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The City of Omaha Employees' Retirement System

Actuarial Valuation as of January 1, 2017

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The experience and dedication you deserve

October 6, 2017

Board of Trustees
City of Omaha Employees' Retirement System
1819 Farnam Street
Omaha, NE 68183

RE: January 1, 2016 Actuarial Valuation

Members of the Board:

In accordance with your request, we have completed an actuarial valuation of the City of Omaha Employees' Retirement System as of January 1, 2017 for the plan year ending December 31, 2018. The major findings of the valuation are contained in this report. The benefit provisions and the actuarial assumptions are unchanged from the prior valuation.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the City's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. We found this information to be reasonably consistent and comparable with information provided in prior years. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our calculations may need to be revised.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: experience differing from that anticipated by the 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 System's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this report are for purposes of determining the actuarial contribution rates for funding the System. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes. For example, actuarial computations for purposes of fulfilling financial accounting requirements for the System under Governmental Accounting Standards No. 67 and No. 68 are provided in a separate report.

The consultants who worked on this assignment are pension actuaries. CMC's advice is not intended to be a substitute for qualified legal or accounting counsel.

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This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries, have experience in performing valuations for public retirement plans, and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board and the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures based on the current provisions of the retirement plan and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System. The Board of Trustees has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix B.

We respectfully submit the following report and look forward to discussing it with you.

Sincerely,

Patrice Beckham

Patrice A. Beckham, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

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This report presents the results of the January 1, 2017 actuarial valuation of the City of Omaha Employees' Retirement System. The primary purposes of performing the valuation are:

- to estimate the liabilities for the future benefits expected to be paid by the System;
- to determine the actuarial contribution rate, based on the System's funding policy;
- to measure and disclose various asset and liability measures;
- to monitor any deviation between actual System experience and experience predicted by the actuarial assumptions so that recommendations for assumption changes can be made when appropriate;
- to analyze and report on any significant trends in contributions, assets and liabilities over the past several years.

The actuarial assumptions and benefit provisions are unchanged from the prior valuation. The actuarial valuation results provide a "snapshot" view of the System's financial condition on January 1, 2017. The unfunded actuarial liability (UAL) in the current valuation is $198 million, an increase of $4 million from last year's UAL of $194 million. As of January 1, 2017, 212 out of 1,197 active members are covered under the cash balance benefit structure, or about 18% of the active members.

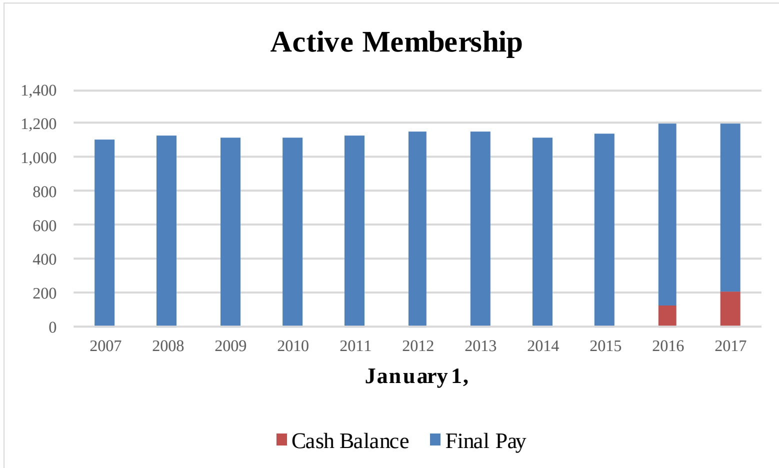
The valuation results reflect net unfavorable experience for the past plan year as demonstrated by an unfunded actuarial liability that is higher than expected, based on the actuarial assumptions used in the January 1, 2016 actuarial valuation. Unfavorable experience on the actuarial value of assets resulted in an experience loss of $2.1 million. There was also a small experience loss on liabilities of $0.1 million. Based on the contribution rates in the bargaining agreements, the actual contributions during 2016 were slightly higher than the actuarial contribution rate. This decreased the unfunded actuarial liability by $1.0 million.

The System uses an asset smoothing method in the valuation process. As a result, the System's funded status and the actuarial contribution rate are based on the actuarial (smoothed) value of assets – not the pure market value. The estimated investment return, net of expenses, on the market value of assets during 2016 was 9.7%. Coupled with the deferred investment experience from the 2016 valuation, the rate of return on the actuarial value of assets was 7.1% for 2016. Because that rate is lower than the assumed 8.0% return, it generated an actuarial experience loss of $2.1 million. The actuarial value of assets exceeds the market value by $6.4 million or 2.7% of the market value. Actual market returns over the next few years will determine the rate at which the deferred investment loss is actually recognized. With the current deferred losses, a return of 11% on the market value of assets in 2017 would result in an 8% return on the actuarial value of assets.

The change in the assets, liabilities, and contribution rate of the System over the last year are discussed in more detail in the following sections.

MEMBERSHIP

There were 1,197 active members in the 2017 valuation compared to 1,194 in the 2016 valuation, a 0.25% increase. The increase in the number of active members contributed to the increase in covered payroll of 2.7%. The following graph shows the number of active members in the valuation over the last ten years. The current active group is the highest number in the last 10 years. When the number of active members increases, it has a positive influence on the System's funding and contribution rate. While the normal cost rate is unaffected by the size of the membership, the UAL contribution rate is favorably impacted. The UAL is amortized assuming covered payroll will grow at 4.0% per year. If total payroll grows more than 4.0%, the UAL payment is divided by payroll that is higher than expected, resulting in a lower UAL contribution rate.



ASSETS

As of January 1, 2017, the System had total funds of $239.8 million, when measured on a market value basis. This was an increase of $7.7 million from the prior year's value of $232.2 million, and represents an approximate rate of return, net of expenses, of 9.7%.

The market value of assets is not used directly in the actuarial calculation of the System's funded status and the actuarial contribution rate. An asset valuation method is used to smooth the effects of market fluctuations. The actuarial value of assets is equal to the expected asset value (based on last year's actuarial value of assets, net cash flows and a rate of return equal to the actuarial assumed rate of 8.0%) plus 25% of the difference between the actual market value and the expected asset value. See Exhibit 2 for the detailed development of the actuarial value of assets as of January 1, 2017. The rate of return on the actuarial value of assets was 7.1%, resulting in an actuarial loss of $2.1 million.

The components of the change in the market value and actuarial value of assets are shown below:

	Market Value ($M)		Actuarial Value ($M)	
Net Assets, January 1, 2016	$	232.2	$	243.5
City and Member Contributions	+	19.6	+	19.6
Benefit Payments and Refunds	-	33.7	-	33.7
Investment Gain/(Loss)	+	21.7	+	16.8
Net Assets, January 1, 2017		239.8		246.2
Estimated Rate of Return		9.7%		7.1%

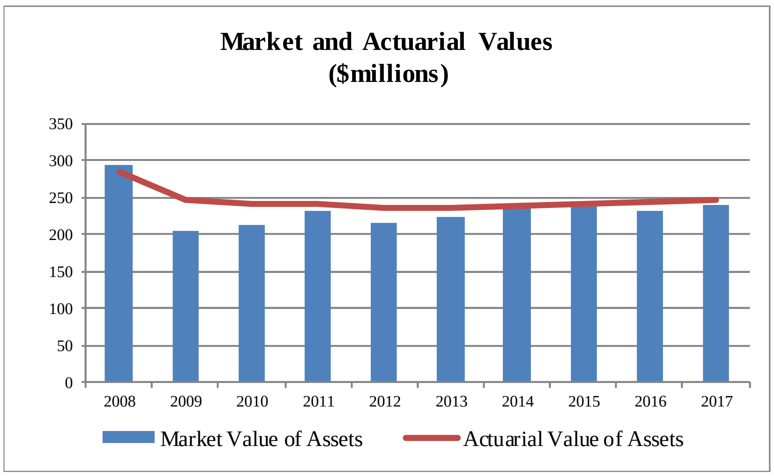
The net investment loss that is not recognized as of January 1, 2017 is $6.4 million, compared with $11.3 million of unrecognized loss in last year's valuation. The unrecognized losses of $6.4 million will be reflected in the determination of the actuarial value of assets for funding purposes over time, to the extent they are not offset by future gains. This means that earning the assumed rate of investment return of 8.0%

per year (net of investment expenses) on a market value basis will result in small actuarial losses on the actuarial value of assets in the future.

The unrecognized investment losses represent 2.7% of the market value of assets (compared to deferred losses equal to 4.9% of the market value in the 2016 valuation). If the deferred losses were recognized immediately in the actuarial value assets, the unfunded actuarial liability would increase by $6.4 million to $203.9 million, the funded ratio would decrease to 54.0%, the actuarial contribution rate would increase from 27.740% to 29.428%, and the contribution margin would decrease to 0.578%.

A comparison of asset values on both a market and actuarial basis for the last five years is shown in the following table.

