Arizona Elected Officials' Retirement Plan
Consolidated Report
June 30, 2017

GRS Retirement Consulting

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December 27, 2017

Board of Trustees
Arizona Elected Officials' Retirement Plan
Phoenix, Arizona

Re: Arizona Elected Officials' Retirement Plan Actuarial Valuation as of June 30, 2017

Ladies and Gentlemen:

The results of the June 30, 2017 annual actuarial valuation of members covered by the Arizona Elected Officials' Retirement Plan (EORP) are presented in this report.

This report was prepared at the request of the Board and is intended for use by the Retirement Plan and those designated or approved by the Board. This report may be provided to parties other than the Retirement Plan only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The purpose of the valuation was to measure the Retirement Plan's funding progress and to determine the employer contribution for the 2018-2019 fiscal year. The funding objective is stated in Article 4, Chapter 5, Title 38, Sections 810C-D of the Arizona Revised Statutes. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The computed contribution rate shown on page A-2 may be considered as a minimum contribution rate that complies with actuarial standards. Users of this report should be aware that contributions made at that rate do not guarantee benefit security. Given the importance of benefit security to any retirement system, we suggest that contributions to the System in excess of those presented in this report be considered.

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 the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

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This valuation assumes the continuing ability of the employer to make the contributions necessary to fund this plan. A determination regarding whether or not the employer is actually able to do so is outside our scope of expertise. Consequently, we did not perform such an analysis.

The valuation was based upon information furnished by the Retirement Plan, concerning Retirement Plan benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the Retirement Plan.

In addition, this report was prepared using certain assumptions approved by the Board as described in the section of this report entitled Methods and Assumptions.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement plans. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Arizona Elected Officials' Retirement Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and with applicable statutes.

Mark Buis, James D. Anderson and Francois Pieterse are Members of the American Academy of Actuaries (MAAA). These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein.

The signing actuaries are independent of the plan sponsor.

Gabriel, Roeder, Smith & Company will be pleased to review this valuation report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,

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FSA, EA, FCA, MAAA

James D. Anderson
FSA, EA, MAAA

Francois Pieterse
ASA, FCA, MAAA

MB/JDA/FP:bd

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Executive Summary/Board Summary

1. Required Employer Contributions to Support Retirement Benefits

The recommended employer contribution and funded status for the fiscal year beginning July 1, 2018 is shown below. Please note that the employer contribution rate shown applies to current (and, year over year, declining) covered member payroll and that the actual contribution is now made on a statutorily required contribution basis (as described on page A-3).

EORP	Pension	Health	Total
Employer Contribution Rate	162.63%	0.00 %	162.63%
Funded Status	30.7%	170.8%	32.6%

2. Contribution Rate Comparison

The chart below compares the results of this valuation of the Retirement Plan with the results of the prior year's valuation:

Valuation Date	Pension	Health	Total
6/30/2016	106.55%	0.00%	106.55%
6/30/2017	162.63%	0.00%	162.63%

Please note that the pension contribution rate first started to increase significantly in the June 30, 2014 valuation due to the repeal of certain aspects of SB1609 which resulted in much larger recognition of liabilities related to Permanent Benefit Increases (PBI). The contribution rate increased in the current valuation due to:

- the November 2016 Hall decision related to PBI,
- changes in actuarial assumptions, including updated mortality tables and a decrease in the assumed investment return rate,
- statutorily required contribution amounts that are much less than the actuarially determined contribution, and
- ever decreasing payroll since the plan was closed to new members.

The reasons for the change in contribution rate and funded status are described in more detail on pages 2-4 of this report.

3. Reasons for Change

Changes in the contribution rate and funded status are illustrated on the following charts:

Contribution Rate	Pension	Health	Total
Contribution Rate Last Valuation	106.55 %	0.00 %	106.55 %
Asset Losses	0.52 %	0.03 %	0.55 %
Tier 2	(0.17)%	(0.02)%	(0.19)%
Payroll	14.99 %	(0.23)%	14.76 %
PBI	1.50 %	0.00 %	1.50 %
Assumption Changes	8.07 %	0.01 %	8.08 %
Benefit Changes	32.04 %	0.00 %	32.04 %
Other	(0.87)%	0.21 %	(0.66)%
Contribution Rate This Valuation	162.63 %	0.00 %	162.63 %

Funded Status	Pension	Health	Total
Funded Status Last Valuation	37.6%	182.9%	39.8%
Asset Losses	(0.3)%	(1.3)%	(0.3)%
Tier 2	0.0%	0.0%	0.0%
Payroll	0.8%	0.0%	0.8%
PBI	(0.8)%	0.0%	(0.8)%
Assumption Changes	(1.9)%	(2.6)%	(2.0)%
Benefit Changes	(5.0)%	0.0%	(5.2)%
Other	0.3%	(8.2)%	0.3%
Funded Status This Valuation	30.7%	170.8%	32.6%

Asset Losses – Asset losses are based on 7-year smoothing of assets. The return on market value was 11.8% for the year ending June 30, 2017. However, based on funding value, the average return for the last 7 years is approximately 6.6%

Executive Summary/Board Summary

Tier 2 – The decrease in the contribution rate is due to the fact that as current members retire, they were replaced by new members (for members hired on or after January 1, 2012 and before December 31, 2013) who have a less costly Tier of Benefits. This will typically result in a declining normal cost rate that will occur very gradually over time as the population mix (Tier 1 / Tier 2) changes.

Payroll Base – The contribution rate is shown as a percentage of payroll. Since this pension plan is closed to new hires, it is important to consider the overall dollar level of the contribution along with the contribution rate. To the extent that overall payroll is lower/greater than last year's payroll projected payroll growth, the contribution rate will increase/decrease as a result. The dollar contributions are also shown on Page A-2. The change in the funded status is primarily due to gains or losses on the overall salary assumption, which includes both the wage base assumption and the merit and longevity components of the salary assumption.

PBI Gain/(Loss) – Under the current structure, retired members will receive a PBI under certain conditions based on the current year excess asset return. The valuation assumes a resulting average PBI of approximately 3.00% per year. Since there was a PBI for EORP members this year, this resulted in a loss for the Plan with a corresponding increase in the contribution rate and reduction in the funded status.

Assumption Changes – For this valuation, the Board adopted the following assumption changes:

- Decrease the investment return assumption from 7.5% to 7.4%.
- Decrease the wage inflation assumption from 4.0% to 3.5%.
- Updated mortality to the RP-2014 tables, with MP-2016 fully generational projection scales.
- Updated withdrawal, disability and retirement assumptions.

Benefit Changes – The November 2016 decision in the Hall case substantially increased plan liabilities.

