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REPORT OF THE ANNUAL GASB STATEMENT NO. 68

REQUIRED INFORMATION FOR THE

MISSISSIPPI HIGHWAY SAFETY PATROL RETIREMENT SYSTEM

PREPARED AS OF JUNE 30, 2015

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January 18, 2016

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

Ladies and Gentlemen:

Presented in this report is information to assist the State in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 68 as a result of sponsoring the Mississippi Highway Safety Patrol Retirement System (System). The information is presented for the period ending June 30, 2016.

GASB Statement No. 68 establishes accounting and financial reporting requirements for governmental employers who provide pension benefits to their employees through a trust.

The annual actuarial valuation used as a basis for much of the information presented in this report was performed as of June 30, 2015. The valuation was based upon data, furnished by the Retirement System staff, concerning active, inactive and retired members along with pertinent financial information.

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, individually and in the aggregate, internally consistent and reasonably based on the actual experience of the System. In addition, the calculations were completed in compliance with the laws governing the System and, in our opinion, meet the requirements of GASB 68. The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

These results are only for financial reporting and may not be appropriate for funding purposes or other types of analysis. Calculations for purposes other than satisfying the requirements of GASB 67 and GASB 68 may produce significantly different results. Future actuarial results may differ significantly from the current results presented in this report due to such factors as changes in plan experience or changes in economic or demographic assumptions.

Respectfully submitted,

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REPORT OF THE ANNUAL GASB STATEMENT NO. 68
REQUIRED INFORMATION FOR THE
STATE OF MISSISSIPPI
FOR THE MISSISSIPPI HIGHWAY SAFETY PATROL RETIREMENT SYSTEM
PREPARED AS OF JUNE 30, 2015

SECTION I – SUMMARY OF PRINCIPAL RESULTS
($ IN THOUSANDS)

	2015
Valuation Date (VD):	June 30, 2015
Measurement Date (MD):	June 30, 2015
Reporting Date (RD):	June 30, 2016
Membership Data:	
Retirees and Survivors	724
Terminated Vested Employees	35
Inactive Nonvested Members	24
Active Members	518
Total	1,301
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.75%
Municipal Bond Index Rate-Not Used in SEIR	3.82%
Fiscal Year in which Plan's Fiduciary Net Position is projected to be depleted from future benefit payments for current members	N/A
Single Equivalent Interest Rate	7.75%
Net Pension Liability:	
Total Pension Liability (TPL)	$ 477,803
Fiduciary Net Position (FNP)	323,207
Net Pension Liability (NPL = TPL – FNP)	$ 154,596
FNP as a percentage of TPL	67.64%
Pension Expense:	$16,142
Deferred Outflows of Resources:	$16,821
Deferred Inflows of Resources:	$5,678

SECTION II – INTRODUCTION

The Governmental Accounting Standards Board issued Statement No. 68 (GASB 68), "Accounting and Financial Reporting For Pensions", in June 2012. GASB Statement No. 71, "Pension Transition for Contributions Made Subsequent to the Measurement Date", should be applied simultaneously with the provisions of GASB 68. The Mississippi Highway Safety Patrol Retirement System (System) is a single-employer defined benefit pension plan.

This report, prepared as of June 30, 2015 (the Measurement Date), presents information to assist the State in meeting the requirements of GASB 68 for the fiscal year ending June 30, 2016 (Reporting Date). Much of the material provided in this report is based on the data, assumptions and results of the annual actuarial valuation of the Mississippi Highway Safety Patrol Retirement System (System) as of June 30, 2015. The results of that funding valuation were detailed in a report dated October 20, 2015.

GASB 68 replaced GASB 27, and represented a significant departure from the requirements of that prior statement. GASB 68 created disclosure and reporting requirements that may or may not be consistent with the basis used for funding the System.

Two major changes in GASB 68 are the requirements to include a Net Pension Liability (NPL) on the plan sponsor's balance sheet and to determine a Pension Expense (PE) that may bear little relationship to the funding requirements for the System.

