Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve

PERS
of MISSISSIPPI

Report on the Annual Valuation of the Mississippi Highway Safety Patrol Retirement System

Prepared as of June 30, 2012

www.CavMacConsulting.com

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

October 17, 2012

Board of Trustees
Public Employees' Retirement System of Mississippi
429 Mississippi Street
Jackson, MS 39201-1005

Ladies and Gentlemen:

Presented in this report are the results of the annual actuarial valuation of the Mississippi Highway Safety Patrol Retirement System. The purpose of the valuation was to measure the System's funding progress and to determine the unfunded accrued liability amortization period beginning July 1, 2012. The results may not be applicable for other purposes.

The date of the valuation was June 30, 2012.

The valuation was based upon data, furnished by the Executive Director and the PERS staff, concerning active, inactive and retired members along with pertinent financial information. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. The complete cooperation of the PERS staff in furnishing materials requested is hereby acknowledged with appreciation.

Your attention is directed particularly to the presentation of contribution rates on page 1 and the comments on page 8.

To the best of our knowledge, this report is complete and accurate. The valuation was performed by, and under the supervision of, independent actuaries who are members of the American Academy of Actuaries with experience in performing valuations for public retirement systems. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The valuation was prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board. We have reviewed the actuarial methods, including the asset valuation method, and continue to believe they are appropriate for the purpose of determining employer contribution levels.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144
Phone (678) 388-1700 • Fax (678) 388-1730
www.CavMacConsulting.com
Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE • Hilton Head Island, SC

The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the system, and on actuarial assumptions that are, in the aggregate, internally consistent and reasonably based on the actual experience of the system.

Respectfully submitted,

Thomas J. Cavanaugh, FSA, FCA, EA, MAAA
Chief Executive Officer

Edward J. Koebel, FCA, EA, MAAA
Principal and Consulting Actuary

Jonathan T. Craven, ASA, EA, FCA, MAAA
Senior Actuary

TJC/EJK/JTC:kc

S:\Mississippi Highway Patrol\Valuation\2012\HSPRS Valuation Report 2012.doc

TABLE OF CONTENTS

REPORT ON THE ANNUAL VALUATION OF THE
MISSISSIPPI HIGHWAY SAFETY PATROL RETIREMENT SYSTEM
PREPARED AS OF JUNE 30, 2012

SECTION I – SUMMARY OF PRINCIPAL RESULTS

1. This report, prepared as of June 30, 2012, presents the results of the annual actuarial valuation of the System. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below. The current valuation reflects any benefit increases granted to retirees as of July 1, 2012 and any amendments to the System effective through July 1, 2012. A contribution rate of 39.49% of active members' compensation for the 2013/2014 fiscal year would be needed in order to keep the anticipated accrued liability payment period within 30 years in accordance with GASB Statements 25 and 27.

SUMMARY OF PRINCIPAL RESULTS

VALUATION DATE	June 30, 2012	June 30, 2011
Active members included in valuation		
Number	547	515
Annual compensation	$ 25,670,030	$ 24,872,085
Retirees		
Number	713	704
Annual allowances	$ 25,167,940	$ 23,975,708
Assets		
Market related actuarial value	$ 268,424,000	$ 278,265,000
Market value	$ 265,232,000	$ 277,563,000
Unfunded accrued liability	$ 152,991,015	$ 136,167,332
Funded Ratio	63.7%	67.1%
Recommended employer contribution rate		
Normal	16.33%	16.55%
Accrued liability	23.16%	20.45%
Total	39.49%	37.00%
Anticipated accrued liability payment period	30.0 years	30.0 years
Unfunded accrued liability based on market value of assets	$ 156,183,015	$ 136,869,332
Funded Ratio	62.9%	67.0%
Payment Period	31.6 years	30.4 years

2. The valuation balance sheet showing the results of the valuation is given in Section III.

3. Comments on the valuation results are given in Section IV, the derivation of the experience gains and losses during the valuation year are given in Section V and the rates of contribution payable by employers are given in Section VI.

4. There were no changes to the actuarial assumptions since the last valuation.

5. There were no changes to the benefit provisions since the last valuation.

6. Due to Senate Bill No. 2659 enacted in 2004, additional contributions are being made to the System. The estimate used for last year was $3,500,000 annually. The actual additional contribution for 2012 is $3,246,000. However, since the last three years of additional contributions have not been consistent, we have averaged the last three year's contributions and the 2012 valuation results reflect an anticipated amount of $3,600,000 annually in the future. The employers are required to contribute 39.49% of payroll. The funding period of the UAL of 30.0 years shown on the previous page reflects the additional contributions from Senate Bill No. 2659. Without this additional contribution, the funding period would have been 73.6 years. If the funding period was kept at 30 years, the employer contribution rate would have been 49.13%.

7. Schedule A of this report presents the development of the actuarial value of assets. Schedule B of this report outlines the full set of actuarial assumptions and methods employed. Schedule C gives a summary of the benefit and contribution provisions of the System.

8. The table on page 3 provides a ten-year history of some pertinent figures.

9. The valuation results are developed based upon the current employer contribution rate of 39.49% of payroll. Governmental Accounting Standards Board Statement No. 27 requires employers to expense pension costs at the actuarially required contribution level, which is based on a maximum 30 year accrued liability payment period.

10. All amounts shown prior to the 2004/2005 fiscal year were developed and/or reported by the prior actuarial firm.

Mississippi Highway Safety Patrol Retirement System

Comparative Schedule*

	Active Members				Retired Lives				Valuation Results ($ thousands)		
Valuation Date June 30	Number	Payroll ($ thousands)	Average Salary	% increase from previous year	Number	Active/ Retired Ratio	Annual Benefits** ($ thousands)	Benefits as % of Payroll	Accrued Liability	Valuation Assets	UAAL
2003	543	$21,052	$38,770	6.6%	599	0.9	$11,592.8	55.1%	$302,134	$259,746	$42,388
2004	559	22,683	40,579	4.7	605	0.9	12,111.9	53.4	316,570	256,481	60,089
2005	540	22,343	41,376	2.0	621	0.9	17,189.8	76.9	335,117	253,477	81,640
2006	564	24,499	43,438	5.0	625	0.9	17,821.8	72.7	350,638	265,637	85,001
2007	591	27,037	45,748	5.3	638	0.9	18,722.6	69.2	371,233	284,626	86,607
2008	626	29,597	47,280	3.3	651	1.0	19,798.7	66.9	381,578	298,630	82,948
2009	570	26,390	46,298	(2.1)	692	0.8	21,994.1	83.3	394,630	292,322	102,308
2010	542	26,353	48,623	5.0	696	0.8	22,899.7	86.9	411,277	281,088	130,189
2011	515	24,872	48,295	(0.7)	704	0.7	23,975.7	96.4	414,432	278,265	136,167
2012	547	25,670	46,929	(2.8)	713	0.8	25,167.9	98.0	421,415	268,424	152,991

* All amounts prior to 2005 reported by prior actuarial firm.
** Excluding COLA for years prior to 2005.

SECTION II – MEMBERSHIP DATA

Data regarding the membership of the System for use as a basis for the valuation were furnished by the System's office. The following tables summarize the membership of the System as of June 30, 2012 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

Active Members

Employers	Number of Employers	Number	Payroll	Group Averages Salary	Age	Service
State Agencies	1	547	$25,670,030	$46,929	40.7	12.7

Of the 547 active members, 427 are vested and 120 are non-vested.