- PBI increases paid in 2013, 2014 and 2015 have been recalculated due to changes in the present value of benefit payments.
- The assumption regarding future PBI's for Tier 1 members was increased from 0.5% to 3%
- Tier 1 Employee contribution rates were decreased in accordance with Hall.

Other – This is the combination of all factors other than those listed above and primarily reflect demographic gains and losses (i.e., retirement, turnover, disability, etc. experience that differs from the actuarial assumptions). In addition, this item includes the impact of actual statutory contributions being significantly less than the actuarially determined amount.

4. Plan Experience

Experience during the year ended June 30, 2017was overall unfavorable. On a market value basis, the Plan's return for the year ended June 30, 2017 was 11.8%. However, the market value smoothing techniques used in this valuation of the System recognize both past and present investment gains and losses. The resulting actuarial asset yield for the year was 6.6%. The effects of the asset losses were supplemented by losses attributable to demographic experience. Detailed information related to Plan experience is shown on page B-2.

5. Looking Ahead

The continuing effect of prior asset losses was dampened by the 7-year smoothing period, and further offset by the effect of lower than expected pay increases. There remains $12.6 million of unrecognized investment losses that will, in the absence of other gains, put upward pressure on the contribution rate next year.

If the June 30, 2017 pension valuation results were based on market value instead of smoothed funding value, the pension funded percent of the plan would be 29.5% (instead of 30.7%), and the pension employer contribution requirement would be 169.91% of payroll (instead of 162.63%). Absent investment market gains, it is expected that the funded percent will continue to decrease and the employer contribution requirement will continue to increase.

The Board has adopted an investment return assumption of 7.4% for the June 30, 2018 actuarial valuation. If all other assumptions are realized, this change will result in upward pressure on the contribution rate.

6. Conclusion

The reversal of the provisions in SB1609 due to the Fields decision (in 2014) and Hall (in 2016) resulted in a significant increase in the contribution rate. The statutory contribution of 23.5% of aggregate payroll was instituted prior to the Fields decision. We recommend that the 23.5% statutory rate be reviewed to reflect the court rulings regarding benefit provisions. **Absent the receipt of increased contributions, the Plan is expected to run out of money in 9 years. If the Plan were to exhaust its accumulated pension assets, at that point in time the Plan becomes "Pay-as-you-go" meaning that benefits are paid based directly on contributions received. Note that the current contribution level supports ~ 50% of the benefits paid in this valuation.**

The retired lives are 33.2% funded on a funding value of assets basis, and 31.6% funded based upon the market value of assets. It is most important that this Plan receive contributions <u>at least</u> equal to the rates shown in this report.

SECTION A

INTRODUCTION

Funding Objective

The purpose of the annual actuarial valuation of the Arizona Elected Officials' Retirement Plan as of June 30, 2017 is to:

- Compute the liabilities associated with benefits likely to be paid on behalf of current retired and active members. This information is contained in Section B.

- Compare accrued assets with accrued liabilities to assess the funded condition. This information is contained in Section B.

- Compute the employer's recommended contribution rates for the Fiscal Year beginning July 1, 2018. This information is contained in Section A.

This objective is stated in Article 4, Chapter 5, Title 38, Sections 810C-D of the Arizona Revised Statutes.

Contribution Rates

The Retirement Plan is supported by member contributions, employer contributions and investment income from Retirement Plan assets.

Contributions which satisfy the funding objective are determined by the annual actuarial valuation and are sufficient to:

(1) Cover the actuarial present value of benefits allocated to the current year by the actuarial cost method described in Section E (the normal cost); and

(2) Finance over a period of future years the actuarial present value of benefits not covered by valuation assets and anticipated future normal costs (the unfunded actuarial accrued liability).

Computed contribution rates for the fiscal year beginning July 1, 2018 are shown on page A-2.

Contribution Requirements

Development of Employer Contributions for the Indicated Valuation Date

	June 30, 2016	June 30, 2017
Contribution for Fiscal Year Ending	2018	2019
Pension		
Total normal cost requirement	25.99%	31.34%
Employee Contributions		
Total employee rate	13.00%	8.30%
Less portion used to pay down unfunded liability	6.00	1.30
Net employee rate	7.00%	7.00%
Employer normal cost requirement	18.99%	24.34%
Amortization of unfunded liabilities	87.56%	138.29%
Total recommended pension contribution rate	106.55%	162.63%
Health		
Normal cost requirement	0.58%	0.51%
Amortization of unfunded liabilities	(0.58)%	(0.51)%
Total health contribution requirement	0.00%	0.00%
Total contribution rate	**106.55%**	**162.63%**
Estimated Dollar Pension Contribution	**$ 61,549,676**	**$ 82,742,169**
Estimated Dollar Health Contribution	**$ -**	**$ -**

Actuarial accrued liability, $1,026,534,692, exceeded the funding value of assets, which was $334,747,141. The resulting unfunded actuarial accrued liabilities (after netting out the maintenance of effort reserve of $23,904,149 from the actuarial value of assets) were amortized as a level dollar over a closed period of 19 years ending June 30, 2037 and added to the employer normal cost. The 19-year period is a one year decrease from last year. This method is appropriate for plans that are closed to new hires. The actual funding contribution is now defined under statute (as described on the following page).

Contribution Requirements

Contribution Amounts per Section 38-810, Arizona Revised Statutes: Beginning January 1, 2014 and continuing for 30 years, employer contributions equal 23.5% of aggregate payroll. Aggregate payroll is on behalf of active members in the Arizona Elected Official's Retirement Plan (EORP) and active members in the Elected Officials' Defined Contribution Retirement System (EODCRS), and active members in the Arizona State Retirement System (ASRS) who opt-out of EODCRS because they had money on account with ASRS. The employer contributions are used to pay for:

1) EORP Defined Benefits = Employer Normal Cost plus an amount to amortize the unfunded accrued liability;
2) EODCRS Defined Contribution = 6% of pay for those electing EODCRS, first effective January 1, 2014; and
3) ASRS Defined Benefits = Employer's contribution amount.

Additionally, in fiscal years 2013-2014 through 2042-2043, the sum of $5,000,000 is appropriated in each fiscal year from the state general fund to EORP to supplement the Normal Cost plus an amount to amortize the unfunded accrued liability.

Based on the June 30, 2017 Defined Benefit payroll of $50,877,556, Defined Contribution payroll of $10,753,801, court fees received during 2016-2017 in the amount of $8,646,790 and the $5,000,000 appropriation, the estimated employer contribution for the fiscal year ending in June 30, 2019 will be **$29,161,737**. Please note that this estimated $29 million employer contribution is roughly one-third of the Actuarially Determined Contribution shown on page A-2.

