Gabriel Roeder Smith & Company
Consultants & Actuaries

ARKANSAS STATE POLICE RETIREMENT SYSTEM

GASB STATEMENT NOS. 67 AND 68 ACCOUNTING AND FINANCIAL REPORTING FOR PENSIONS

JUNE 30, 2015

GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

One Towne Square
Suite 800
Southfield, MI 48076-3723

248.799.9000 phone
248.799.9020 fax
www.gabrielroeder.com

November 17, 2015

The Board of Trustees
Arkansas State Police Retirement System
Little Rock, Arkansas

Ladies and Gentlemen:

This report provides information required by the Retirement System in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans" and Governmental Account Standards Board (GASB) Statement No. 68 "Accounting and Financial Reporting for Pensions".

Our actuarial calculations for this report were prepared for the purpose of complying with the requirements of GASB Statement Nos. 67 and 68. These calculations have been made on a basis that is consistent with our understanding of these accounting standards.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statements Nos. 67 and 68. The calculation of the System's liability for this report may not be applicable for funding purposes. A calculation of the ASPRS's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the Arkansas State Police Retirement System only in its entirety and only with the permission of the Board of Trustees.

This report is based upon information, furnished to us by Retirement System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different, please let us know. This information was checked for internal consistency, but it was not otherwise audited.

This information is presented in draft form for review by the plan's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the plan's financial statements.

Please see the actuarial valuation report as of June 30, 2015 for additional discussions of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

To the best of our knowledge, this report is complete, accurate, and in accordance with generally recognized actuarial methods. Heidi G. Barry and Jeffrey T. Tebeau are Members of the American Academy of Actuaries and meet the Qualification Standards of the Academy of Actuaries to render the actuarial opinions herein. The signing individuals are independent of the plan sponsor.

Respectfully submitted,

Heidi G. Barry | Jeffrey T. Tebeau | David L. Hoffman

Heidi G. Barry, ASA, MAAA | Jeffrey T. Tebeau, ASA, MAAA | David L. Hoffman

HGB/JTT/DLH

TABLE OF CONTENTS

SECTION A

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY
AS OF JUNE 30, 2015

Actuarial Valuation Date		June 30, 2015
Measurement Date of the Net Pension Liability		June 30, 2015
Employer's Fiscal Year Ending Date (Reporting Date)		June 30, 2015
Membership		
Number of		
- Retirees and Beneficiaries and DROP Members		678
- Inactive, Nonretired Members		73
- Active Members		502
- Total		1,253
Covered Payroll #	$	29,929,358
Net Pension Liability		
Total Pension Liability	$	403,202,550
Plan Fiduciary Net Position		279,657,570
Net Pension Liability	$	123,544,980
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		69.36%
Net Pension Liability as a Percentage of Covered Payroll		412.79%
Development of the Single Discount Rate		
Single Discount Rate		7.50%
Long-Term Expected Rate of Investment Return		7.50%
Long-Term Municipal Bond Rate*		3.80%
Last year ending June 30 in the 2016 to 2115 projection period for which projected benefit payments are fully funded		2115
Total Pension Expense	$	18,291,484

Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	$ -	$ 2,458,560
Changes in assumptions	6,885,546	-
Net difference between projected and actual earnings on pension plan investments	12,167,216	-
Total	$ 19,052,762	$ 2,458,560

**Based on the Bond Buyer 20-Bond Index of general obligation municipal bonds as of June 25, 2015 (i.e., the weekly rate closest to but not later than the Measurement Date)*

 # $75,000 was used as an estimate of average annual pay for DROP participants.

DISCUSSION

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to ASPRS subsequent to the measurement date of June 30, 2015.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *statement of changes in fiduciary net position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans, to include certain additional information. The list of disclosure items should include:

- a description of benefits provided by the plan;
- the type of employees and number of members covered by the pension plan;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- the pension plan's fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability;
- the net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- the composition of the pension plan's board and the authority under which benefit terms may be amended;
- a description of how fair value is determined;
- information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets;
- annual money-weighted rate of return;
- a description of the terms of the plan's deferred retirement option program (DROP) and the total DROP balance for those members currently participating in the DROP.

Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- a comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2015 and a measurement date of June 30, 2015.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.50%; the municipal bond rate is 3.80% (based on the weekly rate closest to but not later than the measurement date of the "state & local bonds" rate from Federal Reserve statistical release (H.15)); and the resulting Single Discount Rate is 7.50%.

SECTION B

FINANCIAL STATEMENTS

PENSION EXPENSE UNDER GASB STATEMENT NO. 68
FISCAL YEAR ENDED JUNE 30, 2015

Total Pension Expense

1. Service Cost	$	6,101,608
2. Interest on the Total Pension Liability		29,218,802
3. Current-Period Benefit Changes		-
4. Employee Contributions (made negative for addition here)		(94,814)
5. Projected Earnings on Plan Investments (made negative for addition here)		(21,340,704)
6. Pension Plan Administrative Expense		196,231
7. Other Changes in Plan Fiduciary Net Position		(6)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		1,168,563
9. Recognition of Outflow (Inflow) of Resources due to Assets		3,041,804
10. Total Pension Expense	**$**	**18,291,484**

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT REPORTING PERIOD
FISCAL YEAR ENDED JUNE 30, 2015

A. Outflows (Inflows) of Resources due to Liabilities		
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$	(3,107,531)
2. Assumption Changes (gains) or losses	$	8,703,080
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		4.7884
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	$	(648,971)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	$	1,817,534
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	$	1,168,563
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	$	(2,458,560)
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	$	6,885,546
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	$	4,426,986
B. Outflows (Inflows) of Resources due to Assets		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$	15,209,020
2. Recognition period for Assets {in years}		5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	$	3,041,804
3. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$	12,167,216

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT AND PRIOR REPORTING PERIODS
FISCAL YEAR ENDED JUNE 30

A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	$ 1,817,534	$ 648,971	$ 1,168,563
2. Due to Assets	3,041,804	-	3,041,804
3. Total	$ 4,859,338	$ 648,971	$ 4,210,367

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	$ -	$ 648,971	$ (648,971)
2. Assumption Changes	1,817,534	-	1,817,534
3. Net Difference between projected and actual earnings on pension plan investments	3,041,804	-	3,041,804
4. Total	$ 4,859,338	$ 648,971	$ 4,210,367

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ 2,458,560	$ (2,458,560)
2. Assumption Changes	6,885,546	-	6,885,546
3. Net Difference between projected and actual earnings on pension plan investments	12,167,216	-	12,167,216
4. Total	$ 19,052,762	$ 2,458,560	$ 16,594,202

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows of Resources
2016	$ 4,210,367
2017	4,210,367
2018	4,210,367
2019	3,963,101
2020	-
Thereafter	-
Total	$ 16,594,202