Pension Expense includes amounts for service cost (the Normal Cost under EAN for the year), interest on the Total Pension Liability (TPL), changes in benefit structure, amortization of increases/decreases in liability due to actuarial experience and actuarial assumption changes, and amortization of investment gains/losses. The actuarial experience and assumption change impacts are amortized over the average expected remaining service life of the System membership as of the measurement date, and investment gains/losses are amortized over five years. The development of the PE is shown in Section VI.

The unamortized portions of each year's experience, assumption changes and investment gains/losses are used to develop deferred inflows and outflows, which also must be included on the employer's financial statement. The development of these deferrals is presented in Section VII.

Among the assumptions needed for these calculations is a Single Equivalent Interest Rate (SEIR). To determine the SEIR, the FNP must be projected into the future for as long as there are anticipated benefit payments to the active and retired membership of the System on the measurement date. If the FNP is projected to not be depleted at any point in the future, the long term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR.

If, however, the FNP is projected to be depleted, The SEIR is determined as the single rate that will generate a present value of benefit payments equal to the sum of the present value determined by discounting all projected benefit payments through the date of depletion by the long term expected rate of return, and the present value determined by discounting those benefits after the date of depletion by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate. The rate used, if necessary, for this purpose is the Bond Buyer General Obligation 20-year Municipal Bond Index published monthly by the Board of Governors of the Federal Reserve System. We have determined that a discount rate of 7.75 percent meets the requirements of GASB 68.

The sections that follow provide the results of all the necessary calculations, as well as additional disclosure items needed as Required Supplementary Information (RSI) or for required financial statement footnotes. The employer may also refer to the 2015 PERS Comprehensive Annual Financial Report on the PERS website, www.pers.ms.gov for calculations and note disclosure.

SECTION III – MEMBERSHIP DATA

Data regarding the membership of the System for use as a basis for the actuarial valuation and the GASB 68 requirements were furnished by the System office. The following table summarizes the membership of the system as of June 30, 2015.

Membership

	Number
Inactive Members or Beneficiaries Currently Receiving Benefits	724
Inactive Members Entitled To But Not Yet Receiving Benefits	59
Active Members	518
Total	1,301

SECTION IV – NOTES TO FINANCIAL STATEMENTS

The actuarial assumptions utilized in developing the TPL are outlined in Schedule A. The total pension liability was determined by an actuarial valuation as of June 30, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.00 percent
Salary increases	4.25 – 9.31 percent, including inflation
Investment rate of return	7.75 percent, net of pension plan investment expense, including inflation

Mortality rates were based on the RP-2014 Healthy Annuitant Blue Collar Table projected with Scale BB to 2016, set forward one year for males.

The actuarial assumptions used in the June 30, 2015 valuation were based on the results of an actuarial experience study for the period July 1, 2010 to June 30, 2014. The experience report is dated May 4, 2015.

The long-term expected rate of return on pension plan investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected nominal returns, net of pension plan investment expense and the assumed rate of inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
U.S. Broad	34.00%	5.20%
International Equity	19.00	5.00
Emerging Markets Equity	8.00	5.45
Fixed Income	20.00	0.25
Real Assets	10.00	4.00
Private Equity	8.00	6.15
Cash	1.00	(0.50)
Total	100.00%	

Discount Rate. The discount rate used to measure the total pension liability was 7.75 percent. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate of 7.25% and that employer contributions will be made at the rate set in the Board's Funding Policy (currently 37.00%). Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

Plan Description. MHSPRS is a single-employer defined benefit plan, administered by the Public Employees' Retirement System, that provides retirement benefits to sworn officers of the Mississippi Highway Safety Patrol. Membership in MHSPRS is a condition of employment granted upon hiring for all officers of the Mississippi Highway Safety Patrol who have completed a course of instruction in an authorized highway patrol training school on general law enforcement and who serve as sworn officers of the highway patrol in the enforcement of the laws of the State of Mississippi. Members and employers are statutorily required to contribute certain percentages of salaries and wages as specified by the Administrative Board of MHSPRS. Current rates are 37.0 percent for employer contributions and 7.25 percent for member contributions. MHSPRS employers contributed $13.7 million and members contributed $1.9 million for fiscal year 2015. Employer contributions are augmented by certain additional fees. These amounts vary annually based on the level of activity. The amount collected for fiscal year 2015 was $3.8 million.