The aggregate contribution rate of 23.50% of payroll was instituted prior to the Fields and Hall decisions. If contributions are not significantly increased, assets are likely to be depleted in the next 9 years. We recommend the rate be reviewed to reflect court decisions.

Historical Summary of Recommended Employer Pension Rates

Valuation Date June 30	Fiscal Year Ending June 30	Normal Cost	Unfunded Actuarial Accrued Liability	Total
2008	2010	17.34%	8.91%	26.25%
2009	2011	18.51	11.28	29.79
2010	2012	18.52	14.47	32.99
2011	2013	17.33	19.11	36.44
2012	2014	18.31	21.31	39.62
2013	2015	17.49	40.00	57.49
2014*	2016	17.70	68.84	86.54
2015	2017	17.57	77.99	95.56
2016	2018	18.99	87.56	106.55
2017	**2019**	**24.34**	**138.29**	**162.63**

** Beginning with the June 30, 2014 valuation, the rates are for pension only.*

The statutory minimum employer contribution is 10% of payroll.

Results prior to 2009 were calculated by the prior actuary.

Historical Summary of Recommended Employer Health Rates

Valuation Date June 30	Fiscal Year Ending June 30	Normal Cost	Unfunded Actuarial Accrued Liability	Total
2014	2016	0.59%	(0.59)%	0.00%
2015	2017	0.56	(0.56)	0.00
2016	2018	0.58	(0.58)	0.00
2017	**2019**	**0.51**	**(0.51)**	**0.00**

SECTION B

FUNDING RESULTS

Present Value of Future Benefits and Accrued Liability

	June 30, 2016	June 30, 2017
Pension		
A. Accrued Liability		
1. For retirees and beneficiaries	$ 622,642,155	$ 765,456,170
2. For inactive/vested members	7,435,686	6,958,674
3. For present active members		
a. Value of expected future benefit payments	284,373,131	327,220,890
b. Value of future normal costs	76,972,607	87,682,219
c. Active member accrued liability: (a) - (b)	207,400,524	239,538,671
4. Total accrued liability	837,478,365	1,011,953,515
B. Present Assets (Funding Value)	314,524,640	310,764,980
C. Unfunded Accrued Liability: (A.4) - (B)	522,953,725	701,188,535
D. Funding Ratio: (B) / (A.4)	37.6%	30.7%
Health		
A. Accrued Liability		
1. For retirees and beneficiaries	$ 8,562,569	$ 10,494,117
2. For present active members		
a. Value of expected future benefit payments	5,853,929	4,849,155
b. Value of future normal costs	1,562,843	1,299,559
c. Active member accrued liability: (a) - (b)	4,291,086	3,549,596
3. Total accrued liability	12,853,655	14,043,713
B. Present Assets (Funding Value)	23,508,583	23,982,161
C. Unfunded Accrued Liability: (A.3) - (B)	(10,654,928)	(9,938,448)
D. Funding Ratio: (B) / (A.3)	182.9%	170.8%

Derivation of Experience Gain/(Loss)

Actual experience will never (except by coincidence) exactly match assumed experience. Gains and losses often cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience gain/(loss) is shown below, along with a year-by-year comparative schedule.

	June 30,	
	2016	2017
(1) UAAL* at start of year	$498,063,002	$522,953,725
(2) Normal cost from last valuation	14,441,708	13,497,333
(3) Actual Contributions	37,181,145	37,276,864
(4) Interest Accrual	38,205,423	38,329,797
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	513,528,988	537,503,991
(6) Changes from benefit increases, methods and assumptions	25,580,475	159,145,675
(7) Change in reserve for future pension increases	-	-
(8) Expected UAAL after changes: (5) + (6) + (7)	539,109,463	696,649,666
(9) Actual UAAL at end of year	522,953,725	701,188,535
(10) Experience Gain/(Loss): (8) - (9)	16,155,738	(4,538,869)

** Unfunded Actuarial Accrued Liabilities.*

FY 2017 Gains and Losses by Source

	Gain/(Loss)	% of Liabilities
Investment Return	$(2,744,882)	(0.3)%
Salary Increases	7,936,579	0.9%
Retirement	(1,561,500)	(0.2)%
Turnover	(1,229,598)	(0.1)%
Disability	24,257	0.0%
Death-in-Service	(258,842)	0.0%
PBI	(7,919,128)	(0.9)%
Retiree Mortality	(384,190)	0.0%
Other	1,598,435	0.2%
Total	(4,538,869)	(0.5)%

Unfunded Actuarial Accrued Liabilities
Comparative Statement

(Dollar amounts in $'000s)

Pension

Valuation Date	(1) Actuarial Accrued Liabilities (AAL)	(2) Valuation Assets	(3) Unfunded AAL	(4) Funded Ratio (2)/(1)	(5) Financing Period	(6) Payroll	Liability Ratio (7) Unfunded (3)/(6)	Liability Ratio (8) Total (1)/(6)
2008	$454,340	$348,013	$ 106,327	76.6%	28	$ 62,184	171.0%	730.6%
2009	506,191	360,950	145,241	71.3	27	67,777	214.3	746.8
2010	535,771	357,342	178,429	66.7	26	66,442	268.5	806.4
2011	590,322	366,429	223,893	62.1	25	66,637	336.0	885.9
2012	610,229	356,346	253,883	58.4	24	67,934	373.7	898.3
2013	632,537	350,885	281,652	55.5	23	67,505	417.2	937.0
2014*	796,246	313,382	482,864	39.4	22	68,341	706.6	1165.1
2015	813,450	315,387	498,063	38.8	21	61,933	804.2	1313.4
2016	837,478	314,525	522,953	37.6	20	57,766	905.3	1449.8
2017	**1,011,954**	**310,765**	**701,189**	**30.7**	**19**	**50,878**	**1378.2**	**1989.0**

** Pension only beginning with the June 30, 2014 valuation.*

Health

Valuation Date	(1) Actuarial Accrued Liabilities (AAL)	(2) Valuation Assets	(3) Unfunded AAL	(4) Funded Ratio (2)/(1)	(5) Financing Period	(6) Payroll	Liability Ratio (7) Unfunded (3)/(6)	Liability Ratio (8) Total (1)/(6)
2014	$12,112	$23,113	$(11,001)	190.8%	22	$ 68,341	(16.1)%	17.7%
2015	12,361	23,044	(10,683)	186.4	21	61,933	(17.2)	20.0
2016	12,854	23,509	(10,655)	182.9	20	57,766	(18.4)	22.3
2017	**14,044**	**23,982**	**(9,938)**	**170.8**	**19**	**50,878**	**(19.5)**	**27.6**

The Unfunded Liability ratio gives a general measure of the ability to collect contributions to pay off the unfunded liabilities. The Total Liability ratio gives a longer term indication of the volatility of the contribution rate.