Retired Lives

Type of Benefit Payment	No.	Annual Benefits	Group Averages Benefit	Age
Retirement	510	$21,191,213	$41,551	65.0
Disability	19	439,055	23,108	63.6
Survivor	184	3,537,672	19,226	72.9
Total in HSPRS	713	$25,167,940	$35,299	67.0

Deferred Vested/Inactive Lives

Type of Member	No.	Deferred Benefits	Outstanding Refunds
Deferred Vested – Benefit Included	17	$174,247	N/A
Deferred Vested – Missing Benefit	4	N/A	$132,968
Inactive	33	N/A	65,319
Total in HSPRS	54	$174,247	$198,287

SECTION III – VALUATION BALANCE SHEET

The following valuation balance sheet shows the assets and liabilities of the retirement system as of the current valuation date of June 30, 2012 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2011. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date. The development of the actuarial value of assets is presented in Schedule A.

VALUATION BALANCE SHEET
SHOWING THE ASSETS AND LIABILITIES OF THE
MISSISSIPPI HIGHWAY SAFETY PATROL RETIREMENT SYSTEM

	JUNE 30, 2012	JUNE 30, 2011
ASSETS		
Current actuarial value of assets:		
Annuity Savings Account	$ 20,760,063	$ 20,620,685
Annuity Reserve	30,856,877	29,042,393
Employers' Accumulation Account	216,807,060	228,601,922
Total current assets	$ 268,424,000	$ 278,265,000
Future member contributions to Annuity Savings Account	$ 17,276,458	$ 16,445,557
Prospective contributions to Employer's Accumulation Account		
Normal contributions	$ 38,913,732	$ 37,541,237
Unfunded accrued liability contributions	152,991,015	136,167,332
Total prospective contributions	$ 191,904,747	$ 173,708,569
Total Assets	$ 477,605,205	$ 468,419,126
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	$ 300,752,924	$ 292,234,180
Present value of benefits payable on account of active members	175,353,949	174,725,072
Present value of benefits payable on account of inactive members for service rendered before the valuation date	$ 1,498,332	$ 1,459,874
Total liabilities	$ 477,605,205	$ 468,419,126

BREAKDOWN OF TOTAL AND ACCRUED LIABILITIES
AS OF JUNE 30, 2012

	Total Liability	Accrued Liability
Active Members		
Retirement	$ 168,015,819	$ 116,562,874
Death	1,955,901	743,939
Disability	3,021,985	1,007,618
Termination	2,360,244	849,328
Total	$ 175,353,949	$ 119,163,759
Retirees		
Retirement	$ 263,858,447	$ 263,858,447
Survivor	32,193,207	32,193,207
Disability	4,701,270	4,701,270
Total	$ 300,752,924	$ 300,752,924
Deferred Vested Members	1,101,758	1,101,758
Inactive Members	396,574	396,574
Total Actuarial Values	$ 477,605,205	$ 421,415,015
Actuarial Value of Assets		268,424,000
Unfunded Actuarial Accrued Liability		$ 152,991,015

SECTION IV – COMMENTS ON VALUATION

The valuation balance sheet gives the following information with respect to the funds of the System as of June 30, 2012.

Total Assets

The Annuity Savings Account is the fund to which are credited contributions made by members together with interest thereon. When a member retires, the amount of his or her accumulated contributions is transferred from the Annuity Savings Account to the Annuity Reserve. The Employer's Accumulation Account is the fund to which are credited employer contributions and investment income, and from which are paid all employer-provided benefits under the plan. The assets credited to the Annuity Savings Account as of the valuation date, which represent the accumulated contributions of members to that date, amounted to $20,760,063. The assets credited to the Annuity Reserve were $30,856,877 and the assets credited to the Employer's Accumulation Account totaled $216,807,060. Current actuarial assets as of the valuation date equaled the sum of these three funds, $268,424,000. Future member contributions to the Annuity Savings Account were valued to be $17,276,458. Prospective contributions to the Employer's Accumulation Account were calculated to be $191,904,747, of which $38,913,732 is attributable to service rendered after the valuation date (normal contributions) and $152,991,015 is attributable to service rendered before the valuation date (unfunded accrued liability contributions).

Therefore, the balance sheet shows the present value of current and future assets of the System to be $477,605,205 as of June 30, 2012.

Total Liabilities

The present value of benefits payable on account of presently retired members and beneficiaries totaled $300,752,924 as of the valuation date. The present value of future benefit payments on behalf of active members amounted to $175,353,949. In addition, the present value of benefits for inactive members, due to service rendered before the valuation date, was calculated to be $1,498,332.

Therefore, the balance sheet shows the present value for all prospective benefit payments under the System to be $477,605,205 as of June 30, 2012.

Section 25-13-7 of State law requires that active members contribute the current rate of 7.25% of annual compensation to the System.

Section 25-13-29 requires that the State contribute a certain percentage of the annual compensation of members to cover the normal contributions and a certain percentage to cover the accrued liability contributions of the System. These individual contribution percentages are established in accordance with an actuarial valuation. The sum of these normal and accrued liability contributions would need to be increased from 37.00% to 39.49% of the annual compensation of all members in order to maintain the UAL amortization at 30 years, which is in addition to the contributions anticipated as a result of Senate Bill No. 2659 enacted in 2004. The amortization period of the unfunded accrued liability of the System is therefore calculated on an open-ended basis.

The primary reasons for the increase in the employer contribution rate are the continued recognition of the investment losses from the 2008 and 2009 fiscal years and the investment loss for the 2012 fiscal year. In addition, since the overall payroll growth rate was less than expected, it has caused upward pressure on the contribution rate attributed to the unfunded accrued liability.

SECTION V – DERIVATION OF EXPERIENCE GAINS AND LOSSES

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain (loss) for the year ended June 30, 2012 is shown below.

			$ Thousands
(1)	UAAL* as of June 30, 2011	$	136,167.3
(2)	Total normal cost from last valuation		5,919.6
(3)	Total employee and employer contributions		13,990.0
(4)	Interest accrual: (1) x .080 + [[(2) – (3)] x .0392]		10,577.0
(5)	Expected UAAL before changes: (1) + (2) – (3) + (4)		138,673.9
(6)	Change due to plan amendments		0.0
(7)	Change due to actuarial assumptions or methods		0.0
(8)	Expected UAAL after changes: (5) + (6) + (7)		138,673.9
(9)	Actual UAAL as of June 30, 2012		152,991.0
(10)	Gain/(loss): (8) – (9)	$	(14,317.1)
(11)	Gain/(loss) as percent of actuarial accrued liabilities at start of year ($414,432.3)		(3.5)%

*Unfunded actuarial accrued liability.

Valuation Date June 30	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2007	(0.3)%
2008	0.7
2009	(4.3)
2010	(7.1)
2011	(0.8)
2012	(3.5)

SECTION VI – REQUIRED CONTRIBUTION RATES

The valuation balance sheet gives the basis for determining the percentage rates for contributions to be made by employers to the Retirement System. The following table shows the rates of contribution payable by employers as determined from the present valuation for the 2013/2014 fiscal year and a comparison to the previous valuation results.