Participating members who withdraw from service at or after age 55 with at least five years of membership service, or after reaching age 45 with at least 20 years of creditable service, or with 25 years of service at any age, are entitled, upon application, to an annual retirement allowance payable monthly for life in an amount equal to 2.5 percent of average compensation during the four highest consecutive years of earnings, reduced 3.0 percent for each year below age 55 or for each year under 25 years of service, whichever is less. MHSPRS also provides certain death and disability benefits. In the event of death prior to retirement of any member whose spouse and/or children are not entitled to a retirement allowance, the deceased member's accumulated contributions and interest are paid to the designated beneficiary. A member who terminates employment from the highway patrol and who is not eligible to receive monthly retirement benefits may request a full refund of his or her accumulated employee contributions plus interest. Upon withdrawal of contributions, a member forfeits service credit represented by those contributions.

A Cost-of-Living Adjustment (COLA) payment is made to eligible retirees and beneficiaries. The COLA is equal to 3.0 percent of the annual retirement allowance for each full fiscal year of retirement up to the year in which the retired member reaches age 60, with 3.0 percent compounded for each fiscal year thereafter.

Plan provisions and the Administrative Board's authority to determine contribution rates for MHSPRS are established by Miss. Code Ann. § 25-13-1 et seq., (1972, as amended) and may be amended only by the Mississippi Legislature. The MHSPRS plan financial report is included in the Comprehensive Annual Financial Report of the Public Employees' Retirement System available at www.PERS.ms.gov.

SECTION V – NET PENSION LIABILITY

As stated previously, the NPL is equal to the TPL minus the FNP. That result as of June 30, 2015 is presented in the table below, along with additional required figures ($ thousands).

	June 30, 2015
Total Pension Liability	$477,803
Fiduciary Net Position	323,207
Net Pension Liability	$154,596
Ratio of Fiduciary Net Position to Total Pension Liability	67.64%
Covered employee payroll	$25,505
Net Pension Liability as a percentage of covered employee payroll	606.14%

In addition to the results in the table above, the sensitivity of the NPL to changes in the discount rate must be disclosed. The following presents the NPL of the System, calculated using the discount rate of 7.75 percent, as well as what the System's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.75 percent) or 1-percentage-point higher (8.75 percent) than the current rate ($ thousands):

	1% Decrease **(6.75%)**	Current Discount Rate **(7.75%)**	1% Increase **(8.75%)**
System's Net Pension Liability	$213,337	$154,596	$105,895

The following table details the changes in the NPL from the beginning to the end of the measurement year.

CHANGES IN THE NET PENSION LIABILITY
($ in Thousands)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Balances at June 30, 2014	445,822	326,032	119,790
Changes for the year:			
Service cost	6,361		6,361
Interest	34,503		34,503
Difference between expected and actual experience	1,013		1,013
Change in Assumptions	19,176		19,176
Contributions - employer		13,695	(13,695)
Contributions - employee		1,938	(1,938)
Net investment income		10,812	(10,812)
Benefit payments, including refunds of employee contributions	(29,072)	(29,072)	0
Administrative expense		(198)	198
Other changes		0	0
Net changes	31,981	(2,825)	34,806
Balances at June 30, 2015	477,803	323,207	154,596

SECTION VI – PENSION EXPENSE

As noted earlier, the Pension Expense (PE) consists of a number of different items. GASB 68 refers to the first as Service Cost which is the Normal Cost using the Entry Age Normal actuarial funding method. The second item is interest on the beginning of year TPL and the cash flow during the year at the 8.00% rate of return in effect as of the previous Measurement Date.