Results prior to 2009 were calculated by the prior actuary.

Short Condition Test

If the contributions to EORP are soundly executed, the Plan will ***pay all promised benefits when due -- the ultimate test of financial soundness***.

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

In a plan that has been following the discipline of pre-funding, the liabilities for 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 rare circumstances). In addition, the liabilities for service already rendered by active and inactive 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 plan.

Short Condition Test

(in $'000s)

Pension

	Aggregate Actuarial Liabilities for				Portion of Actuarial Liabilities Covered by Assets		
Calendar Year	**(1) Non-Retired Contributions**	**(2) Annuitants**	**(3) Non-Retired Members (Employer Financed Portion)**	**Actuarial Assets**	**(1)**	**(2)**	**(3)**
2009	$40,924	$324,200	$141,067	$360,950	100%	99%	0.0%
2010	43,283	349,417	143,071	357,342	100	90	0.0
2011	42,171	393,830	154,321	366,429	100	82	0.0
2012	47,274	400,005	162,949	356,346	100	77	0.0
2013	47,351	431,511	153,675	350,885	100	70	0.0
2014*	54,318	576,015	165,913	313,382	100	45	0.0
2015	56,387	601,711	155,353	315,387	100	43	0.0
2016	57,473	622,642	157,363	314,525	100	41	0.0
2017	**56,414**	**765,456**	**190,083**	**310,765**	**100**	**33**	**0.0**

** Pension only beginning with the June 30, 2014 valuation.*

Short Condition Test

Health

Calendar Year	Aggregate Actuarial Liabilities for (1) Non-Retired Contributions	(2) Annuitants	(3) Non-Retired Members (Employer Financed Portion)	Actuarial Assets	Portion of Actuarial Liabilities Covered by Assets (1)	(2)	(3)
2014	$0	$ 7,684	$4,428	$23,113	100%	100%	348.5%
2015	0	8,237	4,124	23,044	100	100	359.0
2016	0	8,563	4,291	23,509	100	100	348.3
2017	**0**	**10,494**	**3,550**	**23,982**	**100**	**100**	**379.9**

SECTION C

FUND ASSETS

Development of Pension Funding Value of Assets (7-Year Smoothing)

Year Ended June 30:	2017	2018	2019	2020	2021	2022	2023
A. Funding Value Beginning of Year (Including Future Benefit Increases)	$ 314,524,640						
B. Market Value End of Year	298,118,144						
C. Market Value Beginning of Year	288,994,996						
D. Non-Investment Net Cash Flow	(23,714,820)						
E. Investment Income							
E1. Total: B-C-D	32,837,968						
E2. Amount for Immediate Recognition: (7.50%)	22,700,042						
E3. Amount for Phased-in Recognition: E1-E2	10,137,926						
F. Phased-in Recognition of Investment Income							
F1. Current Year: E3 / 7	1,448,275						
F2. First Prior Year	(3,206,762)	$ 1,448,275					
F3. Second Prior Year	(1,951,168)	(3,206,762)	$ 1,448,275				
F4. Third Prior Year	1,735,522	(1,951,168)	(3,206,762)	$ 1,448,275			
F5. Fourth Prior Year	452,369	1,735,522	(1,951,168)	(3,206,762)	$ 1,448,275		
F6. Fifth Prior Year	(3,609,304)	452,369	1,735,522	(1,951,168)	(3,206,762)	$ 1,448,275	
F7. Sixth Prior Year	2,386,186	(3,609,307)	452,366	1,735,522	(1,951,166)	(3,206,763)	$ 1,448,276
F8. Total Recognized Investment Gain	(2,744,882)	(5,131,071)	(1,521,767)	(1,974,133)	(3,709,653)	(1,758,488)	1,448,276
G. Funding Value End of Year							
G1. Preliminary Funding Value End of Year: (A+D+E2+F1:F7)	310,764,980						
G2. Upper Corridor: (120% x B)	357,741,773						
G3. Lower Corridor: (80% x B)	238,494,515						
G4. End of Year: (G1 subject to max of G2 and min of G3)	310,764,980						
G5. Future Benefit Increases	0						
G6. End of Year: (G4 - G5)	310,764,980						
H. Difference Between Market Value & Funding Value: (B-G4)	(12,646,836)	(7,515,765)	(5,993,998)	(4,019,865)	(310,212)	1,448,276	0
I. Market Rate of Return	11.8%						
J. Recognized Rate of Return	6.6%						
K. Ratio of Funding Value to Market Value	104.2%						

The funding value of assets recognizes assumed investment return (line E2) fully each year. Differences between actual and assumed investment return (line E3) are phased-in over a closed 7-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. The funding value of assets is **unbiased** with respect to market value. At any time it may be either greater or less than market value. If actual and assumed rates of investment return are exactly equal for 7 consecutive years, the funding value will become equal to market value.

Development of Health Funding Value of Assets (7-Year Smoothing)

Year Ended June 30:	2017	2018	2019	2020	2021	2022	2023
A. Funding Value Beginning of Year	$ 23,508,583						
B. Market Value End of Year	23,149,855						
C. Market Value Beginning of Year	21,667,056						
D. Non-Investment Net Cash Flow	(1,067,177)						
E. Investment Income							
E1. Total: B-C-D	2,549,976						
E2. Amount for Immediate Recognition: (7.50%)	1,723,125						
E3. Amount for Phased-in Recognition: E1-E2	826,851						
F. Phased-in Recognition of Investment Income							
F1. Current Year: E3 / 7	118,122						
F2. First Prior Year	(236,920)	$ 118,122					
F3. Second Prior Year	(138,912)	(236,920)	$ 118,122				
F4. Third Prior Year	128,006	(138,912)	(236,920)	$ 118,122			
F5. Fourth Prior Year	30,910	128,006	(138,912)	(236,920)	$ 118,122		
F6. Fifth Prior Year	(246,625)	30,910	128,006	(138,912)	(236,920)	$ 118,122	
F7. Sixth Prior Year	163,049	(246,625)	30,912	128,006	(138,912)	(236,922)	$ 118,119
F8. Total Recognized Investment Gain	(182,370)	(345,419)	(98,792)	(129,704)	(257,710)	(118,800)	118,119
G. Funding Value End of Year							
G1. Preliminary Funding Value End of Year: (A+D+E2+F1:F7)	23,982,161						
G2. Upper Corridor: (120% x B)	27,779,826						
G3. Lower Corridor: (80% x B)	18,519,884						
G4. End of Year: (G1 subject to max of G2 and min of G3)	23,982,161						
G5. Future Benefit Increases	0						
G6. End of Year: (G4 - G5)	23,982,161						
H. Difference Between Market Value & Funding Value: (B-G4)	(832,306)	(486,887)	(388,095)	(258,391)	(681)	118,119	0
I. Market Rate of Return	12.1%						
J. Recognized Rate of Return	6.7%						
K. Ratio of Funding Value to Market Value	103.6%						

The funding value of assets recognizes assumed investment return (line E2) fully each year. Differences between actual and assumed investment return (line E3) are phased-in over a closed 7-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. The funding value of assets is **unbiased** with respect to market value. At any time it may be either greater or less than market value. If actual and assumed rates of investment return are exactly equal for 7 consecutive years, the funding value will become equal to market value.

