Arkansas Public Employees Retirement System

Actuarial Valuation and Experience Gain/Loss Analysis

June 30, 2017

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GRS Retirement Consulting

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November 8, 2017

Board of Trustees
Arkansas Public Employees Retirement System
Little Rock, Arkansas

Ladies and Gentlemen:

The results of the ***June 30, 2017 actuarial valuation*** of the Arkansas Public Employees Retirement System together with ***the annual gain and loss analysis*** for the year ended June 30, 2017 are presented in this report. The purpose of the valuation and gain/loss analysis is to measure funding progress in relation to the actuarial cost method and to determine employer contribution rates for the fiscal year beginning July 1, 2018.

Calculations required for compliance with the Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68 have been issued in separate reports.

This report should not be relied on for any other purpose than those described above. It was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with permission of the Board. Gabriel, Roeder, Smith & Company is not responsible for the unauthorized use of this report.

The findings in this report are based on data and other information through June 30, 2017. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

The actuarial methods and assumptions used in the actuarial valuation are summarized in Section E of this report. The assumptions are established by the Board after consulting with the actuary. The actuarial assumptions used for the valuation produce results which, individually and in the aggregate, are reasonable.

The cooperation of the Executive Director and the APERS staff in furnishing the materials required for these valuations is acknowledged with appreciation.

This report has been prepared by individuals who have substantial experience valuing public employee retirement systems. To the best of our knowledge, this report is complete and accurate and was made in accordance with standards of practice promulgated by the Actuarial Standards Board and in conformance with Title 24 of the Arkansas Code.

Mita D. Drazilov and Heidi G. Barry are Members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The signing individuals are independent of the plan sponsor.

Respectfully submitted,

Mita D. Drazilov, ASA, FCA, MAAA

Heidi G. Barry, ASA, FCA, MAAA

David L. Hoffman

MDD/HGB/DLH:sc

SECTION A

VALUATION RESULTS

Comments

General Financial Objective. Section 24-2-701 of the Arkansas Code provides as follows:

> The general financial objective of each Arkansas public employee retirement plan shall be to establish and receive contributions that, expressed as percentages of active member payroll, will remain approximately level from generation to generation of Arkansas citizens. More specifically, contributions received each year shall be sufficient both:
>
> (1) To fully cover the costs of benefit commitments being made to members for their service being rendered in that year; and
>
> (2)(A) To make a level payment that, if paid annually over a reasonable period of future years, will fully cover the unfunded costs of benefit commitments for service previously rendered.
>
> (B) Alternatively, if the costs of benefit commitments for service previously rendered are overfunded, the plan may deduct a level payment that, if deducted annually over a reasonable period of future years, will fully liquidate the overfunded portion of such costs.

Benefit Changes. The most recent benefit changes were reflected in the June 30, 2009 valuation. No benefit changes have been adopted for consideration in the June 30, 2017 valuation.

Assumption Changes. The June 30, 2017 valuation reflects a change in the investment return assumption from 7.50% to 7.15%. An experience study is scheduled to be performed prior to the June 30, 2018 valuation.

Method Changes. In conjunction with the adoption of the 7.15% investment return assumption, the amortization period for APERS was updated for the June 30, 2017 valuation to a 30-year period. There have been no other changes in methods since the June 30, 2016 valuation.

APERS Status. Based upon the results of the June 30, 2017 actuarial valuation, ***APERS continues to satisfy the general financial objective*** of level contribution financing.

APERS Reserve Strength. As a by-product of achieving level contribution financing, actuarial accrued liabilities usually become more and more funded over a period of years. On a funding value of assets basis, the System has a 78% funded ratio. On a market value of assets basis, the System has a 76% funded ratio.

Employer Contribution Rates. Based upon experience through June 30, 2017, the State and Local Government contribution rate (including General Assembly members) will be 15.32% of covered payroll for the fiscal year beginning July 1, 2018.

District Judges. Results for the District Judges are presented in Section D. These results are not included in any of the numbers presented in Sections A, B and C.

Recommendations

Reserve Transfers. Each year reserve transfers are recommended so that there will be a balance between assets and actuarial accrued liabilities in the Retirement Reserve Account and the Deferred Annuity Account.

- The Retirement Reserve Account is responsible for future annuity payments to present retired lives.
- The Deferred Annuity Account is responsible for future annuity payments to present inactive members.

This year's recommended transfer amounts are as follows:

Employer Accum. Account Before Transfers	Transfers as of July 1, 2017 (from) to: Retirement Reserve Account	Deferred Annuity Account	Employer Accum. Account After Transfers
$2,273,419,083	$768,006,551	$65,687,729	$1,439,724,803

For the purposes of this valuation it was assumed that these transfers would be made.

Other Observations

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status.

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.15% on the actuarial value of assets), it is expected that:

(1) The employer normal cost as a percentage of pay will decrease to approximately 7.4% (the employer normal cost for the new contribution plans) as non-contributory members leave employment;

(2) The unfunded actuarial accrued liabilities will be fully amortized after 30 years; and

(3) The funded status of the plan will increase gradually towards a 100% funded ratio.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

(1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

(2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. If the funded status were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).

(3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets, unless the market value of assets is used in the measurement.

Employer Contribution Rates Computed for Fiscal Year Beginning July 1, 2018

Contribution for	Contributions Expressed as %'s of Active Payroll State and Local and General Assembly
Normal Cost:	
Age and service annuities (including DROP and reduced retirement)	8.47%
Separation benefits	1.88%
Disability benefits	0.65%
Death-in-service annuities	0.23%
Administrative expenses	0.40%
Total	11.63%
Member contributions	3.47%
Employer Normal Cost	8.16%
Unfunded Actuarial Accrued Liabilities	7.16% *
Total Employer Contribution	**15.32%**

* *Unfunded actuarial accrued liabilities were amortized over a 30-year period.*
Note: State and Local payroll includes payroll for DROP participants and retired members returned to work.

Summary Statement of System Resources and Obligations
Year Ended June 30, 2017

Present Resources and Expected Future Resources

A.	Present Valuation Assets:	
	1. Net assets from System financial statements	$ 7,998,520,598
	2. Market value adjustment	158,517,063
	3. Valuation assets	8,157,037,661
B.	Actuarial present value of expected future employer contributions:	
	1. For normal costs	1,063,085,814
	2. For unfunded actuarial accrued liability	2,353,142,658
	3. Total	3,416,228,472
C.	Actuarial present value of expected future member contributions	515,719,301
D.	Total Present and Expected Future Resources	$ 12,088,985,434

Actuarial Present Value of Expected Future Benefit Payments

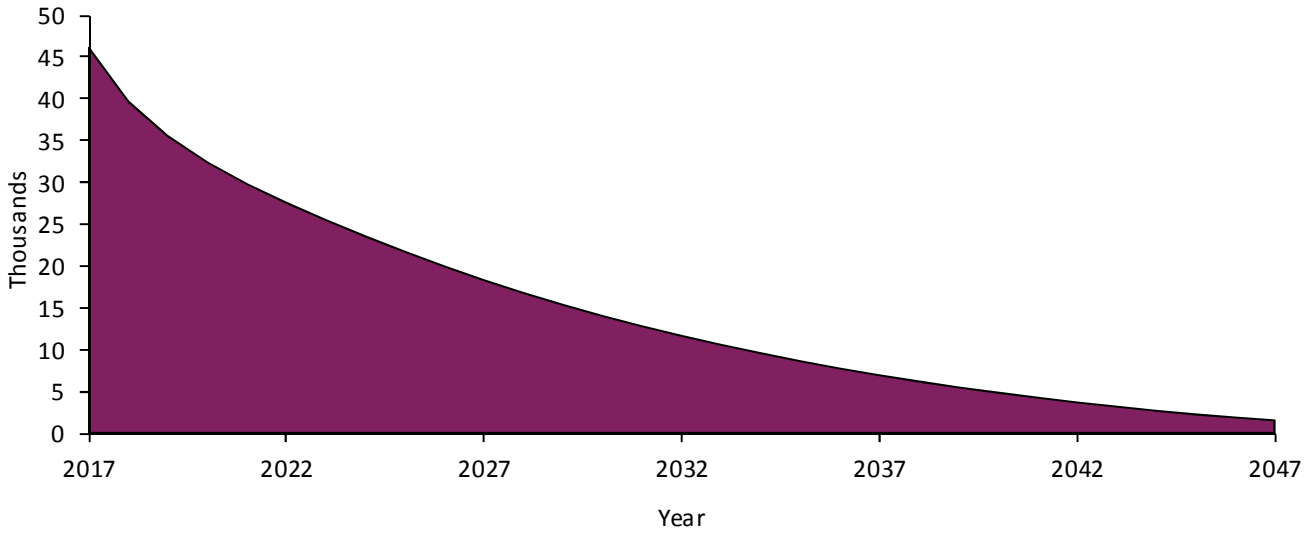
A.	To retirees and beneficiaries:	
	1. Annual pensions	$ 5,547,312,143
	2. DROP participants: future payments	607,518,123
	3. DROP Reserve: accrued balances	98,416,745
	4. Total	6,253,247,011
B.	To vested terminated members	528,546,993
C.	To present active members:	
	1. Allocated to service rendered prior to valuation date - actuarial accrued liability	3,728,386,315
	2. Allocated to service likely to be rendered after valuation date	1,578,805,115
	3. Total	5,307,191,430
D.	Total Actuarial Present Value of Expected Future Benefit Payments	$ 12,088,985,434

Computed Actuarial Liabilities and Allocation Using Entry Age Actuarial Cost Method as of June 30, 2017

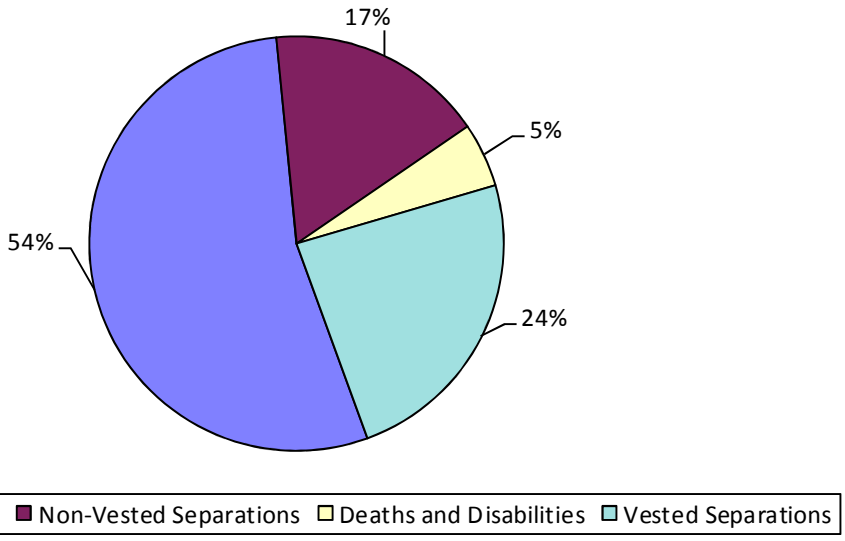
Actuarial Present Value of	Total Present Value	Portion Covered By Future Normal Cost Contributions	Actuarial Accrued Liabilities (1) - (2)
Benefits to be paid to current retirees, beneficiaries, and future beneficiaries of current retirees	$5,547,312,143	$ 0	$5,547,312,143
Age and service allowances based on total service likely to be rendered by present active members	4,675,658,425	1,190,781,775	3,484,876,650
DROP paricipant benefits likely to be paid to present active members and current DROP participants	705,934,868	0	705,934,868
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members	875,111,486	264,305,754	610,805,732
Disability benefits likely to be paid to present active members	194,425,301	91,382,308	103,042,993
Death-in-service benefits likely to be paid on behalf of present active members	90,543,211	32,335,278	58,207,933
Total	$12,088,985,434	$1,578,805,115	$ 10,510,180,319
Applicable assets (funding value)	8,157,037,661	0	8,157,037,661
Liabilities to be covered by future contributions	$ 3,931,947,773	$1,578,805,115	$ 2,353,142,658

Expected Development of Present Population
June 30, 2017

Closed Group Population Projection



Expected Termination Type from Active Employment



The charts show the expected future development of the present population in simplified terms. The Retirement System presently covers 46,094 active members. Eventually, 17% of the population is expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. About 78% of the present population is expected to receive monthly retirement benefits either by retiring directly from active service, retiring from DROP, or retiring from vested deferred status. About 5% of the present population is expected to become eligible for death-in-service or disability benefits. Within 9 years, over half of the covered membership is expected to consist of new hires.

Valuation Results
Comparative Statement
($ Millions)

Valuation Date June 30,	Actuarial Accrued Liabilities & Reserves	Valuation Assets	% Funded	Unfunded Actuarial Accrued Liabilities & Reserves			Contribution Rate Computed Percents	
				Dollars	Amortiz. Period *	% of Payroll	General Assembly	State & Local**
2001 @	$4,111	$ 4,342	105.6 %	$(231)	50	(22) %	148.78 %	10.00 %
2002 #	4,398	4,404	100.1	(6)	6	(1)	150.95	10.00
2003 #	4,674	4,416	94.5	258	30	22	222.80	11.09
2004	5,005	4,438	88.7	567	30	48	201.39	12.54
2005 @#	5,619	4,584	81.6	1,035	22	85	459.47	12.54
2006	5,936	4,949	83.4	987	19	78	464.67	12.54
2007 @	6,174	5,498	89.1	676	18	52	410.58	11.01
2008 #	6,543	5,866	89.7	677	14	49	408.06	11.00
2009 @	6,938	5,413	78.0	1,525	30	106	521.36	12.46
2010	7,304	5,409	74.1	1,895	30	124	518.69	13.47
2011 #	7,734	5,467	70.7	2,267	30	147	939.81	14.24
2012	8,163	5,625	68.9	2,538	30	151		14.88
2013 #	8,284	6,159	74.3	2,125	25	126		14.76
2014 #	8,864	6,895	77.8	1,969	23	113		14.50
2015 #	9,295	7,352	79.1	1,943	25	111		14.50
2016	9,663	7,769	80.4	1,894	21	106		14.75
2017	**10,101**	**8,157**	**80.8**	**1,944**	**20**	**109**		**14.94**
2017 #	**10,510**	**8,157**	**77.6**	**2,353**	**30**	**132**		**15.32**

* *Amortization period is for State division prior to 2001, State and Local division for 2001 and later and may be rounded above. General Assembly unfunded actuarial accrued liabilities are amortized over an 18-year period as of June 30, 2008.*

** *Local Government rate was 6.00% for the 1998 valuation, 7.00% for the 1999 valuation, and 8.00% for the 2000 valuation. Beginning with the June 30, 2012 valuation, results include General Assembly.*