Contribution for	2013/2014 Fiscal Year	2012/2013 Fiscal Year
Normal Cost:		
Service retirement benefits	21.73%	21.94%
Disability benefits	1.00	0.95
Survivor benefits	0.59	0.57
Total	23.32%	23.46%
Member Contributions:	7.25%	7.25%
Less future refunds	(0.26)	(0.34)
Available for benefits	6.99%	6.91%
Employer Normal Cost	16.33%	16.55%
Unfunded Actuarial Accrued Liabilities (30.0 year level % of payroll amortization*)	23.16	20.45
Total Computed Employer Contribution Rate	39.49%	37.00%

*Amortization period a year ago was 30.0 years. Both periods reflect additional contributions from Senate Bill No. 2659 enacted in 2004. An estimated additional $3,600,000 (14.0% of payroll) employer contribution is being made to the System due to SB 2659 in order to keep the amortization period below 30 years.

The components of the change in the employer contribution rate from 37.00% to 39.49% are as follows:

Previously Reported Employee Rate.	37.00%
Change due to:	
Actuarial experience	2.49
Assumption changes	0.00
Plan amendments	0.00
Method changes	0.00
Computed Employer Rate	39.49%

SECTION VII – CASH FLOW PROJECTION

Regular actuarial valuations measure the Retirement System's present financial position and contributions adequacy by calculating and financing the liabilities created by the present benefit program. This process involves discounting to present values the future benefit payments on behalf of present active and retired members and their survivors. However, valuations do not produce information regarding future changes in the makeup of the covered group or the amounts of benefits to be paid or investment income to be received – actuarial projections do.

Whereas valuations provide a snapshot of the retirement system as of a given date, projections provide a moving picture. Projected active and retired groups are developed from year to year by the application of assumptions regarding pre-retirement withdrawal from service, retirements, deaths, disabilities, and the addition of new members. Projected information regarding the retired life group leads to assumed future benefit payout. Combining future benefit payments with assumed contributions and expected investment earnings produces the net cash flow of the System each year, and thus end of year asset levels.

Projections are used for many purposes. Among them are (i) developing cash flow patterns for investment policy and asset mix consideration, (ii) exploring the effect of alternative assumptions about future experience, (iii) analyzing the impact on system funding progress of changes in the workforce, and (iv) examining the potential effect of changes in benefits on system financial activity.

Projection results are useful in demonstrating changing relationships among key elements affecting system financial activity. For example: how benefits payable and system assets will grow in future decades. Projections are not predictions of specific future events and do not provide numeric precision in absolute terms. For instance, cash flow projected to occur 10 years in the future will not be exact (except by coincidence), but understanding the changed relationship between future benefit payout and future investment income can be very useful.

The following projections assume an 8% investment return and salary increases of 4.25% each year in the future. In addition, the employer and employee contribution rates are assumed to remain at the 2012 valuation results for all years beginning in 2013 fiscal year.

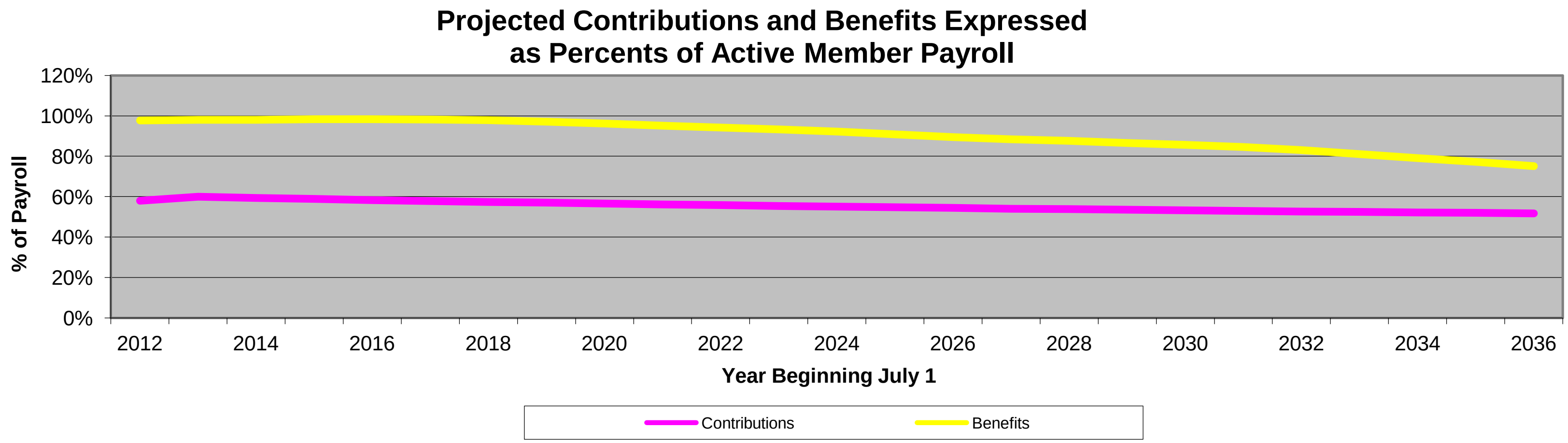
Mississippi Highway Safety Patrol Retirement System