Statement of Fiduciary Net Position
as of June 30, 2015

Any Additional Required Information to be Provided by System

	2015
Assets	
Cash and Deposits	$ 8,115,787
Receivables	
Contributions	30,742
Accounts Receivable - Other	121,719
Total Receivables	$ 152,461
Investments	
Securities Lending Collateral	$ 35,986,946
Investment Assets	271,998,187
Other	-
Total Investments	$ 307,985,133
Total Assets	$ 316,253,381
Liabilities	
Payables	
Accrued Expense and Other Liabilities	$ 477,686
Investment Principal Payable	-
Securities Lending Liability	36,118,125
Total Liabilities	$ 36,595,811
Net Position Restricted for Pensions	$ 279,657,570

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION FOR YEAR ENDED JUNE 30, 2015

		2015
Additions		
Contributions		
Employer	$	19,784,130
Employee		94,814
Other		-
Total Contributions	$	19,878,944
Investment Income		
Net Appreciation in Fair Value of Investments	$	7,188,451
Interest and Dividends		-
Less Investment Expense		(1,056,767)
Net Investment Income	$	6,131,684
Other	$	6
Total Additions	$	26,010,634
Deductions		
Benefit payments, including refunds of employee contributions	$	23,358,801
Pension Plan Administrative Expense		196,231
Other		-
Total Deductions	$	23,555,032
Net Increase in Net Position	$	2,455,602
Net Position Restricted for Pensions		
Beginning of Year	$	277,201,968
End of Year	$	279,657,570

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
CURRENT PERIOD
FISCAL YEAR ENDED JUNE 30, 2015

A. Total pension liability		
1. Service Cost	$	6,101,608
2. Interest on the Total Pension Liability		29,218,802
3. Changes of benefit terms		-
4. Difference between expected and actual experience of the Total Pension Liability		(3,107,531)
5. Changes of assumptions		8,703,080
6. Benefit payments, including refunds of employee contributions		(23,358,801)
7. Net change in total pension liability	$	17,557,158
8. Total pension liability – beginning		385,645,392
9. Total pension liability – ending	**$**	**403,202,550**
B. Plan fiduciary net position		
1. Contributions – employer	$	19,784,130
2. Contributions – employee		94,814
3. Net investment income		6,131,684
4. Benefit payments, including refunds of employee contributions		(23,358,801)
5. Pension Plan Administrative Expense		(196,231)
6. Other		6
7. Net change in plan fiduciary net position	$	2,455,602
8. Plan fiduciary net position – beginning		277,201,968
9. Plan fiduciary net position – ending	**$**	**279,657,570**
C. Net pension liability	**$**	**123,544,980**
D. Plan fiduciary net position as a percentage of the total pension liability		**69.36%**
E. Covered-employee payroll #	**$**	**29,929,358**
F. Net pension liability as a percentage of covered employee payroll		**412.79%**

 # $75,000 was used as an estimate of average annual pay for DROP participants.

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Ultimately 10 Fiscal Years will be displayed (which may be built prospectively)

Fiscal year ending June 30,	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Total Pension Liability										
Service Cost	$ 6,101,608	$ 4,866,199								
Interest on the Total Pension Liability	29,218,802	28,558,511								
Benefit Changes	-	-								
Difference between Expected and Actual Experience	(3,107,531)	(454,349)								
Assumption Changes	8,703,080	8,970,858								
Benefit Payments	(23,358,801)	(21,688,239)								
Refunds	-	-								
Net Change in Total Pension Liability	17,557,158	20,252,980								
Total Pension Liability - Beginning	385,645,392	365,392,412								
Total Pension Liability - Ending (a)	$ 403,202,550	$ 385,645,392								
Plan Fiduciary Net Position										
Employer Contributions	$ 19,784,130	$ 19,501,684								
Employee Contributions	94,814	-								
Pension Plan Net Investment Income	6,131,684	43,307,746								
Benefit Payments	(23,358,801)	(21,688,239)								
Refunds	-	-								
Pension Plan Administrative Expense	(196,231)	(189,658)								
Other	6	-								
Net Change in Plan Fiduciary Net Position	2,455,602	40,931,533								
Plan Fiduciary Net Position - Beginning	277,201,968	236,270,435								
Plan Fiduciary Net Position - Ending (b)	$ 279,657,570	$ 277,201,968								
Net Pension Liability - Ending (a) - (b)	123,544,980	108,443,424								
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	69.36 %	71.88 %								
Covered Employee Payroll #	$ 29,929,358	$ 28,548,873								
Net Pension Liability as a Percentage of Covered Employee Payroll	412.79 %	379.85 %								
Notes to Schedule:	N/A	N/A								

 # In 2015, $75,000 was used as an estimate of average annual pay for DROP participants.

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF THE NET PENSION LIABILITY MULTIYEAR
ULTIMATELY 10 FISCAL YEARS WILL BE DISPLAYED

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2014	$385,645,392	$277,201,968	$ 108,443,424	71.88%	$28,548,873	379.85%
2015	403,202,550	279,657,570	123,544,980	69.36%	29,929,358 #	412.79%

 # $75,000 was used as an estimate of average annual pay for DROP participants.

SCHEDULE OF CONTRIBUTIONS MULTIYEAR
($ IN MILLIONS)

Last 10 Fiscal Years

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2006	$ 10.0	$ 9.6	$ 0.4	$ 24.2	39.67%
2007	9.9	11.5	(1.6)	24.6	46.75%
2008	10.0	11.7	(1.7)	26.4	44.32%
2009	10.5	12.1	(1.6)	27.6	43.84%
2010	12.7	20.5	(7.8)	28.5	71.93%
2011	12.6	14.1	(1.5)	28.2	50.00%
2012	14.1	19.7	(5.6)	29.5	66.78%
2013	13.6	19.5	(5.9)	28.1	69.40%
2014	14.0	19.5	(5.5)	29.1	67.01%
2015	14.2	19.8	(5.6)	29.9 #	66.22%

 # $75,000 was used as an estimate of average annual pay for DROP participants.

NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date:	June 30, 2015

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	24 years
Asset Valuation Method	4-Year smoothed market
Inflation	2.50% price inflation
Salary Increases	3.25% to 10.25% including inflation
Investment Rate of Return	7.50%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	Based on RP-2000 Combined Healthy mortality table, projected to 2020 using Projection Scale BB, set-forward 2 years for males and 1 year for females, with an approximate 14% margin for future mortality improvement.

Other Information:

Notes	There were no benefit changes during the year.