@ *After legislated changes in benefit provisions.*

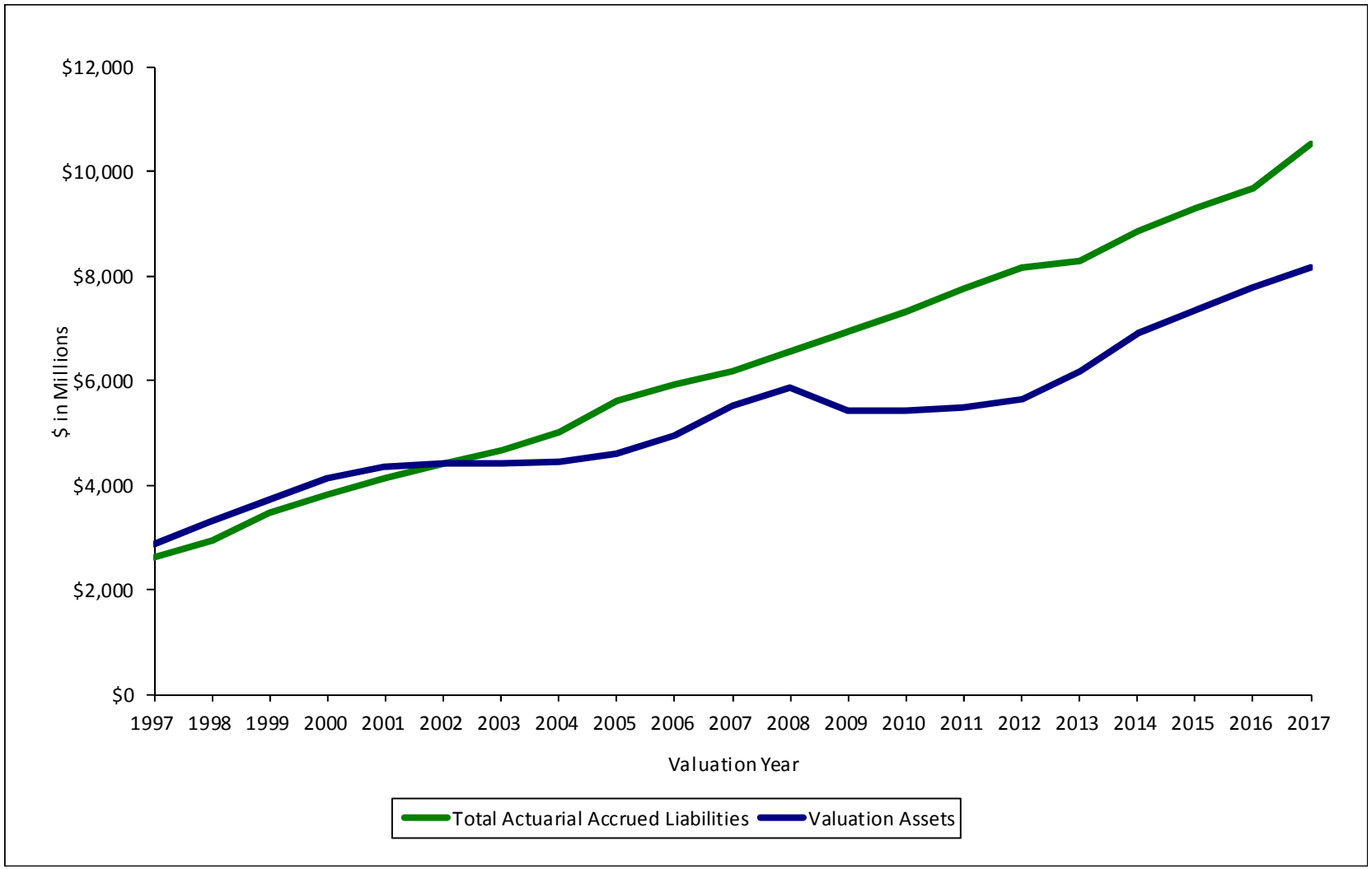
\# *After changes in actuarial assumptions.*

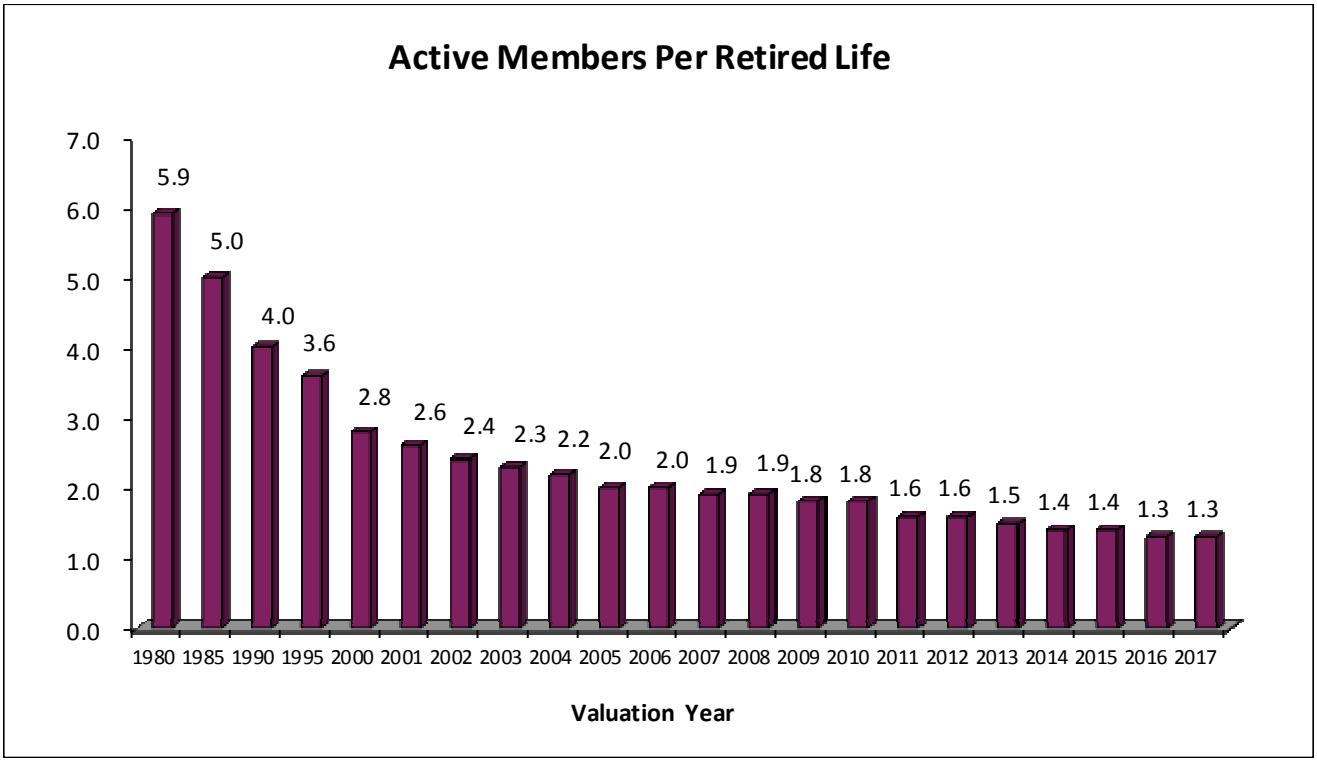
Active Members and Retired Lives
Historical Comparative Schedule

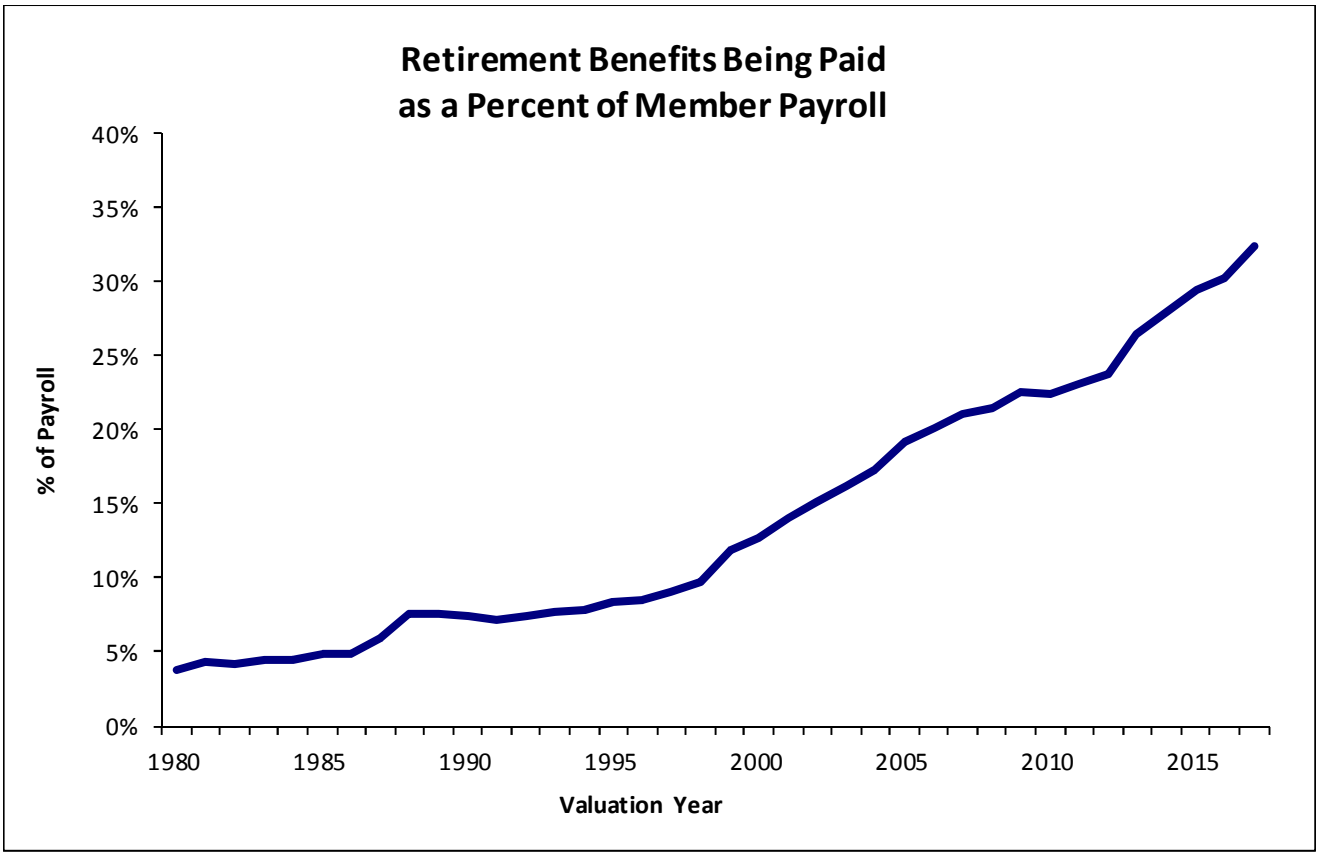
Valuation Date	Active Members				Retired Lives			
		Valuation Payroll				Active per	Annual Benefits	
	No.	$ Millions	Average	% Incr.	No.	Retired	$ Millions	As a % of Pay
6/30/84	NA	NA	NA	NA	7,036	NA	$ 19.1	4.4%
6/30/85	NA	NA	NA	NA	7,331	NA	22.0	4.8%
6/30/86	NA	NA	NA	NA	7,649	NA	24.1	4.9%
6/30/87	NA	NA	NA	NA	8,074	NA	30.2	6.0%
6/30/88	NA	NA	NA	NA	9,155	NA	39.6	7.5%
6/30/89	NA	NA	NA	NA	9,418	NA	42.9	7.6%
6/30/90	NA	NA	NA	NA	9,747	NA	44.9	7.4%
6/30/91	NA	NA	NA	NA	10,110	NA	49.2	7.6%
6/30/92	39,752	$ 698.2	$ 17,564	NA	10,456	3.8	51.9	7.4%
6/30/93	39,849	733.4	18,404	4.8%	10,840	3.7	56.8	7.7%
6/30/94	40,940	778.7	19,021	3.3%	11,213	3.7	60.7	7.8%
6/30/95	42,041	834.5	19,850	4.4%	11,683	3.6	70.1	8.4%
6/30/96	42,712	889.3	20,821	4.9%	12,073	3.5	76.2	8.6%
6/30/97	43,068	938.5	21,791	4.7%	12,644	3.4	84.8	9.0%
6/30/98	43,047	974.7	22,644	3.9%	13,480	3.2	94.6	9.7%
6/30/99	43,064	1,008.9	23,427	3.5%	14,688	2.9	119.3	11.8%
6/30/00	43,121	1,050.0	24,351	3.9%	15,544	2.8	133.6	12.7%
6/30/01	42,556	1,070.1	25,146	3.3%	16,643	2.6	150.0	14.0%
6/30/02	42,230	1,111.5	26,320	4.7%	17,748	2.4	167.6	15.1%
6/30/03	42,879	1,147.9	26,772	1.7%	18,838	2.3	186.0	16.2%
6/30/04	42,826	1,175.8	27,455	2.6%	19,872	2.2	203.4	17.3%
6/30/05	42,938	1,214.9	28,295	3.1%	21,080	2.0	232.9	19.2%
6/30/06	43,453	1,267.1	29,159	3.1%	22,234	2.0	254.7	20.1%
6/30/07	43,630	1,302.6	29,855	2.4%	22,409	1.9	274.8	21.1%
6/30/08	44,357	1,379.8	31,106	4.2%	23,555	1.9	297.0	21.5%
6/30/09	44,702	1,433.7	32,073	3.1%	24,972	1.8	323.1	22.5%
6/30/10	45,394	1,522.7	33,544	4.6%	25,880	1.8	342.2	22.5%
6/30/11	45,145	1,542.9	34,177	1.9%	28,137	1.6	375.7	24.3%
6/30/12	45,937	1,606.1	34,962	2.3%	29,282	1.6	399.5	24.9%
6/30/13	45,707	1,612.7	35,285	0.9%	30,533	1.5	426.2	26.4%
6/30/14	45,841	1,638.0	35,735	1.3%	31,914	1.4	457.1	27.9%
6/30/15	45,722	1,645.0	35,979	0.7%	33,106	1.4	483.9	29.4%
6/30/16	45,676	1,686.5	36,923	2.6%	34,214	1.3	509.7	30.2%
6/30/17	**46,094**	**1,668.8**	**36,204**	**(1.9)%**	**36,260**	**1.3**	**540.1**	**32.4%**

The above valuation payroll results do not include DROP payroll.

Actuarial Accrued Liabilities & Assets




Active Members Per Retired Life
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
5.9
5.0
4.0
3.6
2.8
2.6
2.4
2.3
2.2
2.0
2.0
1.9
1.9
1.8
1.8
1.6
1.6
1.5
1.4
1.4
1.3
1.3
1980 1985 1990 1995 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017
Valuation Year


Retirement Benefits Being Paid
as a Percent of Member Payroll
40%
35%
30%
25%
20%
15%
10%
5%
0%
% of Payroll
1980
1985
1990
1995
2000
2005
2010
2015
Valuation Year

Short Condition Test

The APERS funding objective is to meet long-term benefit promises through contributions that remain approximately level from year to year as a percent of member payroll. If the contributions to the System are level in concept and soundly executed, the System will ***pay all promised benefits when due -- the ultimate test of financial soundness***. Testing for level contribution rates is ***the*** long-term condition test.

A short condition test is one means of checking a System's progress under its funding program. In a short condition test, the Plan's present assets (cash and investments) are compared with:

1) Active member contributions on deposit;
2) The liabilities for future benefits to present retired lives; and
3) The liabilities for service already rendered by active members.

In a System that has been following the discipline of level percent-of-payroll financing, the liabilities for active member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by present assets (except in unusual circumstances). In addition, the liabilities for service already rendered by active members (liability 3) will be partially covered by the remainder of present assets. The larger the funded portion of liability 3, the stronger the condition of the System. Liability 3 being fully funded is uncommon.