	January 1 ($M)						
	2017	2016	2015	2014	2013	2012	2011
Actuarial Value of Assets	$246	$244	$242	$238	$236	$237	$240
Market Value of Assets	$240	$232	$239	$240	$223	$215	$232
Actuarial Value/Market Value	103%	105%	101%	99%	106%	110%	103%



An asset smoothing method is used to mitigate the volatility in the market value of assets. By using a smoothing method, the actuarial (or smoothed) value can be either above or below the pure market value.

LIABILITIES

The first step in determining the actuarial contribution rate for the System is to calculate the liabilities for all expected future benefit payments. These liabilities represent the present value of future benefits (PVFB) expected to be earned by the current System members, assuming that all actuarial assumptions are realized. Thus, the PVFB reflects service and salary increases that are expected to occur in the future before the benefit becomes payable. The PVFB for the various types of benefits provided by the System can be found in the liabilities portion of the valuation balance sheet (see Exhibit 3).

The other critical measurement of System liabilities in the valuation process is the actuarial liability (AL). This is the portion of the PVFB that will not be paid by the future normal costs (i.e. it is the portion of the PVFB that is allocated to prior service periods). As of January 1, 2017, the actuarial liability for the System was $443.8 million.

The following chart compares the Actuarial Liability (AL) and System assets for the current and prior valuation:

	As of January 1	
	2017	2016
Actuarial Liability (AL)	$443,771,621	$437,133,012
Assets at Actuarial Value	$246,234,597	$243,516,453
Unfunded Actuarial Liability (AVA)	$197,537,024	$193,616,559
Funded Ratio (Actuarial Value)	55%	56%
Assets at Market Value	$239,825,244	$232,157,235
Unfunded Actuarial Liability (MVA)	$203,946,377	$204,975,777
Funded Ratio (Market Value)	54%	53%

Note that the funded ratio does not indicate whether or not the System assets are sufficient to settle benefits earned to date. The funded ratio by itself also may not be indicative of future funding requirements.

EXPERIENCE FOR THE 2016 PLAN YEAR

The difference between the actuarial liability and the actuarial value of assets at the same date is referred to as the unfunded actuarial liability (UAL). Benefit improvements, experience gains/losses, changes in the actuarial assumptions or methods, and actual contributions made will impact the amount of the unfunded actuarial liability.

Actuarial gains (or losses) result from actual experience that is more (or less) favorable than anticipated based on the actuarial assumptions. These "experience" (or actuarial) gains or losses are reflected in the unfunded actuarial liability and are measured as the difference between the expected unfunded actuarial liability and the actual unfunded actuarial liability, taking into account any changes due to assumptions/methods or benefit provision changes. The net experience was unfavorable (a higher unfunded actuarial liability than expected). There was an actuarial loss for 2016 of $2.1 million on the actuarial value of assets and an actuarial loss of $0.1 million on liabilities.

The change in the unfunded actuarial liability between January 1, 2016 and January 1, 2017 is shown below (in millions):

Unfunded Actuarial Liability, January 1, 2016	194
• Expected change in UAL	3
• Contribution above actuarial rate	(1)
• Investment experience	2
• Demographic experience	0
• Other experience	0
Unfunded Actuarial Liability, January 1, 2017	198

CONTRIBUTION LEVELS

The actuarial contribution rate of the System is composed of two parts:

(1) Normal cost (which is the allocation of costs attributed to the current year's membership service) and,
(2) Amortization payment on the Unfunded Actuarial Liability (UAL).

The normal cost rate is independent of the System's funded status and represents the cost, as a percent of payroll, of the benefits provided by the System which is allocated to the current year of service. The total normal cost for the System is 9.721% of pay, or $6.2 million this year. The normal cost rate represents the long-term cost of the benefit structure for the current active members.

The System's total actuarial contribution rate (payable as a percentage of member payroll) increased by 0.214% of pay, to 27.740% on January 1, 2017, from 27.526% on January 1, 2016. The primary components of the change in the actuarial contribution rate are shown in the following table:

	Rate	
Total Actuarial Contribution Rate, January 1, 2016	27.526	%
• Actuarial (Gain) / Loss - Investment Experience	0.195	
• Actuarial (Gain) / Loss - Demographic Experience	0.006	
• Contributions Less Than Actuarial Rate	(0.093)	
• Change in Normal Cost Rate	(0.122)	
• Payroll Growth Lower than Expected	0.224	
• Other Experience	0.004	
Total Actuarial Contribution Rate, January 1, 2017	27.740	%

As the table above shows, the actuarial contribution rate increased from 27.526% to 27.740%. There was no single factor that had the most significant impact on the actuarial contribution rate. For the current valuation, the total contribution rate for 2017 is 27.740% of pay (9.721% normal cost + 18.019% UAL payment). The scheduled contributions for the year are 28.850%, resulting in a contribution margin of 1.110%.

COMMENTS

As of January 1, 2017, 212 out of 1,197 active members are covered under the cash balance benefit structure, or about 18%. Since cash balance members make up only a small portion of the active membership, the group's impact on this year's valuation results is minimal. It will take many years before the cash balance plan design has a significant impact on the system's liabilities and costs. We expect to continue to see growth in the number of actives covered by the cash balance benefit structure. However, the majority of the system's liabilities will continue to reside with members in the legacy benefit structure (final average pay plan) for many years.

The results of this valuation indicate that the fixed contribution rates in the current bargaining agreements is 1.110% higher than the actuarial contribution rate. Given the volatility inherent in investment returns from year to year and the related impact such volatility will have on the actuarial contribution rate from year to year, the contribution margin this year could easily revert to a contribution shortfall in future years, depending on actual experience. Given that fact and the current funded status of the System, we strongly recommend that no reduction to the current contribution rates occur.

The return on the market value of assets in 2016 was 9.7%, which decreased the deferred investment losses that existed on January 1, 2016 from $11.3 million to $6.4 million. The funded ratio of the system, on a market value basis, is 54% in the January 1, 2017 actuarial valuation. While the System's financial health is expected to improve in future years due to benefit and contribution changes, the impact on the System's long-term funding cannot be quantified without performing an open group projection of future valuation results. Such analysis was not performed because it is outside the regular scope of services requested by the Board and a special request was not made.

As mentioned earlier in this report, the System uses an asset smoothing method in the actuarial valuation. While this is a very common procedure for public retirement systems, it is important to be aware of the potential impact of the unrecognized investment experience. The System currently has a deferred loss of about $6.4 million. It is valuable to compare the key valuation results from the 2017 valuation using both the actuarial and market value of assets (see following table).

	$ Millions	
	Using Actuarial Value of Assets	**Using Market Value of Assets**
Actuarial Liability	$443.8	$443.8
Asset Value	246.2	239.8
Unfunded Actuarial Liability	$197.6	$204.0
Funded Ratio	55.5%	54.0%
Normal Cost Rate	9.721%	9.721%
UAL Contribution Rate	18.019%	19.707%
Actuarial Contribution Rate	27.740%	29.428%
Employee Contribution Rate	10.075%	10.075%
City Contribution Rate	18.775%	18.775%
Contribution (Shortfall)/Margin	1.110%	(0.578%)

THE CITY OF OMAHA EMPLOYEES' RETIREMENT SYSTEM

PRINCIPAL VALUATION RESULTS

	January 1, 2017	January 1, 2016	% Chg
MEMBERSHIP			
1. Active Membership			
- Number of Members	1,197	1,194	0.3
- Projected Payroll for Upcoming Fiscal Year	$70,873,306	$69,005,865	2.7
- Average Projected Payroll	$59,209	$57,794	2.4
- Average Attained Age	46.2	46.5	(0.6)
- Average Entry Age	36.7	36.7	0.0
2. Inactive Membership			
- Number of Retirees / Beneficiaries	1,321	1,274	3.7
- Number of Disabled Members	109	112	(2.7)
- Number of Deferred Vested Members	76	77	(1.3)
- Average Annual Benefit	$23,323	$22,923	1.7
- Number of Participants Due a Refund	36	34	5.9
ASSETS AND LIABILITIES			
1. Net Assets			
- Market Value	$239,825,244	$232,157,235	3.3
- Actuarial Value	246,234,597	243,516,453	1.1
2. Projected Liabilities			
- Retired Members and Beneficiaries	$299,946,476	$286,934,794	4.5
- Disabled Members	20,580,283	21,777,439	(5.5)
- Other Inactive Members	4,867,852	5,120,884	(4.9)
- Active Members	167,961,895	170,989,512	(1.8)
- Total Liability	$493,356,506	$484,822,629	1.8
3. Actuarial Liability	443,771,621	437,133,012	1.5
4. Unfunded Actuarial Liability	$197,537,024	$193,616,559	2.0
5. Funded Ratios			
Actuarial Value Assets / Actuarial Liability	55.49%	55.71%	(0.4)
Market Value Assets / Actuarial Liability	54.04%	53.11%	1.8
CONTRIBUTIONS			
1. Normal Cost Rate	9.721%	9.843%	(1.2)
2. UAL Contribution Rate	18.019%	17.683%	1.9
3. Total Actuarial Contribution Rate (1) + (2)	27.740%	27.526%	0.8
4. Employee Contribution Rate	10.075%	10.075%	0.0
5. City Contribution Rate Per Ordinance	18.775%	18.775%	0.0
6. Contribution (Shortfall)/Margin (4) + (5) - (3)	1.110%	1.324%	(16.2)

EXHIBIT 1

SUMMARY OF FUND ACTIVITY

(Market Value Basis)

For Year Ended December 31, 2016

Assets at January 1, 2016	$	232,157,235
Receipts:		
City Contributions		12,779,968
Employee Contributions		6,866,102
Investment Earnings, Net of Expenses		21,748,400
Total Receipts		41,394,470
Disbursements:		
Benefit Payments		33,039,383
Refund of Contributions		681,256
Administrative Expenses		5,822
Total Disbursements		33,726,461
Assets as of December 31, 2016	$	239,825,244
Annualized Net Yield		9.7%

EXHIBIT 2

DETERMINATION OF ACTUARIAL VALUE OF ASSETS

The actuarial value of assets is used to minimize the impact of annual fluctuations in the market value of investments on the contribution rate. The current asset valuation method is called the "Expected +25% Method."