SCHEDULE OF INVESTMENT RETURNS MULTIYEAR

To be Provided by System

Last 10 Fiscal Years

FY Ending June 30,	Annual Return[1]
2006	
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	
2015	

[1] *Annual money-weighted rate of return, net of investment expenses.*

SECTION D

NOTES TO FINANCIAL STATEMENTS

Long-Term Expected Return on Plan Assets

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return 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 current asset allocation percentage and by adding expected price inflation. Best estimates of arithmetic real rates of return for the 10-year period from 2015 to 2024 were based upon capital market assumptions provided by plan's investment consultant(s). For each major asset class that is included in the pension plan's current asset allocation as of June 30, 2015, these best estimates are summarized in the following table:

Asset Class	Current Allocation	Long-Term Expected Real Rate of Return
Broad Domestic Equity	42%	6.82%
International Equity	25%	6.88%
Real Assets	12%	3.07%
Absolute Return	5%	3.35%
Domestic Fixed	16%	0.83%
Total	100%	
Total Real Rate of Return		5.25%
Plus: Price Inflation - Actuary's Assumption		2.50%
Less: Investment Expenses (Passive)		0.10%
Net Expected Return		7.65%

Single Discount Rate

A Single Discount Rate of 7.50% was used to measure the total pension liability. This Single Discount Rate was based on the expected rate of return on pension plan investments of 7.500%. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these 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.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 7.50%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	1% Decrease 6.50%	Current Single Rate Assumption 7.50%	1% Increase 8.50%
Total Pension Liability (TPL)	$ 449,375,577	$ 403,202,550	$ 364,452,379
Net Position Restricted for Pensions	279,657,570	279,657,570	279,657,570
Net Pension Liability (NPL)	$ 169,718,007	$ 123,544,980	$ 84,794,809

Disclosure Regarding the Deferred Retirement Option Program

To be provided by System

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	678
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	73
Active Plan Members	502
Total Plan Members	1,253

SECTION E

SUMMARY OF BENEFITS

SUMMARY OF NON-CONTRIBUTORY BENEFIT PROVISIONS (LAST CHANGED AS OF 7-1-2009)

The Non-Contributory Plan was created by Act 793 of 1977 and was effective January 1, 1978. All non-retired members are now covered by non-contributory benefits. Act 1071 of 1997 created a Tier Two benefit plan for all officers hired on or after April 3, 1997. Existing members of the plan in effect prior to this date (Tier One) had one year to elect coverage under Tier Two.

VOLUNTARY RETIREMENT

With a full benefit, after 30 years of actual service, regardless of age, or at age 65 with 5 actual years of service for Tier One and Tier Two. The age requirement is reduced by 1 month for every 2 months of Public Safety service credit, but not below age 52 for Tier One or age 55 for Tier Two members.

Public Safety service credit is granted at the rate of 1.5 months of credit for each month of actual Public Safety employment for Tier One. Service is credited at a rate of one for one in Tier Two.

With a reduced benefit, once a member's age is within 10 years of becoming eligible for full benefits. The reduction for Tier One is equal to 1/2 of 1% for each month retirement precedes Normal Retirement Age. The reduction for Tier Two is equal to 3/4 of 1% for each month retirement precedes Normal Retirement Age.

FINAL AVERAGE PAY (FAP)

Average of the highest 60 calendar months' pays for Tier One or 48 calendar months for Tier Two.

FULL AGE & SERVICE RETIREMENT BENEFIT

Tier One: 1.55% of FAP times years and months of credited service. Tier Two: 2.475% of FAP times credited service. If retirement is prior to age 62, an additional .322% of FAP times credited service will be paid until the retiree attains age 62 for Tier One or .513% of FAP times credited service for Tier Two.

Public Safety service credit is granted at the rate of 1.5 months of credit for each month of actual Public Safety employment for Tier One. Service is credited at a rate of one for one in Tier Two.

For Tier One, the portion of the SPRS benefit based on service before 1978 cannot be less than the amount provided by contributory provisions in effect at time of retirement; and if there is credited service for time prior to July 1, 1991, the benefit cannot be less than under the provisions in effect July 1, 1990, (using Social Security offset), plus increases granted since that date.

For Tier One, the minimum monthly benefit is $150 minus any age and beneficiary option reductions.

VESTED AND REDUCED EARLY RETIREMENT BENEFITS

5 years of actual service, and leaving System-covered employment before full retirement age.

Deferred full retirement benefit, based on service and pay at termination, begins when full retirement age would have been reached by continuing covered employment.

In place of a deferred full benefit, a qualifying member may elect an immediate reduced benefit, provided the member is within 10 years of full retirement age. The reduced amount is the full amount reduced by 1/2 of 1% for Tier One and/or 3/4 of 1% for Tier Two for each month of difference in benefit commencement ages.

DEATH WHILE IN SYSTEM COVERED EMPLOYMENT

Member's accumulated contributions before 1978 are refundable.

If the deceased member has 5 or more years of service and has qualifying dependents, monthly benefits are payable instead. A surviving spouse receives a benefit as if the member had retired and elected the joint & 75% survivor option. Payment begins immediately if the member was eligible for a full age and service benefit or had 20 years of service; or payment begins at the spouse's age 50 if the member had 15 or more years of service; or payment begins at the spouse's age 62 if the member had less than 15 years of service.

If a member is killed while in the official line of duty and the surviving spouse is eligible for a deferred benefit, then the surviving spouse may elect to receive a reduced benefit immediately. The reduction of the benefit shall be 1/2 of 1% per month for each of the first 60 months that the benefit commences before when it would have otherwise commenced, plus; 1/4 of 1% per month for each month more than 60 months that the benefit commences before when it would have otherwise commenced. However, the total reduction shall not be more than 50%.

Each dependent child receives a benefit of 10% of annual pay (maximum of 25% of annual pay for all children).

Dependent parents' benefits are payable if neither spouse nor children's benefits are payable.

TOTAL AND PERMANENT DISABILITY

Tier One eligibility: Disabled after 5 years of service.

Tier Two eligibility: Disabled after 5 years of service.

Amount is computed as an age and service benefit, based on service and pay to the time of disability.

DEATH AFTER RETIREMENT

Retiring member can provide protection for a beneficiary by electing an option which provides beneficiary protection by reducing the retired employee's benefit amount.

Under Tier One, if a straight life annuity is paid, upon the retiree's death, 50% of the retiree's benefit is continued to a surviving spouse. If the deceased retiree leaves children under age 18, 75% of the retiree's benefit is continued to the surviving spouse. If there is no surviving spouse, the 75% will be divided among the children under age 18.

Under Tier Two, if a straight life annuity is elected, no survivor benefit is payable.

BENEFIT INCREASES AFTER RETIREMENT

Annually, there is a cost-of-living adjustment equal to 3% of the current benefit amount.

MEMBER CONTRIBUTIONS

None.

ARKANSAS STATE POLICE OFFICERS DEFERRED RETIREMENT OPTION PLAN – TIER I (Act 967 of 1995)

Tier One members with 30 years of credited service and who are eligible to receive a service retirement pension may participate.