Short Condition Test
Comparative Statement
($ in Millions)

Val'n. Date: June 30	Entry Age Accrued Liability (1) Active Member Contr.	(2) Retirees and Benef.	(3) Active Members (Employer Financed Portion)	Valuation Assets	Portion of Present Values Covered by Present Assets (1)	(2)	(3)	Total
	STATE DIVISION (including sub-divisions)							
1998@	$17.2	$ 640.3	$1,395.9	$2,328.5	100%	100%	119%	113%
1999@#	16.9	784.0	1,634.2	2,637.1	100%	100%	112%	108%
2000	15.8	747.5	1,865.7	2,943.3	100%	100%	117%	112%
	LOCAL GOVERNMENT DIVISION							
1998@	$ 8.8	$ 337.9	$ 501.1	$ 968.1	100%	100%	124%	114%
1999#	8.8	446.9	587.9	1,074.7	100%	100%	105%	103%
2000	7.6	440.0	706.0	1,178.1	100%	100%	103%	102%
	STATE AND LOCAL GOVERNMENT DIVISION							
2001#	$23.4	$1,305.0	$2,759.2	$4,335.5	100%	100%	109%	106%
2002@	20.5	1,502.7	2,850.8	4,397.2	100%	100%	101%	101%
2003@	20.5	1,624.7	3,004.7	4,408.3	100%	100%	92%	95%
2004	20.5	1,762.2	3,197.6	4,429.9	100%	100%	83%	89%
2005@	15.5	1,878.2	3,701.7	4,576.1	100%	100%	72%	82%
2006	15.5	1,990.6	3,907.3	4,941.1	100%	100%	75%	84%
2007#	29.7	2,268.5	3,856.7	5,489.3	100%	100%	83%	89%
2008@	45.8	2,463.9	4,014.9	5,858.1	100%	100%	83%	90%
2009	66.4	2,750.3	4,059.9	5,406.8	100%	100%	64%	79%
2009#	66.4	2,750.3	4,103.5	5,406.8	100%	100%	63%	78%
2010	92.8	2,928.7	4,266.1	5,403.5	100%	100%	56%	74%
2011@	119.2	3,268.3	4,327.8	5,462.6	100%	100%	48%	71%
2012	122.1	3,518.7	4,521.9	5,625.4	100%	100%	44%	69%
2013@	147.9	3,855.2	4,281.1	6,159.3	100%	100%	50%	74%
2014@	176.3	4,246.7	4,440.6	6,894.9	100%	100%	56%	78%
2015@	201.1	4,654.5	4,439.2	7,351.7	100%	100%	56%	79%
2016	228.4	4,929.2	4,505.1	7,768.9	100%	100%	58%	80%
2017	291.1	5,388.3	4,421.3	8,157.0	100%	100%	56%	81%
2017@	**291.1**	**5,547.3**	**4,671.8**	**8,157.0**	**100%**	**100%**	**50%**	**78%**

 # After legislated changes in benefit provisions.
@ After changes in actuarial assumptions.

Summary of Risk Measures

Valuation Date June 30,	Funded Ratio Based on AVA	Funded Ratio Based on MVA	UAAL Amortization Period	Total UAAL / Total Payroll	Total Actuarial Value of Assets / Total Payroll	Total AAL / Total Payroll	Standard Deviation of Investment Return / Total Payroll
2005 @#	82 %	83 %	22	0.9	3.8	4.6	**
2006	83	87	19	0.8	3.9	4.7	**
2007 @	89	97	18	0.5	4.2	4.7	**
2008 #	90	86	14	0.5	4.3	4.7	**
2009 @	78	62	30	1.1	3.8	4.8	**
2010	74	65	30	1.2	3.6	4.8	**
2011 #	71	75	30	1.5	3.4	4.8	**
2012	69	70	30	1.5	3.3	4.8	**
2013 #	74	77	25	1.3	3.6	4.9	**
2014 #	78	85	23	1.1	4.0	5.1	59 %
2015 #	79	81	25	1.1	4.2	5.3	58 %
2016	80	76	21	1.1	4.3	5.4	56 %
2017 #	78	76	30	1.3	4.6	5.9	56 %

@ After legislated changes in benefit provisions.
 # After changes in actuarial assumptions.
*** Unavailable. This measurement will be built prospectively beginning with the June 30, 2014 valuation.*

Funded ratio: The funded ratio is expected to trend toward 100% by June 30, 2047 under the current amortization period.

UAAL Amortization Period: The statutory amortization period is expected to decrease by one year each year.

UAAL / Total Payroll: The ratio of the unfunded actuarial accrued liability to payroll is expected to trend towards 0% by June 30, 2047.

Funding Value of Assets / Total Payroll: As the funded ratio increases, this ratio is expected to converge to the ratio of Total AAL / Payroll.

Total AAL / Total Payroll: This measure is expected to increase as the system matures.

Standard Deviation of Investment Return / Total Payroll: This measure illustrates the impact of a one standard deviation change in investment return as a percent of payroll. Investment return experience other than expected ultimately affects the employer contribution rates. The higher the ratio of this risk metric, the greater the expected volatility in employer contribution rates. Absent changes in investment policy, this metric is expected to increase as the assets grow to 100% of the AAL.

SECTION B

VALUATION DATA

Summary of Provisions Evaluated
(Excludes Special Provisions for General Assembly)
(Last Changed as of 7/1/2009)

The Old Contributory Plan is available to persons who became members of APERS before January l, 1978. The Non-Contributory Plan applies to all persons first hired after January l, 1978 and before July 1, 2005 in APERS-covered employment. The New Contributory Plan applies to all persons hired after July 1, 2005 in APERS-covered employment or Non-Contributory members who elected to participate in the New Contributory Plan.

New Contributory Plan	Non-Contributory Plan
Voluntary Retirement	
With a full benefit, after either (a) age 65 with 5 years of service, or (b) 28 years of actual service, regardless of age. For sheriff and public safety members, the age 65 requirement is reduced 1 month for each 2 months of actual service, but not below age 55 (age 52 for sheriff members with a minimum of 10 years of actual service).	***With a full benefit***, after either (a) age 65 with 5 years of service, or (b) 28 years of actual service, regardless of age. For sheriff and public safety members, the age 65 requirement is reduced 1 month for each 2 months of actual service, but not below age 55 (age 52 for sheriff members with a minimum of 10 years of actual service).
With a reduced benefit, after age 55 with 5 years of service or any age with 25 years of service. The reduction is equal to ½ of 1% for each month retirement precedes normal retirement age or 1% for each month below 28 years of actual service, whichever is less.	***With a reduced benefit***, after age 55 with 5 years of service or any age with 25 years of service. The reduction is equal to ½ of 1% for each month retirement precedes normal retirement age or 1% for each month below 28 years of actual service, whichever is less.
Final Average Compensation (FAC)	
Average of highest 36 calendar months of covered compensation.	Average of highest 36 calendar months of covered compensation.
Full Age & Service Retirement Benefit	
2.00% of FAC times years of service (2.03% for service prior to July 1, 2007), plus .5% of FAC times years of service over 28 years for service after July 1, 2009. The minimum monthly benefit is $150 minus any age and beneficiary option reductions.	1.72% of FAC times years and months of credited service (1.75% for service prior to July 1, 2007), plus .5% of FAC times years of service over 28 years for service after July 1, 2009. If retirement is prior to age 62, an additional .33% of FAC times years of service will be paid until age 62. The portion of the APERS benefit based on service before 1978 cannot be less than the amount provided by contributory provisions in effect at the time of retirement. The minimum monthly benefit is $150 minus any age and beneficiary option reductions.

Summary of Provisions Evaluated

New Contributory Plan	Non-Contributory Plan
Benefit Increases After Retirement	
Annually, there will be a cost-of-living adjustment equal to 3% of the current benefit.	Annually, there will be a cost-of-living adjustment equal to 3% of the current benefit.
Member Contribution Rates	
5% of covered compensation (pre-tax). Member contributions are refundable if APERS-covered employment terminates before a monthly benefit is payable. Members will earn interest on the contributions at a rate of 4% annually.	No employee contributions for service after January 1, 1978. If there is service before January 1, 1978, contributions for that period are refundable later in the same manner as under the Contributory Plan.
Vested Retirement Benefits	
5 or more years of service, and leaving APERS-covered employment before full retirement age. Deferred full retirement benefit, based on service and pay at termination, begins at age 65. A death benefit is payable to surviving spouse of member who dies before benefit commencement.	5 or more years of service and leaving APERS-covered employment before full retirement age. Deferred full retirement benefit, based on service and pay at termination, begins at age 65. A death benefit is payable to surviving spouse of member who dies before benefit commencement.
In place of deferred full benefit, at age 55 or older a qualifying member can elect an immediate reduced benefit.	In place of deferred full benefit, at age 55 or older a qualifying member can elect an immediate reduced benefit.
Total and Permanent Disability	
Disabled after 5 or more years of service, including credit for 18 of the 24 months preceding disability.	Disabled after 5 or more years of service, including credit for 18 of the 24 months preceding disability.
Amount is computed as an age & service benefit, based on service and pay at disability.	Amount is computed as an age & service benefit, based on service and compensation at disability.

Summary of Provisions Evaluated

New Contributory Plan	Non-Contributory Plan
Death After Retirement	
If death occurs before total monthly benefit payments equal member's accumulated contributions, the difference is refunded.	Member contributions before 1978 are protected in the same manner as under the Contributory Plan.
A retiring member can also elect an optional form of benefit, which provides beneficiary protection paid for by reducing the retired member's benefit amount. Should the member elect a straight life benefit and decease within 12 months of the date of retirement, a benefit may be payable to the surviving spouse under certain conditions.	A retiring member can also elect an optional form of benefit, which provides beneficiary protection paid for by reducing the retired member's benefit amount. Should the member elect a straight life benefit and decease within 12 months of the date of retirement, a benefit may be payable to the surviving spouse under certain conditions.
Death While In APERS-Covered Employment	
Member's accumulated contributions are refundable.	Member's accumulated contributions before 1978 are refundable.
If the member had 5 or more years of service, monthly benefits are payable instead. Surviving spouse receives a benefit computed as if member had retired and elected the Joint & 75% Survivor Option. Payment begins immediately.	If the member had 5 or more years of service, monthly benefits are payable instead. Surviving spouse receives a benefit computed as if member had retired and elected the Joint & 75% Survivor Option. Payment begins immediately.
Each dependent child receives benefit of 10% of compensation (maximum of 25% for all children).	Each dependent child receives benefit of 10% of compensation (maximum of 25% for all children).
Dependent parents benefits are payable if neither spouse nor children's benefits are payable.	Dependent parents benefits are payable if neither spouse nor children's benefits are payable.

Summary of Provisions Evaluated
Credited Service

Membership Group	Service Credits
Public Safety Members (including State Capitol Police and Wildlife Sub-Division members) hired before July 1, 1997	1-1/2 times regular rate with 5 years actual service required to meet benefit eligibility rules.
Governor (hired before July 1, 1999)	3 times regular rate with 5 years actual service required to meet death-in-service eligibility and 4 years actual service required for other benefit eligibility.
Elected State Constitutional Officers (hired before July 1, 1999)	2-1/2 times regular rate with 5 years actual service required to meet benefit eligibility.
General Assembly	Regular crediting rate with 5 years of actual service required to meet death-in-service eligibility and 10 years of actual service required for other benefit eligibility.
Other Elected Public Officials (municipal and county officials)	2 times regular rate with 5 years actual service required to meet benefit eligibility.
All Other Members	Regular rate.

Arkansas Public Employees Deferred Retirement Option Plan

Members with 28 years of actual service in APERS or in combination with a reciprocal system are eligible to participate.

Members, for a maximum of 7 years, may continue employment and have 75% of their accrued benefit (at date of participation with 30 or more years of service) paid into the Deferred Retirement Option Plan in lieu of any further benefit accruals.

The payments into the Deferred Retirement Option Plan accumulate with interest at a rate established by the Board. The interest is paid on the mean balance and is paid to the member at termination of active membership in either a lump sum or as an annuity.

Employer contributions continue for members participating in the DROP.

Summary of Provisions Evaluated
General Assembly Division
Additional Benefit Provisions

Voluntary Retirement Eligibility

Age 65 with 10 or more years of credited service, 28 years of actual service regardless of age, or age 55 with 12 or more years of actual service, 10 of which must be as a member of the General Assembly. In addition, a member of the General Assembly who was a member of the General Assembly on July 1, 1979, or holding any other Arkansas elective office on July 1, 1979, is eligible to retire with 17.5 years of actual service regardless of age.

Vesting

Termination of employment prior to normal retirement age after completing 10 or more years of credited service.

Retirement Benefit

$35.00 per month times years of General Assembly service. The amount is $40.00 per month per year of service for any member who served as Speaker of the House of Representatives or President Pro Tempore of the Senate.

Disability

Eligibility: 10 years of credited service.

Amount: Accrued retirement benefit.

Death-In-Service

Eligibility: 5 years of service.

Amount - Less than 10 years in General Assembly: Same as for regular members.

Amount - 10 or more years in General Assembly: 100% of the benefit the member would have been entitled to had he or she been at retirement age payable to an eligible surviving spouse.

Death-After-Retirement

100% of the benefit the member was receiving payable to an eligible surviving spouse.

Participation

A member of the General Assembly may, at any time, elect either (i) to be covered by regular benefit provisions, or (ii) to discontinue an APERS membership.

Summary of Provisions Evaluated
Illustration of Benefit Changes During Recent
Years of Retirement & Related Changes in Purchasing Power

Year Ended June 30	Increase Beginning of Year	Benefit Dollars In Year	Inflation (Loss) In Year#	Purchasing Power at Year End	
				1985 $	% of 1985
1985	--	$ 8,000	(3.7)%	$8,000	100%
1986	$ 240	8,240	(1.7)%	8,102	101%
1987	240	8,480	(3.7)%	8,041	101%
1988	240	8,720	(3.9)%	7,958	99%
1989	240	8,960	(5.1)%	7,780	97%
1990	240	9,200	(4.7)%	7,630	95%
1991	240	9,440	(4.7)%	7,478	93%
1992	661	10,101	(3.1)%	7,761	97%
1993	303	10,404	(3.0)%	7,761	97%
1994	584	10,988	(2.5)%	7,996	100%
1995	275	11,263	(3.0)%	7,958	99%
1996	1,064	12,327	(2.8)%	8,472	106%
1997	345	12,672	(3.0)%	8,506	106%
1998	760	13,432	(2.3)%	8,761	110%
1999	309	13,741	(1.7)%	8,896	111%
2000	990	14,731	(3.7)%	9,194	115%
2001	442	15,173	(3.2)%	9,172	115%
2002	713	15,886	(1.1)%	9,502	119%
2003	477	16,363	(2.1)%	9,586	120%
2004	491	16,854	(3.0)%	9,586	120%
2005	506	17,360	(3.2)%	9,570	120%
2006	521	17,881	(4.1)%	9,465	118%
2007	715	18,596	(2.4)%	9,617	120%
2008	558	19,154	(5.6)%	9,380	118%
2009	575	19,729	2.1 %	9,864	123%
2010	592	20,321	(1.2)%	10,036	125%
2011	610	20,931	(3.6)%	9,962	125%
2012	628	21,559	(1.4)%	10,118	126%
2013	647	22,206	(2.0)%	10,221	128%
2014	666	22,872	(2.0)%	10,322	129%
2015	686	23,558	(0.2)%	10,614	133%
2016	707	24,265	(0.8)%	10,843	136%
2017	728	24,993	(1.7)%	10,979	137%
2018	750	25,743			

 # Based on Consumer Price Index, All Urban Consumers, United States City Average (July values).

Revenues and Expenditures
July 1, 2016 Through June 30, 2017
Market Value

	Totals
Balance 7/1/2016	**$7,350,771,708**
Revenues	
Member contributions	57,560,228
Employer contributions	261,058,732
Transfers	4,860,673
Other	1,641,193
Investment return*	860,485,078
Total	1,185,605,904
Expenditures	
Benefits paid and refunds	520,153,367
Expenses	9,470,120
Total	529,623,487
Reserve Adjustments	0
Balance 6/30/2017	**$8,006,754,125**
Less Contibutions Receivable	**8,233,527**
Balance Available for Funding Valuation	**$7,998,520,598**

** Net of investment expenses.*

Note: Results may not total due to rounding.