The "expected value" of assets is determined by applying the investment return assumption to last year's actuarial value of assets and the net difference of receipts and disbursements for the year. The actual market value is compared to the expected value and 25% of the difference (positive or negative) is added to the expected value to arrive at the actuarial value of assets for the current year.

1.	Actuarial Value of Assets as of January 1, 2016	$	243,516,453
2.	Actual Receipts / Disbursements		
	a. Total Contributions		19,646,070
	b. Benefit Payments/Other		(33,720,639)
	c. Net Change		(14,074,569)
3.	Expected Actuarial Value of Assets as of January 1, 2017 [(1) * 1.08] + [(2c) * 1.08 ^{½}]		248,371,048
4.	Market Value of Assets as of January 1, 2017		239,825,244
5.	Excess of Market Value over Expected Actuarial Value as of January 1, 2017		(8,545,804)
6.	Preliminary Actuarial Value of Assets as of January 1, 2017 [(3) + 25% of (5)]		246,234,597
7.	20% Calculation of Corridor		
	a. 80% of (4)		191,860,195
	b. 120% of (4)		287,790,293
8.	Final Actuarial Value of Assets as of January 1, 2017 (6) but not < (7a) nor > (7b)	$	246,234,597
9.	Rate of Return on Actuarial Value of Assets		7.1%

EXHIBIT 2 (continued)

A historical comparison of the market and actuarial value of assets is shown below:

Date	Market Value of Assets (MVA)	Actuarial Value of Assets (AVA)	AVA / MVA
1/1/2008	$294,658,022	$283,243,750	96.13%
1/1/2009	204,452,506	245,343,007	120.00%
1/1/2010	213,219,632	240,109,413	112.61%
1/1/2011	232,346,583	240,291,310	103.42%
1/1/2012	215,434,784	236,741,347	109.89%
1/1/2013	223,233,088	235,591,941	105.54%
1/1/2014	240,342,815	237,579,690	98.85%
1/1/2015	238,730,446	242,248,074	101.47%
1/1/2016	232,157,235	243,516,453	104.89%
1/1/2017	239,825,244	246,234,597	102.67%

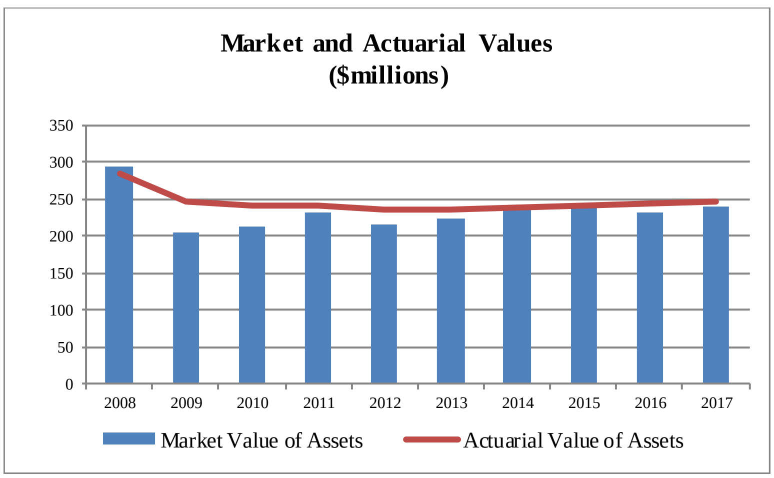


EXHIBIT 3

ACTUARIAL BALANCE SHEET

An actuarial statement of the status of the System in balance sheet form as of January 1, 2017 is as follows:

Assets

Current assets (actuarial value)		$	246,234,597
Present value of future normal costs			49,584,885
Present value of future employer contributions to fund unfunded actuarial liability			197,537,024
Total Assets		$	493,356,506

Liabilities

Present value of future retirement benefits for:				
Active employees	$	151,945,606		
Retired employees, contingent annuitants and spouses receiving benefits		299,946,476		
Deferred vested employees		4,667,312		
Inactive employees due refunds		200,540		
Inactive employees – disabled		20,580,283		
Total			$	477,340,217
Present value of future death benefits payable upon death of active members				2,664,396
Present value of future benefits payable upon termination of active members				13,351,893
Total Liabilities			$	493,356,506

EXHIBIT 4

UNFUNDED ACTUARIAL LIABILITY

As of January 1, 2017

The actuarial liability is the portion of the present value of future benefits which will not be paid by future normal costs. The actuarial value of assets is subtracted from the actuarial liability to determine the unfunded actuarial liability.

1.	Present Value of Future Benefits	$	493,356,506
2.	Present Value of Future Normal Costs		49,584,885
3.	Actuarial Liability (1) – (2)		443,771,621
4.	Actuarial Value of Assets		246,234,597
5.	Unfunded Actuarial Liability (3) – (4)	$	197,537,024
6.	Funded Ratio (4) ⁄ (3)		55.49%

EXHIBIT 5

SCHEDULE OF AMORTIZATION BASES

The System amortizes the unfunded actuarial liability (UAL) using a "layered" approach for the UAL where the UAL as of January 1, 2016 is amortized over a closed amortization period of 25 years. Changes to the UAL in subsequent years are set up as a new amortization base with payments determined as a level percentage of payroll over a closed 20 year period beginning on that valuation date. The total UAL payment is the sum of the amortization payments on each of the amortization bases.

Amortization Bases	Original Amount	January 1, 2017 Remaining Years	Year of Last Payment	Outstanding Balance as of January 1, 2017	Annual Contribution (mid-year)
2016 Initial UAL Base	$ 193,616,559	24	2041	$ 196,425,103	$ 12,690,171
2017 Experience Base	1,111,921	20	2037	1,111,921	80,766
Total				**$ 197,537,024**	**$ 12,770,937**

EXHIBIT 6

DEVELOPMENT OF
2017 ACTUARIAL CONTRIBUTION RATE

The actuarial cost method used to determine the required level of annual contributions to support the expected benefits is the Entry Age Normal Cost Method. Under this method, the total cost is comprised of the normal cost rate and the unfunded actuarial liability (UAL) payment. The System is financed by contributions from the employees and the City.

1.	(a)	Normal Cost	$	6,229,103
	(b)	Expected Payroll in 2017 for Current Actives	$	64,080,314
	(c)	Normal Cost Rate (a) / (b)		9.721%
2.		Unfunded Actuarial Liability at Valuation Date	$	197,537,024
3.		Unfunded Actuarial Liability Payment	$	12,770,937
4.		Total Projected Payroll for 2017	$	70,873,306
5.		Unfunded Actuarial Liability Payment as Percent of Pay (3) / (4)		18.019%
6.		Total Actuarial Contribution Rate (1c) + (5)		27.740%
7.		Employee Contribution Rate		10.075%
8.		City Contribution Rate		18.775%
9.		Contribution (Shortfall)/Margin (7) + (8) - (6)		1.110%

EXHIBIT 7

CALCULATION OF ACTUARIAL GAIN/(LOSS)
For Plan Year Ending December 31, 2016

Liabilities		
1. Actuarial liability as of January 1, 2016	$	437,133,012
2. Normal cost for 2016		6,149,062
3. Interest at 8.00% on (1) and (2) to December 31, 2016		35,462,566
4. Benefit payments during 2016		(33,720,639)
5. Interest on benefit payments		(1,322,877)
6. Expected actuarial liability as of December 31, 2016	$	443,701,124
7. Actuarial liability as of December 31, 2016	$	443,771,621
Assets		
8. Actuarial value of assets as of January 1, 2016	$	243,516,453
9. Contributions during 2016		19,646,070
10. Benefit payments during 2016		(33,720,639)
11. Interest on items (8), (9) and (10)		18,929,164
12. Expected actuarial value of assets as of December 31, 2016	$	248,371,048
13. Actual actuarial value of assets as of December 31, 2016	$	246,234,597
Gain / (Loss)		
14. Expected unfunded actuarial liability (6) – (12)	$	195,330,076
15. Actual unfunded actuarial liability (7) – (13)		197,537,024
16. Actuarial Gain / (Loss) (14) – (15)		(2,206,948)
17. Actuarial Gain / (Loss) on Actuarial Assets (13) – (12)		(2,136,451)
18. Actuarial Gain / (Loss) on Actuarial Liability (6) – (7)	$	(70,497)

EXHIBIT 8

ANALYSIS OF EXPERIENCE

The purpose of conducting an actuarial valuation of a retirement plan is to estimate the costs and liabilities for the benefits expected to be paid from the plan, to determine the annual level of contributions for the current plan year that should be made to support these benefits, and finally, to analyze the plan's experience. The costs and liabilities of this retirement plan depend not only upon the benefit formula and plan provisions but also upon factors such as the investment return on the system assets, mortality rates among active and retired members, withdrawal and retirement rates among active members, and rates at which salaries increase.