The next three items refer to any change that occurred in the TPL under EAN due to benefit changes, actual experience or assumptions. Benefit changes, which are reflected immediately in PE can be positive, if there is a benefit improvement for existing System members, or negative if there is a benefit reduction. For the year ended June 30, 2015 there were no benefit changes to be recognized.

The next item to be recognized is the portion of current year changes in TPL due to Plan experience. The portion to recognize in the current year is determined by spreading the total change over the remaining service life of the entire System membership. For the year ended June 30, 2015, the remaining service life is 4.17.

The last item under changes in TPL is changes in actuarial assumptions. There were changes in assumptions since the last Measurement Date based on an actuarial experience study for the period July 1, 2010 to June 30, 2014. The experience study report is dated May 4, 2015. The change in TPL due to changes in actuarial assumptions is spread over the remaining service life of the entire System membership just like Plan experience in the prior paragraph.

Member contributions for the year and projected earnings on the FNP, again at the rate used to calculate the liabilities are subtracted from the amount determined thus far. One-fifth of current-period differences between actual and projected earnings on the FNP are recognized in the pension expense.

The current year portions of previously determined experience, assumption and earnings amounts, recognized as deferred outflows and inflows (see Section VII), are included next. Finally administrative expenses and other miscellaneous items are included.

The calculation of the Pension Expense for the year ended June 30, 2015 is shown in the following table:

Pension Expense
For the Year Ended June 30, 2015
($ thousands)

Service Cost	$6,361
Interest on the total pension liability	34,503
Current-period benefit changes	0
Expensed portion of current-period difference between expected and actual experience in the total pension liability	243
Expensed portion of current-period changes of assumptions	4,599
Member contributions	(1,938)
Projected earnings on plan investments	(25,538)
Expensed portion of current-period differences between actual and projected earnings on plan investments	2,945
Administrative expense	198
Other	0
Recognition of beginning deferred outflows of resources as pension expense	589
Recognition of beginning deferred inflows of resources as pension expense	(5,820)
Pension Expense	$16,142

SECTION VII – DEFERRED OUTFLOWS/INFLOWS

($ Thousands)

Since certain expense items are amortized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce pension expense they are labeled deferred inflows. If they will increase pension expense they are labeled deferred outflows. As noted in the previous section, the amortization of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, if any, are amortized over the average remaining service life of the active and inactive System members at the beginning of the fiscal year. Investment gains and losses are amortized over a fixed five year period.

The table below provides a summary of the deferred inflows and outflows as of June 30, 2015 (Measurement Date).

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$2,244	$0
Changes of assumptions	14,577	0
Net difference between projected and actual earnings on plan investments	0	(5,678)
Employer contributions subsequent to the measurement date	see note	0
Total	$16,821	($5,678)

NOTE: The deferred outflows of resources reported by the State should include contributions made by the State during its fiscal year that will be reflected in the net pension liability in the next measurement period.

Amortization periods for fiscal year 2016 are 4.17 years for the average expected remaining service life of members and 5.0 year for investment gains/losses.

In order to properly report PE and deferred outflows/inflows of resources in future years, it will be necessary for employers to maintain schedules for amortizing deferred amounts.

Amounts reported as deferred outflows of resources related to pensions resulting from State contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2016 (Reporting Date). Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense.

Deferred Outflows and Inflows for Differences between Expected and Actual Experience

				Balances as of June 30, 2016 (Reporting Date)	
Year	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in Pension Expense through 2015 (c)	Deferred Outflows (a) – (c)	Deferred Inflows (b) – (c)
2015	$1,013	$0	$243	$770	$0
2014	2,652	0	1,178	1,474	0
Total				$2,244	$0

Deferred Outflows and Inflows for Differences from Assumption Changes

				Balances as of June 30, 2016 (Reporting Date)	
Year	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in Pension Expense through 2015 (c)	Deferred Outflows (a) – (c)	Deferred Inflows (b) – (c)
2015	$19,176	$0	$4,599	$14,577	$0
Total				$14,577	$0