Reported Accrued Assets Available for Benefits
June 30, 2017

Retirement System Account	Reported Assets June 30, 2017	
Employer Accumulation Account	$ 1,439,724,806	*
Members Deposit Account	339,134,758	
Members Deposit Interest Reserve	53,528,395	
Retirement Reserve Account	5,547,312,139	*
Deferred Annuity Reserve Account	528,546,993	*
DROP Reserve	98,416,745	
Miscellaneous Reserves	90,289	
Total Market Value	$ 8,006,754,125	
Less Contributions Receivable	8,233,527	
Market Value Available for Funding	$ 7,998,520,598	
Funding Value of Assets	$ 8,157,037,661	
Valuation Asset Adjustment	158,517,063	
Adjusted Employer Accum. Account	$ 1,598,241,869	

* *After recommended reserve transfers (see page A-2).*

Reported Accrued Assets Available for Benefits
June 30, 2017
(Concluded)

The Employers Accumulation Account represents employer contributions accumulated for benefits on behalf of present members.

The Members Deposit Account represents member contributions accumulated for (1) monthly benefits at retirement, and (2) refunds upon termination if monthly benefits are not payable.

The Members Deposit Interest Reserve Account represents interest credited on member contributions.

The Retirement Reserve Account represents reserves, from employer and member contributions, held for the monthly benefits being paid to present retired lives.

The Deferred Annuity Account represents employer reserves held for future monthly benefits to present inactive members.

In financing the liabilities, the Fund balances displayed on the previous page were applied to the actuarial accrued liabilities.

Development of Funding Value of Assets

	Valuation Date June 30:	2015	2016	2017	2018	2019	2020
A.	Funding Value Beginning of Year	$ 6,894,878,773	$ 7,351,734,654	$7,768,871,751			
B.	Market Value End of Year	7,530,670,312	7,350,771,708	7,998,520,598			
C.	Market Value Beginning of Year	7,512,167,348	7,530,670,312	7,350,771,708			
D.	Non-Investment Net Cash Flow	(143,395,439)	(175,483,016)	(204,502,660)			
E.	Investment Income						
	E1. Market Total: B - C - D	161,898,403	(4,415,588)	852,251,550			
	E2. Assumed Rate	7.75%	7.50%	7.50%	7.15%		
	E3. Amount for Immediate Recognition	528,865,652	544,878,798	575,088,960			
	E4. Amount for Phased-In Recognition	(366,967,249)	(549,294,386)	277,162,590			
F.	Phased-In Recognition of Investment Income						
	F1. Current Year: 0.25 x E4	(91,741,812)	(137,323,597)	69,290,648			
	F2. First Prior Year	177,354,370	(91,741,812)	(137,323,597)	$ 69,290,648		
	F3. Second Prior Year	99,452,354	177,354,370	(91,741,812)	(137,323,597)	$ 69,290,648	
	F4. Third Prior Year	(113,679,244)	99,452,354	177,354,371	(91,741,813)	(137,323,595)	$ 69,290,646
	F5. Total Phase-Ins	71,385,668	47,741,315	17,579,610	(159,774,762)	(68,032,947)	69,290,646
G.	Preliminary Funding Value End of Year: A + D + E3 + F5	$ 7,351,734,654	$ 7,768,871,751	$8,157,037,661			
H.	Adjustment to Minimum of 75% of B, Maximum 125% of B	0	0	0			
I.	**Funding Value End of Year**	**$ 7,351,734,654**	**$ 7,768,871,751**	**$8,157,037,661**			
J.	Difference Between Market & Funding Value	178,935,658	(418,100,043)	(158,517,063)			
K.	**Recognized Rate of Return**	**8.8%**	**8.2%**	**7.7%**			
L.	Market Rate of Return	2.2%	(0.1)%	11.8%			
M.	Ratio of Funding Value to Market Value	98%	106%	102%			

The Funding Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment return (Line E4) are phased-in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than Market Value. If assumed rates are exactly realized for 3 consecutive years, Funding Value will become equal to Market Value.

Summary of Annuitants on Rolls

Retirees and beneficiaries (including DROP participants) on rolls included in the valuation totaled 36,260, involving annual annuities of $540,131,520, distributed as follows:

Division	Number	Annuities Being Paid July 1, 2017	
		Monthly	Annualized
State & Local	34,602	$ 41,334,979	$ 496,019,748
General Assembly	119	165,297	1,983,564
Governor	1	5,823	69,876
Wildlife	115	344,715	4,136,580
State Constitutional Officers	11	43,547	522,564
Penitentiary	0	0	0
Sub-total	**34,848**	**41,894,361**	**502,732,332**
DROP	1,412	3,116,599	37,399,188
Totals	**36,260**	**$ 45,010,960**	**$ 540,131,520**

Inactive members, entitled to deferred annuities, included in the valuation totaled 14,873, involving estimated deferred monthly annuities of $6,331,591, distributed as follows:

Division	Number of Inactive Members	Estimated Deferred Annuities	
		Monthly	Annualized
State and Local	14,823	$ 6,322,069	$ 75,864,828
General Assembly	45	6,063	72,756
Wildlife	3	1,569	18,828
State Constitutional Officers	2	1,890	22,680
Totals	**14,873**	**$ 6,331,591**	**$ 75,979,092**

Retirement System Totals
Annuities Being Paid Retirees and Beneficiaries
and DROP Participants
June 30, 2017
by Attained Age and Type of Retirement

Attained Ages	DROP		Age & Service*		Disability		Death-in-Service Beneficiaries		Totals	
	No.	Annual Amount	No.	Annual Annuities	No.	Annual Annuities	No.	Annual Annuities	No.	Annual Annuities
Under 40			46	$ 253,824	27	$ 126,912	197	$ 864,804	270	$ 1,245,540
40-44		$ -	36	320,904	57	354,828	23	132,972	116	808,704
45-49	17	311,016	99	1,684,344	117	943,104	47	410,484	280	3,348,948
50-54	210	4,751,424	463	11,387,100	259	2,397,300	76	691,860	1,008	19,227,684
55-59	584	16,615,956	2,281	45,635,340	510	4,684,224	132	1,001,916	3,507	67,937,436
60-64	456	12,421,320	5,182	87,226,728	717	7,116,552	177	1,493,604	6,532	108,258,204
65-69	119	2,795,616	7,615	112,802,712	747	7,251,096	137	1,217,472	8,618	124,066,896
70-74	22	436,284	6,138	87,913,524	479	4,486,764	127	1,206,612	6,766	94,043,184
75-79	4	67,572	4,062	53,474,124	151	1,443,588	88	760,164	4,305	55,745,448
80-84			2,643	35,354,052	58	673,380	53	530,820	2,754	36,558,252
85-89			1,345	18,086,028	14	185,292	28	258,876	1,387	18,530,196
90-94			539	8,224,140	4	47,268	17	216,828	560	8,488,236
95-99			132	1,604,484			5	51,312	137	1,655,796
Over 100			20	216,996					20	216,996
Totals	**1,412**	**$37,399,188**	**30,601**	**$464,184,300**	**3,140**	**$29,710,308**	**1,107**	**$8,837,724**	**36,260**	**$540,131,520**

** Including survivor beneficiaries of deceased retirees and QDRO alternate payees.*

Annuities Being Paid June 30, 2017
by Type of Annuity

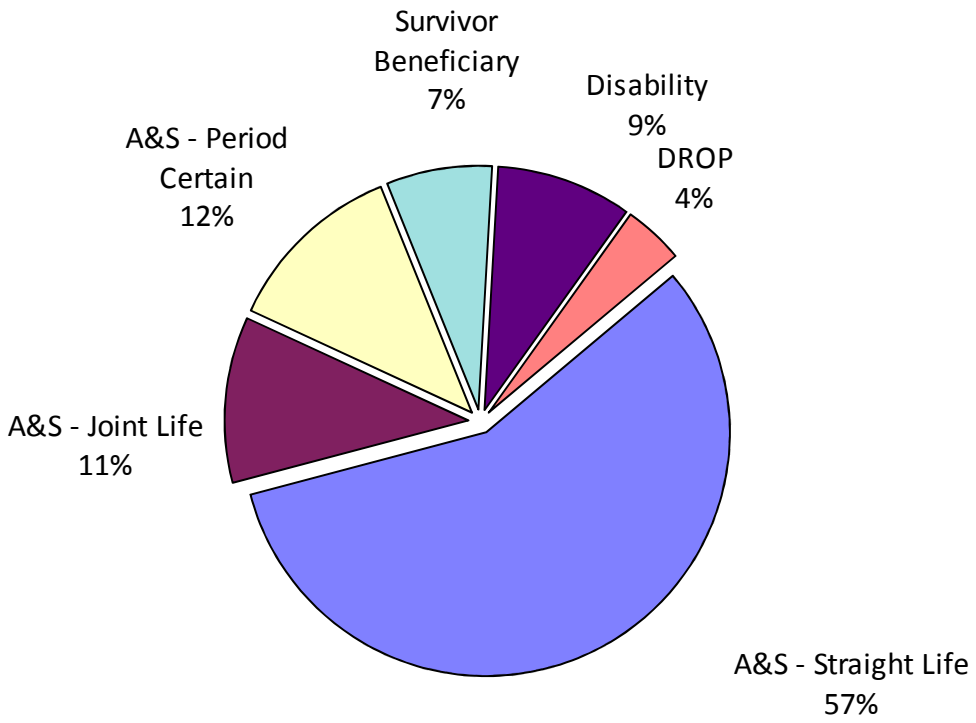
Type of Annuity	Number	Annual Annuities
Age & Service Retirees		
Life	20,662	$ 323,892,072
Option A- 60 (5 years certain)	1,565	20,635,356
Option A-120 (10 years certain)	2,834	34,886,280
Option B- 50 (joint and 50% survivor)	1,524	29,859,024
Option B- 75 (joint and 75% survivor)	2,457	39,854,532
Totals	29,042	449,127,264
Disability Retirees		
Life	2,170	20,955,876
Option A- 60	164	1,410,420
Option A-120	380	3,447,888
Option B- 50	162	1,559,136
Option B- 75	264	2,336,988
Totals	3,140	29,710,308
Beneficiaries of Age & Service and Disability Retirees		
Life	49	960,804
Option A- 60	32	297,132
Option A-120	219	1,935,060
Option B- 50	355	3,195,264
Option B- 75	665	6,870,480
Totals	1,320	13,258,740
Total Age & Service Retirees & Beneficiaries	30,362	462,386,004
Death-in-Service Beneficiaries	1,107	8,837,724
Total Death and Disability Retirees & Beneficiaries	4,247	38,548,032
QDRO Alternate Payees	239	1,798,296
Total Retirees & Beneficiaries	**34,848**	**502,732,332**
DROP Participants	1,412	37,399,188
Total Including DROP Participants	**36,260**	**$ 540,131,520**

The average monthly benefit is $1,241.34

Schedule of Average Benefit Payments (Voluntary Retirements Still Receiving Benefits as of June 30, 2017)

	Years of Credited Service				
	10-14	15-19	20-24	25-29	30+
Retirement Effective Dates					
July 1, 2016 to June 30, 2017					
Average Monthly Benefit	$ 463.18	$ 998.89	$ 1,361.92	$2,272.89	$3,021.21
Average Monthly FAS	2,736.39	3,341.89	3,497.65	3,605.81	3,807.59
Number of Active Retirees	981	343	225	528	264
Retirement Effective Dates					
July 1, 2015 to June 30, 2016					
Average Monthly Benefit	458.52	968.78	1,394.06	2,311.49	2,930.95
Average Monthly FAS	2,811.73	3,323.26	3,768.80	3,850.76	4,216.82
Number of Active Retirees	857	240	159	438	218
Retirement Effective Dates					
July 1, 2014 to June 30, 2015					
Average Monthly Benefit	555.13	997.31	1,396.88	2,305.40	2,805.57
Average Monthly FAS	2,759.44	3,301.08	3,832.59	4,142.67	4,064.83
Number of Active Retirees	912	252	210	448	196
Retirement Effective Dates					
July 1, 2013 to June 30, 2014					
Average Monthly Benefit	465.55	906.81	1,358.82	2,249.22	2,772.73
Average Monthly FAS	2,687.58	3,035.24	3,418.03	3,888.23	8,759.97
Number of Active Retirees	821	227	174	456	154
Retirement Effective Dates					
July 1, 2012 to June 30, 2013					
Average Monthly Benefit	455.91	891.09	1,488.26	2,304.43	2,818.61
Average Monthly FAS	2,540.30	2,907.92	4,025.64	3,785.80	4,245.29
Number of Active Retirees	855	199	182	479	181
Retirement Effective Dates					
July 1, 2011 to June 30, 2012					
Average Monthly Benefit	432.53	904.90	1,276.53	2,266.18	2,723.21
Average Monthly FAS	2,544.71	2,998.37	3,325.55	3,788.46	4,131.52
Number of Active Retirees	789	208	165	415	143
Retirement Effective Dates					
July 1, 2010 to June 30, 2011					
Average Monthly Benefit	449.71	942.02	1,424.82	2,257.15	2,671.38
Average Monthly FAS	2,596.61	2,830.13	3,304.14	3,764.59	4,211.63
Number of Active Retirees	716	180	175	417	170
Retirement Effective Dates					
July 1, 2009 to June 30, 2010					
Average Monthly Benefit	383.68	805.27	1,180.62	2,197.89	2,554.49
Average Monthly FAS	2,311.09	2,647.57	2,876.89	3,941.93	4,212.25
Number of Active Retirees	629	165	149	342	160
Retirement Effective Dates					
July 1, 2008 to June 30, 2009					
Average Monthly Benefit	480.72	812.09	1,231.85	2,204.82	2,637.21
Average Monthly FAS	2,224.60	2,607.43	3,785.38	3,509.85	4,119.77
Number of Active Retirees	718	199	180	485	207
Retirement Effective Dates					
July 1, 2007 to June 30, 2008					
Average Monthly Benefit	444.93	876.45	1,201.48	2,058.84	2,796.08
Average Monthly FAS	2,495.87	2,690.02	2,772.99	3,672.62	4,995.83
Number of Active Retirees	562	154	145	398	117
Retirement Effective Dates					
July 1, 2007 to June 30, 2017					
Average Monthly Benefit	**462.43**	**1,929.04**	**3,207.70**	**2,928.17**	**6,661.11**
Average Monthly FAS	**1,529.22**	**1,865.90**	**1,994.59**	**2,050.12**	**2,673.27**
Number of Active Retirees	**7,840**	**2,167**	**1,764**	**4,406**	**1,810**