The actuarial assumptions employed as to these and other contingencies in the current valuation are set forth in Appendix B of this report.

Since the overall results of the valuation will reflect the choice of assumptions made, periodic studies of the various components comprising the plan's experience are conducted in which the experience for each component is analyzed in relation to the assumption used for that component (called an experience study). This summary is not intended to be an actual "experience study" but rather an analysis of sources of gain and loss in the past plan year.

Gain/(Loss) By Source

The System experienced a net actuarial loss on liabilities of 70,000 during the plan year ended December 31, 2016, and an actuarial loss on assets of $2,136,000. The total actuarial loss was $2,206,000. The major components of this net actuarial experience loss are shown below:

Liability Sources		**Gain/(Loss)**
Salary Increases	$	1,092,000
Mortality		(607,000)
Terminations		(584,000)
Retirements		(527,000)
Disability		(195,000)
New Entrants/Rehires		(121,000)
Conversions		613,000
Miscellaneous		259,000
Total Liability Gain/(Loss)	$	(70,000)
Asset Gain/(Loss)	$	(2,136,000)
Total Actuarial Gain/(Loss)	$	(2,206,000)

SECTION II

OTHER INFORMATION

In this section, we provide some historical information regarding the funding progress of the system. These exhibits retain some of the information that used to be required for accounting purposes and are included because they provide relevant information on the System’s historical funding.

EXHIBIT 9

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Fiscal Year Ending	Annual Required Contribution* (a)	Total Employer Contribution* (b)	Percentage of ARC Contributed* (b/a)
12/31/2005	$ 6,877,913	$ 4,500,192	65.43%
12/31/2006	6,213,801	4,145,033	66.71%
12/31/2007	8,883,617	4,975,039	56.00%
12/31/2008	9,212,669	5,374,082	58.33%
12/31/2009	12,893,331	5,310,754	41.19%
12/31/2010	14,149,386	5,717,610	40.41%
12/31/2011	14,564,847	6,618,110	45.44%
12/31/2012	15,658,045	7,216,050	46.09%
12/31/2013	17,406,168	7,194,482	41.33%
12/31/2014	17,162,883	12,326,643	71.82%
12/31/2015	14,676,786	12,401,231	84.50%
12/31/2016	11,794,456	12,779,968	108.36%

*Information prior to 2011 was provided by the prior actuary and has not been reviewed or verified by Cavanaugh Macdonald Consulting.

EXHIBIT 10

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date[1]	Actuarial Value of Assets (a)	Actuarial Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (P/R) (c)	UAAL as a Percentage of Covered P / R [(b-a)/c]
12/31/2006	$292,000,000	$361,700,000	$ 69,700,000	80.7%	$48,200,000	144.6%
12/31/2007	294,700,000	369,000,000	74,300,000	79.9%	54,000,000	137.6%
12/31/2008	204,500,000	387,700,000	183,200,000	52.7%	56,400,000	324.8%
12/31/2009	213,200,000	402,800,000	189,600,000	52.9%	55,700,000	340.4%
12/31/2010	232,400,000	414,500,000	182,100,000	56.1%	56,700,000	321.2%
1/1/2011	240,291,310	409,442,601	169,151,291	58.7%	59,235,591	285.6%
1/1/2012	236,741,347	420,810,359	184,069,012	56.3%	62,825,685	293.0%
1/1/2013	235,591,941	436,270,409	200,678,468	54.0%	63,327,394	316.9%
1/1/2014	237,579,690	442,754,113	205,174,423	53.7%	63,413,206	323.6%
1/1/2015	242,248,074	431,160,038	188,911,964	56.2%	64,876,227	291.2%
1/1/2016	244,543,841	437,133,012	192,589,171	55.9%	69,005,865	279.1%
1/1/2017	246,234,597	443,771,621	197,537,024	55.5%	70,873,306	278.7%

1. Results prior to 2011 were provided by the prior actuary and were reported at the end of the year rather than the valuation date.

APPENDIX A

SUMMARY OF PLAN PROVISIONS

Effective Date: Section 22 - 21	January 1, 1949
Active Member: Section 22 – 24 and 25	All City employees except: policemen, firemen, persons paid on a contractual or fee basis, seasonal, temporary and part-time employees, and elected officials who do not make written application.
Final Average Compensation (FAC): Section 22 - 32	Highest 78 pay periods in the employee's last 130 pay periods of employment divided by three for members who are within five years of normal retirement as of March 1, 2015 under the eligibility criteria set forth in the 2009 through 2012 labor agreements; or the last 130 pay periods divided by five for all other employees. Minimum FAC, regardless of retirement date, shall never be less than the FAC determined as of 2/28/2015 (highest consecutive 26 pay periods in 130 pay periods prior to 2/28/2015).
Member Contributions: Section 22 – 26(a)	Each member will contribute 10.075% of total compensation.
City of Omaha Contributions: Section 22 – 26(e)	The City will contribute a percentage of each member's total compensation as shown in the following table.

Year	Percent Contributed
2013	13.775%
2014	17.775%
2015	18.775%

Service Credits Section 22 – 28 and 29	The member shall receive membership service credit for each full pay period of employment. Intervening periods of military service in time of emergency shall be counted, provided the member is honorably discharged and returns to work within 90 days after such discharge. Membership credits shall be earned by those receiving a disability pension. However, the total credited service will not exceed 30, unless more than 30 years were earned as an active member.

APPENDIX A

SUMMARY OF PLAN PROVISIONS
(continued)

Service Retirement Eligibility:
Section 22 - 30

Members who are within five years of normal retirement as of March 1, 2015 under the eligibility criteria set forth in the 2009 through 2012 labor agreement will remain eligible for a service retirement if (a) they are age 60 with five years of service or (b) meet the Rule of 80 with a minimum age of 50. A member is eligible for a service retirement after reaching age 55 with five years of service, but the pension is reduced 8% per year for years prior to age 60.

Members who are more than five but less than ten years of normal retirement as of March 1, 2015 under the eligibility criteria set forth in the 2009 through 2012 labor agreement are eligible to retire after age 55 if their age plus service is 85 or more (Rule of 85). Otherwise, a member is eligible to retire after age 57 with five years of service, but the pension is reduced 8% per year for years prior to age 62.

Members who are not within ten years of normal retirement as of March 1, 2015 under the eligibility criteria set forth in the 2009 through 2012 labor agreement, are eligible to retire after age 55 if their age plus service is 85 or more (Rule of 85). Otherwise, such member is eligible to retire after age 60 with five years of service, but the pension is reduced 8% per year for years prior to age 65.

Members who are hired on or after March 1, 2015 are eligible to retire after age 55 with ten years of service.

Service Retirement Pension:
Section 22 - 32

For members hired before March 1, 2015, a monthly pension equal to 2.25% of Final Average Compensation times years of service during and before 2014, plus 1.90% for years of service during and after 2015.

For members hired on or after March 1, 2015, the system shall establish and maintain a "cash balance account" for each employee. The cash balance account shall be equal to the sum of the employee's pay credits, interest credits and dividends, which are explained further in the following paragraphs.

APPENDIX A

SUMMARY OF PLAN PROVISIONS
(continued)

Interest Credits and Dividends: On the last day of each plan year, each cash balance account shall receive an interest credit equal to 4.0% of the balance at the beginning of the plan year. Additionally, each account may be credited with a dividend equal to 75% of the System's investment return, on a market value basis, that is over 7.0% on a rolling five-year return. The dividend is capped at 3.0% until January 1, 2020.

Pay Credits: On the last day of each plan year, each cash balance account shall receive a pay credit equal to the following percentages of the member's pensionable earnings for the plan year:

Years of Service	Percentage
Less Than 8	13.0%
8 – 15	14.0%
16 – 23	15.0%
24 or More	16.0%

Monthly Benefit: At retirement, a member may elect to receive benefit payments as a single life annuity, life annuity with 10 years certain, life annuity with 15 years certain, Joint and 50% Survivor, Joint and 75% Survivor, or Joint and 100% Survivor. The annuity conversion factor shall be based on 5% interest and the RP 2000 Mortality Table Projected to 2034 with a male/female blend of 67%/33%.