Deferred Outflows and Inflows for Differences from Investment Experience

				Balances as of June 30, 2016 (Reporting Date)	
Year	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in Pension Expense through 2015 (c)	Deferred Outflows (a) – (c)	Deferred Inflows (b) – (c)
2015	$14,726	$0	$2,945	$11,781	$0
2014	0	29,099	11,640	0	17,459
Total				$11,781	$17,459
Net difference between projected and actual earnings on investments					$5,678

Amortization of Deferrals

Fiscal Year End	2014 Investment Gain		2014 Experience Loss		2015 Investment Loss		2015 Experience Loss		2015 Assumption Change Loss		Total Deferrals	
	Amount Recognized	EOY Balance	Amount Recognized	EOY Balance	Amount Recognized	EOY Balance	Amount Recognized	EOY Balance	Amount Recognized	EOY Balance	Amount Recognized	EOY Balance
6/30/2015	$5,820	$23,279	$(589)	$(2,063)	$0	$0	$0	$0	$0	$0	$5,231	$21,216
6/30/2016	5,820	17,459	(589)	(1,474)	(2,945)	(11,781)	(243)	(770)	(4,599)	(14,577)	(2,556)	(11,143)
6/30/2017	5,820	11,639	(589)	(885)	(2,945)	(8,836)	(243)	(527)	(4,599)	(9,978)	(2,556)	(8,587)
6/30/2018	5,820	5,819	(589)	(296)	(2,945)	(5,891)	(243)	(284)	(4,599)	(5,379)	(2,556)	(6,031)
6/30/2019	5,819	0	(296)	0	(2,945)	(2,946)	(243)	(41)	(4,599)	(780)	(2,264)	(3,767)
6/30/2020	0	0	0	0	(2,946)	0	(41)	0	(780)	0	(3,767)	0
6/30/2021	0	0	0	0	0	0	0	0	0	0	0	0
6/30/2022	0	0	0	0	0	0	0	0	0	0	0	0

SECTION VIII – REQUIRED SUPPLEMENTARY INFORMATION

There are several tables of Required Supplementary Information (RSI) that need to be included in the System's financial statements. They are provided in Schedule C. In addition the following should be noted regarding the RSI.

Changes of assumptions. In 2015 and later, the expectation of retired life mortality was changed to the RP-2014 Healthy Annuitant Blue Collar Table projected to 2016 using Scale BB rather than the RP-2000 Mortality Table, which was used prior to 2015. In 2015, the expectation of disabled mortality was changed to the RP-2014 Disabled Retiree Table, rather than the RP-2000 Disabled Mortality Table, which was used prior to 2015. Pre-retirement mortality rates and service retirement rates were also adjusted to more closely reflect actual experience. In 2015, assumed rates of salary increase were adjusted to more closely reflect actual and anticipated experience. Finally, the price inflation and investment rate of return assumptions were changed from 3.50% to 3.00% and 8.00% to 7.75%, respectively.

Method and assumptions used in calculations of actuarially determined contributions. The actuarially determined contribution rates in the schedule of employer contributions are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported (2015 Employer Contributions are developed from 2013 valuation). The following actuarial methods and assumptions were used to determine the most recent contribution rate reported in that schedule:

Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, open
Remaining amortization period	33.0 years
Asset valuation method	5-year smoothed market
Price Inflation	3.50 percent
Salary increase	4.75 percent to 9.84 percent, including inflation
Investment rate of return	8.00 percent, net of pension plan investment expense, including inflation

SCHEDULE A

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

INTEREST RATE: 7.75% per annum, compounded annually (net of investment expenses only).

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

		Death		Disability			
Age	Withdrawal and Vesting*	Males	Females	Non-Duty	Duty	Service	Service Retirement*
25	4.00%	0.03%	0.01%	0.10%	0.01%	5	5%
30	3.50	0.03	0.01	0.12	0.02	10	5%
35	2.50	0.03	0.01	0.16	0.05	15	5%
40	1.00	0.04	0.01	0.20	0.07	20	5%
45	1.00	0.05	0.02	0.30	0.06	25	10%
50	0.50	0.09	0.04	0.50	0.05	30	25%
55	0.00	0.15	0.06	0.91	0.02	35	25%
60	0.00	0.24	0.08	1.55	0.01	40+	100%

* The annual rate of service retirement is 100% at age 61.