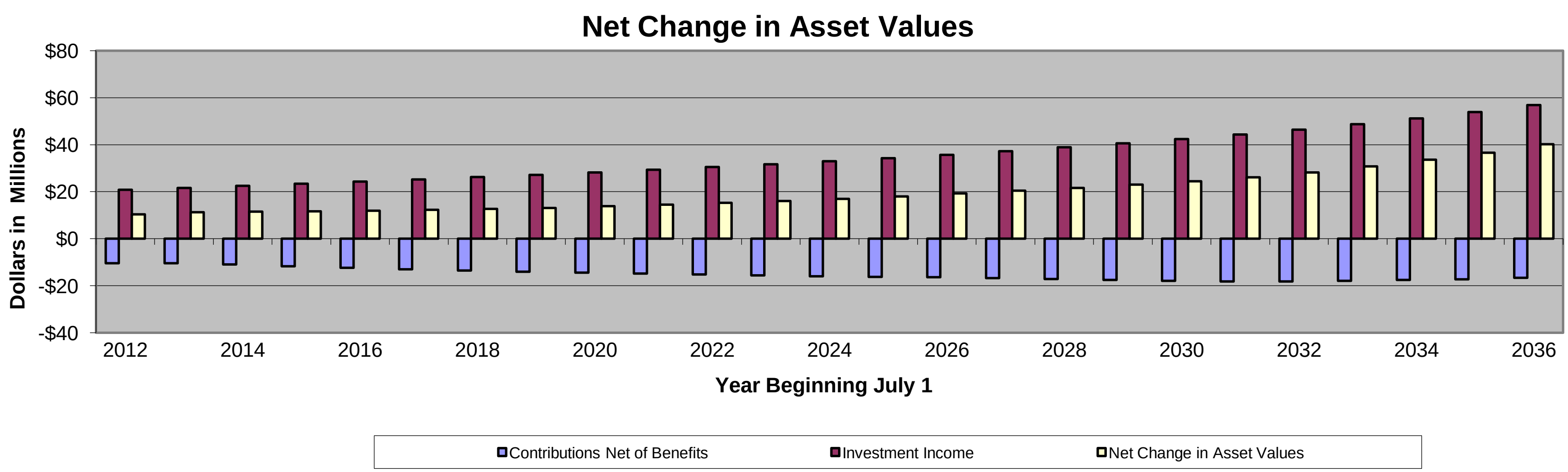
Twenty-five Year Cash Flow Projection

Year	Valuation Payroll	Market Value of Assets Balance July 1	Contributions	Projected Benefit Payments	Expected Investment Return	Cash Flow	Market Value of Assets Balance June 30
2012	$26,183,431	$265,232,000	$15,186,168	$25,591,993	$20,802,327	$10,396,502	$275,628,502
2013	27,296,227	275,628,502	16,358,256	26,737,791	21,635,099	11,255,564	286,884,066
2014	28,456,317	286,884,066	16,900,483	27,904,893	22,510,549	11,506,139	298,390,205
2015	29,665,710	298,390,205	17,465,753	29,152,139	23,403,761	11,717,375	310,107,580
2016	30,926,503	310,107,580	18,055,048	30,422,788	24,313,897	11,946,157	322,053,736
2017	32,240,879	322,053,736	18,669,387	31,637,270	25,245,584	12,277,701	334,331,437
2018	33,611,116	334,331,437	19,309,836	32,867,935	26,204,191	12,646,092	346,977,529
2019	35,039,588	346,977,529	19,977,503	34,045,224	27,195,493	13,127,772	360,105,301
2020	36,528,770	360,105,301	20,673,547	35,109,438	28,230,988	13,795,097	373,900,399
2021	38,081,243	373,900,399	21,399,173	36,195,999	29,320,159	14,523,333	388,423,732
2022	39,699,696	388,423,732	22,155,638	37,379,810	30,464,932	15,240,760	403,664,491
2023	41,386,933	403,664,491	22,944,252	38,602,943	31,666,812	16,008,121	419,672,612
2024	43,145,878	419,672,612	23,766,383	39,754,620	32,934,279	16,946,042	436,618,655
2025	44,979,578	436,618,655	24,623,455	40,876,671	34,279,364	18,026,148	454,644,802
2026	46,891,210	454,644,802	25,516,952	41,965,544	35,713,640	19,265,048	473,909,851
2027	48,884,086	473,909,851	26,448,422	43,221,593	37,241,861	20,468,690	494,378,541
2028	50,961,660	494,378,541	27,419,480	44,640,324	38,861,450	21,640,606	516,019,146
2029	53,127,531	516,019,146	28,431,808	46,022,326	40,577,911	22,987,393	539,006,539
2030	55,385,451	539,006,539	29,487,160	47,447,944	42,402,092	24,441,308	563,447,847
2031	57,739,333	563,447,847	30,587,364	48,829,551	44,346,140	26,103,953	589,551,801
2032	60,193,255	589,551,801	31,734,327	49,947,332	46,435,624	28,222,619	617,774,419
2033	62,751,468	617,774,419	32,930,036	50,901,475	48,703,096	30,731,657	648,506,076
2034	65,418,405	648,506,076	34,176,562	51,746,732	51,177,679	33,607,509	682,113,586
2035	68,198,687	682,113,586	35,476,066	52,719,640	53,879,344	36,635,770	718,749,356
2036	71,097,131	718,749,356	36,830,799	53,438,251	56,835,650	40,228,198	758,977,554

Mississippi Highway Safety Patrol Retirement System

Twenty-five Year Cash Flow Projection Based on Valuation Assumptions





SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

1. Statement Nos. 25 and 27 of the Governmental Accounting Standards Board (GASB) set forth certain items of information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

NUMBER OF ACTIVE AND RETIRED PARTICIPANTS
AS OF JUNE 30, 2012

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	713
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	54
Active Participants	547
Total	1,314

2. Another such item is the schedule of funding progress as shown below.

SCHEDULE OF FUNDING PROGRESS
($ Thousands)

Plan Year Ended	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL) Entry Age	(3) Percent Funded (1)/(2)	(4) Unfunded AAL (2) – (1)	(5) Annual Covered Payroll	(6) Unfunded AAL as a Percentage of Covered Payroll (4)/(5)
06/30/2003#	$259,746	$302,134	86.0%	$42,388	$21,052	201.3%
06/30/2004	256,481	316,570	81.0	60,089	22,683	264.9
06/30/2005#	253,477	335,117	75.6	81,640	22,343	365.4
06/30/2006	265,637	350,638	75.8	85,001	24,499	347.0
06/30/2007#	284,626	371,233	76.7	86,607	27,037	320.3
06/30/2008*	298,630	381,578	78.3	82,948	29,597	280.3
06/30/2009#	292,322	394,630	74.1	102,308	26,390	387.7
06/30/2010	281,088	411,277	68.3	130,189	26,353	494.0
06/30/2011#	278,265	414,432	67.1	136,167	24,872	547.5
06/30/2012	268,424	421,415	63.7	152,991	25,670	596.0

* After change in benefit provisions.
\# After change in actuarial assumptions.

As can be seen from the table above, the funded ratio has declined over the 10-year period. This is due in large part to the less than expected investment returns over the 10-year span. The open 30-year amortization period during the latter half of the time period contributed to the decline.

3. The annual required contribution (ARC) of the employer as a percentage of payroll, determined in accordance with the parameters of GASB 25/27, is shown below. The accrued liability rate is based on amortization of the unfunded actuarial accrued liability of $152,991,015 over a 30.0 year period (reflecting the impact of S.B. 2659) from the valuation date.

Annual Required Contribution (ARC)		
Valuation Date June 30	**2012**	**2011**
For Fiscal Year	2013/2014	2012/2013
UAL Payment Period (years)	30.0	30.0
Annual Required Contribution % of Payroll	39.49%	37.00%

4. Additional information as of June 30, 2012 follows.

Valuation date	6/30/2012
Actuarial cost method	Entry age
Amortization method	Level percent open
Remaining amortization period	30.0 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return*	8.00%
Projected salary increases#	5.00% – 10.52%
Cost-of-living adjustments	3.00%
*Includes price inflation at	3.50%
# Includes wage inflation at	4.25%

Schedule of Employer Contributions

Fiscal Year Ending June 30	Valuation date June 30	Annual Required Contribution	Percentage Contributed
2004	2002	$5,928,227	100.0%
2005	2003	9,087,647[1]	100.0
2006	2004	8,691,766[2]	100.0
2007	2005	10,023,287[3]	100.0
2008	2006	10,492,230[4]	100.0
2009	2007	11,668,004[5]	100.0
2010	2008	11,096,142[6]	100.0
2011	2009	11,385,080[7]	100.0
2012	2010	12,257,461[8]	100.0
2013	2011	13,097,911[9]	

1 An estimated additional contribution of $2,700,000 (11.9% of payroll) was made to the System due to SB 2659

2 An estimated additional contribution of $2,400,000 (10.7% of payroll) was made to the System due to SB 2659

3 An estimated additional contribution of $2,600,000 (10.6% of payroll) was made to the System due to SB 2659

4 An estimated additional contribution of $2,300,000 (8.5% of payroll) was made to the System due to SB 2659

5 An estimated additional contribution of $2,700,000 (9.1% of payroll) was made to the System due to SB 2659

6 An estimated additional contribution of $3,100,000 (11.7% of payroll) was made to the System due to SB 2659

7 An estimated additional contribution of $3,400,000 (12.9% of payroll) was made to the System due to SB 2659

8 An estimated additional contribution of $3,500,000 (14.1% of payroll) was made to the System due to SB 2659

9 An estimated additional contribution of $3,600,000 (14.0% of payroll) was made to the System due to SB 2659

Solvency Tests
($ in Thousands)