Disability Benefits:

1. Non-Service Related
   Section 22 - 35

An employee who sustains an injury or illness not in the line of duty and as a result becomes unfit for active duty shall be granted a non-service-connected disability retirement of 1.50% multiplied by the employee's years of service multiplied by their Final Average Compensation. Members who were hired before March 1, 2015 are eligible for this benefit with five years of service. Members who were hired on or after March 1, 2015 are eligible for this benefit with ten years of service.

APPENDIX A

SUMMARY OF PLAN PROVISIONS
(continued)

2. Service-Related
   Section 22 - 35

An employee who is a member of the system who sustains an injury or illness in the line of duty and as a result becomes unfit for active duty shall be granted a service-connected disability retirement of 1.75% multiplied by the employee's years of service multiplied by their Final Average Compensation. This benefit is available only if the member has served a minimum of six months of service.

Spouse's Pension:

1. Death of Active Member
   Section 22 - 36

For members hired before March 1, 2015, a monthly pension equal to 75% of the member's accrued pension is paid to the surviving spouse until death or remarriage. The member must have had five years of service or had a service-connected death and six months of service.

For members hired on or after March 1, 2015, a lump sum payment of the member's full cash balance account if the member had ten or more years of service prior to death. If the member had less than ten years of service prior to death, then the surviving spouse is eligible to receive a lump sum payment equal to the member's contributions with 4.0% interest.

2. Death of a Member Eligible for Retirement or Death of Retired Member
   Section 22 - 36

For members hired before March 1, 2015, if the surviving spouse was legally married to the member for at least one year, then they shall be entitled to 75% of the pension the member was receiving or was eligible to receive at the time of death. Upon the spouse's remarriage, all benefits cease.

Children's Pension:
Section 22 - 36

For members hired before March 1, 2015, upon the death of the active or retired member, the following benefit will be paid to the surviving children until age 18 or prior to death or marriage, except that if a child is totally disabled, the full pension continues until the cessation of total disability or dependency for support whichever occurs first:

APPENDIX A

SUMMARY OF PLAN PROVISIONS
(continued)

Number of Dependent Children	Percentage of Accrued Benefit
1	5%
2	10%
3	15%
4 or more	20%

Lump Sum Death Benefits:

1. Active Member without Eligible Dependents Section 22 - 37	Accumulated member's contributions, plus $5,000.
2. Retired Member without Eligible Dependents Section 22 - 37	Accumulated member's contribution less previous pension payments made, plus $5000.
3. Active Member with Eligible Dependents: Section 22 - 37	$5,000
4. Retired Member with Eligible Dependents Section 22 - 37	$5,000
Vesting: Section 22 – 39	For members who were hired before March 1, 2015, upon severance of employment with less than five years of service and prior to obtaining eligibility under Section 22 – 30, a refund of such member's accumulated contributions, including credited interest, will be paid. For members who were hired on or after March 1, 2015, upon severance of employment with less than ten years of service and prior to obtaining eligibility under Section 22 – 30, a refund of such member's accumulated contributions, including 4.0% interest, will be paid.

APPENDIX A

SUMMARY OF PLAN PROVISIONS
(continued)

Section 22 – 40	For members who were hired before March 1, 2015, upon severance of employment with more than five years of service and prior to obtaining eligibility for retirement, the member may elect, in lieu of receiving a refund of contributions, to receive a monthly pension, reduced for early retirement if applicable. Such deferred pension shall be based on service credited to the date of severance.
	For members who were hired on or after March 1, 2015, upon severance of employment with more than ten years of service and prior to obtaining eligibility for retirement, the member may elect, in lieu of receiving a refund of contributions, to leave their contributions in the System and thereby be eligible for a deferred service retirement pursuant to Section 22 – 40.
Supplemental Pension: Section 22 – 123	Retirees (including widows, widowers and children) receive a supplemental pension (Cost of Living Adjustment – COLA) after five years equal to the lesser of 3% or $50 per month. The COLA is granted for the full remaining period that benefits are payable. No COLAs will be available for members who retire after January 28, 1998.

APPENDIX B

ACTUARIAL METHODS AND ASSUMPTIONS

Actuarial Cost Method

Valuation of the System uses the *"entry age-normal"* cost method. Under this actuarial method, the value of future costs attributable to future employment of participants is determined. This is called present value of future normal costs. The following steps indicate how this is determined for benefits expected to be paid upon normal retirement.

1. The expected pension benefit at normal retirement is determined for each participant.

2. A normal cost, as a level percent of pay, is determined for each participant assuming that such level percent is paid from the employee's entry age into employment to his normal retirement. This normal cost is determined so that its accumulated value at normal retirement is sufficient to provide the expected pension benefits.

3. The sum of the normal costs for all participants for one year determines the total normal cost of the System for one year.

4. The value of future payments of normal cost in future years is determined for each participant based on his years of service to normal retirement age.

5. The sum of the value of future payments of normal cost for all participants determines the present value of future normal costs.

The value of future costs attributable to past employment of participants, which is called the actuarial liability, is equal to the present value of benefits less the present value of future normal costs. The unfunded actuarial liability is equal to the excess of the actuarial liability over assets.

As experience develops with the System, actuarial gains and losses result. These actuarial gains and losses indicate the extent to which actual experience is deviating from that expected on the basis of the actuarial assumptions. In each year, as they occur, actuarial gains and losses are recognized in the unfunded actuarial liability as of the valuation date.

Actuarial Value of Assets

The actuarial value of assets is equal to the expected asset value (based on last year's actuarial value of assets, net cash flows and a rate of return equal to the actuarial assumed rate of 8.0%) plus 1/4 of the difference between the actual market value and the expected asset value. The actuarial value of assets cannot exceed 120% or fall below 80% of the market value of assets.

Unfunded Actuarial Liability Amortization Method

The unfunded actuarial liability (UAL) is funded on a "layered" basis, with the intial base being funded as a level-percent of payroll over a 25-year closed period that began January 1, 2016. A new base is created each valuation and is equal to the additional UAL created in that year. Each base is funded as a level percent of payroll over a 20-year closed period.

APPENDIX B

ACTUARIAL METHODS AND ASSUMPTIONS
(continued)

Interest: 8.00% per year, net of investment expenses.

Inflation: 3.25% per year, net of investment expenses.

Interest Credited to Cash Balance Accounts: 6.25% per year

Salary Increases:

	Annual Rate of Increase For Sample Years			
Years of Service	**Inflation**	**Productivity**	**Merit & Longevity**	**Total Increase**
1	3.25%	.75%	5.0%	9.0%
5	3.25%	.75%	1.5%	5.5%
10	3.25%	.75%	1.0%	5.0%
15	3.25%	.75%	0.5%	4.5%
20+	3.25%	.75%	0.0%	4.0%

Payroll Growth Assumption 4.0%

Service Retirement Age

Members within 5 Years of Unreduced Retirement Eligibility as of March 1, 2015

Eligible for Unreduced Retirement		
Age	**1st Year Eligible**	**Subsequent Years**
50-53	40%	25%
54-58	40%	20%
59	35%	20%
60	25%	20%
61		20%
62		30%
63-64		25%
65-69		30%
70		100%

Members eligible for Early, but not Unreduced Retirement, are assumed to retire at a rate of 5% per year from age 55 to 59.

APPENDIX B

ACTUARIAL METHODS AND ASSUMPTIONS
(continued)

Members within 6-10 Years of Unreduced Retirement Eligibility as of March 1, 2015

Eligible for Unreduced Retirement

Age	1st Year Eligible	Subsequent Years
50-53	40%	25%
54-60	40%	20%
61	35%	20%
62	35%	30%
63-64		25%
65-69		30%
70		100%

Members eligible for Early, but not Unreduced Retirement, are assumed to retire at a rate of 5% per year from age 57 to 61.

Members more than 10 Years from Unreduced Retirement Eligibility as of March 1, 2015

Eligible for Unreduced Retirement

Age	1st Year Eligible	Subsequent Years
50-53	40%	25%
54-61	40%	20%
62	40%	30%
63-64	35%	25%
65	35%	30%
66-69		30%
70		100%

Members eligible for Early, but not Unreduced Retirement, are assumed to retire at a rate of 5% per year from age 60 to 64.

APPENDIX B

ACTUARIAL METHODS AND ASSUMPTIONS
(continued)

Members Hired on or After March 1, 2015

Age	Probability Of Retirement
55-59	5%
60-61	7%
62-64	20%
65	35%
66	25%
67-69	20%
70	100%

Deferred vested members are assumed to begin receiving benefits at age 60.

Decrement Timing Middle of year

Mortality:

Active Members RP-2000 Employee Table with generational improvements using scale AA, set forward one year

Pensioners RP-2000 Healthy Annuitant Table with generational improvements using scale AA, set forward one year

Disabled RP-2000 Disabled Table with generational improvements

Disability:

Age	Annual Rate
20	0.11%
30	0.14%
40	0.19%
50	0.41%
60	1.48%

20% of disabilities are assumed to be service-connected.

Percent Married at Death or Retirement: 75%

Spouse Age Difference: Husbands assumed to be three years older than wives.