Annuities Being Paid by Type
June 30, 2017



New Retirees
June 30, 2017

	New Retirees June 30, 2017	
	Age & Service	Disability
Number*	2,335	116
Average Age (yrs.)	62.3	54.9
Average Service (yrs.)	18.3	13.4
Average Monthly Benefit	$1,326.46	$745.57

** May include members who become new retirees from a non-active status.*

Retirement System Totals
Annuities Likely to be Paid Present Inactive Members
June 30, 2017
by Attained Age

Attained Ages	No.	Estimated Annual Annuities
Under 40	2,440	$ 11,612,717
40-44	1,973	9,986,143
45-49	2,797	14,254,175
50-54	2,936	15,901,161
55-59	2,356	12,469,621
60-64	1,585	8,790,940
65-69	786	2,964,335
Totals	**14,873**	**$ 75,979,092**

Liabilities for Deferred Annuities June 30, 2017

Number of Inactive Members	Estimated Annual Annuities	Annuity Liabilities
14,873	$ 75,979,092	$ 528,546,993

State and Local Division
(Excluding General Assembly)
Active Members* in Valuation June 30, 2017
by Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 plus	No.	Valuation Payroll
Under 20	287							287	$ 4,912,849
20-24	2,842	25						2,867	69,792,887
25-29	3,774	645	23					4,442	130,291,697
30-34	2,765	1,367	483	19				4,634	155,123,830
35-39	2,303	1,334	1,147	340	3			5,127	186,588,196
40-44	1,843	1,181	1,062	848	211	4		5,149	194,150,286
45-49	1,946	1,201	995	905	673	242	2	5,964	229,966,548
50-54	1,568	1,050	948	880	692	572	112	5,822	228,084,547
55-59	1,282	1,047	956	846	630	512	209	5,482	219,056,255
60	213	202	190	177	97	100	27	1,006	39,911,436
61	182	179	154	160	141	75	40	931	38,082,688
62	169	166	161	139	99	78	29	841	33,388,679
63	113	134	118	110	94	67	29	665	28,325,537
64	133	126	115	111	78	50	28	641	25,986,677
65	76	106	80	79	74	34	16	465	18,555,001
66	81	78	55	46	32	34	17	343	13,876,332
67	68	41	56	38	20	12	10	245	9,565,901
68	51	58	46	36	23	15	8	237	8,776,768
69	59	33	39	36	18	11	10	206	8,241,454
70 & over	204	148	138	122	59	42	24	737	25,989,796
Totals	**19,959**	**9,121**	**6,766**	**4,892**	**2,944**	**1,848**	**561**	**46,091**	**$1,668,667,364**

* *Not including DROP participants.*

Group Averages

Age:	44.4 years
Service:	8.8 years
Annual Pay:	$36,204

General Assembly Sub-Division
Active Members in Valuation June 30, 2017
by Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date								
	0-4	5-9	10-14	15-19	20-24	25-27	28 Plus	No.	Valuation Payroll
25-29									
30-34									
35-39									
40-44									
45-49			1					1	$ 39,399
50-54									
55-59			1					1	39,399
60									
61									
62									
63									
64									
65									
66									
67									
68									
69									
70									
71									
72									
73			1					1	39,399
Totals			**3**					**3**	**$118,197**

While not used in the computations, the following ***group averages*** are computed and shown for their general interest.

Group Averages

Age:	59.2 years
Service:	13.2 years
Annual Pay:	$39,399

SECTION C

GAIN/(LOSS) ANALYSIS

Gain/(Loss) Analysis
Comments

Purpose of Gain/(Loss) Analysis. Regular actuarial valuations give valuable information about the composite change in unfunded actuarial accrued liabilities – whether or not the liabilities are increasing or decreasing and by how much.

But valuations do not show the portion of the change attributable to each risk area within the Retirement System: the rate of investment return which plan assets earn; the rates of withdrawal of active members who leave covered employment; the rates of mortality; the rates of disability; the rates of pay increases; and the ages at actual retirement. In an actuarial valuation, assumptions must be made as to what these rates will be, for the next year and for decades in the future.

The objective of a gain and loss analysis is to determine the portion of the change in actuarial condition (unfunded actuarial accrued liabilities) attributable to each risk area.

The fact that actual experience differs from assumed experience is to be expected – ***the future cannot be predicted with precision***. The economic risk areas (particularly investment return and pay increases) are volatile. Inflation directly affects economic risk areas, and inflation seems to defy reliable prediction.

Changes in the valuation assumed experience for a risk area should be made when the differences between assumed and actual experience have been observed to be sizable and persistent. A gain and loss analysis covering a relatively short period may or may not be indicative of ***long-term trends, which are the basis of actuarial assumptions***.

Changes in Unfunded Actuarial Accrued Liabilities During the Period July 1, 2016 to June 30, 2017

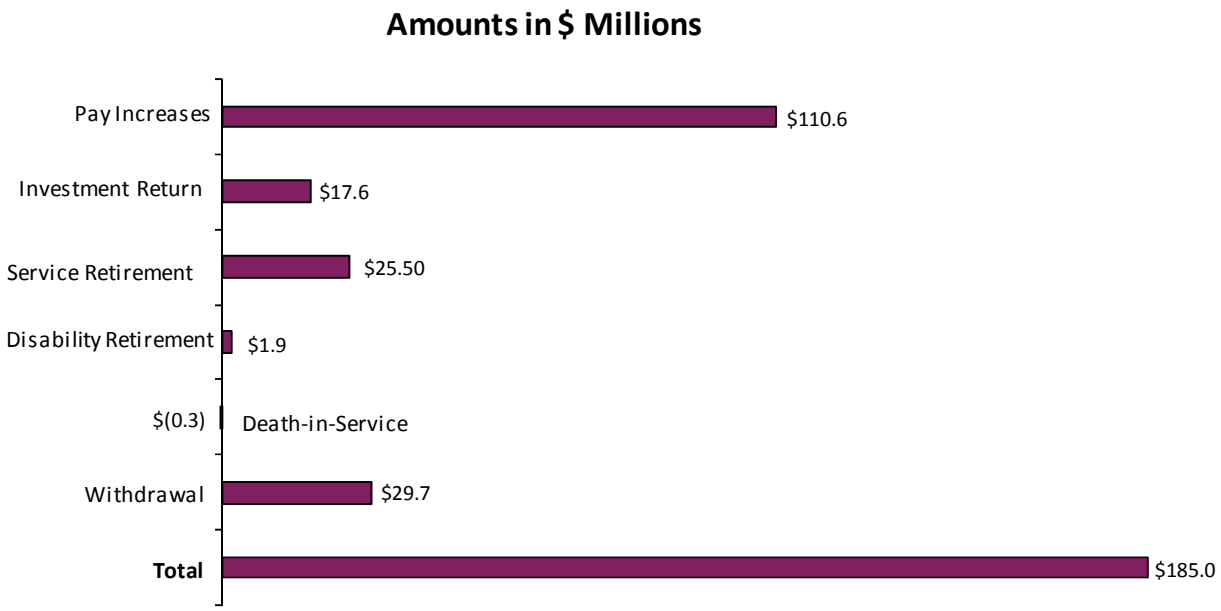
		Total ($ in millions)
(1)	UAAL* at beginning of year	$ 1,893.8
(2)	Employer normal cost from last valuation	134.6
(3)	Actual employer contributions	261.1
(4)	Interest accrual: [(1) + ½[(2) - (3)]]x .0750	137.3
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	1,904.6
(6)	Increase from benefit changes	0.0
(7)	Changes from revised actuarial assumptions and methods	409.5
(8)	New entrant liabilities	67.6
(9)	Expected UAAL after changes: (5) + (6) + (7) + (8)	2,381.7
(10)	Actual UAAL at end of year	2,353.1
(11)	Gain/(Loss): (9) - (10)	$ 28.6

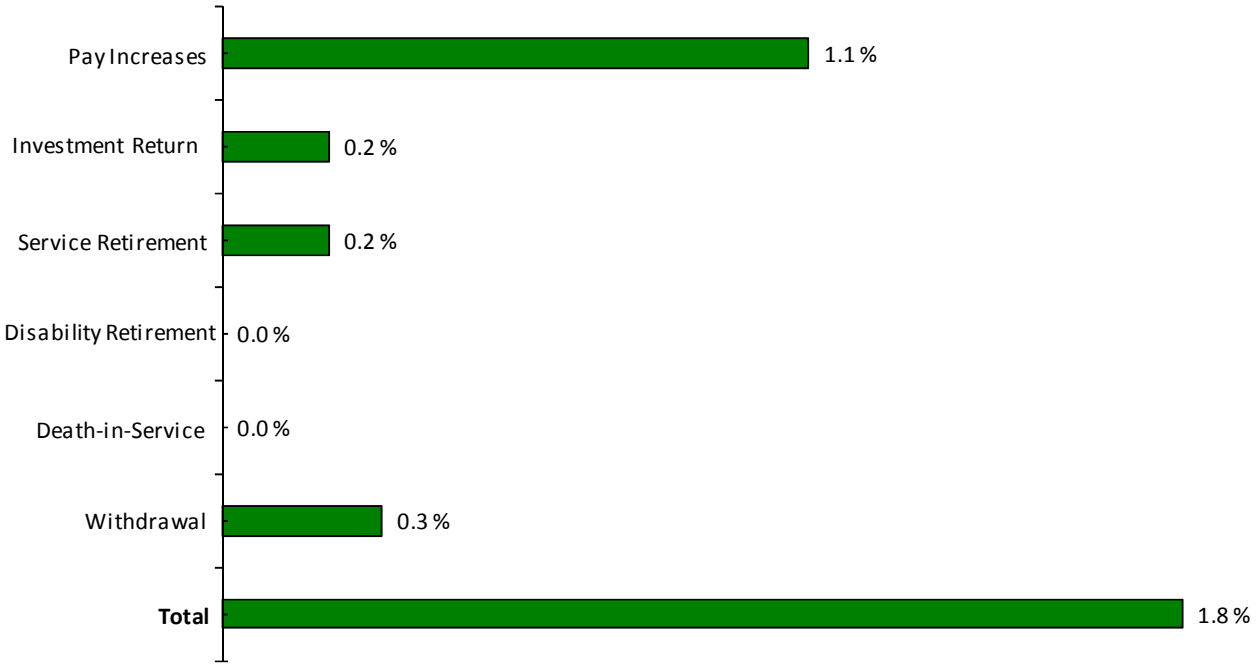
** Unfunded actuarial accrued liability.*

Gains/(Losses) by Risk Area
During the Period July 1, 2016 to June 30, 2017

Type of Risk Area	Total ($ in millions)	% of Accrued Liabilities
ECONOMIC RISK AREAS		
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	$ 110.6	1.1 %
Investment Return. If there is greater investment return than assumed, there is a gain. If less return, a loss.	17.6	0.2 %
NON-ECONOMIC RISK AREAS		
Non-Casualty Retirements. If members retire at older ages or with lower final average pays than assumed, there is a gain. If younger ages or higher average pays, a loss.	25.5	0.2 %
Disability Retirements. If there are fewer disabilities than assumed, there is a gain. If more, a loss.	1.9	0.0 %
Death-in-Service Benefits. If there are fewer claims than assumed, there is a gain. If more, a loss.	(0.3)	0.0 %
Withdrawal. If more liabilities are released by other separations than assumed, there is a gain. If smaller releases, a loss.	29.7	0.3 %
Total Active Member Actuarial Gains/(Losses)	$ 185.0	1.8 %
Retired Life Mortality.	30.0	0.3 %
Other. Includes data adjustments at retirement, timing of financial transactions, and miscellaneous unidentified sources.	(186.4)	(1.8)%
Total Actuarial Gains/(Losses)	$ 28.6	0.3 %

Actuarial Gains/(Losses)
Active Members
2016-2017 Plan Year





Actuarial Gains/(Losses) by Risk Area
Active Members - Comparative Statement
($ in Millions)

Year Ending June 30	Gain/(Loss) By Risk Area						Total Experience Gain/(Loss)		Accrued Liability End of Year
	Pay Increases	Invest-ments	Age & Service Retirement	Disability	Death-In-Service	Withdrawal	Dollars	% of AAL	
1992	$2.7	$27.9	$ 2.7	$ 1.2	$ 2.1	$(6.1)	$30.5	3.2 %	$ 1,607.6
1993	(2.6)	36.3	1.6	1.3	3.1	4.2	43.9	2.7 %	1,711.3
1994	26.0	21.5	3.8	1.4	2.4	(2.2)	52.9	3.1 %	1,853.8
1995	32.0	68.1	(2.1)	(1.5)	(3.0)	(1.7)	91.8	4.5 %	2,057.4
1996	(0.7)	103.5	5.7	2.9	1.4	5.3	118.1	5.8 %	2,290.6
1997	(2.2)	155.3	7.7	3.6	1.9	4.9	171.2	7.5 %	2,605.6
1998	18.2	197.4	(4.4)	4.2	2.1	20.6	238.1	9.1 %	2,882.5
1999	(0.6)	153.1	(0.3)	3.2	(0.1)	25.8	181.1	5.5 %	3,478.7
2000	(13.1)	134.1	2.2	2.8	(0.1)	20.7	146.6	4.2 %	3,803.4
2001	31.3	(37.0)	3.3	3.0	0.1	18.9	19.6	0.5 %	4,111.0
2002	5.4	(247.1)	3.7	(2.5)	0.5	(4.2)	(244.2)	(5.6)%	4,398.0
2003	36.0	(292.6)	11.2	3.3	(0.1)	15.2	(227.0)	(4.9)%	4,398.0
2004	16.2	(274.0)	18.4	0.5	0.2	8.6	(230.0)	(4.6)%	5,004.5
2005	46.7	(143.4)	20.1	0.5	0.5	28.5	(47.1)	(0.8)%	5,619.4
2006	(15.4)	46.5	17.0	0.8	0.0	11.4	60.3	1.0 %	5,936.3
2007	53.2	215.5	12.4	0.8	0.1	17.2	299.2	4.8 %	6,173.8
2008	(35.8)	(0.5)	(1.4)	0.9	0.1	10.0	(26.7)	(0.4)%	6,542.7
2009	1.9	(808.1)	(7.3)	1.1	0.0	4.9	(807.5)	(11.6)%	6,937.9
2010	(2.8)	(319.7)	(2.1)	2.4	(0.1)	(7.7)	(330.0)	(4.5)%	7,304.2
2011	65.1	(259.8)	10.7	(5.9)	(0.1)	7.7	(182.3)	(2.4)%	7,734.1
2012	35.8	(189.5)	11.1	0.8	(0.2)	(4.2)	(146.1)	(1.8)%	8,162.7
2013	89.2	190.9	27.6	0.8	(0.3)	3.4	311.6	3.7 %	8,284.2
2014	86.7	351.3	13.4	0.9	(0.3)	5.6	457.6	5.3 %	8,863.6
2015	93.6	71.4	17.1	1.3	(0.3)	23.8	206.9	2.3 %	9,294.8
2016	(10.8)	47.7	18.7	1.2	(0.3)	14.6	71.1	0.8 %	9,662.7
2017	**110.6**	**17.6**	**25.5**	**1.9**	**(0.3)**	**29.7**	**185.0**	**1.8 %**	**10,510.2**

Development of Gain/(Loss) from Investment Return* During the Period July 1, 2016 to June 30, 2017

		$ Millions
1.	Total Assets Beginning of Year	$ 7,768.9
2.	Total Assets End of Year (Funding Value)	
	a. Actual	$ 8,157.0
	b. If net investment return had been 7.50%	$ 8,139.4
3.	Gain/(Loss): 2a. minus 2b.	$ 17.6

* *"Investment return" as used in this Gain/(Loss) Analysis means essentially: assumed investment income; plus/minus a four-year phase-in of differences between actual and assumed investment return (see page B-10).*

Active Members who Became Age & Service Retirees During the Period July 1, 2016 to June 30, 2017 (Retirement with Unreduced Benefit Beginning Immediately) Attained Age of 65 or Older with Less Than 28 Years of Service

Ages	State & Local Retirements	
	Actual#	Expected
65	87	89
66	91	69
67	69	56
68	30	26
69	37	24
70	40	25
71	19	14
72	13	11
73	18	13
74	8	12
75 & Up	34	26
	446	**365**

 # Additionally, there were 48 new age and service retirees with less than 28 years of non-reciprocal service and under the age of 65.