Revenues and Disbursements

Pension

	2016	2017
Market Value at the Beginning of Year:	$ 308,668,424	$ 288,994,996
Revenues:		
a. Member contributions	$ 7,826,262	$ 8,136,769
b. Employer contributions	29,216,113	29,091,116
c. Interest and dividends	1,988,750	2,085,123
d. Investment gain	4,572,024	32,567,796
e. Net transfers	138,770	48,979
f. Total	$ 43,741,919	$ 71,929,783
Disbursements:		
a. Refunds of member contributions	$ 83,747	$ 264,327
b. Pension benefits	58,002,514	60,453,101
c. Investment expenses	5,080,485	1,814,951
d. Administrative expenses	248,601	274,256
e. Total	$ 63,415,347	$ 62,806,635
Reserve Increase:		
Total revenues minus total disbursements	$ (19,673,428)	$ 9,123,148
Market Value at the End of Year:	$ 288,994,996	$ 298,118,144

Health

	2016	2017
Market Value at the Beginning of Year:	$ 22,597,987	$ 21,667,056
Revenues:		
a. Health Insurance contributions	$ 0	$ 0
b. Interest, dividends and investment gain	109,633	2,690,913
c. Total	$ 109,633	$ 2,690,913
Disbursements:	1,040,564	1,208,114
Reserve Increase:		
Total revenues minus total disbursements	$ (930,931)	$ 1,482,799
Market Value at the End of Year:	$ 21,667,056	$ 23,149,855

SECTION D

CENSUS DATA

June 30, 2017 Valuation Data Summary

For purposes of the June 30, 2017 valuation, information on 1,958 covered persons was furnished. These people may be briefly described as follows:

		Averages			
				Annual Pay or Retirement Allowance	
	No.	Age	Years of Service	2017	2016
Actives	600	57.1	10.7	$84,796	$83,236
Retirees & Beneficiaries	1,196	73.0		53,084	51,729
Inactive/Vested	162	55.7			
	1,958				

Active Members

Members in Active Service as of June 30, 2017
by Years of Service

Age	Years of Service 0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & Up	Total Count	Total Pay	Average Pay
Under 25								-	$ -	$ -
25 - 29								-	-	-
30 - 34	4	4						8	343,382	42,923
35 - 39	5	11		1				17	596,641	35,097
40 - 44	12	17	5	1				35	2,007,974	57,371
45 - 49	17	38	12	2				69	6,198,923	89,839
50 - 54	16	32	27	10	2			87	8,907,849	102,389
55 - 59	18	41	38	21	5	1	1	125	11,790,809	94,326
60 - 64	19	31	36	35	10	1	1	133	12,386,112	93,129
65 and Over	15	32	37	22	15	2	3	126	8,645,866	68,618
Total	106	206	155	92	32	4	5	600	$ 50,877,556	$84,796

Inactive/Vested Members

Age	Years of Service					Total
	0 - 4	5 - 9	10 - 14	15 - 19	20 & Up	Count
Under 30						
30 - 39	5	4				9
40 - 44	10	4		1		15
45 - 49	11	9	2			22
50 - 54	12	9	2			23
55 - 59	16	18	3	2		39
60 - 69	18	21	4	1		44
70 and Over	4	2		3	1	10
Total	76	67	11	7	1	162

Retirees and Beneficiaries

Attained Ages	Males No.	Males Annual Pension Benefits	Females No.	Females Annual Pension Benefits	Total No.	Total Annual Pension Benefits
Under 25	0	$ 0	0	$ 0	0	$ 0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	1	6,389	0	0	1	6,389
40-44	4	45,967	0	0	4	45,967
45-49	10	175,678	5	146,018	15	321,696
50-54	14	514,615	7	225,246	21	739,861
55-59	34	1,535,319	20	762,176	54	2,297,495
60-64	77	4,171,209	55	3,200,159	132	7,371,368
65-69	151	9,845,862	104	5,888,079	255	15,733,941
70-74	145	8,680,930	85	4,067,214	230	12,748,144
75-79	119	6,769,868	75	2,935,962	194	9,705,830
80-84	89	5,266,686	66	3,098,807	155	8,365,493
85-89	47	2,843,436	39	1,478,514	86	4,321,950
90-94	18	790,394	25	943,801	43	1,734,195
95-99	1	37,462	4	44,667	5	82,129
100 and Over	1	13,919	0	0	1	13,919
Totals	**711**	**$40,697,734**	**485**	**$22,790,643**	**1,196**	**$63,488,377**

Pension Being Paid		Number	Annual Pensions	Average Pensions
Retired Members	Service Pensions	964	$52,884,783	$ 54,860
	Disability Pensions	18	1,941,646	107,869
Totals		982	54,826,429	55,831
Survivors of Members	Spouses	212	8,592,747	40,532
	Children with Guardians	2	69,201	34,601
Total		214	8,661,948	40,476
Total Pension being Paid		**1,196**	**$63,488,377**	**$ 53,084**

	Average Age	Average Service	Average Age at Retirement
Normal Retired Members	72.0	14.4	61.3
Disability Retired Members	69.8	12.3	58.5
Spouse Beneficiaries	77.8	13.9	57.6

Pensions Being Paid
Historical Schedule

Valuation Date June 30	No.	Annual Pensions	% Incr. in Annual Pensions	Average Pension	Present Value of Pensions Total	Present Value of Pensions Average
2008	872	$32,850,340	8.1%	$37,672	$285,633,966	$327,562
2009	905	36,262,571	10.4	40,069	317,313,745	350,623
2010	921	39,337,025	8.5	42,711	342,362,491	371,729
2011	990	43,461,664	10.5	43,901	386,446,172	390,350
2012	992	43,910,140	1.0	44,264	392,503,050	395,668
2013	1,057	47,203,698	7.5	44,658	423,992,661	401,128
2014	1,053	53,005,466	12.3	50,338	576,014,997	547,023
2015	1,116	56,744,053	7.1	50,846	601,710,784	539,167
2016	1,123	58,091,729	2.4	51,729	622,642,155	554,445
2017	**1,196**	**63,488,377**	**9.3**	**53,084**	**765,456,170**	**640,014**

Results prior to 2009 were prepared by the prior actuary.