Number of Children per Married Member: 0

APPENDIX B

ACTUARIAL METHODS AND ASSUMPTIONS
(continued)

Termination:

SAMPLE RATES

Years of Service	Annual Rate
1	11.00%
5	6.00%
10	4.25%
15	3.00%
17+	2.50%

Vested Terminations Electing Refund:

Age	Percent
34 and Below	100%
35-41	70%
42-46	50%
47	40%
48	30%
49	20%
50 and Above	0%

For members hired on or after March 1, 2015, everyone who becomes vested is expected to take a deferred annuity at age 60.

APPENDIX C

HISTORICAL SUMMARY OF MEMBERSHIP

The following table displays selected historical data as available.

		Active Members						Number		
Valuation Date 1-Jan	Total Count	Number	Age	Entry Age	Average Service	Annual Pay ($)*	Pay Increase	Disabled	Deferred Vested	Retired
2009	2,440	1,116	47.3	36.4	10.9	47,495	2.21%	122	81	1,121
2010	2,456	1,116	47.8	37.1	10.8	49,667	4.57%	124	83	1,133
2011	2,493	1,130	47.4	36.9	10.5	49,030	(1.28)%	120	82	1,161
2012	2,541	1,156	47.3	36.8	10.5	50,335	2.66%	121	77	1,187
2013	2,580	1,150	46.9	36.7	10.2	50,842	1.01%	122	75	1,233
2014	2,563	1,116	47.1	36.7	10.4	51,501	1.30%	121	77	1,249
2015	2,617	1,143	46.6	36.5	10.1	50,774	(1.41)%	114	74	1,286
2016	2,657	1,194	46.5	36.7	9.8	52,439	3.28%	112	77	1,274
2017	2,703	1,197	46.2	36.7	9.5	54,347	7.04%	109	76	1,321

* Annual Pay is the actual pay reported for the prior plan year.

MEMBERSHIP DATA FOR VALUATION

The summary of employee characteristics presented below covers the employee group as of January 1, 2017. The schedules at the end of the report show the distribution of the various employee groups by present age along with other pertinent data.

Total number of employees in valuation:

(a) Active employees	1,197
(b) Deferred vested employees	76
(c) Terminated members due a refund	36
(d) Disabled employees	109
(e) Retired employees, spouses and children receiving benefits	1,321
(f) Total employees in valuation	2,739

Average age of employees in valuation:

(a) Active employees	
Attained Age	46.2
Hire Age	36.7
(b) Deferred vested employees	47.9
(c) Disabled employees	63.6
(d) Retired employees	69.7
(e) Spouses and children receiving benefits	72.4

Active employees eligible for vested benefits as of January 1, 2016:

(a) Employees under age 55 with 5 or more years of service – eligible for deferred vested benefits	471
(b) Employees age 55 and over with 5 or more years of service – eligible for early or normal retirement benefits	280
(c) Employees eligible for refund of contributions only	446
(d) Total	1,197

MEMBERSHIP DATA RECONCILIATION

January 1, 2016 to January 1, 2017

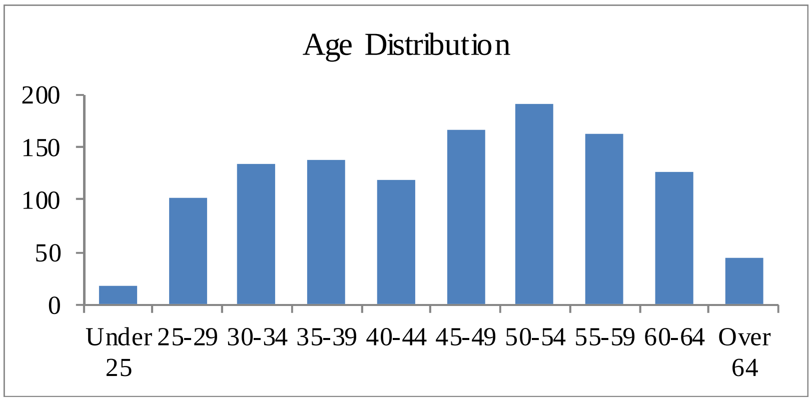
The number of members included in the valuation, as summarized in the table below, is in accordance with the data submitted by the System for eligible employees as of the valuation date.

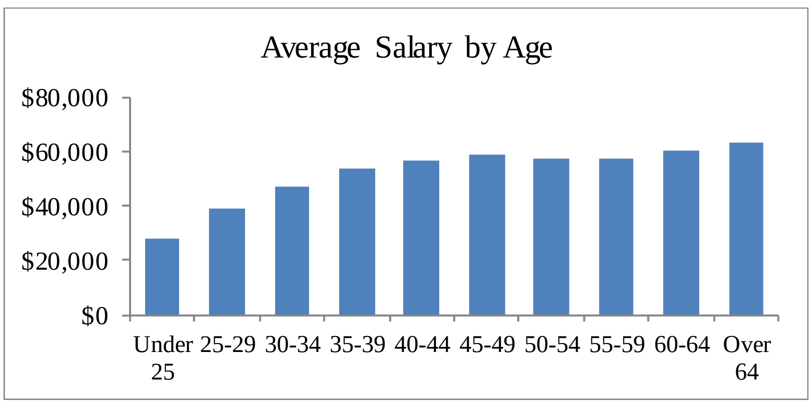
	Active Members	Termination Refund Due	Deferred Vested	Disabled	Retirees	Beneficiaries	Total
Members as of 1/1/2016	1,194	34	77	112	1,023	251	2,691
New Members	106	0	0	0	0	0	106
Terminations							
Rehired	0	(1)	(1)	0	0	0	(2)
Refunded: Paid	(27)	(11)	(4)	0	0	0	(42)
Refunded: Due	(9)	9	0	0	0	0	0
Deferred Vested	(11)	0	11	0	0	0	0
LTD	0	0	0	0	0	0	0
Retirements	(55)	0	(7)	0	62	0	0
Benefits Expired	0	0	0	0	0	(2)	(2)
Data Corrections	0	5	0	0	0	0	5
Deaths							
With Beneficiary	0	0	0	(2)	(19)	22	1
Without Beneficiary	(1)	0	0	(1)	(7)	(9)	(18)
Total Members 1/1/2017	1,197	36	76	109	1,059	262	2,739

SCHEDULE I

ACTIVE MEMBERS AS OF JANUARY 1, 2017
(Total)

	Count of Members			Valuation Salaries of Members		
Age	Males	Females	Total	Males	Females	Total
Under 25	13	5	18	$ 368,132	$ 136,989	$ 505,121
25-29	72	29	101	2,819,921	1,099,353	3,919,274
30-34	74	60	134	3,508,107	2,809,286	6,317,393
35-39	93	44	137	4,865,919	2,471,180	7,337,099
40-44	81	38	119	4,744,194	1,949,687	6,693,881
45-49	133	33	166	8,068,432	1,656,348	9,724,780
50-54	142	48	190	8,129,332	2,726,661	10,855,993
55-59	107	55	162	6,337,762	2,983,004	9,320,766
60-64	75	51	126	4,512,360	3,091,584	7,603,944
Over 64	31	13	44	2,149,650	625,274	2,774,924
Total	821	376	1,197	$45,503,809	$19,549,366	$65,053,175

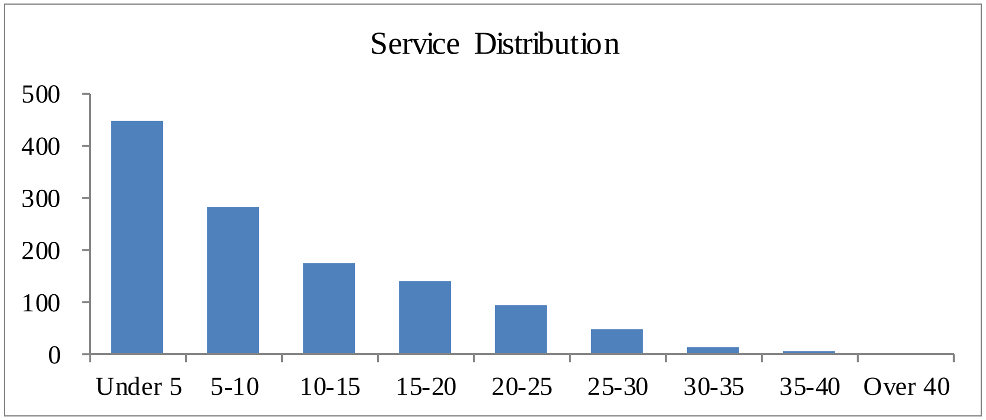




SCHEDULE I (continued)

ACTIVE MEMBERS AS OF JANUARY 1, 2017
(Total)