	Actuarial Accrued Liabilities for				Portions of Accrued Liabilities Covered by Assets		
Valuation Date	(1) Accumulated Employee Contributions Including Allocated Investment Earnings	(2) Retirees and Beneficiaries Currently Receiving Benefits	(3) Active and Inactive Members Employer Financed Portion	Net Assets Available for Benefits	(1)	(2)	(3)
6/30/2002	$16,226	$186,501	$82,821	$263,255	100%	100.0%	73.1%
6/30/2003	17,604	192,662	91,868	259,746	100	100.0	53.9
6/30/2004	18,352	201,573	96,645	256,481	100	100.0	37.8
6/30/2005	18,972	214,844	101,301	253,477	100	100.0	19.4
6/30/2006	19,906	222,281	108,451	265,637	100	100.0	21.6
6/30/2007	20,870	231,771	118,592	284,626	100	100.0	27.0
6/30/2008	21,371	242,265	117,942	298,630	100	100.0	29.7
6/30/2009	20,136	273,774	100,720	292,322	100	99.4	0.0
6/30/2010	20,658	284,106	106,513	281,088	100	91.7	0.0
6/30/2011	20,621	292,234	101,577	278,265	100	88.2	0.0
6/30/2012	20,760	300,753	99,902	268,424	100	82.3	0.0

Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Active Members Number	Active Members Annual Payroll	Active Members Annual Average Pay	Active Members % Increase in Average Pay
2003	1	543	$21,051,942	$38,770	6.6%
2004	1	559	22,683,404	40,579	4.7
2005	1	540	22,342,918	41,376	2.0
2006	1	564	24,499,296	43,438	5.0
2007	1	591	27,037,063	45,748	5.3
2008	1	626	29,597,374	47,280	3.3
2009	1	570	26,389,909	46,298	(2.1)
2010	1	542	26,353,400	48,623	5.0
2011	1	515	24,872,085	48,295	(0.7)
2012	1	547	25,670,030	46,929	(2.8)

Schedule of Number of Retirants Added To and Removed From Rolls
Last Ten Fiscal Years

	Fiscal Year Ended June 30									
Item	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Beginning of Year	595	599	605	621	625	638	651	692	696	704
Added	20	27	33	32	29	42	62	22	32	31
Removed	(16)	(21)	(17)	(28)	(16)	(29)	(21)	(18)	(24)	(22)
End of Year	599	605	621	625	638	651	692	696	704	713

Schedule of Benefit Payments Added To and Removed From Rolls
Last Seven Fiscal Years

Year Ending	2006	2007	2008	2009	2010	2011	2012
Beginning of Year	$17,189,826	$17,821,809	$18,722,555	$19,798,655	$21,994,109	$22,899,689	$23,975,708
Added	849,210	826,877	1,341,416	2,263,514	806,092	1,089,231	1,157,796
Removed	(650,466)	(390,154)	(739,677)	(556,046)	(450,658)	(609,133)	(574,614)
Benefit increase due to annual COLA	433,239	464,023	474,361	487,986	550,146	595,921	609,050
Benefit increase due to plan amendments	0	0	0	0	0	0	0
End of Year	$17,821,809	$18,722,555	$19,798,655	$21,994,109	$22,899,689	$23,975,708	$25,167,940

Schedule of Average Benefit Payments

	Years of Credited Service								
	0-4	5-9	10-14	15-19	20-24	25	26-29	30	31+
July 1, 2011 to June 30, 2012									
Average Monthly Benefit		$1,648.69		$2,340.93	$982.05	$1,568.62	$2,267.88	$4,335.37	$3,798.92
Average Final Salary		$39,568.45		$58,021.27	$39,971.01	$28,716.82	$46,824.02	$71,048.35	$62,979.14
Number of Active Retirants		1		1	1	1	10	5	12
July 1, 2010 to June 30, 2011									
Average Monthly Benefit			$716.18	$1,020.55	$2,433.84	$1,896.54	$2,408.76	$3,791.81	$3,296.52
Average Final Salary			$28,057.78	$26,202.46	$60,342.83	$43,144.33	$50,019.57	$52,042.20	$51,855.68
Number of Active Retirants			1	2	3	2	11	4	9
July 1, 2009 to June 30, 2010									
Average Monthly Benefit				$1,405.04		$3,155.49	$3,024.51	$3,461.46	$2,973.70
Average Final Salary				$37,962.84		$59,219.21	$47,430.92	$30,160.22	$41,004.34
Number of Active Retirants				4		2	5	2	9
July 1, 2008 to June 30, 2009									
Average Monthly Benefit		$466.11		$438.86	$1,580.07	$3,177.63	$3,143.57	$4, 604.35	$3,055.97
Average Final Salary		$33,559.84		$16,844.95	$38,404.11	$61,298.36	$59,583.98	$75,125.92	$52,752.04
Number of Active Retirants		3		1	7	13	21	7	10
July 1, 2007 to June 30, 2008									
Average Monthly Benefit		$346.95	$1,157.63	$407.81	$1,778.14	$3,442.30	$2,411.10	$4,364.71	$3,034.57
Average Final Salary		$13,030.50	$46,554.36	$12,949.33	$48,156.36	$64,164.63	$45,198.00	$73,561.75	$54,588.25
Number of Active Retirants		1	1	3	9	2	9	5	12

Schedule of Average Benefit Payments

	Years of Credited Service								
	0-4	5-9	10-14	15-19	20-24	25	26-29	30	31+
July 1, 2006 to June 30, 2007									
Average Monthly Benefit			$213.25		$2,107.95	$2,246.68	$2,536.45	$1,044.36	$2,257.21
Average Final Salary			$4,971.00		$42,893.86	$48,745.57	$47,312.51	$29,283.33	$40,152.62
Number of Active Retirants			1		7	3	13	1	4
July 1, 2005 to June 30, 2006									
Average Monthly Benefit	$129.75		$193.87	$831.37	$2,364.17	$1,547.62	$2,080.44	$1,802.57	$2,447.36
Average Final Salary	$5,260.50		$5,119.56	$21,650.66	$53,948.96	$35,031.14	$42,378.93	$39,574.31	$45,797.02
Number of Active Retirants	1		1	2	6	4	10	2	6
July 1, 2004 to June 30, 2005									
Average Monthly Benefit	$1,150.68			$138.07	$1,558.09	$2,117.73	$1,585.17	$1,410.24	$2,819.25
Average Final Salary	$27,616.23			$6,627.65	$37,085.48	$43,821.52	$36,481.94	$29,669.04	$48,744.72
Number of Active Retirants	1			1	6	5	10	3	7
July 1, 2003 to June 30, 2004									
Average Monthly Benefit	$741.50		$2,739.00	$617.17	$1,299.97	$2,015.18	$2,092.61	$4,405.08	$3,775.60
Average Final Salary	$21,819.03		$65,736.29	$17,233.42	$30,458.56	$44,300.15	$46,563.44	$83,468.52	$58,207.95
Number of Active Retirants	1		1	1	5	5	6	1	7
July 1, 2002 to June 30, 2003									
Average Monthly Benefit					$1,783.71	$1,603.56	$499.87	$841.74	$2,538.95
Average Final Salary					$39,252.31	$37,178.29	$14,087.92	$22,852.75	$42,139.22
Number of Active Retirants					2	9	4	3	2

SCHEDULE A
Development of Actuarial Value of Assets
($ thousands)