SECTION E

METHODS AND ASSUMPTIONS

Valuation Methods

Actuarial Cost Method - Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using the Entry Age Normal Cost Method having the following characteristics:

(i) The annual normal costs for each individual active member, payable from the date of employment to the date of retirement, are sufficient to accumulate to the value of the member's pension at time of retirement; and

(ii) Each annual normal cost is a constant percentage of the member's year by year projected compensation.

The entry-age actuarial cost method allocates the actuarial present value of each member's projected benefits on a level basis over the member's compensation between the entry age of the member and the assumed exit ages.

Actuarial Accrued Liability - The actuarial accrued liability is the portion of actuarial present value allocated to service rendered prior to the valuation date, including experience gains and losses. The actuarial accrued liability was computed using the assumptions summarized in this report.

Actuarial Value of System Assets - The actuarial value of assets recognizes assumed investment income fully each year. Differences between actual and assumed investment income are phased-in over a closed seven-year period subject to a 20% corridor. During periods when investment performance exceeds the assumed rate, actuarial value of assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, the actuarial value of assets will tend to be greater than market value.

Financing of Unfunded Actuarial Accrued Liabilities - The actuarial value of assets were subtracted from the computed actuarial accrued liability. Any unfunded amount would be amortized as a level dollar amount over a closed period of 19 years. If the actuarial value of assets exceeded the actuarial accrued liability, the excess was amortized over an open period of 20 years and applied as a credit to reduce the normal cost which otherwise would be payable.

Valuation Assumptions

Funded Ratio - Unless otherwise indicated, a funded ratio 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, in other words, of transferring the obligations to an unrelated third party in an arm's length market value type transaction.
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 amount of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon actuarial assumptions. A funded ratio measurement in this report of 100% is not synonymous with no required future contributions. If the funded ratio 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.

Stabilization Reserve - Beginning with the June 30, 2007 valuation and with each subsequent valuation, if the actuarial value of assets exceeds the actuarial accrued liabilities, one half of this excess in each year is allocated to a Stabilization Reserve. The Stabilization Reserve is excluded from the calculation of the employer contribution rates. The Stabilization Reserve continues to accumulate as long as the plan is over-funded. Once the plan becomes under-funded, the Stabilization Reserve will be used to dampen increases in the employer contribution rates. With the June 30, 2017 valuation the plan is underfunded and the Stabilization Reserve is zero.

Valuation Assumptions

The rate of investment return was 7.40% a year, compounded annually net of investment and administrative expenses.

The assumed real return is the rate of return in excess of wage growth. Considering other assumptions used in the valuation, the 7.40% nominal rate translates to a net real return over wage growth of 3.90% a year.

The rates of pay increase used for individual members are shown below. This assumption is used to project a member's current pay to the pay upon which Plan benefits will be based. This assumption was first used for the June 30, 2017 valuation of the Plan.

Sample Ages	Salary Increase Assumptions for an Individual Member		
	Merit & Seniority	Base (Economy)	Increase Next Year
20	0.25%	3.5%	3.75%
25	0.25%	3.5%	3.75%
30	0.25%	3.5%	3.75%
35	0.25%	3.5%	3.75%
40	0.25%	3.5%	3.75%
45	0.25%	3.5%	3.75%
50	0.25%	3.5%	3.75%
55	0.25%	3.5%	3.75%
60	0.25%	3.5%	3.75%

The price inflation component of the investment return rate and the wage inflation rate is assumed to be 2.50%.

Valuation Assumptions

Mortality Tables. The mortality rates utilized are based upon the RP-2014 tables, as extended, and include a margin for future mortality improvements projected using a fully generational improvement scale. The tables used were as follows:

- **Healthy Pre-Retirement:** The RP-2014 Employee Mortality Tables, extended via cubic spline, with future mortality improvements assumed each year using scale MP-2016.
- **Healthy Post-Retirement:** The RP-2014 Healthy Annuitant Mortality Tables, extended via cubic spline, with future mortality improvements assumed each year using scale MP-2016.
- **Disability Retirement:** The RP-2014 Disabled Mortality Table, extended via cubic spline, with future mortality improvements assumed each year using scale MP-2016.

This assumption was first used for the June 30, 2017 valuation of the Plan.

Sample Ages in 2017	% Dying Next Year			
	Health Post-Retirement		Disability Retirement	
	Males	Females	Males	Females
40	0.1802%	0.1524%	1.2579%	0.6586%
45	0.2629%	0.2057%	1.6102%	0.8949%
50	0.3873%	0.2689%	1.9438%	1.1567%
55	0.5589%	0.3613%	2.2776%	1.4444%
60	0.7749%	0.5215%	2.6529%	1.7079%
65	1.0955%	0.7895%	3.1517%	2.0464%
70	1.6350%	1.2404%	3.9338%	2.7186%
75	2.5869%	2.0189%	5.2351%	3.9577%
80	4.3118%	3.3833%	7.3868%	5.9265%

Sample Ages in 2017	% Dying Next Year	
	Healthy Pre-Retirement	
	Males	Females
50	0.1205%	0.1071%
55	0.2038%	0.1669%
60	0.3506%	0.2453%
65	0.6175%	0.3626%

Valuation Assumptions

Mortality Tables (continued)

Sample Attained Ages	Healthy Post-Retirement Future Life Expectancy (Years)*		Healthy Pre-Retirement Future Life Expectancy (Years)*		Disabled Retirement Future Life Expectancy (Years)*	
	Men	Women	Men	Women	Men	Women
55	30.31	32.88	31.80	36.15	21.94	25.92
60	25.75	28.09	26.87	31.12	18.90	22.32
65	21.41	23.50	22.22	26.20	16.00	18.81
70	17.30	19.14	17.89	21.41	13.20	15.36
75	13.49	15.07	13.88	16.81	10.51	12.17
80	10.06	11.41	10.26	12.47	8.06	9.39

** Based on retirements in 2017. Retirements in future years will reflect improvements in life expectancy.*

Retirement Rates: Age-related rates for employees who were hired before January 1, 2012 are shown below, and were first used for the June 30, 2017 valuation of the Plan:

Age at Retirement	EORP
62	15%
63	15%
64	15%
65	15%
66	15%
67	15%
68	15%
69	15%
70	15%
71	15%
72	15%
73	15%
74	15%
75	100%

These retirement rates are applicable to employees attaining age 62 before attaining 20 years of service.