Averages, in Years:

Age at retirement	68.9
Service at retirement	14.9

Active Members who Became Reduced Early Retirees During the Period July 1, 2016 to June 30, 2017 (Early Retirements with Reduced Benefits Beginning Immediately)

Ages	State & Local Early Retirement	
	Actual #	Expected
55	17	12
56	20	12
57	20	17
58	22	17
59	29	23
60	34	29
61	42	25
62	117	88
63	85	77
64	80	47
Totals	**466**	**347**

 # Additionally, there were 39 new early retirees under the age of 55.

Averages, in Years:

Age at retirement	60.7
Service at retirement	15.6

Active Members Who Retired or Entered the DROP During the Period July 1, 2016 to June 30, 2017 (28 or More Years of Service)

Years of Service	State & Local			
	Retirement		DROP	
	Actual	Expected	Actual	Expected
28	70	54	156	n/a
29	24	28	29	n/a
30	23	18	25	n/a
31	17	16	13	n/a
32	12	12	12	n/a
33	18	11	11	n/a
34	12	8	8	n/a
35	12	14	24	n/a
36	4	10		
37	2	7		
38 & Up	32	53		
Totals	**226**	**232**	**278**	

Averages, in Years:

Age at retirement	61.1	58.2
Service at retirement	32.8	29.7

Active Members Who Became Disability Retirees During the Period July 1, 2016 to June 30, 2017 (and Who were Active Members as of June 30, 2016)

Ages	State & Local Disabilities	
	Actual	Expected
20- 24		
25- 29		
30- 34		2
35- 39	1	3
40- 44	2	6
45- 49	2	11
50- 54	7	20
55- 59	19	31
60 & Up	23	31
Totals	**54**	**104**

Averages, in Years:

Age at retirement	57.1
Service at retirement	14.4

Active Members Who Left Active Status with a Deferred Benefit Payable During the Period July 1, 2016 to June 30, 2017 (Vested Separations)

Ages	State & Local Vested Separations	
	Actual	Expected
Below 30	168	103
30- 34	264	182
35- 39	329	180
40- 44	258	155
45- 49	296	144
50- 54	304	118
55- 59	194	81
60 & Up	210	48
Totals	**2,023**	**1,011**

Averages, in Years:

Age at termination	47.9
Service at termination	11.2

Active Members Who Left Active Status with No Benefit Payable During the Period July 1, 2016 to June 30, 2017 (Non-Vested Separations)

Service at Termination	State & Local Non-Vested Separations	
	Actual	Expected
0	2,160	2,082
1	1,096	1,104
2	627	667
3	443	423
4	3	107
Totals	**4,329**	**4,383**

Averages, in Years:

Age at termination	45.7
Service at termination	1.5

Members Active Both Beginning and End of Year
Salary Increases by Age Group
During the Period July 1, 2016 to June 30, 2017

Age Groups	Number	Beginning Pay	Ending Pay		Percentage Increase	
			Expected	Actual	Expected	Actual
Below 25	1,448	$ 36,415,095	$ 39,852,901	$ 39,665,889	9.4%	8.9%
25- 29	3,055	93,346,182	100,213,000	98,085,641	7.4%	5.1%
30- 34	3,672	128,033,855	135,729,640	132,754,493	6.0%	3.7%
35- 39	4,213	158,753,777	167,340,428	162,480,177	5.4%	2.3%
40- 44	4,424	172,733,735	181,383,682	175,351,821	5.0%	1.5%
45- 49	5,552	216,389,399	226,373,320	220,464,467	4.6%	1.9%
50- 54	5,163	207,376,907	216,227,796	209,677,041	4.3%	1.1%
55- 59	4,933	200,750,961	208,881,375	202,359,989	4.1%	0.8%
60-64	3,514	144,724,563	150,202,977	145,726,146	3.8%	0.7%
65 & Over	1,784	69,144,399	71,391,592	69,550,129	3.3%	0.6%
Totals	**37,758**				**4.9%**	**2.0%**

SECTION D

DISTRICT JUDGES – VALUATION RESULTS AND VALUATION DATA

District Judges
Employer Contribution Rates Computed June 30, 2017

Contribution for	Computed Employer Contributions	
	New Plan and Paid-Off Old Plan (% of Active Payroll)	Still Paying Old Plan (Annual $)
Normal Cost:		
Age and service annuities (including reduced retirement)	19.30%	
Separation benefits	1.59%	
Disability benefits	1.53%	
Death-in-service annuities	0.00%	
Total	22.42%	
Member contributions	5.00%	
Employer Normal Cost	17.42%	
Unfunded Actuarial Accrued Liabilities	21.57% *	$813,409 **
Total Employer Contribution	38.99%	$813,409

* *Unfunded actuarial accrued liabilities were amortized over a 9.6-year period.*
** *Unfunded actuarial accrued liabilities were amortized over a 18-year period.*

District Judges

Summary Statement of System Resources and Obligations
Year Ended June 30, 2017

Present Resources and Expected Future Resources

		Totals
A.	Present Valuation Assets:	
	1. Net assets from system financial statements	$ 22,042,664
	2. Market value adjustment	981,539
	3. Valuation assets	23,024,203
B.	Actuarial present value of expected future employer contributions:	
	1. For normal costs	1,560,058
	2. For unfunded actuarial accrued liability	11,655,517
	3. Total	13,215,575
C.	Actuarial present value of expected future member contributions	448,534
D.	Total Present and Expected Future Resources	$ 36,688,312

Actuarial Present Value of Expected Future Benefit Payments and Reserves

A.	To retirees and beneficiaries	$ 20,123,412
B.	To vested terminated members	6,380,004
C.	To present active members:	
	1. Allocated to service rendered prior to valuation date - actuarial accrued liability	8,176,304
	2. Allocated to service likely to be rendered after valuation date	2,008,592
	3. Total	10,184,896
D.	Reserve	0
E.	Total Actuarial Present Value of Expected Future Benefit Payments	$ 36,688,312

District Judges
Computed Actuarial Liabilities and
Allocation Using Entry Age Actuarial Cost Method
as of June 30, 2017

Actuarial Present Value of	(1) Total Present Value	(2) Portion Covered By Future Normal Cost Contributions	Actuarial Accrued Liabilities (1) - (2)
Benefits to be paid to current retirees, beneficiaries, and future beneficiaries of current retirees	$20,123,412	$ 0	$20,123,412
Age and service allowances based on total service likely to be rendered by present active members	9,805,663	1,717,424	8,088,239
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members	6,591,377	150,661	6,440,716
Disability benefits likely to be paid to present active members	167,860	140,507	27,353
Death-in-service benefits likely to be paid on behalf of present active members	0	0	0
Total	$36,688,312	$2,008,592	$34,679,720
Applicable assets (funding value)	23,024,203	0	23,024,203
Liabilities to be covered by future contributions	$13,664,109	$2,008,592	$11,655,517

District Judges
Summary of Provisions Evaluated

Voluntary Retirement	*With a full benefit*, after either (a) age 50 with 20 years of eligibility service, (b) age 60 with 16 years of eligibility service, or (c) age 65 with 8 years of eligibility service.
Final Average Compensation (FAC)	Average of the final three calendar years of employment.
Benefit Service	Service performed on or after January 1, 2005.
Eligibility Service	Benefit service plus service in Old Local District Judges Plan.
Full Age & Service Retirement Benefit	2.50% of FAC times actual service.
Benefit Increases After Retirement	Annually, there will be a cost-of-living adjustment equal to 3% of the current benefit.
Member Contribution Rates	Active members contribute 5% of their salaries. If a member leaves service before becoming eligible to retire, accumulated contributions may be refunded.
Vested Retirement Benefits	8 years of eligibility service. Deferred full retirement benefit, based on benefit service and pay at termination, begins when member would have been eligible for voluntary retirement.
Total and Permanent Disability	An active member with 3 or more consecutive years of eligibility service who becomes totally and permanently disabled may be retired and receive a disability annuity computed in the same manner as an age and service annuity.
Death After Retirement	If the member was eligible for normal retirement at the time of death, an eligible beneficiary will begin receiving a 50% joint and survivor pension computed in the same manner as a service retirement pension as if the member had retired the last day of his life.

District Judges
Revenues and Expenditures
July 1, 2016 Through June 30, 2017
Market Value

	Plan		
	New Plan and Paid-Off Old Plan	Still Paying Old Plan	Totals
Balance 7/1/2016	$16,112,450	$3,873,992	$19,986,442
Adjustment	0	0	0
Revenues			
Member contributions	151,199	0	151,199
Employer contributions	771,478	1,285,801	2,057,279
Other	0	0	0
Investment return	1,426,891	353,690	1,780,581
Total	$ 2,349,568	$1,639,491	$ 3,989,059
Expenditures			
Benefits paid	794,829	1,014,357	1,809,186
Refunds	0	0	0
Investment Expenses	78,455	19,447	97,902
Administrative Expenses	20,634	5,115	25,749
Total	$ 893,918	$ 1,038,919	$ 1,932,837
Preliminary Balance	$17,568,100	$4,474,564	$22,042,664
Employer Paid Off Old Liability	797,190	(797,190)	0
Balance 6/30/2017	**$18,365,290**	**$3,677,374**	**$22,042,664**

Note: Results may not total due to rounding.

Development of Funding Value of Assets
New Plan and Paid-Off Old Plan
June 30, 2017

	Valuation Date June 30:	2015	2016	2017	2018	2019	2020
A.	Funding Value Beginning of Year	$ 14,293,743	$ 15,915,500	$ 17,514,502			
B.	Market Value End of Year	15,536,710	16,112,450	18,365,290			
C.	Market Value Beginning of Year	15,107,940	15,536,710	16,112,450			
D.	Non-Investment Net Cash Flow	642,008	650,292	904,404			
E.	Investment Income						
	E1. Market Total: B - C - D	(213,238)	(74,552)	1,348,436			
	E2. Assumed Rate	7.75%	7.50%	7.50%	7.15%		
	E3. Amount for Immediate Recognition	1,132,333	1,217,755	1,347,094			
	E4. Amount for Phased-In Recognition	(1,345,571)	(1,292,307)	1,342			
F.	Phased-In Recognition of Investment Income						
	F1. Current Year: 0.25 x E4	(336,393)	(323,077)	336			
	F2. First Prior Year	239,963	(336,393)	(323,077)	$ 336		
	F3. Second Prior Year	150,463	239,963	(336,393)	(323,077)	$ 336	
	F4. Third Prior Year	(206,617)	150,462	239,963	(336,392)	(323,076)	$ 334
	F5. Total Phase-Ins	(152,584)	(269,045)	(419,171)	(659,133)	(322,740)	334
G.	Preliminary Funding Value End of Year: A + D + E3 + F5	15,915,500	17,514,502	19,346,829			
H.	Adjustment to Minimum of 75% of B, Maximum 125% of B	0	0	0			
I.	**Funding Value End of Year**	**15,915,500**	**17,514,502**	**19,346,829**			
J.	Difference Between Market & Funding Value	(378,790)	(1,402,052)	(981,539)			
K.	**Recognized Rate of Return**	**6.7%**	**5.8%**	**5.2%**			
L.	Market Rate of Return	(1.4)%	(0.5)%	8.1%			
M.	Ratio of Funding Value to Market Value	102%	109%	105%			

The Funding Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment return (Line E4) are phased-in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than Market Value. If assumed rates are exactly realized for 3 consecutive years, Funding Value will become equal to Market Value.

District Judges
Summary of Annuitants on Rolls

Retirees and beneficiaries on rolls included in the valuation totaled 174, involving monthly annuities of $178,445, distributed as follows:

Plan	Number of Retired Records	Annuities Being Paid July 1, 2017	
		Monthly	Annualized
New Plan	34	$ 39,823	$ 477,876
Old Plan Paid Off	49	51,210	614,520
Still Paying Old Plan	91	87,412	1,048,944
Totals	**174**	**$ 178,445**	**$ 2,141,340**

A retiree's monthly benefit may be allocated to more than one employer or more than one plan. The actual number of retired members as of June 30, 2017 was reported to be 122, consisting of 108 original retirees and 14 survivors.

Actual Number of Retired Members: 122

Average Age: 73.4 years

Average Age at Retirement: 64.1 years

Average Years of Service: 11.1 years

Average Monthly Benefit: $1,462.66

Inactive members, entitled to deferred annuities, included in the valuation totaled 101, involving estimated deferred monthly annuities of $51,131 distributed as follows:

Plan	Number of Inactive Records	Estimated Deferred Annuities	
		Monthly	Annualized
New Plan	7	$ 5,988	$ 71,856
Old Plan Paid Off	37	21,844	262,128
Still Paying Old Plan	57	23,299	279,588
Totals	**101**	**$ 51,131**	**$ 613,572**

An inactive member's monthly benefit may be allocated to more than one employer or more than one plan. The actual number of deferred members as of June 30, 2017 was reported to be 85.