Participating members may continue in employment for up to 7 years and have their accrued monthly benefit (at date of participation) credited to an individual account in the Deferred Retirement Option Plan in lieu of any further benefit accruals.

The Deferred Retirement Option Plan accounts accumulate with interest and are paid to the member at termination of active membership in either a lump sum or as an annuity of equivalent value. Interest is credited annually at a rate established by the Board of Trustees.

ARKANSAS STATE POLICE OFFICERS DEFERRED RETIREMENT OPTION PLAN – TIER II (Act 1242 of 2009)

Tier Two members with at least 30 years of actual service and are eligible to receive a service retirement pension may participate.

Participating members may continue in employment for up to 7 years and have seventy-two percent (72%) of their accrued monthly benefit (at date of participation) credited to an individual account in the Deferred Retirement Option Plan in lieu of any further benefit accruals.

The Deferred Retirement Option Plan accounts accumulate with interest and are paid to the member at termination of active membership in either a lump sum or as an annuity of equivalent value. Interest is credited annually to participant accounts at a rate established by the Arkansas State Police Retirement System Board of Trustees that shall not be greater than five percent (5%) nor less than one percent (1%) per annum.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

SUMMARY OF ACTUARIAL ASSUMPTIONS USED FOR STATE POLICE ACTUARIAL VALUATIONS ASSUMPTIONS ADOPTED BY BOARD OF TRUSTEES AFTER CONSULTING WITH ACTUARY

In accordance with Section 24-6-204 of the Arkansas Code, the Board of Trustees adopts the actuarial assumptions used for actuarial valuation purposes.

The actuarial assumptions used in the valuation are shown in this section. Assumptions were established based upon an Experience Study covering the period July 1, 2006 through June 30, 2012 (please see our report dated February 26, 2013). Economic assumptions have been subsequently updated based on an Experience Study completed for APERS (please see our report dated February 13, 2013) and the results of the Economic Assumption review performed for the Arkansas Judicial Retirement System (please see our report dated August 6, 2015). The actuarial assumptions represent estimates of future payroll.

Economic Assumptions

The investment return rate used in making the valuation was 7.50% per year, compounded annually (net after administrative and investment expenses). The assumed real rate of return is the portion of investment return which is more than the wage inflation rate. Considering assumed wage inflation of 3.25%, the 7.50% investment return rate translates to an effective assumed real rate of return of 4.25%. The wage inflation assumption was revised for the June 30, 2015 valuation and the investment assumption was revised for the June 30, 2015 valuation.

Pay increase assumptions for individual active members are shown on page 28. Part of the assumption for each age is for a merit and/or seniority increase, and the other 3.25% recognizes wage inflation. The wage inflation assumption consists of 2.5% for price inflation and 0.75% for real wage growth. The pay increase assumption for individual active members was revised for the June 30, 2014 valuation.

Total active member payroll is assumed to increase 3.25% a year, which is the portion of the individual pay increase assumptions recognizing wage inflation.

The number of active members is assumed to continue at the present number.

Non-Economic Assumptions

The mortality tables used to measure retired life mortality were the RP-2000 Combined Healthy mortality table, Projected to 2020 using Projection Scale BB, set-forward 2 years for males and 1 year for females. Related values are shown on page 26. Disability post-retirement mortality was assumed to be the same as standard post-retirement mortality set forward an additional 10 years. Based upon the experience observed during the most recent experience study, it appears that at the time of the study, the current table provides for an approximate 14% margin for future mortality improvement. Pre-retirement mortality rates are assumed to be 50% of post-retirement mortality rates. The mortality assumption was revised for the June 30, 2013 valuation.

The probabilities of retirement for members eligible to retire are shown on page 27. The assumption was revised for the June 30, 2013 valuation.

The probabilities of death-in-service, disability and withdrawal from service are shown for sample ages on page 28. The assumption for death-in-service was revised for the June 30, 2013 valuation.

The individual entry-age normal actuarial cost method of the valuation was used in determining liabilities and normal cost.

Differences in the past between assumed experience and actual experience ("actuarial gains and losses") become part of actuarial accrued liabilities.

Unfunded actuarial accrued liabilities are amortized to produce contribution amounts (principal & interest) which are level percent-of-payroll contributions.

Present assets (cash & investments) were valued on a market related basis in which differences between actual and assumed returns are phased-in over a four year period.

The data about persons now covered and about present assets was furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA).

SINGLE LIFE RETIREMENT VALUES
RP-2000 COMBINED HEALTHY PROJECTED TO 2020 MORTALITY
MALE RATES SET-FORWARD 2 YEARS
FEMALE RATES SET-FORWARD 1 YEAR
AND 7.50% INTEREST

Sample Ages	Single Life Retirement Values			
	Present Value of $1 Monthly for Life Increasing 3% Annually		Future Life Expectancy (Years)	
	Men	Women	Men	Women
50	$195.44	$205.97	31.13	34.64
55	179.30	191.41	26.58	29.98
60	161.13	174.51	22.23	25.44
65	141.22	155.67	18.14	21.14
70	119.72	135.45	14.35	17.16
75	97.62	114.39	10.95	13.56
80	76.00	92.98	8.02	10.35

Sample Attained Ages	$100 Benefit Increasing 3% Yearly
55	$100.00
60	115.93
65	134.39
70	155.79
75	180.60
80	209.36

PROBABILITIES OF RETIREMENT FOR MEMBERS ELIGIBLE TO RETIRE

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year		Years of Service	Percent of Eligible Active Members Retiring Within Next Year
	Tier One	Tier Two		Tier Two
47	2%	-		
48	2%	-		
49	2%	-		
50	6%	2%	30	25%
51	6%	2%	31	15%
52	10%	2%	32	15%
53	10%	6%	33	20%
54	10%	6%	34	35%
55	10%	25%	35	40%
56	10%	20%	36 & Over	100%
57	15%	18%		
58	20%	18%		
59	35%	20%		
60	40%	25%		
61	50%	30%		
62	60%	100%		
63	80%	100%		
64	100%	100%		
65	100%	100%		

A member is assumed to be eligible to retire at age 52 (55 for Tier Two) with 17 years of service, or at any age with 30 years of service (Tier Two). A member is assumed to be eligible to retire early at age 47 (50 for Tier 2) with 17 years of service. For a Tier 2 member with 30 or more years of service at the beginning of a year, the percents shown for service based retirement (30 or more years) take precedence over the percents associated with age based retirement.

It was assumed that members eligible to enter the DROP will do so to maximize the value of their benefits.

SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE AND SERVICE RETIREMENT & INDIVIDUAL PAY INCREASES

Sample Ages	Percent of Active Members Separating Within the Next Year				Pay Increase Assumptions for Active Members		
	Death						
	Male	Female	Disability	Other	Merit & Seniority	Base (Economic)	Increase Next Year
20	0.02%	0.01%	0.06%	5.50%	6.29%	3.25%	9.54%
25	0.02%	0.01%	0.09%	5.50%	5.39%	3.25%	8.64%
30	0.03%	0.01%	0.19%	5.50%	4.01%	3.25%	7.26%
35	0.04%	0.02%	0.31%	4.18%	2.29%	3.25%	5.54%
40	0.06%	0.04%	0.43%	2.64%	1.50%	3.25%	4.75%
45	0.08%	0.06%	0.55%	1.43%	1.10%	3.25%	4.35%
50	0.13%	0.09%	0.67%	0.55%	0.80%	3.25%	4.05%
55	0.22%	0.14%	0.79%	0.00%	0.60%	3.25%	3.85%

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS
JUNE 30, 2015

Marriage Assumption:	95% of males and 95% of females are assumed to be married for purposes of death-in-service benefits. 90% of males and 90% of females are assumed to be married for purposes of death-after-retirement benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Pay Increase Timing:	Beginning of year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	Decrements are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and withdrawal decrements do not operate during the period a member is assumed to be eligible for an unreduced benefit.
DROP Participants:	For members participating in the DROP, reported payroll is multiplied by 3.7 to estimate present value of future salaries. Payroll data was provided for the month of June 2015 and included additional pay items that did not allow for annualization of pay. $75,000 was used as an estimate of average annual pay for DROP participants.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Tier One DROP Interest Credit:	Interest is assumed to be credited at 3.25%.
Tier Two DROP Interest Credit:	Interest is assumed to be credited at 3.25%.
Other Liability Adjustments:	Active member non-refund normal costs and actuarial accrued liabilities were increased by 1.5% to reflect non-reported reciprocal service.
Administrative Expenses	The normal cost was increased by 0.70% of payroll to fund administrative expenses.

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

CALCULATION OF THE SINGLE DISCOUNT RATE

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.50%; the municipal bond rate is 3.80%; and the resulting Single Discount Rate is 7.50%.

The tables in this section provide background for the development of the Single Discount Rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS ENDING JUNE 30, 2065

Fiscal Year Ending 6/30	Contributions from Current Employees	Normal Cost	UAL Contributions	Total Contributions
2016	$ -	$ 6,613,244	$ 8,204,618	$ 14,817,861
2017	-	6,529,275	8,054,910	14,584,185
2018	-	6,321,806	8,105,069	14,426,875
2019	-	6,064,458	8,681,311	14,745,770
2020	-	5,839,994	8,963,455	14,803,449
2021	-	5,678,797	9,254,766	14,933,564
2022	-	5,533,861	9,555,546	15,089,407
2023	-	5,384,787	9,866,102	15,250,889
2024	-	5,236,176	10,186,749	15,422,925
2025	-	5,036,087	10,517,820	15,553,907
2026	-	4,794,829	10,859,649	15,654,478
2027	-	4,553,795	11,212,588	15,766,383
2028	-	4,311,059	11,576,997	15,888,056
2029	-	4,065,824	11,953,249	16,019,074
2030	-	3,824,895	12,341,729	16,166,623
2031	-	3,602,112	12,742,836	16,344,948
2032	-	3,401,766	13,156,978	16,558,744
2033	-	3,193,109	13,584,579	16,777,687
2034	-	2,957,888	14,026,078	16,983,966
2035	-	2,717,523	14,481,925	17,199,449
2036	-	2,490,377	14,952,587	17,442,963
2037	-	2,271,585	15,438,547	17,710,131
2038	-	2,080,106	15,940,300	18,020,406
2039	-	1,919,037	16,458,360	18,377,396
2040	-	1,741,605	0	1,741,605
2041	-	1,520,179	0	1,520,179
2042	-	1,294,103	0	1,294,103
2043	-	1,085,990	0	1,085,990
2044	-	883,895	0	883,895
2045	-	695,552	0	695,552
2046	-	542,603	0	542,603
2047	-	424,791	0	424,791
2048	-	321,271	0	321,271
2049	-	228,613	0	228,613
2050	-	141,886	0	141,886
2051	-	71,791	0	71,791
2052	-	21,734	0	21,734
2053	-	-	0	0
2054	-	-	0	0
2055	-	-	0	0
2056	-	-	0	0
2057	-	-	0	0
2058	-	-	0	0
2059	-	-	0	0
2060	-	-	0	0
2061	-	-	0	0
2062	-	-	0	0
2063	-	-	0	0
2064	-	-	0	0
2065	-	-	0	0

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION ENDING JUNE 30, 2065

Fiscal Year Ending 6/30	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.50%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2016	$ 279,657,570	$ 14,817,861	$ 34,861,854	$ 214,873	$ 20,228,344	$ 279,627,049
2017	279,627,049	14,584,185	25,538,638	212,370	20,560,843	289,021,068
2018	289,021,068	14,426,875	26,077,799	205,970	21,239,985	298,404,158
2019	298,404,158	14,745,770	26,690,573	198,084	21,933,186	308,194,457
2020	308,194,457	14,803,449	27,410,562	191,175	22,643,325	318,039,494
2021	318,039,494	14,933,564	28,252,177	186,212	23,355,686	327,890,355
2022	327,890,355	15,089,407	29,332,334	181,740	24,060,631	337,526,318
2023	337,526,318	15,250,889	30,344,929	176,979	24,752,163	347,007,462
2024	347,007,462	15,422,925	31,344,781	172,180	25,432,944	356,346,370
2025	356,346,370	15,553,907	32,367,720	165,883	26,100,750	365,467,424
2026	365,467,424	15,654,478	33,422,473	158,236	26,749,976	374,291,169
2027	374,291,169	15,766,383	34,392,130	150,496	27,380,458	382,895,383
2028	382,895,383	15,888,056	35,415,556	138,896	27,992,996	391,221,984
2029	391,221,984	16,019,074	36,596,199	125,705	28,579,328	399,098,482
2030	399,098,482	16,166,623	37,687,341	114,643	29,135,727	406,598,849
2031	406,598,849	16,344,948	38,585,746	106,007	29,672,058	413,924,103
2032	413,924,103	16,558,744	39,384,718	101,041	30,200,088	421,197,175
2033	421,197,175	16,777,687	40,296,943	96,432	30,720,210	428,301,697
2034	428,301,697	16,983,966	41,117,482	88,912	31,230,707	435,309,976
2035	435,309,976	17,199,449	42,415,953	80,453	31,716,762	441,729,781
2036	441,729,781	17,442,963	42,416,730	72,174	32,207,490	448,891,330
2037	448,891,330	17,710,131	42,945,965	62,269	32,735,321	456,328,549
2038	456,328,549	18,020,406	42,836,609	54,397	33,308,854	464,766,803
2039	464,766,803	18,377,396	43,175,201	50,001	33,942,563	473,861,559
2040	473,861,559	1,741,605	43,525,800	44,273	33,999,406	466,032,497
2041	466,032,497	1,520,179	44,572,715	35,879	33,365,833	456,309,916
2042	456,309,916	1,294,103	44,693,643	28,581	32,624,130	445,505,925
2043	445,505,925	1,085,990	45,017,128	21,025	31,794,535	433,348,297
2044	433,348,297	883,895	44,800,650	13,270	30,883,528	420,301,799
2045	420,301,799	695,552	44,664,507	5,034	29,903,422	406,231,233
2046	406,231,233	542,603	44,252,219	339	28,857,852	391,379,129
2047	391,379,129	424,791	44,163,003	119	27,742,899	375,383,698
2048	375,383,698	321,271	43,188,463	77	26,575,316	359,091,745
2049	359,091,745	228,613	42,408,879	44	25,378,715	342,290,150
2050	342,290,150	141,886	41,433,609	20	24,151,314	325,149,720
2051	325,149,720	71,791	40,072,037	5	22,913,337	308,062,807
2052	308,062,807	21,734	38,697,609	-	21,680,585	291,067,516
2053	291,067,516	-	36,646,195	-	20,480,675	274,901,996
2054	274,901,996	-	35,294,537	-	19,318,032	258,925,491
2055	258,925,491	-	33,950,058	-	18,169,301	243,144,733
2056	243,144,733	-	32,578,252	-	17,036,256	227,602,738
2057	227,602,738	-	31,176,510	-	15,922,222	212,348,450
2058	212,348,450	-	29,766,809	-	14,830,058	197,411,699
2059	197,411,699	-	28,327,464	-	13,762,802	182,847,037
2060	182,847,037	-	26,864,979	-	12,724,304	168,706,362
2061	168,706,362	-	25,387,329	-	11,718,163	155,037,196
2062	155,037,196	-	23,902,823	-	10,747,638	141,882,012
2063	141,882,012	-	22,419,911	-	9,815,603	129,277,704
2064	129,277,704	-	20,947,558	-	8,924,495	117,254,641
2065	117,254,641	-	19,494,223	-	8,076,281	105,836,699