Valuation Assumptions

Service-related rates for employees who were hired before January 1, 2012 are shown below, and were first used for the June 30, 2017 valuation of the Plan:

Service at Retirement	EORP
20	40%
21	30%
22	15%
23	15%
24	15%
25	15%
26	15%
27	15%
28	15%
29	15%
30	15%
31	15%
32	15%
33	15%
34	15%
35	100%

These retirement rates are applicable to employees attaining 20 years of service before attaining age 62.

Age-related rates for employees who were hired after January 1, 2012 are shown below:

Age at Retirement	EORP
62	40%
63	30%
64	20%
65	15%
66	15%
67	45%
68	45%
69	15%
70	100%

Valuation Assumptions

Early Retirement Rates: Service-related rates for employees who were hired before January 1, 2012 are shown below, and were first used for the June 30, 2017 valuation of the Plan:

Service at Retirement	EORP
5	3.5%
6	3.5%
7	3.5%
8	3.5%
9	3.5%
10	3.5%
11	3.5%
12	3.5%
13	3.5%
14	3.5%
15	3.5%
16	3.5%
17	3.5%
18	3.5%
19	3.5%

Rates of disability among active members used in the valuation are shown below. This assumption was first used for the June 30, 2017 valuation of the Plan.

Sample Ages	% of Active Members Becoming Disabled Within Next Year
	EORP
20	0.00%
25	0.00%
30	0.00%
35	0.00%
40	0.00%
45	0.00%
50	0.13%
55	0.17%

Valuation Assumptions

Rates of separation from active membership used in the valuation are shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment. This assumption was first used for the June 30, 2017 valuation of the Plan.

Sample Ages	Service Index	% of Active Members Separating Within Next Year
All	1	5.50%
	2	5.50%
	3	5.50%
	4	5.50%
	5	5.50%
	6	5.50%
	7	5.50%
	8	5.50%
	9	5.50%
	10	5.50%
	11	2.50%
	12	2.50%
	13	2.50%
	14	2.50%
	15	2.50%
	16	2.50%
	17	2.50%
	18	2.50%
	19	2.50%
	20	2.50%
	21 & Over	2.00%

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

Marriage Assumption:	80% of males and 70% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Pay Increase Timing:	Six months after the valuation date. This means that the pays received are assumed to be annual rates of pay on the valuation date as opposed to W-2 type earnings for the prior 12 months.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and turnover decrements do not operate during retirement eligibility.
Service Credit Accruals:	It is assumed that members accrue one year of service credit per year.
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.
Normal Form of Benefit:	A straight life payment is the assumed normal form of benefit for members who are not married, and the 75% Joint and Survivor form of payment with no reduction, for married members. 80% of males and 70% of females are assumed to be married at time of retirement.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Health Care Utilization:	70% of future retirees are expected to utilize health care. 80% of males and 70% of females are assumed to be married at time of retirement.

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

Assumed Future Permanent Benefit Increases:	Members hired before January 1, 2012: 3% of benefit. Members hired on or after January 1, 2012: 0.5% of benefit.
Financing of Unfunded Actuarial Accrued Liabilities (Money in the Pipes):	The rate-setting valuation projects the unfunded actuarial accrued liability to the beginning of the applicable fiscal year to determine the applicable unfunded amortization rate.
Maintenance of Effort:	For Tier 2 members, the amount of member contributions that exceed 7.00% of the member's compensation will NOT be used to reduce the employer's contribution requirement. Therefore this Maintenance of Effort is subtracted from assets prior to calculating the contribution rate.

SECTION F

PLAN PROVISIONS

Summary of Plan Provisions Valued and/or Considered

Average Yearly Salary.

For members hired before January 1, 2012:

Effective July 17, 1994, average yearly salary is the elected official's highest average salary during a three consecutive year period within the final 10 years of service. For elected officials whose membership commenced before July 17, 1994, average yearly salary will generally be final salary at termination of service.

For members hired on or after January 1, 2012:

Average yearly salary is the elected official's highest average salary during a five-consecutive year period within the last 10 years of service.

Normal Retirement (no reduction for age).

For members hired before January 1, 2012:

An elected official may retire upon meeting one of the following age and service requirements:

- Age 60 years with 25 or more years of credited service;
- Age 62 years with 10 or more years of credited service; and
- Age 65 years with 5 or more years of credited service.

Effective August 6, 1999, a member may retire at any age with 20 or more years of credited service.

The amount of a normal retirement pension is four percent of average yearly salary multiplied by years of credited service. The maximum is 80 percent of average yearly salary.

For members hired on or after January 1, 2012:

An elected official may retire upon meeting one of the following age and service requirements:

- 65 years of age with 5 or more years of credited service; or
- 62 years of age with 10 or more years of service.

The amount of a normal retirement pension is three percent of average yearly salary multiplied by years of credited service. The maximum is 75 percent of average yearly salary.

Early Retirement (reduction for age).

For members hired before January 1, 2012:

An elected official who is at least 50 years and has 10 or more years of credited service may retire before meeting an age and service requirement for normal retirement. The amount of an early retirement pension is computed by determining the amount of accrued normal retirement pension and then reducing the amount determined by three-twelfths of one percent for each month early retirement precedes the member's normal retirement age.

Effective August 6, 1999, a member with at least five years of credited service may retire early at any age. For those members who retire under this August 6, 1999 provision, their benefits are calculated using a three-year average salary, and the reduction for early retirement is capped at 30%.

For members hired on or after January 1, 2012:
No early retirement benefit.

Vested Termination (deferred retirement). An elected official with five or more years of credited service retains entitlement to a deferred pension upon ceasing to be an elected official if the official's accumulated contributions are left on deposit in the Retirement Plan. The amount of pension is determined in the same manner as a normal or early pension, whichever is applicable.

Disability Retirement.
For members hired before January 1, 2012:
An elected official who becomes incapacitated for the duties of office may be retired by the Board of Trustees. The amount of pension is 80 percent of three-year average salary if the elected official has at least 10 years of credited service, 40 percent of three-year average salary if the elected official has five but less than 10 years of credited service, and 20 percent of three-year average salary if the elected official has less than five years of credited service.