	Valuation Date June 30:	2011	2012	2013	2014	2015	2016
A.	Actuarial Value Beginning of Year	$281,088	$278,265				
B.	Market Value End of Year	277,563	265,232				
C.	Market Value Beginning of Year	232,873	277,563				
D.	Cash Flow						
	D1. Contributions	10,015	10,744				
	D2. Other Revenue	3,427	3,246				
	D3. Benefit Payments	(25,680)	(26,950)				
	D4. Administrative Expenses	(162)	(176)				
	D5. Investment Expenses	(573)	(584)				
	D6. Net	(12,973)	(13,720)				
E.	Investment Income						
	E1. Market Total: B.-C.-D6.	57,663	1,389				
	E2. Assumed Rate	8.00%	8.00%				
	E3. Amount for Immediate Recognition	18,875	22,447				
	E4. Amount for Phased-In Recognition	38,788	(21,058)				
F.	Phased-In Recognition of Investment Income						
	F1. Current Year: 0.20*E4.	7,758	(4,212)				
	F2. First Prior Year	2,650	7,758	(4,212)			
	F3. Second Prior Year	(14,921)	2,650	7,758	(4,212)		
	F4. Third Prior Year	(9,843)	(14,921)	2,650	7,758	(4,212)	
	F5. Fourth Prior Year	5,631	(9,843)	(14,921)	2,650	7,758	(4,212)
	F6. Total Recognized Investment Gain	(8,725)	(18,568)	(8,725)	6,196	3,546	(4,212)
G.	Actuarial Value End of Year:						
	A.+D6.+E3.+F6.	$278,265	$268,424				
H.	Difference Between Market & Actuarial Values	$(702)	$(3,192)	$5,533	$(663)	$(4,209)	$3

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.

Asset Summary
June 30, 2012
($ in Thousands)

		Market Value	Book Value	Actuarial Value
1.	Assets at June 30, 2011	$277,563	$235,455	$278,265
2.	Contributions and Misc. Revenue	13,990	13,990	13,990
3.	Investment Increment	1,389	15,313	3,879
4.	Benefit Payments	(26,950)	(26,950)	(26,950)
5.	Expenses	(760)	(760)	(760)
6.	Assets at June 30, 2012 (1) + (2) + (3) + (4) + (5)	$265,232	$237,048	$268,424
7.	Investment Increment/Mean Assets*	0.5%	6.7%	1.4%

*Based on the approximation formula: I / [.5 x (A + B – I)], where

I = Investment increment
A = Beginning of year asset value
B = End of year asset value

SCHEDULE B

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

INTEREST RATE: 8.00% per annum, compounded annually (net after all expenses).

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of separation from active service are as follows:

Age	Withdrawal and Vesting*	Death	Disability Non-Duty	Disability Duty	Service	Service Retirement*
25	4.0%	.03%	.09%	.01%	5	5%
30	3.5	.04	.12	.02	10	5%
35	2.5	.05	.16	.04	15	5%
40	1.0	.07	.20	.07	20	10%
45	1.0	.11	.30	.06	25	15%
50	0.5	.16	.50	.05	30	25%
55	0.0	.21	.91	.02	35	25%

* The annual rate of service retirement is 100% at age 60.

It is assumed that a member will be granted 1¾ years of service credit for unused leave at termination of employment. In addition, it is assumed that, on average, ¼ year of service credit for peace-time military service will be granted to each member.

SALARY INCREASES: Representative values of the assumed annual rates of salary increases are as follows:

Age	Merit & Seniority	Annual Rates of Base (Economy)	Increase Next Year
20	5.84%	4.25%	10.09%
25	2.57	4.25	6.82
30	1.75	4.25	6.00
35	1.75	4.25	6.00
40	1.75	4.25	6.00
45	1.25	4.25	5.50
50	0.75	4.25	5.00
55	0.75	4.25	5.00

PAYROLL GROWTH: 4.25% per annum, compounded annually.

PRICE INFLATION: 3.50% per annum, compounded annually.

TIMING OF DECREMENT AND PAY INCREASES: Middle of Year.

DEATH AFTER RETIREMENT: The mortality table, for post-retirement mortality, used in evaluating allowances to be paid was the 1994 Group Annuity Mortality Table. The RP-2000 Disabled Mortality Table (set back 2 years for males and set forward 3 years for females) was used for the period after disability retirement. This assumption is used to measure the probabilities of each benefit payment being made after retirement. Mortality improvement is anticipated under this assumption as recent mortality experience shows actual deaths 15% greater than expected under the selected table.

MARRIAGE ASSUMPTION: 100% married with the husband three years older than his wife.

VALUATION METHOD: The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement, disability or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future interest earnings rate (currently 8.00%). The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to active members is added to the present value of the expected future payments to current benefit recipients to obtain the present value of all expected benefits payable to the present group of members and survivors.

The employer contributions required to support the benefits of HSPRS are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.

The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made for pension benefits to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.

The unfunded accrued liability is determined by subtracting the current assets and the present value of prospective employer normal contributions and member contributions from the present value of expected benefits to be paid from the HSPRS. The accrued liability contribution amortizes the balance of the unfunded accrued liability over a period of years from the valuation date.

ASSET VALUATION METHOD: Actuarial value, as developed in Schedule A. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected market value.

SCHEDULE C

SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS

The following summary presents the main benefit and contribution provisions of the System in effect June 30, 2012, as interpreted in preparing the actuarial valuation.

DEFINITIONS

Average Compensation	Average annual covered earnings of an employee during the four highest consecutive years of service.
Covered Earnings	Gross salary not in excess of the maximum amount on which contributions were required.
Fiscal Year	Year commencing on July 1 and ending June 30.
Credited Service	Service while a contributing member plus additional service as described below.
Unused Sick and Vacation Leave	Service credit is provided at no charge to members for unused sick and vacation time that has accrued at the time of retirement.
Additional Service	Additional service credit may be granted for service prior to July 1, 1958, active duty military service, and retroactive service

The maximum covered earnings for employers and employees over the years are as follows:

EMPLOYER AND EMPLOYEE RATES OF CONTRIBUTION
AND MAXIMUM COVERED EARNINGS

Fiscal Date From	Fiscal Date To	Employer Rate	Maximum Covered Earnings*	Employee Rate	Maximum Covered Earnings*
7/1/1958	6/30/1968	13.33%		5.00%	
7/1/1968	6/30/1971	15.33		5.00	
7/1/1971	6/30/1973	18.59		5.00	
7/1/1973	6/30/1975	20.77		5.00	
7/1/1975	6/30/1978	24.65		5.00	
7/1/1978	6/30/1980	26.16		6.00	
7/1/1980	6/30/1989	26.16		6.50	
7/1/1989	6/30/1990	27.97		6.50	
7/1/1990	6/30/2003	26.16		6.50	
7/1/2003	6/30/2006	28.16		6.50	
7/1/2006	6/30/2008	30.30		6.50	
7/1/2008	12/31/2011	30.30		7.25	
1/1/2012	6/30/2012	35.21		7.25	
7/1/2012	6/30/2013	37.00		7.25	

*Maximum covered earnings equal wages paid, not to exceed wages paid to the Commissioner of the Department of Public Safety (currently $146,850).

Effective July 1, 2004, additional contributions will be made to the System as a result of the enactment of Senate Bill No. 2659. The additional contributions are estimated to be $3,600,000 annually based on current experience.