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION ENDING JUNE 30, 2115
(CONCLUDED)

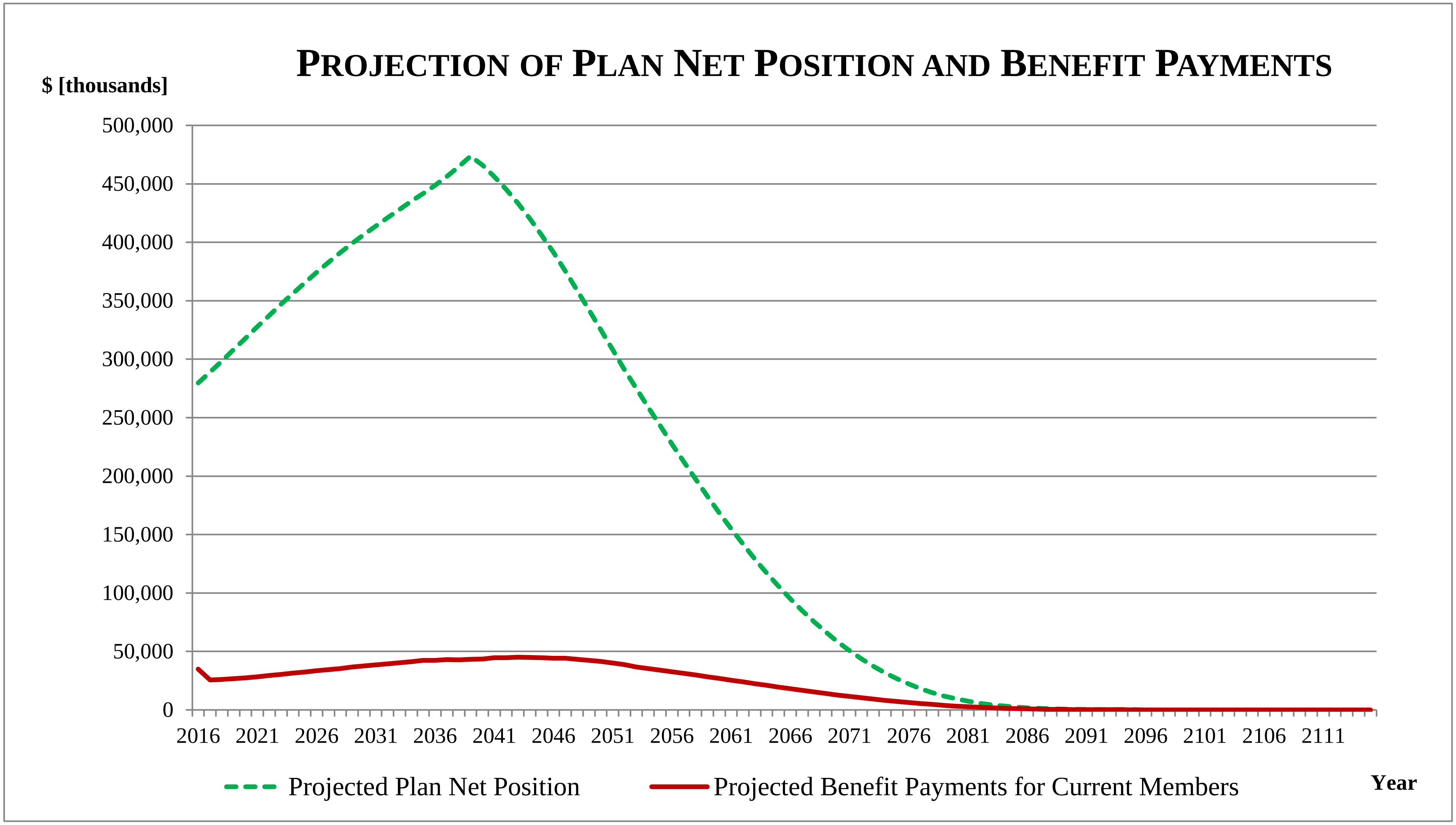
Fiscal Year Ending 6/30	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.50%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2066	105,836,699	-	18,067,654	-	7,272,464	95,041,509
2067	95,041,509	-	16,674,455	-	6,514,125	84,881,179
2068	84,881,179	-	15,320,193	-	5,801,967	75,362,954
2069	75,362,954	-	14,009,276	-	5,136,371	66,490,048
2070	66,490,048	-	12,745,147	-	4,517,451	58,262,352
2071	58,262,352	-	11,530,428	-	3,945,102	50,677,026
2072	50,677,026	-	10,367,218	-	3,419,035	43,728,843
2073	43,728,843	-	9,257,619	-	2,938,779	37,410,003
2074	37,410,003	-	8,203,950	-	2,503,664	31,709,716
2075	31,709,716	-	7,208,984	-	2,112,779	26,613,511
2076	26,613,511	-	6,275,892	-	1,764,922	22,102,541
2077	22,102,541	-	5,407,998	-	1,458,557	18,153,099
2078	18,153,099	-	4,608,612	-	1,191,784	14,736,271
2079	14,736,271	-	3,880,535	-	962,331	11,818,067
2080	11,818,067	-	3,225,919	-	767,570	9,359,718
2081	9,359,718	-	2,645,896	-	604,551	7,318,374
2082	7,318,374	-	2,140,116	-	470,075	5,648,332
2083	5,648,332	-	1,706,372	-	360,793	4,302,752
2084	4,302,752	-	1,340,726	-	273,338	3,235,364
2085	3,235,364	-	1,037,900	-	204,435	2,401,898
2086	2,401,898	-	791,591	-	150,994	1,761,302
2087	1,761,302	-	594,970	-	110,190	1,276,521
2088	1,276,521	-	440,932	-	79,503	915,092
2089	915,092	-	322,417	-	56,760	649,435
2090	649,435	-	232,800	-	40,135	456,770
2091	456,770	-	166,169	-	28,139	318,740
2092	318,740	-	117,411	-	19,582	220,911
2093	220,911	-	82,230	-	13,540	152,221
2094	152,221	-	57,176	-	9,311	104,357
2095	104,357	-	39,528	-	6,371	71,200
2096	71,200	-	27,203	-	4,338	48,335
2097	48,335	-	18,644	-	2,939	32,630
2098	32,630	-	12,724	-	1,979	21,884
2099	21,884	-	8,639	-	1,323	14,569
2100	14,569	-	5,829	-	878	9,618
2101	9,618	-	3,907	-	577	6,288
2102	6,288	-	2,598	-	376	4,066
2103	4,066	-	1,711	-	242	2,597
2104	2,597	-	1,114	-	154	1,638
2105	1,638	-	716	-	96	1,019
2106	1,019	-	454	-	60	624
2107	624	-	286	-	36	374
2108	374	-	177	-	22	218
2109	218	-	105	-	12	125
2110	125	-	62	-	7	71
2111	71	-	37	-	4	38
2112	38	-	22	-	2	18
2113	18	-	12	-	1	7
2114	7	-	5	-	0	2
2115	2	-	2	-	0	0

SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS ENDING JUNE 30, 2065

Fiscal Year Ending 6/30	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=((c)/(1+sdr)^(a-.5)
2016	$ 279,657,570	$ 34,861,854	$ 34,861,854	$ -	$ 33,623,758	$ -	$ 33,623,758
2017	279,627,049	25,538,638	25,538,638	-	22,913,163	-	22,913,163
2018	289,021,068	26,077,799	26,077,799	-	21,764,554	-	21,764,554
2019	298,404,158	26,690,573	26,690,573	-	20,721,838	-	20,721,838
2020	308,194,457	27,410,562	27,410,562	-	19,796,110	-	19,796,110
2021	318,039,494	28,252,177	28,252,177	-	18,980,400	-	18,980,400
2022	327,890,355	29,332,334	29,332,334	-	18,331,230	-	18,331,230
2023	337,526,318	30,344,929	30,344,929	-	17,640,978	-	17,640,978
2024	347,007,462	31,344,781	31,344,781	-	16,950,921	-	16,950,921
2025	356,346,370	32,367,720	32,367,720	-	16,282,898	-	16,282,898
2026	365,467,424	33,422,473	33,422,473	-	15,640,467	-	15,640,467
2027	374,291,169	34,392,130	34,392,130	-	14,971,377	-	14,971,377
2028	382,895,383	35,415,556	35,415,556	-	14,341,291	-	14,341,291
2029	391,221,984	36,596,199	36,596,199	-	13,785,474	-	13,785,474
2030	399,098,482	37,687,341	37,687,341	-	13,206,045	-	13,206,045
2031	406,598,849	38,585,746	38,585,746	-	12,577,540	-	12,577,540
2032	413,924,103	39,384,718	39,384,718	-	11,942,303	-	11,942,303
2033	421,197,175	40,296,943	40,296,943	-	11,366,427	-	11,366,427
2034	428,301,697	41,117,482	41,117,482	-	10,788,720	-	10,788,720
2035	435,309,976	42,415,953	42,415,953	-	10,352,951	-	10,352,951
2036	441,729,781	42,416,730	42,416,730	-	9,630,829	-	9,630,829
2037	448,891,330	42,945,965	42,945,965	-	9,070,691	-	9,070,691
2038	456,328,549	42,836,609	42,836,609	-	8,416,367	-	8,416,367
2039	464,766,803	43,175,201	43,175,201	-	7,891,062	-	7,891,062
2040	473,861,559	43,525,800	43,525,800	-	7,400,131	-	7,400,131
2041	466,032,497	44,572,715	44,572,715	-	7,049,418	-	7,049,418
2042	456,309,916	44,693,643	44,693,643	-	6,575,389	-	6,575,389
2043	445,505,925	45,017,128	45,017,128	-	6,160,912	-	6,160,912
2044	433,348,297	44,800,650	44,800,650	-	5,703,521	-	5,703,521
2045	420,301,799	44,664,507	44,664,507	-	5,289,478	-	5,289,478
2046	406,231,233	44,252,219	44,252,219	-	4,875,026	-	4,875,026
2047	391,379,129	44,163,003	44,163,003	-	4,525,765	-	4,525,765
2048	375,383,698	43,188,463	43,188,463	-	4,117,112	-	4,117,112
2049	359,091,745	42,408,879	42,408,879	-	3,760,739	-	3,760,739
2050	342,290,150	41,433,609	41,433,609	-	3,417,911	-	3,417,911
2051	325,149,720	40,072,037	40,072,037	-	3,074,970	-	3,074,970
2052	308,062,807	38,697,609	38,697,609	-	2,762,328	-	2,762,328
2053	291,067,516	36,646,195	36,646,195	-	2,433,389	-	2,433,389
2054	274,901,996	35,294,537	35,294,537	-	2,180,126	-	2,180,126
2055	258,925,491	33,950,058	33,950,058	-	1,950,771	-	1,950,771
2056	243,144,733	32,578,252	32,578,252	-	1,741,346	-	1,741,346
2057	227,602,738	31,176,510	31,176,510	-	1,550,159	-	1,550,159
2058	212,348,450	29,766,809	29,766,809	-	1,376,805	-	1,376,805
2059	197,411,699	28,327,464	28,327,464	-	1,218,820	-	1,218,820
2060	182,847,037	26,864,979	26,864,979	-	1,075,251	-	1,075,251
2061	168,706,362	25,387,329	25,387,329	-	945,218	-	945,218
2062	155,037,196	23,902,823	23,902,823	-	827,858	-	827,858
2063	141,882,012	22,419,911	22,419,911	-	722,324	-	722,324
2064	129,277,704	20,947,558	20,947,558	-	627,802	-	627,802
2065	117,254,641	19,494,223	19,494,223	-	543,484	-	543,484

SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS ENDING JUNE 30, 2115 (CONCLUDED)

ear Endi	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=((c)/(1+sdr)^(a-.5)
2066	$ 105,836,699	$ 18,067,654	$ 18,067,654	$ -	$ 468,570	$ -	$ 468,570
2067	95,041,509	16,674,455	16,674,455	-	402,268	-	402,268
2068	84,881,179	15,320,193	15,320,193	-	343,811	-	343,811
2069	75,362,954	14,009,276	14,009,276	-	292,458	-	292,458
2070	66,490,048	12,745,147	12,745,147	-	247,505	-	247,505
2071	58,262,352	11,530,428	11,530,428	-	208,293	-	208,293
2072	50,677,026	10,367,218	10,367,218	-	174,214	-	174,214
2073	43,728,843	9,257,619	9,257,619	-	144,715	-	144,715
2074	37,410,003	8,203,950	8,203,950	-	119,297	-	119,297
2075	31,709,716	7,208,984	7,208,984	-	97,515	-	97,515
2076	26,613,511	6,275,892	6,275,892	-	78,970	-	78,970
2077	22,102,541	5,407,998	5,407,998	-	63,302	-	63,302
2078	18,153,099	4,608,612	4,608,612	-	50,181	-	50,181
2079	14,736,271	3,880,535	3,880,535	-	39,306	-	39,306
2080	11,818,067	3,225,919	3,225,919	-	30,395	-	30,395
2081	9,359,718	2,645,896	2,645,896	-	23,191	-	23,191
2082	7,318,374	2,140,116	2,140,116	-	17,449	-	17,449
2083	5,648,332	1,706,372	1,706,372	-	12,942	-	12,942
2084	4,302,752	1,340,726	1,340,726	-	9,459	-	9,459
2085	3,235,364	1,037,900	1,037,900	-	6,812	-	6,812
2086	2,401,898	791,591	791,591	-	4,833	-	4,833
2087	1,761,302	594,970	594,970	-	3,379	-	3,379
2088	1,276,521	440,932	440,932	-	2,329	-	2,329
2089	915,092	322,417	322,417	-	1,585	-	1,585
2090	649,435	232,800	232,800	-	1,064	-	1,064
2091	456,770	166,169	166,169	-	707	-	707
2092	318,740	117,411	117,411	-	464	-	464
2093	220,911	82,230	82,230	-	303	-	303
2094	152,221	57,176	57,176	-	196	-	196
2095	104,357	39,528	39,528	-	126	-	126
2096	71,200	27,203	27,203	-	81	-	81
2097	48,335	18,644	18,644	-	51	-	51
2098	32,630	12,724	12,724	-	33	-	33
2099	21,884	8,639	8,639	-	21	-	21
2100	14,569	5,829	5,829	-	13	-	13
2101	9,618	3,907	3,907	-	8	-	8
2102	6,288	2,598	2,598	-	5	-	5
2103	4,066	1,711	1,711	-	3	-	3
2104	2,597	1,114	1,114	-	2	-	2
2105	1,638	716	716	-	1	-	1
2106	1,019	454	454	-	1	-	1
2107	624	286	286	-	0	-	0
2108	374	177	177	-	0	-	0
2109	218	105	105	-	0	-	0
2110	125	62	62	-	0	-	0
2111	71	37	37	-	0	-	0
2112	38	22	22	-	0	-	0
2113	18	12	12	-	0	-	0
2114	7	5	5	-	0	-	0
2115	2	2	2	-	-	-	-
				Totals	$ 455,739,301	$ -	$ 455,739,301


PROJECTION OF PLAN NET POSITION AND BENEFIT PAYMENTS
$ [thousands]
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2016
2021
2026
2031
2036
2041
2046
2051
2056
2061
2066
2071
2076
2081
2086
2091
2096
2101
2106
2111
Projected Plan Net Position
Projected Benefit Payments for Current Members
Year

SECTION H

GLOSSARY OF TERMS

GLOSSARY OF TERMS

Actuarial Accrued Liability (AAL)	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
Actuarial Assumptions	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Equivalent	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
Actuarial Gain (Loss)	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
Actuarial Present Value (APV)	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
Actuarial Valuation	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

GLOSSARY OF TERMS

Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Amortization Method	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be "open" (meaning, reset each year) or "closed" (the number of years remaining will decline each year).
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered-Employee Payroll	The payroll of employees that are provided with pensions through the pension plan.
Deferred Retirement Option Program (DROP)	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
Deferred Inflows and Outflows	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
Discount Rate	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: 1. The benefit payments to be made while the pension plan's fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

GLOSSARY OF TERMS

Entry Age Actuarial Cost Method (EAN)	The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
GASB	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
Fiduciary Net Position	The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.
Long-Term Expected Rate of Return	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
Money-Weighted Rate of Return	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
Multiple-Employer Defined Benefit Pension Plan	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Municipal Bond Rate	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
Net Pension Liability (NPL)	The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.
Non-Employer Contributing Entities	Non-employer contributing entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities.
Normal Cost	The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.

GLOSSARY OF TERMS

Other Postemployment Benefits (OPEB) All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.

Real Rate of Return The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.

Service Cost The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

Total Pension Expense The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:

1. Service Cost
2. Interest on the Total Pension Liability
3. Current-Period Benefit Changes
4. Employee Contributions (made negative for addition here)
5. Projected Earnings on Plan Investments (made negative for addition here)
6. Pension Plan Administrative Expense
7. Other Changes in Plan Fiduciary Net Position
8. Recognition of Outflow (Inflow) of Resources due to Liabilities
9. Recognition of Outflow (Inflow) of Resources due to Assets

Total Pension Liability (TPL) The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.

Unfunded Actuarial Accrued Liability (UAAL) The UAAL is the difference between actuarial accrued liability and valuation assets.

Valuation Assets The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.

GRS
Gabriel Roeder Smith & Company
Consultants & Actuaries
One Towne Square
Suite 800
Southfield, MI 48076-3723
248.799.9000 phone
248.799.9020 fax
www.gabrielroeder.com

November 17, 2015

Ms. Gail H. Stone, Executive Director
Arkansas State Police Retirement System
One Union National Plaza
124 West Capitol, Suite 400
Little Rock, Arkansas 72201

Dear Gail,

Please find enclosed copies of the June 30, 2015 GASB Statements Nos. 67 and No. 68 Accounting and Financial Reporting for Pensions report of the Arkansas State Police Retirement System.

We will be happy to meet with the Board to discuss the results of this report.

Sincerely,

David L. Hoffman
DLH:bd
Enclosures