For members hired on or after January 1, 2012:
An elected official who becomes incapacitated for the duties of office may be retired by the Board of Trustees. The amount of pension is 75 percent of five-year average salary if the elected official has at least 10 years of credited service, 37.5 percent of five-year average salary if the elected official has five but less than 10 years of credited service, and 18.75 percent of five-year average salary if the elected official has less than five years of credited service.

Survivor Pensions.
For members hired before January 1, 2012:
Payable to the eligible beneficiary of a retired elected official or an active and inactive elected official. An eligible beneficiary is a surviving spouse who was married to the retired active or inactive elected official for at least two years; or, if there is no eligible spouse, a minor child. A surviving spouse's pension terminates upon death. A surviving child's pension terminates upon attainment of age 18 years, marriage, adoption or death, unless the child is a full time student under the age of 23 or was disabled prior to age 18. The amount of a surviving spouse's pension is 75% of the pension being paid the deceased retired elected official or the disability pension accrued by the deceased active elected official. The amount of a surviving child's pension is an equal share of the amount of a surviving spouse's pension.

For members hired on or after January 1, 2012:
Payable to the eligible beneficiary of a retired elected official or an active and inactive elected official. An eligible beneficiary is a surviving spouse who was married to the retired active or inactive elected official for at least two years; or, if there is no eligible spouse, a minor child. A surviving spouse's pension terminates upon death. A surviving child's pension terminates upon attainment of age 18 years, marriage, adoption or death, unless the child is a full time student under the age of 23 or was disabled prior to age 18. The amount of a surviving spouse's pension is 50% of the pension being paid the deceased retired elected official or the disability pension accrued by the deceased active elected official. The amount of a surviving child's pension is an equal share of the amount of a surviving spouse's pension. A higher survivor benefit may be elected, but actuarial reduction will be applied to the benefit elected.

Summary of Plan Provisions Valued and/or Considered

Other Terminations. The elected official is paid a refund of accumulated member contributions, plus an additional amount if the member has at least five years of service credit. The amount is a percent of the member contribution amount, ranging from 25% to 100% (with at least 10 years of service credit).

Post-Retirement Adjustments.
For members hired before January 1, 2012:
Contingent upon the excess investment earnings, effective July 1 of each year, eligible retired members or survivors may be entitled to a permanent benefit increase in their base benefit. To be eligible for the increase, the retired member or survivor must be either age 55 or older on July 1 of the current year and receiving benefits on or before July 31 of the previous year, or the retired member or survivor has been receiving benefits on or before July 31 of the previous two years. The maximum amount of the increase is 4% of the average normal benefit being received on the preceding June 30.

Prior to July 1, 2013, a PBI reserve is maintained and used to pay for the post-retirement adjustment. The investment return on the PBI reserve is the same as the return on the market value of assets (whether the return is positive or negative). Additional amounts are added to the PBI reserve in years when the investment return on the market value of assets exceeds 9.0%. Each year the present value of that year's post-retirement adjustment is subtracted from the PBI reserve. A post-retirement adjustment is paid as long as there is a positive balance in the PBI reserve.

For members hired on or after January 1, 2012:
A PBI is only paid in a year when the annual return on the market value of assets of the prior fiscal year exceeds 10.5% and the plan is at least 60% funded. 100% of the excess earnings is used to determine whether a PBI can be paid and the size of the PBI for that year. No PBI reserves will accumulate and the present value of that year's PBI for eligible retirees cannot exceed 100% of the earnings in excess of 10.5%. If the excess earnings is high enough to exceed the present value of that year's PBI, the excess stays in the fund.

To be eligible for an increase the retiree or the survivor must be:

- In the case of a retired member who became a member of the plan before January 1, 2012, the retired member or survivor was receiving benefits on or before July 31 of the two previous years; or
- In the case of a retired member who became a member of the plan before January 1, 2012, the retired member or survivor was 55 or older on July 1 of the current year and was receiving benefits on or before July 31 of the previous year; and
- In the case of a retired member who became a member of the plan on or after January 1, 2012, the retired member or survivor was at least 55 or older on July 1 and receiving benefits.

Summary of Plan Provisions Valued and/or Considered

The amount of the PBI to be paid is determined as follows:

- Funded ratio is 60-64%, PBI is 2%
- Funded ratio is 65-69%, PBI is 2.5%
- Funded ratio is 70-74%, PBI is 3%
- Funded ratio is 75-79%, PBI is 3.5%
- Funded ratio is 80% or more, PBI is 4%

Post-Retirement Health Insurance Subsidy. Payable on behalf of retired members and survivors who elect coverage provided by the state or participating employer. The monthly amounts cannot exceed:

Member Only		With Dependents		
Not Medicare Eligible	Medicare Eligible	All Not Medicare Eligible	All Medicare Eligible	One With Medicare
$150	$100	$260	$170	$215

Retired members or survivors who have between five and eight years of credited service are eligible for a proportionate share of the full subsidy.

Employer Contributions. A designed portion of court docket fees. Municipal employers contribute the computed normal cost rate plus a payment to amortize their unfunded actuarial accrued liability (UAAL) over a period not to exceed 30 years (a lump sum payment for UAAL is required for municipal employers entering after September 15, 1989). Pursuant to 1989 legislation, state and county employers contribute the difference between the actuarially determined contribution requirement and designated docket fees.

Members Contributions. Member contribution rates are shown in the schedule below. Additional member contributions DO NOT reduce the employer contribution; this means there is a “maintenance of effort” provision.

- Tier 1 members – 7.0%
- Tier 2 members – 13.0%

Employees who were appointed or elected on or after January 1, 2014 and do not have an active, inactive or retired member account with the EORP or the Arizona State Retirement System, will be required to participate in the Elected Officials’ Defined Contribution Retirement System (EODCRS) Plan.

SECTION G

GLOSSARY

Glossary

Actuarial Accrued Liability	The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."
Accrued Service	The service credited under the plan which was rendered before the date of the actuarial valuation.
Actuarial Assumptions	Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."
Actuarial Equivalent	A 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.
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.

Glossary

Reserve Account	An account used to indicate that funds have been set aside for a specific purpose and is 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 market value plus a portion of unrealized appreciation or depreciation.

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December 27, 2017

Mr. Jared A. Smout, Administrator
Arizona Elected Officials' Retirement Plan (EORP)
3010 E. Camelback Road, Suite 200
Phoenix, Arizona 85016

Re: Report of the June 30, 2017 Actuarial Valuation of EORP

Dear Mr. Smout:

Enclosed please find five copies of this report.

Any questions or comments you may develop will be welcome.

Sincerely,

James D. Anderson

James D. Anderson, FSA, EA, MAAA

JDA:bd
Enclosures

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723