District Judges
Detail by Employer

Employer	ER ID	Participants Covered: Deferred Vested	Participants Covered: Retired	Retiree Mon. Ben. 7/1/2017	Deferred Mon. Ben. 7/1/2017	Retiree Liability 6/30/2017	Deferred Liability 6/30/2017	Total Liability 6/30/2017	Assets Allocated 6/30/2017	Unfunded Actuarial Liability (UAL)	18-year Payoff of Unfunded Liability
Ashdown	90141	2	2	$ 466.28	$ 550.08	$ 34,474	$ 70,647	$ 105,121	$ 47,042	$ 58,079	$ 5,637
Ashdown (County)	90941	2	2	771.63	910.30	58,388	116,910	175,298	78,876	96,422	9,359
Batesville	90132	1	2	1,218.61	155.62	154,235	10,802	165,037	48,614	116,423	11,300
Beebe	90511	0	1	1,016.67	0.00	98,098	0	98,098	(15,133)	113,231	10,990
Benton District Court	90962	0	2	2,398.38	0.00	229,660	0	229,660	77,275	152,385	14,791
Berryville	90108	1	1	152.78	475.94	16,914	64,015	80,929	50,819	30,110	2,923
Berryville (County)	90908	2	2	1,251.98	700.94	164,674	93,855	258,529	109,544	148,985	14,461
Biscoe	90159	0	1	150.00	0.00	19,406	0	19,406	276	19,130	1,857
Bryant	90133	0	1	517.50	0.00	45,195	0	45,195	(17,222)	62,417	6,058
Clarendon	90148	1	0	0.00	444.72	0	68,322	68,322	50,957	17,365	1,685
Conway	90123	1	2	3,413.05	966.66	350,989	121,874	472,863	175,679	297,184	28,845
Dequeen	90166	0	3	4,406.12	0.00	421,752	0	421,752	(56,405)	478,157	46,411
Dermott	90109	2	1	312.50	205.08	36,902	26,337	63,239	10,070	53,169	5,161
Dermott (County)	90909	2	1	312.50	205.08	36,902	26,337	63,239	10,070	53,169	5,161
Devalls Bluff	90359	0	1	225.00	0.00	29,419	0	29,419	595	28,824	2,798
Dewitt	90101	1	1	733.48	519.44	68,328	65,401	133,729	55,876	77,853	7,557
Dumas	90121	0	4	2,773.34	0.00	316,504	0	316,504	90,550	225,954	21,931
East Camden	90252	2	1	531.53	136.07	63,985	14,071	78,056	21,456	56,600	5,494
Elkins	90172	1	1	833.33	241.35	98,059	31,262	129,321	101,377	27,944	2,712
Greenwood	90265	0	1	771.00	0.00	91,282	0	91,282	(6,921)	98,203	9,532
Hamburg	90202	1	1	450.00	457.19	32,320	58,849	91,169	48,920	42,249	4,101
Helena	90154	2	1	384.38	27.72	18,401	1,857	20,258	(26,647)	46,905	4,553
Helena (County)	90954	2	1	384.38	27.72	18,401	1,857	20,258	(26,647)	46,905	4,553
Hope	90110	0	2	762.50	0.00	79,915	0	79,915	(23,375)	103,290	10,025
Hope (County)	90929	0	2	762.50	0.00	79,915	0	79,915	(13,084)	92,999	9,027
Hot Springs	90126	4	3	4,772.59	3,592.02	502,288	432,800	935,088	212,639	722,449	70,122
Lawrence County	90938	0	2	1,016.99	0.00	113,347	0	113,347	38,097	75,250	7,304
Little Rock	90260	11	13	23,705.51	4,636.19	2,569,735	618,273	3,188,008	1,060,817	2,127,191	206,468
Magnolia	90114	0	1	641.98	0.00	56,795	0	56,795	35,776	21,019	2,040
Marked Tree	90256	0	1	948.14	0.00	75,912	0	75,912	(8,396)	84,308	8,183

** The City of Dumas paid of their remaining balance after the valuation date. This will be reflected in the June 30, 2018 valuation.*

District Judges
Detail by Employer

Employer	ER ID	Participants Covered Deferred Vested	Participants Covered Retired	Retiree Mon. Ben. 7/1/2017	Deferred Mon. Ben. 7/1/2017	Retiree Liability 6/30/2017	Deferred Liability 6/30/2017	Total Liability 6/30/2017	Assets Allocated 6/30/2017	Unfunded Actuarial Liability (UAL)	18-year Payoff of Unfunded Liability
Marshall	90964	0	1	$ 701.31	$ 0.00	$ 69,716	$ 0	$ 69,716	$ 19,642	$ 50,074	$ 4,860
Mt. Home	90103	0	3	3,574.25	0.00	384,555	0	384,555	90,251	294,304	28,566
Newport	90134	1	2	1,035.91	234.22	97,920	31,905	129,825	36,653	93,172	9,043
North Little Rock	90460	9	11	15,336.69	4,867.87	1,465,850	643,596	2,109,446	677,589	1,431,857	138,978
Ozark	90124	0	2	1,125.19	0.00	131,365	0	131,365	63,627	67,738	6,575
Ozark (County)	90924	0	2	1,125.19	0.00	131,365	0	131,365	62,204	69,161	6,713
Pocahontas	90161	1	1	466.18	210.07	64,693	26,164	90,857	24,684	66,173	6,423
Pocahontas (County)	90961	1	1	466.18	210.07	64,693	26,164	90,857	23,914	66,943	6,498
Prairie Grove	90372	0	2	1,861.93	0.00	203,309	0	203,309	2,420	200,889	19,499
Rison	90113	1	0	0.00	780.00	0	87,784	87,784	85,437	2,347	228
Searcy	90273	1	2	1,383.33	1,179.36	118,932	147,427	266,359	110,017	156,342	15,175
Stuttgart	90201	1	2	704.61	530.85	55,254	71,913	127,167	69,106	58,061	5,635
Stuttgart	90901	1	2	861.18	648.82	67,532	87,894	155,426	84,694	70,732	6,865
Trumann	90356	1	0	0.00	224.77	0	30,437	30,437	2,160	28,277	2,745
Tyronza	90456	1	1	850.64	40.12	109,667	4,287	113,954	62,206	51,748	5,023
West Helena	90254	1	1	928.00	120.27	108,595	13,963	122,558	104,970	17,588	1,707
Wynne	90519	0	1	906.73	0.00	107,045	0	107,045	26,305	80,740	7,837
UAL>0 as of 6/30/2017		**57**	**91**	**$87,411.97**	**$23,298.54**	**$9,062,686**	**$2,995,003**	**$12,057,689**	**$3,677,374**	**$8,380,315**	**$813,409**

District Judges
Active Members in Valuation June 30, 2017
by Attained Age and Years of Eligibility Service

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 plus	No.	Valuation Payroll
Under 20									
20-24									
25-29									
30-34									
35-39									
40-44									
45-49			1					1	$ 69,999
50-54			1	1				2	209,998
55-59			4	1	1			6	467,612
60			2	1	1			4	340,386
61			1				1	2	175,176
62			1					1	69,999
63						1		1	27,168
64									
65				1				1	50,535
66				1	1			2	156,379
67									
68							2	2	196,610
69			2					2	209,998
70 & over			1			1	1	3	304,610
Totals			**13**	**5**	**3**	**2**	**4**	**27**	**$2,278,470**

Group Averages

Age:	61.9 years
Benefit Service:	12.5 years
Eligibility Service:	19.0 years
Annual Pay:	$84,388

District Judges
Change in Unfunded Actuarial Accrued Liabilities
During the Period July 1, 2016 to June 30, 2017

	New Plan and Paid Off Old Plan	Still Paying Old Plan	Total
(1) UAAL* at beginning of year	$ 2,108,791	$ 8,893,495	$ 11,002,286
(2) Normal cost from last valuation	479,618	-	479,618
(3) Actual contributions	922,677	1,285,801	2,208,478
(4) Interest accrual: [(1) + ½[(2) - (3)]]x .0750	141,545	618,795	760,340
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	1,807,277	8,226,489	10,033,766
(6) Increase from benefit changes	-	-	-
(7) Changes from revised actuarial assumptions and methods	712,708	306,938	1,019,646
(8) Expected UAAL after changes: (5) + (6) + (7)	2,519,985	8,533,427	11,053,412
(9) Actual UAAL at end of year	3,275,202	8,380,315	11,655,517
(10) Gain/(Loss): (8) - (9)	$ (755,217)	$ 153,112	$ (602,105)

** Unfunded actuarial accrued liability.*

District Judges
Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Entry Age AAL (b)	UAAL (b)-(a)	Funded Ratio (a)/(b)	Annual Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b-a)/(c)]
12/31/04	$ 0	$ 0	$ 0	100.0 %	$1,841,022	0.0%
6/30/05	7,569,919	24,134,114	16,564,195	31.4 %	3,222,495	514.0%
6/30/06	10,141,040	24,943,381	14,802,341	40.7 %	3,313,454	446.7%
6/30/07	12,582,548	24,387,433	11,804,885	51.6 %	3,366,861	350.6%
6/30/08 @	12,398,225	24,797,303	12,399,078	50.0 %	3,526,319	351.6%
6/30/09	10,004,394	25,671,893	15,667,499	39.0 %	3,368,169	465.2%
6/30/10	11,112,521	26,775,249	15,662,728	41.5 %	3,554,044	440.7%
6/30/11	12,950,730	27,524,848	14,574,118	47.1 %	3,345,497	435.6%
6/30/12	13,925,350	28,343,368	14,418,018	49.1 %	3,374,982	427.2%
6/30/13 @	16,090,536	28,823,709	12,733,173	55.8 %	2,989,465	425.9%
6/30/14 @	18,562,875	30,005,138	11,442,263	61.9 %	3,108,024	368.2%
6/30/15 @	19,950,819	31,433,278	11,482,459	63.5 %	3,173,245	361.9%
6/30/16	21,388,494	32,390,780	11,002,286	66.0 %	3,328,256	330.6%
6/30/17	**23,024,203**	**33,660,074**	**10,635,871**	**68.4 %**	**2,278,470**	**466.8%**
6/30/17 @	**23,024,203**	**34,679,720**	**11,655,517**	**66.4 %**	**2,278,470**	**511.6%**

@ After changes in actuarial assumptions and methods.

SECTION E

ACTUARIAL METHODS AND ASSUMPTIONS AND OTHER TECHNICAL ASSUMPTIONS

Summary of Assumptions Used For APERS Actuarial Valuations Assumptions Adopted by Board of Trustees after Consulting with Actuary

In accordance with Section 24-4-105 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, 2007 through June 30, 2012 (please see our report dated February 13, 2013) and updated in conjunction with an Economic Assumption Review dated May 17, 2017. The actuarial assumptions represent estimates of future experience.

Economic Assumptions

The investment return rate used in making the valuation was 7.15% per year, compounded annually (net after investment expenses). This rate of return is not the assumed real rate of return. The real rate of return is the portion of investment return which is more than the wage inflation rate. Considering the assumed wage inflation rate of 3.25%, the 7.15% investment return rate translates to an assumed net real rate of return of 3.90%. The wage inflation assumption was first used for the June 30, 2015 valuation, including also the District Judges division. The investment return assumption was first used for the June 30, 2017 valuation, including also the District Judges division.

Pay increase assumptions for individual active members are shown on pages E-8 and E-10. 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 2.50% for price inflation and 0.75% for real wage growth. These assumptions were first used for the June 30, 2015 valuation and for the District Judges division for the June 30, 2015 valuation.

Total active member payroll is assumed to increase 3.25% a year, which is the portion of the individual pay increase assumptions attributable to wage inflation. This assumption was first used for the June 30, 2015 valuation and for the District Judges division for the June 30, 2015 valuation.

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

Non-Economic Assumptions

The mortality table used to measure retired life mortality was 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 E-3. 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 15% margin for future mortality improvement. This assumption was first used for the June 30, 2013 valuation.

Non-Economic Assumptions (Concluded)

The probabilities of retirement for members eligible to retire are shown on pages E-4 through E-7. These probabilities were first used for the June 30, 2013 valuation and for the June 30, 2007 valuation for the District Judges division.

The probabilities of withdrawal from service, death-in-service and ***disability*** are shown for sample ages on pages E-8 through E-10. These probabilities were first used for the June 30, 2013 valuation and for the District Judges division 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 and interest) which are level percent-of-payroll contributions. For the District Judges division, unfunded actuarial accrued liabilities are amortized as a level dollar contribution.

Recognizing the special circumstances of the General Assembly division, modifications of the above assumptions were made where appropriate.

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 (including District Judges New Plan and Paid Off Old Plan). The funding value of assets may not deviate from the market value of assets by more than 25%. District Judges Still Paying Old Plan present assets (cash & investments) were valued on a market value basis.

The data about persons now covered and about present assets were 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
Based on RP-2000 Combined, Projected to 2020
7.15% Interest
June 30, 2017

Sample Attained Ages	Present Value of $1.00 Monthly for Life		Present Value of $1.00 Monthly for Life Increasing 3% Annually		Future Life Expectancy (Years)	
	Men	Women	Men	Women	Men	Women
40	$ 158.58	$ 161.65	$ 232.12	$ 240.73	40.56	44.21
45	153.51	157.47	219.05	229.05	35.81	39.39
50	146.83	151.96	203.71	215.32	31.13	34.64
55	138.32	144.76	186.13	199.31	26.58	29.98
60	127.88	135.57	166.56	180.97	22.23	25.44
65	115.48	124.43	145.34	160.75	18.14	21.14
70	100.98	111.52	122.67	139.27	14.35	17.16
75	84.94	97.06	99.59	117.12	10.95	13.56
80	68.15	81.29	77.21	94.80	8.02	10.35
85	51.64	64.96	56.70	73.37	5.60	7.59

Sample Attained Ages	Benefit Increasing 3.0% Yearly	Portion of Age 60 Lives Still Alive	
		Men	Women
60	$100	100 %	100 %
65	116	96	97
70	134	90	92
75	155	80	84
80	180	66	72

The mortality table was set forward 10 years for disabilities.

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.

State and Local Government Division
Age-Based Retirement
June 30, 2017

Retirement Ages (with less than 28 years of service)	Percent of Eligible Active Members Retiring Within Next Year	
	Unreduced	Reduced
55		2 %
56		2
57		3
58		3
59		4
60		5
61		5
62		18
63		17
64		13
65	23 %	
66	23	
67	23	
68	15	
69	15	
70	17	
71	17	
72	17	
73	17	
74-75	20	
76-78	15	
79-84	20	
85 & Over	100	

A member was assumed eligible for unreduced retirement after attaining age 65 with 5 years of service or 28 years regardless of age. A member was assumed eligible for reduced retirement after attaining age 55 with 10 or more years of service.

State and Local Government Division
Service Based Retirement
June 30, 2017

Service	Percent of Eligible Active Members Retiring Within Next Year
28	15 %
29	13
30	11
31	11
32	12
33	12
34	12
35	20
36	25
37	25
38	30
39	30
40 & Over	100

General Assembly Division
Probabilities of Retirement
for Members Eligible to Retire
June 30, 2017

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year
50	30 %
51	30
52	30
53	30
54	30
55	30
56	30
57	30
58	30
59	30
60	30
61	30
62	50
63	30
64	30
65	50
66	30
67-79	20
80 & Over	100

Member may retire at age 50 with 20 or more years of service, age 60 with 16 or more years of service, or age 65 with 8 or more years of service.

District Judges Division
Age-Based Retirement
June 30, 2017

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year
50	10 %
51	10
52	10
53	10
54	10
55	12
56	12
57	14
58	14
59	14
60	18
61	18
62-73	30
74 & Over	100

Members may retire at age 50 with 20 or more years of service, age 60 with 16 or more years of service, or age 65 with 8 or more years of service.