BENEFITS

Superannuation Retirement

Condition for Retirement

(a) A retirement allowance is payable to any member who retires and has attained age 55 and completed at least five years of membership service, or has attained age 45 and completed at least 20 years of creditable service, or has completed 25 years of creditable service regardless of age.

Any member who has attained age 63 shall be retired forthwith. Effective July 1, 2011, the Commissioner of Public Safety is authorized to allow a member who has attained age 63 to continue in active service. Such continued service may be authorized annually until the member attains age 65.

(b) Any member who withdraws from service prior to his or her attainment of age 55 but after having completed five or more years of creditable service is entitled to receive, in lieu of a refund of his or her accumulated contributions, a retirement allowance commencing at age 55.

Amount of Allowance

The annual retirement allowance payable to a retired member is equal to:

1. A member's annuity which is the actuarial equivalent of the member's accumulated contributions at the time of his or her retirement, plus
2. An employer's annuity which, together with the member's annuity, is equal to 2-1/2% of his or her average compensation for each year of membership service, plus
3. A prior service annuity equal to 2-1/2% of average compensation for each year of prior service.

The aggregate amounts of (2) and (3) above shall not exceed 100% of average compensation, regardless of service, for retirements on or after January 1, 2000; 85% for retirements prior to January 1, 2000.

The minimum allowance for both service and disability retirement based on the following table for each year of creditable service, reduced if necessary as indicated below.

Service	Monthly Benefit
Less than 10 years	$250
10-15 years	$300
15 or more years	$500

The annual retirement allowance payable to a member who retires under condition (a) above prior to age 55 is computed in accordance with the above formula except that the employer's annuity and prior service annuity are reduced 3% for each year of age below age 55, or 3% for each year of service below 25 years of creditable service, whichever is less.

Disability Retirement

Condition for Retirement

A retirement allowance is payable to any member who is not eligible for a service retirement benefit but who becomes totally and permanently disabled, either physically or mentally, regardless of creditable service, if the disability is due to causes in the performance of duty. If the disability is not in the performance of duty, the member must have completed at least 5 years of membership service to be eligible for retirement.

Amount of Allowance

The annual disability retirement allowance payable is equal to the greater of 50% of his or her average salary for the 2 years immediately preceding retirement, or a retirement allowance as calculated under the provisions for superannuation retirement.

Death Prior to Retirement

Upon the death of a highway patrolman who is eligible for service retirement, family benefits are payable equal to those which would have been payable had he been retired on his or her date of death.

Upon the death of a highway patrolman either in the line of duty or as a result of an accident occurring in the line of duty, the following benefits are payable:

a) a benefit to the spouse equal to one-half the member's average compensation.

b) a benefit to a dependent child payable to age 19 (23 if a full-time student) equal to one-fourth of the member's average compensation for one child or one-half for two or more children.

Death After Retirement

Upon the death of a highway patrolman who has retired for service or disability and who has not elected any other optional form of benefit, his widow or her widower is eligible for a benefit equal to 50% of his or her retirement allowance and each child (but not more than 2) who has not attained age 19 (23 if a full-time student) is eligible for a benefit equal to 25% of his or her retirement allowance. The benefit to the widow is payable for life and to children until they attain age 19 (23 if a full-time student) or for life if they are totally and permanently disabled.

Refund of Contributions

Upon a member's termination of employment for any reason before retirement, his or her accumulated contributions, together with regular interest thereon, are refunded. Upon the death of a member who is not eligible for any other death benefit, his or her accumulated contributions, together with regular interest thereon, are paid to his or her beneficiary.

Interest is currently credited to the member's account at 3.50% per annum.

Normal Form of Benefit

The normal form of benefit is an allowance payable during the life of the member. Upon death the benefits described above are payable.

Optional Benefits

A member upon retirement may elect to receive his allowance in one of the following forms which are computed to be actuarially equivalent to the applicable retirement allowance.

Option 1. Reduced allowance with the provision that if the pensioner dies before he receives the value of the member's annuity as it was at the time of retirement, the balance shall be paid to his or her beneficiary.

Option 2. Upon his or her death, his or her reduced retirement allowance shall be continued throughout the life of, and paid to, his or her beneficiary.

Option 3. Upon his or her death, 50% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary and the other 50% of his or her reduced retirement allowance to some other designated beneficiary.

Option 4. Upon his or her death, 75% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary.

Option 4A. Upon his or her death, 50% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary.

Option 4B. A reduced retirement allowance shall be continued throughout the life of the pensioner, but with the further guarantee of payment to the pensioner or his or her beneficiary for a specified number of years certain.

Option 4C. A member may elect any option with the added provision that the member shall receive, so far as possible, the same total amount annually (considering both HSPRS and Social Security benefits) before and after the earliest age at which the member becomes eligible for a Social Security benefit. This option was only available to those who retired prior to July 1, 2004.

A member who elects Option 2, Option 4, or Option 4A, at retirement may revert to the normal form of benefit if the designated beneficiary predeceases the retired member or if the retired member divorces the designated beneficiary. A member who elects the normal form of benefit or Option 1 at retirement may select Option 2, Option 4, or Option 4A to provide beneficiary protection to a new spouse if married after retirement.

A member who qualifies for an unreduced retirement allowance may select a partial lump-sum option at retirement. Under this option, the retiree has the option of taking a partial lump-sum distribution equal to either 12, 24, or 36 times the base maximum monthly benefit. With each lump-sum amount, the base maximum monthly benefit will be actuarially reduced. A member selecting this option may also select any of the regular options except Option 1, the prorated single-life annuity, and Option 4-C, the Social Security leveling provision. The benefit is then calculated using the new reduced maximum benefit as a starting point in applying the appropriate option factors for the reduction.

Post-Retirement Adjustments In Allowances

The allowances of retired members are adjusted annually by an amount equal to (a) 3% of the annual retirement allowance for each full fiscal year of retirement prior to the year in which the member reaches age 60*, plus (b) 3% compounded for each year thereafter beginning with the fiscal year in which the member turns age 60*.

A prorated portion of the annual adjustment will be paid to the member, beneficiary, or estate of any member or beneficiary who is receiving the annual adjustment in a lump sum, but whose benefits are terminated between July 1 and December 1.

Those members who retired on or before July 1, 1999 received an ad hoc benefit increase in the amount of $3.50 per month per each full fiscal year of retirement through June 30, 1999 plus $1.00 per month for each year of credited service. The benefits were increased on July 1, 1999.

*this age will be reduced in five phases to age 55 if the actuary certifies that reducing the age will not result in the amortization period of the unfunded accrued liability exceeding 20 years.

CONTRIBUTIONS

Members contribute 7-1/4 percent of compensation and the employer contributes that additional amount necessary to fund the benefits outlined above on a full actuarial reserve funding basis.