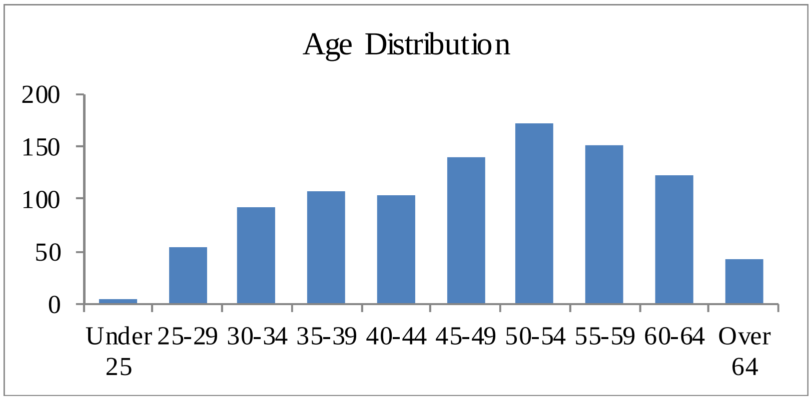
	Service									
Age	Under 5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	Over 40	Total
Under 25	18	0	0	0	0	0	0	0	0	18
25-29	89	12	0	0	0	0	0	0	0	101
30-34	86	40	8	0	0	0	0	0	0	134
35-39	64	47	24	2	0	0	0	0	0	137
40-44	43	39	20	12	5	0	0	0	0	119
45-49	52	37	29	30	14	4	0	0	0	166
50-54	42	30	32	42	23	20	1	0	0	190
55-59	34	38	30	19	22	14	4	1	0	162
60-64	14	27	23	27	24	6	5	0	0	126
Over 64	4	13	8	6	6	3	3	1	0	44
Total	446	283	174	138	94	47	13	2	0	1,197

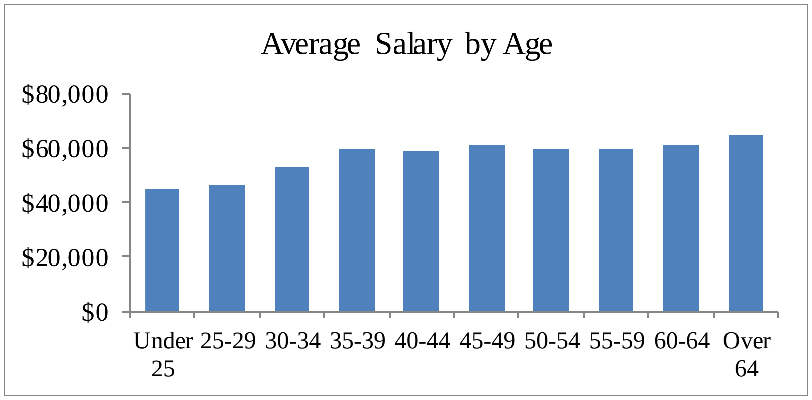


SCHEDULE I (continued)

ACTIVE MEMBERS AS OF JANUARY 1, 2017
(Hired before March 1, 2015)

	Count of Members			Valuation Salaries of Members		
Age	Males	Females	Total	Males	Females	Total
Under 25	3	1	4	$ 128,260	$ 49,819	$ 178,079
25-29	39	14	53	1,799,543	654,371	2,453,914
30-34	52	40	92	2,738,013	2,133,165	4,871,178
35-39	70	37	107	4,148,045	2,252,250	6,400,295
40-44	73	30	103	4,407,704	1,677,075	6,084,779
45-49	115	25	140	7,274,273	1,274,437	8,548,710
50-54	128	43	171	7,612,741	2,549,179	10,161,920
55-59	100	50	150	6,090,225	2,825,031	8,915,256
60-64	75	48	123	4,512,360	3,008,970	7,521,330
Over 64	30	12	42	2,126,167	578,465	2,704,632
Total	685	300	985	$40,837,331	$17,002,762	$57,840,093

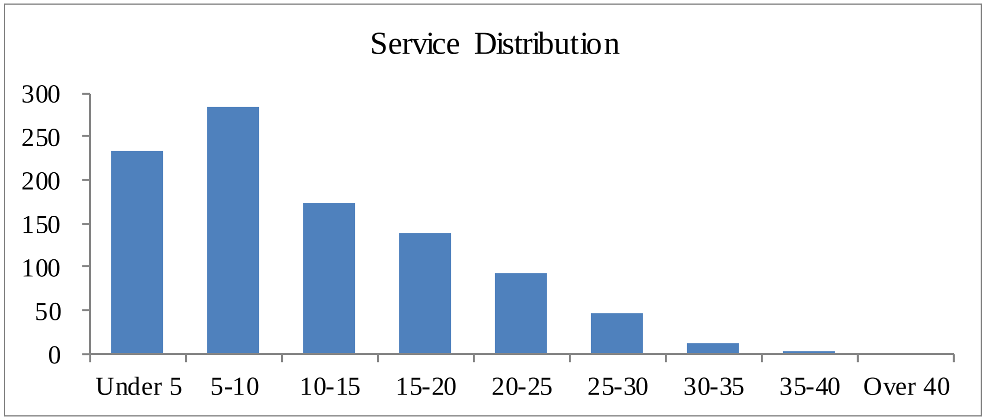




SCHEDULE I (continued)

ACTIVE MEMBERS AS OF JANUARY 1, 2017
(Hired before March 1, 2015)

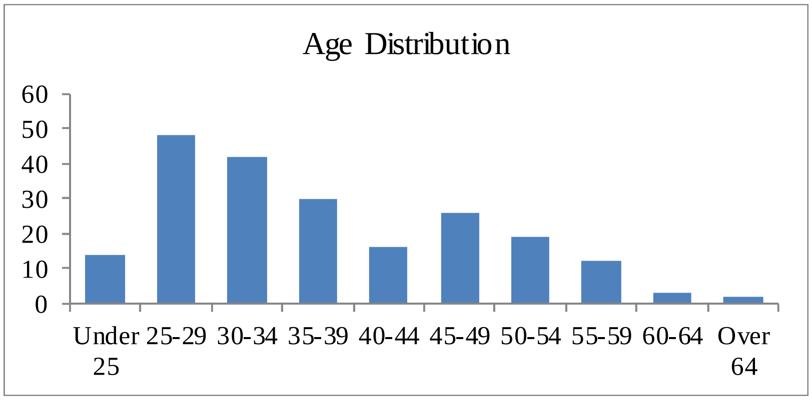
	Service									
Age	Under 5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	Over 40	Total
Under 25	4	0	0	0	0	0	0	0	0	4
25-29	41	12	0	0	0	0	0	0	0	53
30-34	44	40	8	0	0	0	0	0	0	92
35-39	34	47	24	2	0	0	0	0	0	107
40-44	27	39	20	12	5	0	0	0	0	103
45-49	26	37	29	30	14	4	0	0	0	140
50-54	23	30	32	42	23	20	1	0	0	171
55-59	22	38	30	19	22	14	4	1	0	150
60-64	11	27	23	27	24	6	5	0	0	123
Over 64	2	13	8	6	6	3	3	1	0	42
Total	234	283	174	138	94	47	13	2	0	985

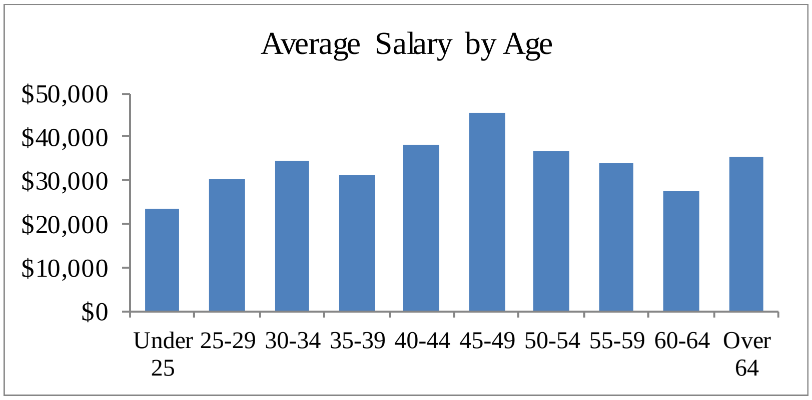


SCHEDULE I (continued)

ACTIVE MEMBERS AS OF JANUARY 1, 2017
(Hired on or after March 1, 2015)

	Count of Members			Valuation Salaries of Members		
Age	Males	Females	Total	Males	Females	Total
Under 25	10	4	14	$ 239,872	$ 87,170	$ 327,042
25-29	33	15	48	1,020,378	444,982	1,465,360
30-34	22	20	42	770,094	676,121	1,446,215
35-39	23	7	30	717,874	218,930	936,804
40-44	8	8	16	336,490	272,612	609,102
45-49	18	8	26	794,159	381,911	1,176,070
50-54	14	5	19	516,591	177,482	694,073
55-59	7	5	12	247,537	157,973	405,510
60-64	0	3	3	0	82,614	82,614
Over 64	1	1	2	23,483	46,809	70,292
Total	136	76	212	$4,666,478	$2,546,604	$7,213,082