State and Local Government Division
Separations from Active Employment before Service Retirement
June 30, 2017

Sample Ages	Years of Service	Percent of Active Members Separating within the Next Year: Withdrawal Men	Withdrawal Women	Death Men	Death Women	Disability Men	Disability Women	Pay Increase Assumptions for an Individual Employee: Merit & Seniority	Base (Economy)	Increase Next Year
	0	40.0 %	40.0 %							
	1	25.0	25.0							
	2	20.0	20.0							
	3	15.0	15.0							
	4	12.0	12.0							
20	5+	10.0	10.0	0.02 %	0.01 %	0.01 %	0.01 %	6.60 %	3.25 %	9.85 %
25		10.0	10.0	0.02	0.01	0.05	0.05	5.10	3.25	8.35
30		8.8	8.8	0.03	0.01	0.08	0.08	3.20	3.25	6.45
35		6.2	6.2	0.04	0.02	0.10	0.10	2.30	3.25	5.55
40		4.4	4.4	0.06	0.03	0.15	0.15	1.90	3.25	5.15
45		3.4	3.4	0.08	0.05	0.20	0.20	1.50	3.25	4.75
50		2.7	2.7	0.13	0.08	0.40	0.40	1.10	3.25	4.35
55		1.9	1.9	0.22	0.12	0.70	0.70	0.80	3.25	4.05
60		1.2	1.2	0.37	0.21	1.00	1.00	0.70	3.25	3.95

Pay increase rates are age based only, and not service based.

General Assembly Division
Separations from Active Employment before Service Retirement
June 30, 2017

Sample Ages	Years of Service	Percent of Active Members Separating within the Next Year					
		Withdrawal		Death		Disability	
		Men	Women	Men	Women	Men	Women
	0	30.0 %	30.0 %				
	1	25.0	25.0				
	2	20.0	20.0				
	3	15.0	15.0				
	4	12.0	12.0				
20	5+	9.0	9.0	0.02 %	0.01 %	0.06 %	0.06 %
25		8.3	8.3	0.02	0.01	0.06	0.06
30		5.3	5.3	0.03	0.01	0.06	0.06
35		3.0	3.0	0.04	0.02	0.06	0.06
40		2.6	2.6	0.06	0.04	0.16	0.16
45		2.4	2.4	0.08	0.06	0.22	0.22
50		1.1	1.1	0.13	0.09	0.39	0.39
55		0.8	0.8	0.22	0.14	0.71	0.71
60		0.8	0.8	0.37	0.23	1.13	1.13

District Judges
Separations from Active Employment before Service Retirement
June 30, 2017

Sample Ages	Percent of Active Members Separating within the Next Year: Withdrawal Men	Withdrawal Women	Disability Men	Disability Women	Pay Increase Assumptions For An Individual Employee: Merit & Seniority	Base (Economy)	Increase Next Year
20	2.0 %	2.0 %	0.08 %	0.08 %	2.70 %	3.25 %	5.95 %
25	2.0	2.0	0.08	0.08	2.60	3.25	5.85
30	2.0	2.0	0.08	0.08	2.20	3.25	5.45
35	2.0	2.0	0.08	0.08	1.90	3.25	5.15
40	2.0	2.0	0.20	0.20	1.40	3.25	4.65
45	2.0	2.0	0.27	0.27	1.20	3.25	4.45
50	2.0	2.0	0.49	0.49	0.70	3.25	3.95
55	2.0	2.0	0.89	0.89	0.70	3.25	3.95
60	2.0	2.0	1.41	1.41	0.00	3.25	3.25

Summary of Assumptions Used
June 30, 2017
Miscellaneous and Technical Assumptions

Marriage Assumption. 80% of males and 80% of females are assumed to be married for purposes of death-in-service benefits. District Judges division - 100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. 80% of males and 80% of females are assumed to be married for purposes of death-after-retirement benefits for active member valuation purposes.

Pay Increase Timing. Beginning of (Fiscal) 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 of all types are assumed to occur mid-year.

Other Liability Adjustments. Active member non-refund normal costs and actuarial accrued liabilities were increased by 1.5% to reflect non-reported reciprocal service. Also, a 0.2% load to the normal cost and actuarial accrued liabilities is being used to account for survivor benefits payable if a retiree dies within the first year of retirement. Actuarial accrued liabilities were also increased by $130 million to partially mitigate the expected effect of mortality table changes in the upcoming 5-year Experience Study.

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.

Benefit Service. Exact fractional service is used to determine the amount of benefit payable.

Decrement Relativity. Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.

Normal Form of Benefit. The assumed normal form of benefit is the straight life form.

District Judges Division Old Plan Deferred Members. For members that are eligible for a deferred benefit in the Old Plan and are currently active in the New Plan, it is assumed that the deferred benefit will commence at the first age at which the member is eligible to receive the benefit.

Incidence of Contributions. Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.

DROP Duration. We assume on average the total DROP duration is 4 years for those members currently participating in the DROP.

Summary of Assumptions Used
June 30, 2017
Miscellaneous and Technical Assumptions

DROP Interest Credit. The current interest rate credit for DROP accounts is assumed to be 3.0%.

Payroll for DROP Participants and Retired Members Returned to Work. Employers now contribute on the pays of DROP participants and retired members returned to work. For the June 30, 2017 valuation the reported payroll for these members was approximately $117,000,000.

Pre-Retirement Mortality. The weighting of duty and ordinary deaths-in-service is 0%/100%.

Administrative Expenses. The normal cost was increased by 0.40% of payroll to fund administrative expenses.

SECTION F

FINANCIAL PRINCIPLES

Financial Principles and Operational Techniques of APERS

Promises Made, and To Be Paid For. As each year is completed, APERS in effect hands an "IOU" to each member then acquiring a year of service credit --- the "IOU" says: "The Arkansas Public Employees Retirement System owes you one year's worth of retirement benefits, payments in cash commencing when you qualify for retirement."

The related ***key financial questions*** are:

Which generation of taxpayers contributes the money to cover the IOU?

The present taxpayers, who receive the benefit of the member's present year of service? ***Or the future taxpayers,*** who happen to be in Arkansas at the time the IOU becomes a cash demand, years and often decades later?

The law governing APERS financing intends that this year's taxpayers contribute the money to cover the IOUs being handed out this year. With this financial objective, ***the employer contribution rate is expected to remain approximately level from generation to generation of taxpayers.***

There are systems which have a design for deferring contributions to future taxpayers. Lured by a lower contribution rate now, they put aside the consequence that the contribution rate must then relentlessly grow to a level much higher than would be required if a level contribution pattern were followed.

An inevitable by-product of the level-cost design is the accumulation of reserve assets, for decades, and the income produced when the assets are invested. ***Investment income*** becomes ***the third and largest contributor*** for benefits to employees, and is interlocked with the contribution amounts required from employees and employers.

Translated to actuarial terminology, this level-cost objective means that the contribution rates must total at least the following:

> Normal Cost (the cost of members' service being rendered this year)
>
> ... plus ...
>
> Interest on Unfunded Actuarial Accrued Liabilities (unfunded actuarial accrued liabilities are the difference between: the actuarial accrued liabilities for service already rendered and the actuarial value of assets).

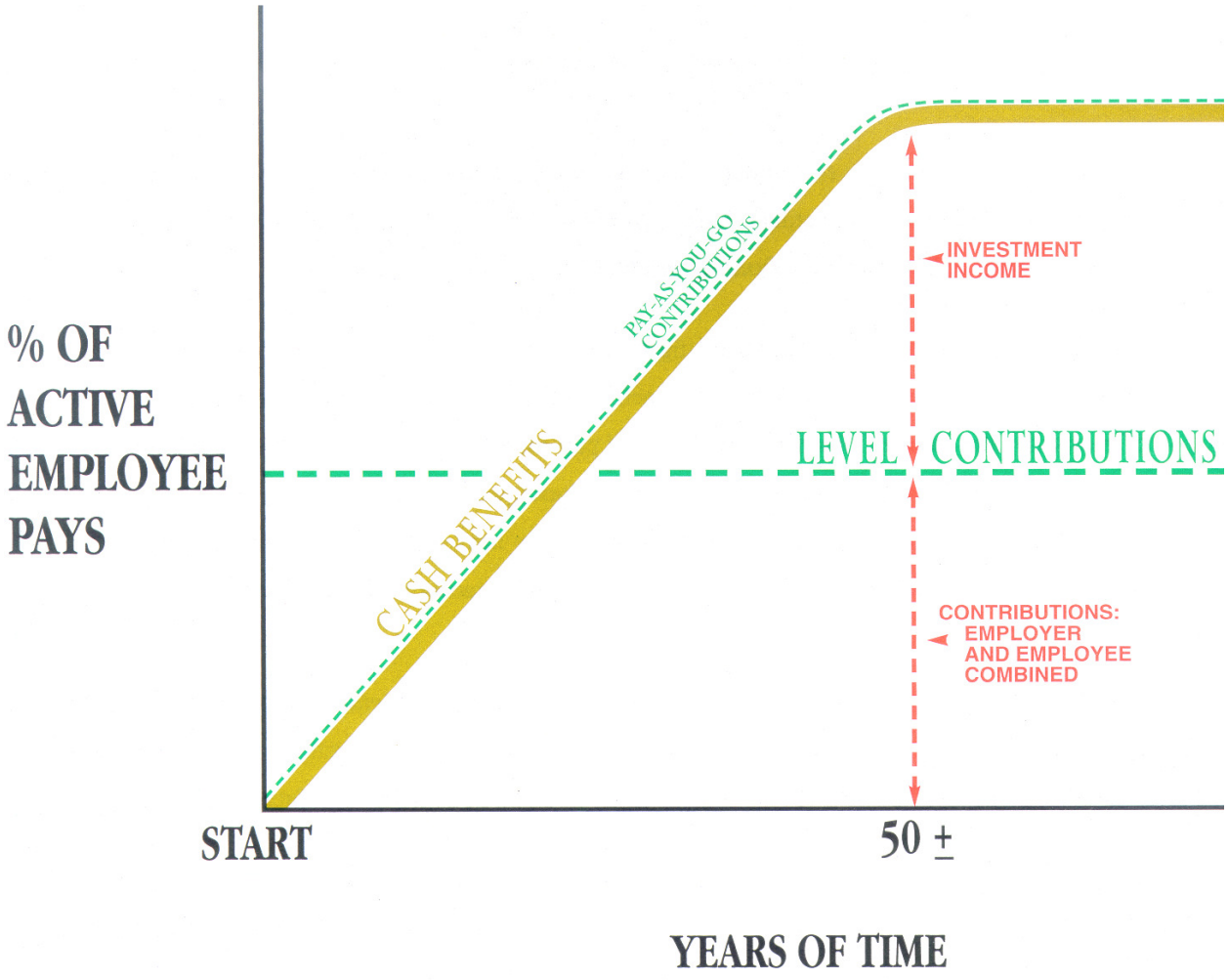
Computing Contributions to Support Fund Benefits. From a given schedule of benefits and from employee and asset data, the actuary calculates the contribution rates to support the benefits by means of ***an actuarial valuation and a funding method.***

An actuarial valuation has a number of ingredients such as: the rate of investment return which plan assets will earn; the rates of withdrawal of active members who leave covered employment; the rates of mortality; the rates of disability; the rates of pay increases; and the assumed age or ages at actual retirement.

In an actuarial valuation, assumptions must be made as to what the above rates will be for the next year and for decades in the future. The assumptions are established by the Retirement Board after receiving the advice of the actuary.

Reconciling Differences Between Assumed Experience and Actual Experience. Once actual experience has occurred and has been observed, it will not coincide exactly with assumed experience, regardless of the skill of the actuary and the many calculations made. The future cannot be predicted with 100% precision.

APERS copes with these continually changing differences by having annual actuarial valuations. Each actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience. The result is ***continuing adjustments in financial position.***



CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

- Economic Risk Areas
  - Rates of investment return
  - Rates of pay increase
  - Changes in active member group size
- Non-Economic Risk Areas
  - Ages at actual retirement
  - Rates of mortality
  - Rates of withdrawal of active members (turnover)
  - Rates of disability

The Actuarial Valuation Process

The financing diagram on the preceding page shows the relationship between ***the two fundamentally different philosophies of paying*** for retirement benefits: the method where contributions match cash benefit payments (or barely exceed cash benefit payments, as in the Federal Social Security program) which is thus an ***increasing contribution method;*** and, the ***level contribution method*** which attempts to equalize contributions between the generations.

The actuarial valuation is the mathematical process by which the level contribution rate is determined. The activity constituting the valuation may be summarized as follows:

A. ***Census Data,*** including:

Retired lives now receiving benefits
Former employees with vested benefits not yet payable
Active employees

B. + ***Asset data*** (cash & investments)

C. + ***Benefit provisions*** that establish eligibility and amounts of payments to members

D. + ***Assumptions concerning future experience*** in various risk areas

E. + ***The funding method*** for employer contributions (the long-term, planned pattern for employer contributions)

F. + ***Mathematically combining the assumptions, the funding method, and the data***

G. = Determination of:

Plan Financial position; and/or
New Employer Contribution Rate

Glossary

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

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

Accumulated Benefit Obligation. The actuarial present value of vested and non-vested benefits based on service to date and past and current salary levels.

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

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

Actuarial Equivalent. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

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

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

Glossary

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

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

Plan Termination Liability. The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a "going concern" basis and is not normally determined in a routine actuarial valuation.

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

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

Valuation Assets. The value of current plan assets recognized for valuation purposes. Generally based on a phase-in of differences between actual and assumed market rates of return.

Meaning of "Unfunded Actuarial Accrued Liabilities"

"***Actuarial accrued liabilities***" are ***the present value of the portions of promised benefits that are not covered by future normal cost contributions*** --- a liability has been established ("accrued") because the service has been rendered but the resulting monthly cash benefit may not be payable until years in the future.

If "actuarial accrued liabilities" at any time exceed the plan's accrued assets (cash & investments), the difference is "***unfunded actuarial accrued liabilities***." This is the common condition. It is less common when a plan's assets equal or exceed the plan's "actuarial accrued liabilities."

Each time a plan adds a new benefit which applies to service already rendered, an "actuarial accrued liability" is created, which is also an "unfunded actuarial accrued liability" because the plan can't print instant cash to cover the value of the new benefit promises. Payment for such unfunded actuarial accrued liabilities is spread over a period of years, commonly in the 15-30 year range.

Unfunded actuarial accrued liabilities can occur in another way: if actual plan experience is less favorable than assumed, the difference is added to unfunded actuarial accrued liabilities. For example, in plans where benefits are directly related to an employee's pay near time of retirement, unfunded actuarial accrued liabilities increased rapidly during the 1970's because unexpected rates of pay increase created additional actuarial accrued liabilities which could not be matched by reasonable investment results. Most of the unexpected pay increases were the direct result of inflation, which is a very destructive force on financial stability.

The existence of unfunded actuarial accrued liabilities is not bad but the changes from year to year in the amount of unfunded actuarial accrued liabilities are important --- "bad" or "good" or somewhere in between.

Nor are unfunded actuarial accrued liabilities a bill payable immediately, but it is important that policy-makers prevent the amount from becoming unreasonably high and ***it is vital for plans to have a sound method for making payments toward them*** so that they are controlled.

GRS Retirement Consulting

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November 8, 2017

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

Re: Report of the June 30, 2017 Actuarial Valuation and Gain/(Loss) Analysis of Financial Experience

Dear Gail:

Enclosed are 40 copies of this report.

Sincerely,

Mita Drazilov

Mita D. Drazilov, ASA, FCA, MAAA

MDD:sc
Enclosures

cc: David L. Hoffman, GRS

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