SCHEDULE D
DETAILED TABULATIONS OF THE DATA

Retirants & Beneficiaries as of June 30, 2012
Tabulated by Year of Retirement

Year of Retirement	No.	Total Annual Benefits, excluding COLA	COLA	Total Annual Benefits	Average Monthly Total Benefit
2012	12	$566,354	$0	$566,354	$3,933
2011	24	1,010,651	0	1,010,651	3,509
2010	18	695,169	19,549	714,718	3,309
2009	52	2,217,593	131,605	2,349,198	3,765
2008	20	790,917	68,277	859,194	3,580
2007	16	631,679	76,292	707,971	3,687
2006	21	720,355	101,712	822,067	3,262
2005	16	511,047	91,257	602,304	3,137
2004	27	934,644	201,607	1,136,251	3,507
2003	11	291,495	68,632	360,127	2,728
2002	25	735,979	208,981	944,960	3,150
2001	22	646,003	192,357	838,360	3,176
2000	16	491,030	164,349	655,379	3,413
1999	15	396,632	148,843	545,475	3,030
1998	20	578,139	233,961	812,100	3,384
1997	27	761,488	331,954	1,093,442	3,375
1996	33	909,943	432,695	1,342,638	3,391
1995	24	583,510	298,349	881,859	3,062
1994	11	277,041	155,763	432,804	3,279
1993	15	319,386	180,369	499,755	2,776
1992	14	301,053	183,469	484,522	2,884
1991	4	71,467	51,535	123,002	2,563
1990	12	193,701	141,002	334,703	2,324
1989	4	67,140	52,849	119,989	2,500
1988	6	98,282	81,074	179,356	2,491
1987	2	27,988	22,776	50,764	2,115
1986	124	2,251,576	1,975,571	4,227,147	2,841
1985	4	57,273	56,776	114,049	2,376
1984	14	223,952	235,973	459,925	2,738
1983	7	93,824	104,720	198,544	2,364
1982	14	155,125	188,339	343,464	2,044
1981	12	108,601	131,003	239,604	1,664
1980	12	112,339	153,438	265,777	1,846
1979	9	68,854	87,364	156,218	1,446
1978	7	41,040	51,372	92,412	1,100
1977	5	31,969	45,853	77,822	1,297
1976 & Prior	5	187,260	337,775	525,035	1,287
TOTAL	713	$18,160,499	$7,007,441	$25,167,940	$2,942

Schedule of Retired Members by Type of Retirement

Benefits Payable June 30, 2012

Amount of Monthly Benefit	Number of Rets.	Ret Type 1*	Ret Type 2*	Ret Type 3*
$1 – $100	1			1
101 – 200	4			4
201 – 300	7			7
301 – 400	28	1		27
401 – 500	14		3	11
501 – 600	17	2		15
601 – 700	14	2		12
701 – 800	21	5	1	15
801 – 900	23	1	1	21
901 – 1,000	23	1	1	21
Over 1,000	561	498	13	50
Totals	713	510	19	184

*Type of Retirement
1 – Retirement for Age & Service
2 – Disability Retirement
3 – Survivor Payment

Schedule of Retired Members by Type of Option

Benefits Payable June 30, 2012

Amount of Monthly Benefit	Number of Rets.	Life	Option 1	Option 2	Option 3	Option 4	Option 4A	Option 4B	Option 4C**	Option 5	PLSO** 1 Year	PLSO** 2 Years	PLSO** 3 Years
$1 – $100	1	1											
101 – 200	4	4											
201 – 300	7	7											
301 – 400	28	27		1									
401 – 500	14	11					3						
501 – 600	17	15					2						
601 – 700	14	12					2						
701 – 800	21	15		1			5						
801 – 900	23	21					2		1				
901 – 1,000	23	21					2						
Over 1,000	561	55	1	47	2		442	14	10		30	17	98
Totals	713	189	1	49	2	0	458	14	11	0	30	17	98

<u>Option Selected</u>

Life	-	Return of Contributions
Opt. 1	-	Return of Member's Annuity
Opt. 2	-	100% Survivorship
Opt. 3	-	50%/50% Dual Survivorship
Opt. 4	-	75% Survivorship
Opt. 4A	-	50% Survivorship
Opt. 4B	-	Years Certain & Life
Opt. 4C	-	Social Security Leveling**
Opt. 5	-	Pop-Up
PLSO	-	Partial Lump Sum** (Reflects reduced monthly benefit)

**Included in other options

Mississippi Highway Safety Patrol Retirement System

Retirant and Beneficiary Information June 30, 2012
Tabulated by Attained Ages

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20					6	$40,531	6	$40,531
20 – 24					1	4,657	1	4,657
25 – 29					1	11,785	1	11,785
30 – 34					2	53,640	2	53,640
35 – 39					1	16,708	1	16,708
40 – 44	1	$28,091	2	$59,555	2	30,523	5	118,169
45 – 49	8	273,871	2	40,381	2	39,772	12	354,024
50 – 54	58	2,322,439	2	53,439	2	66,342	62	2,442,220
55 – 59	101	4,227,147			3	78,925	104	4,306,072
60 – 64	110	4,668,961	4	104,414	13	289,635	127	5,063,010
65 – 69	87	3,693,261	1	28,013	27	585,482	115	4,306,756
70 – 74	70	2,809,094	3	68,536	29	666,923	102	3,544,553
75 – 79	38	1,539,436	4	72,414	29	551,880	71	2,163,730
80 – 84	23	1,020,808	1	12,303	35	592,255	59	1,625,366
85 – 89	10	478,421			14	257,112	24	735,533
90 – 94	4	129,684			15	220,379	19	350,063
95					1	14,429	1	14,429
96								
97								
98								
99								
100 & Over					1	16,694	1	16,694
Totals	510	$21,191,213	19	$439,055	184	$3,537,672	713	$25,167,940

Average Age: 67.0 years
Average Age at Retirement: 49.8 years

Mississippi Highway Safety Patrol Retirement System

Total Active Member Data as of June 30, 2012
Tabulated by Attained Ages and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+	No.	Valuation Payroll
Under 20									
20 – 24	13							13	$242,568
25 – 29	39	11						50	1,604,586
30 – 34	38	46	7					91	3,612,070
35 – 39	19	34	40	11				104	4,648,151
40 – 44	8	26	35	46	5			120	5,693,799
45 – 49	2	3	9	33	20	9		76	4,147,780
50 – 54			4	9	20	24	5	62	3,735,887
55 – 59			2	1	3	15	7	28	1,781,449
60 – 64	1				1		1	3	203,740
65 – 69									
70 – 74									
75 – 79									
Totals	120	120	97	100	49	48	13	547	$25,670,030

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 40.7 years
Service: 12.7 years
Annual Pay: $46,929

SCHEDULE E

MISSISSIPPI HSPRS
ANALYSIS OF FINANCIAL EXPERIENCE

Gains & Losses in Accrued Liabilities
Resulting from Difference Between
Assumed Experience & Actual Experience
($ Thousands)

Type of Activity	$ Gain (or Loss) For Year Ending 6/30/2012	$ Gain (or Loss) For Year Ending 6/30/2011
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	$ 738.2	$ 661.1
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(96.7)	(180.7)
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	34.0	18.3
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	164.7	1,194.0
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	2,367.5	4,389.2
New Members. Additional unfunded accrued liability will produce a loss.	(1,140.8)	0.0
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(18,623.8)	(12,582.5)
Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	103.6	(861.5)
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	2,136.2	4,188.1
Gain (or Loss) During Year From Financial Experience	$ (14,317.1)	$ (3,174.0)
Non-Recurring Items. Adjustments for plan amendments, assumption changes, or method changes.	0.0	252.6
Composite Gain (or Loss) During Year	$ (14,317.1)	$ (2,921.4)

SCHEDULE F

GLOSSARY

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability".

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method".

Actuarial Equivalent. A series of payments is called on actuarial equivalent of another series of payments if the two series have the same actuarial present value.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost". Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability".

Valuation Assets. The value of current plan assets recognized for valuation purposes. Generally based on book value plus a portion of unrealized appreciation or depreciation.