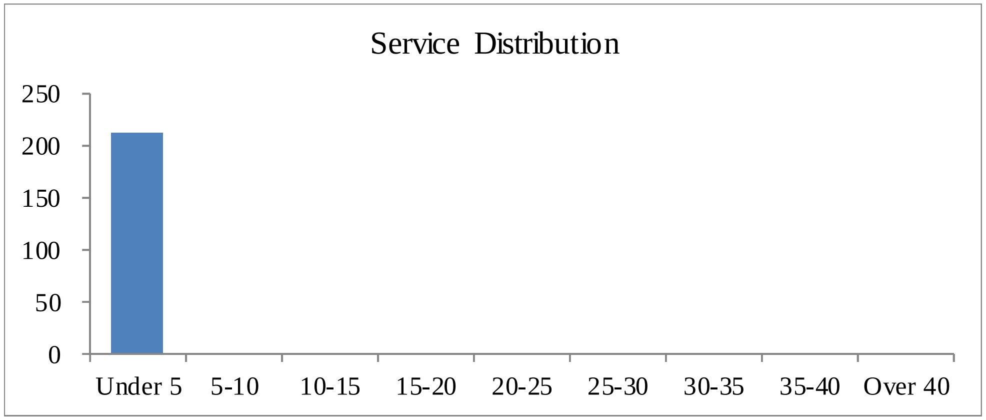




SCHEDULE I (continued)

ACTIVE MEMBERS AS OF JANUARY 1, 2017
(Hired on or after March 1, 2015)

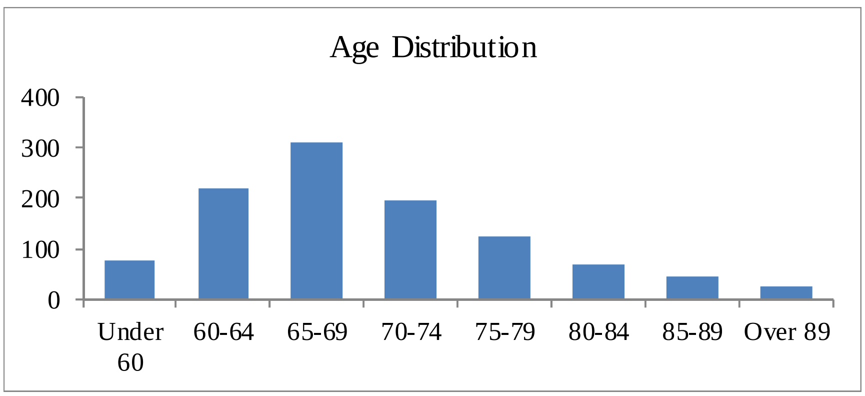
	Service									
Age	Under 5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	Over 40	Total
Under 25	14	0	0	0	0	0	0	0	0	14
25-29	48	0	0	0	0	0	0	0	0	48
30-34	42	0	0	0	0	0	0	0	0	42
35-39	30	0	0	0	0	0	0	0	0	30
40-44	16	0	0	0	0	0	0	0	0	16
45-49	26	0	0	0	0	0	0	0	0	26
50-54	19	0	0	0	0	0	0	0	0	19
55-59	12	0	0	0	0	0	0	0	0	12
60-64	3	0	0	0	0	0	0	0	0	3
Over 64	2	0	0	0	0	0	0	0	0	2
Total	212	0	0	0	0	0	0	0	0	212

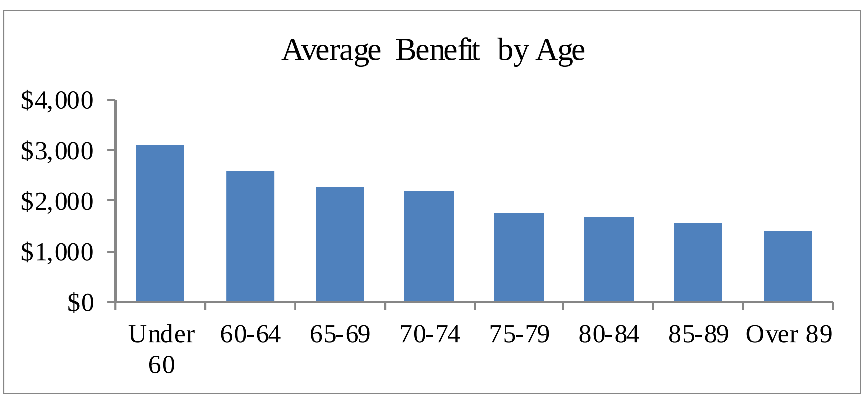


SCHEDULE II

RETIRED MEMBERS AS OF JANUARY 1, 2017

	Count of Retirees			Current Monthly Benefits		
Age	Males	Females	Total	Males	Females	Total
Under 60	44	33	77	$ 145,196	$94,451	$ 239,647
60-64	138	79	217	387,427	174,058	561,485
65-69	211	99	310	499,529	207,384	706,913
70-74	135	61	196	310,896	114,095	424,991
75-79	85	38	123	162,729	51,700	214,429
80-84	48	19	67	81,653	31,591	113,244
85-89	32	13	45	58,052	11,571	69,623
Over 89	15	9	24	25,189	8,171	33,360
Total	708	351	1,059	$1,670,671	$693,021	$2,363,692

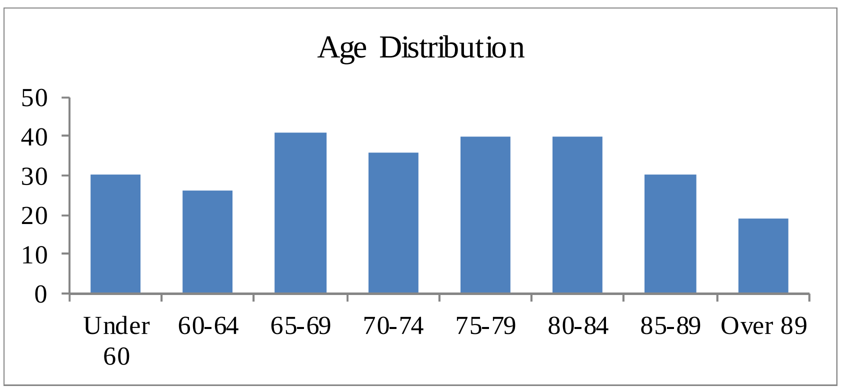


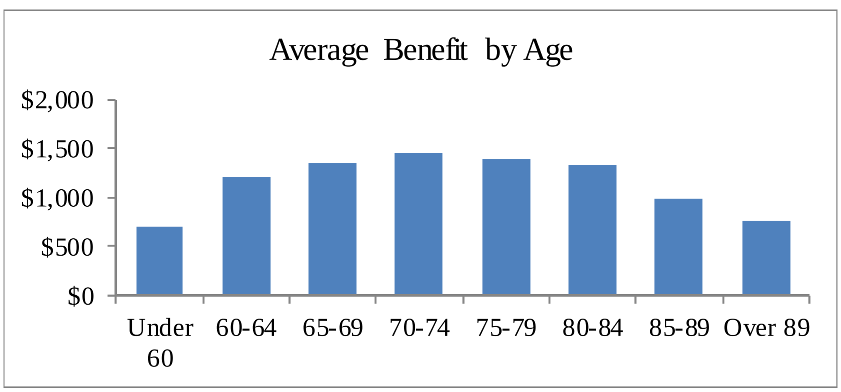


SCHEDULE III

BENEFICIARIES RECEIVING BENEFITS AS OF JANUARY 1, 2017

	Count of Beneficiaries			Current Monthly Benefits		
Age	Males	Females	Total	Males	Females	Total
Under 60	4	26	30	$ 1,431	$ 19,731	$ 21,162
60-64	4	22	26	4,376	27,248	31,624
65-69	6	35	41	4,950	50,304	55,254
70-74	2	34	36	1,802	50,237	52,039
75-79	1	39	40	1,920	53,735	55,655
80-84	2	38	40	2,757	50,504	53,261
85-89	2	28	30	2,395	26,862	29,257
Over 89	2	17	19	2,089	12,535	14,624
Total	23	239	262	$21,720	$291,156	$312,876





SCHEDULE IV

DEFERRED VESTED MEMBERS AS OF JANUARY 1, 2017

	Count of Members			Expected Monthly Benefit		
Age	Males	Females	Total	Males	Females	Total
Under 25	0	0	0	$ 0	$ 0	$ 0
25-29	0	0	0	0	0	0
30-34	2	4	6	1,275	2,118	3,393
35-39	4	3	7	3,012	2,001	5,013
40-44	6	6	12	8,725	5,826	14,551
45-49	10	6	16	9,489	6,042	15,531
50-54	9	8	17	10,251	8,204	18,455
55-59	9	8	17	8,529	9,161	17,690
Over 59	1	0	1	1,681	0	1,681
Total	41	35	76	$42,962	$33,352	$76,314

SCHEDULE V

DISABLED MEMBERS RECEIVING BENEFITS AS OF JANUARY 1, 2017

	Count of Members			Current Monthly Benefit		
Age	Males	Females	Total	Males	Females	Total
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	0	0	0	0	0	0
40-44	3	1	4	5,639	2,052	7,691
45-49	3	0	3	5,080	0	5,080
50-54	13	1	14	24,816	1,319	26,135
55-59	18	3	21	33,437	5,485	38,922
Over 59	53	14	67	77,177	19,182	96,359
Total	90	19	109	$146,149	$28,038	$174,187