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:

		Annual Rates of	
Age	Merit & Seniority	Base (Economy)	Increase Next Year
20	5.56%	3.75%	9.31%
25	2.31	3.75	6.06
30	1.49	3.75	5.24
35	1.49	3.75	5.24
40	1.49	3.75	5.24
45	1.00	3.75	4.75
50	0.50	3.75	4.25
55	0.50	3.75	4.25

PAYROLL GROWTH: 3.75% per annum, compounded annually.

PRICE INFLATION: 3.00% per annum, compounded annually.

ADMINISTRATIVE EXPENSES: 0.23% of payroll.

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 RP-2014 Healthy Annuitant Blue Collar Mortality Table Projected to 2016 by Scale BB (set forward 1 year for males). The RP-2014 Disabled Retiree Mortality Table (set forward 5 years for males and set forward 4 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.

ASSET VALUATION METHOD: Market Value of Assets.

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 7.75%). 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.

SCHEDULE B

SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS

The following summary presents the main benefit and contribution provisions of the System in effect June 30, 2015, 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	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	6/30/2016	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, 2015, additional contributions from SB 2659 and HB 1015 are estimated to be $3,600,000 combined.

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 7.25% of compensation and the employer contributes 37.00% of compensation. Funds from SB 2659 and HB 1015 are also provided.

SCHEDULE C

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY
($ in Thousands)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total pension liability										
Service cost	$6,461	$6,361								
Interest	33,396	34,503								
Changes of benefit terms	0	0								
Difference between expected and actual experience	2,652	1,013								
Changes of assumptions	0	19,176								
Benefit payments	(28,220)	(28,909)								
Refund of Contributions	(42)	(163)								
Net change in total pension liability	$14,247	$31,981								
Total pension liability – beginning	$431,575	$445,822								
Total pension liability – ending (a)	$445,822	$477,803								
Plan fiduciary net position										
Contributions – employer	$13,500	$13,695								
Contributions – member	1,963	1,938								
Net investment income	51,575	10,812								
Benefit payments	(28,220)	(28,909)								
Administrative expense	(200)	(198)								
Refund of Contributions	(42)	(163)								
Other	0	0								
Net change in plan fiduciary net position	$38,576	($2,825)								
Plan fiduciary net position – beginning	$287,456	$326,032								
Plan fiduciary net position – ending (b)	$326,032	$323,207								
Net pension liability – ending (a) – (b)	$119,790	$154,596								

SCHEDULE OF THE NET PENSION LIABILITY
($ in Thousands)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total pension liability	$445,822	$477,803								
Plan fiduciary net position	326,032	323,207								
Net pension liability	$119,790	$154,596								
Plan fiduciary net position as a percentage of the total pension liability	73.13%	67.64%								
Covered-employee payroll	$25,554	$25,505								
Net pension liability as a percentage of covered-employee payroll	468.77%	606.14%								

SCHEDULE OF EMPLOYER CONTRIBUTIONS
($ in Thousands)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Actuarially determined contribution	$13,226	$13,595	$13,098	$12,257	$11,385	$11,096	$11,668	$10,492	$10,023	$8,692
Contributions in relation to the actuarially determined contribution	13,695	13,500	13,366	12,044	11,494	12,598	12,274	12,409	10,616	9,512
Annual contribution deficiency (excess)	($469)	$95	($268)	$213	($109)	($1,502)	($606)	($1,917)	($593)	($820)
Covered-employee payroll	$25,505	$25,554	$25,816	$25,670	$24,872	$26,353	$26,390	$29,597	$27,037	$24,499
Actual contributions as a percentage of covered-employee payroll	53.70%	52.83%	51.77%	46.92%	46.21%	47.80%	46.51%	41.93%	39.26%	38.83%