00	146,833
1600 - Skilled Crafts	0.00	0	0.00	0	0.00	0
1700 - Services/Maintenance	0.00	0	0.00	0	0.00	0
1800 - Students	2.00	177,015	2.00	166,920	2.00	202,125
<b>TOTAL</b>	<b>61.00</b>	<b>2,009,247</b>	<b>61.00</b>	<b>1,894,680</b>	<b>61.00</b>	<b>2,294,270</b>
<b>NEW POSITIONS REQUIRED FOR FY 2020:</b>					FTE	Dollars
1100 - Exec, Admin & Managerial					0.00	0
1200 - Faculty					0.00	0
9 month					0.00	0
12 month					0.00	0
Other					0.00	0
1300 - Professional Non-faculty					0.00	0
1400 - Clerical and Secretarial	0.00	0				
1500 - Technical & Paraprofessional	0.00	0				
1600 - Skilled Crafts	0.00	0				
1700 - Services/Maintenance	0.00	0				
1800 - Students	0.00	0				
<b>TOTAL</b>					<b>0.00</b>	<b>0</b>
<b>PROMOTIONS, REALIGNMENTS, RECLASSIFICATIONS FOR FY 2020:</b>					Dollars	
1100 - Exec, Admin & Managerial					0	
1200 - Faculty					0	
9 month					0	
12 month					0	
Other					0	
1300 - Professional Non-faculty					0	
1400 - Clerical and Secretarial	0					
1500 - Technical & Paraprofessional	0					
1600 - Skilled Crafts	0					
1700 - Services/Maintenance	0					
1800 - Students	0					
<b>TOTAL</b>					<b>0</b>	
<b>GRAND TOTAL Salaries and Wages</b>	<b>61.00</b>	<b>2,009,247</b>	<b>61.00</b>	<b>1,894,680</b>	<b>61.00</b>	<b>2,294,270</b>

**BOARD OF TRUSTEES OF STATE  
INSTITUTIONS OF HIGHER LEARNING  
STATE OF MISSISSIPPI**

Schedule A-1  
Fringe Benefits

Agency: MSU - CENTER FOR ADVANCED VEHICULAR SYSTEMS 252-01

	Actual Expenses FY Ending 30-Jun-18	Estimated Expenses FY Ending 30-Jun-19	Required for FY Ending 30-Jun-20
<b>CURRENT POSITIONS:</b>			
3910 - Employees' Retirement Matching	263,093	248,080	342,870
3920 - SSI Matching & FICA	117,358	110,664	134,003
3930 - Workers' Compensation	8,587	8,122	9,835
3940 - Health Insurance Contribution	91,558	86,348	108,585
3950 - Group Life Insurance	1,714	1,624	1,967
3960 - Civil Service (Agriculture Units)	0	0	0
3970 - Unemployment Tax	1,434	1,371	1,660
3980 - Remission of Fees	30,673	28,935	35,037
3990 -Terminal Leave Expense	23,911	22,489	27,232
<b>TOTAL Fringe Benefits for Continuing Employees</b>	<b>538,328</b>	<b>507,633</b>	<b>661,189</b>
<b>ESTIMATED FRINGE BENEFITS REQUIRED FOR NEW POSITIONS FOR FY 2020:</b>			
3910 - Employees' Retirement Matching			0
3920 - FICA Matching			0
3930 - Workers' Compensation			0
3940 - Health Insurance Contribution			0
3950 - Group Life Insurance			0
3960 - Civil Service (Agriculture Units)			0
3970 - Unemployment Tax			0
3980 - Remission of Fees			0
<b>TOTAL Fringe Benefits for New Positions</b>			<b>0</b>
<b>FRINGE BENEFITS FOR PROMOTIONS, REALIGNMENTS, RECLASSIFICATIONS FOR FY 2020:</b>			
3910 - Employees' Retirement Matching			0
3920 - FICA Matching			0
3930 - Workers' Compensation			0
3940 - Health Insurance Contribution			0
3950 - Group Life Insurance			0
3960 - Civil Service (Agriculture Units)			0
3970 - Unemployment Tax			0
3980 - Remission of Fees			0
<b>TOTAL Fringe Benefits for Promotions, etc.</b>			<b>0</b>
<b>GRAND TOTAL Fringe Benefits</b>	<b>538,328</b>	<b>507,633</b>	<b>661,189</b>
<b>SUBTOTAL SALARIES, WAGES &amp; FRINGE BENEFITS</b>	<b>2,547,575</b>	<b>2,402,313</b>	<b>2,955,459</b>
<b>LESS VACANCY RATE</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>TOTAL SALARIES, WAGES &amp; FRINGE BENEFITS</b>	<b>2,547,575</b>	<b>2,402,313</b>	<b>2,955,459</b>

Agency Revenue Source Report - FY18 Data

As Required by HB 831, 2015 Legislative Session

And SB 2387, 2016 Legislative Session

Agency Name MS State Univ - Center for Advanced Vehicular Systems (252-01)

Budget Year 2018

State Support Sources Amount Received  
 General Funds \$ 4,283,676

State Support Special Funds Amount Received  
 Education Enhancement Funds \$ 142,782  
 Health Care Expendable Funds   
 Tobacco Control Funds   
 Capital Expense Funds   
 Budget Contingency Funds   
 Working Cash Stabilization Reserve Funds

Special Funds Amount Received  
 Sample Special Fund #1   
 Sample Special Fund #2

*Add Rows for Additional Special Funds*

List all Federal Funds at its most specific level, such as an office or division, not the federal department.

<u>Federal Funds</u>	<u>Amount Received</u>	<u>Action or results promised in order to receive funds</u>
Sample Federal Fund #1	Fund Summaries should be available October 1, 2018.	
Sample Federal Fund #2		
Description of any Maintenance of Effort agreements entered into with any federal agency or subdivision thereof		

*Add Rows for Additional Special Funds*

Revenue from Tax, Fine or Fee Assessed

Sample Tax, Fine, Fee #1	<u>Amount Assessed</u>	N/A
<i>Copy Entire Section to Add New Item</i>	<u>Amount Collected</u>	Fund Summaries should be available October 1, 2018.
	<u>Authority to Collect</u>	Board Policy # 702.03, Approval of Tuition, Fees, and other student charges.
	<u>Method of Determining Assessment</u>	N/A
	<u>Method of Collection</u>	Board Policy # 702.03, Approval of Tuition, Fees, and other student charges.
	<u>Amt. &amp; Purpose for which Expended</u>	
	<u>Amount</u>	<u>Purpose</u>
	Fund Summaries should be available October 1, 2018.	

<u>Amount Transferred to General Fund</u>	
<u>Authority for Transfer to General Fund</u>	
<u>Amount Transferred to Another Entity</u>	
<u>Authority for Transfer to Other Entity</u>	
<u>Name of Other Entity</u>	
<u>Fiscal Year-Ending Balance</u>	