

Ohio Police & Fire Pension Fund

Jan. 1, 2016 Actuarial Valuation of Pension
Benefits

October, 2016



October, 2016

Board of Trustees
Ohio Police & Fire Pension Fund
140 East Town Street
Columbus, Ohio 43215

Members of the Board:

Ohio Police & Fire retained Buck Consultants, LLC (Buck) to complete this actuarial valuation of the Ohio Police & Fire Pension Fund (OP&F). This report presents the results of the annual actuarial valuation of the assets and liabilities of OP&F as of Jan. 1, 2016, prepared in accordance with Chapter 742 of the Ohio Revised Code (ORC), as amended by Senate Bill No. 340. The valuation takes into account all of the promised benefits to which members are entitled, including pension and survivor benefits.

The principal results of the valuation do not take into account Medicare Part B premium reimbursements or any other health care benefits. However, at the request of the Ohio Retirement Study Council (ORSC), supplemental results have been prepared that do take into account the liability for Medicare Part B premium reimbursements and are presented in Table 1A in the report.

The purpose of the valuation is to determine the financial status of OP&F on an actuarial basis. Use of this report for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. Buck will not accept any liability for any statement made about the report without prior review by Buck.

Where presented, references to "funded ratio" and "unfunded accrued liability" typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.

This report does not include accounting disclosure information under Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68. Buck will provide disclosure information under Statement Nos. 67 and 68 in a separate report after OP&F's 2016 year-end. Buck prepares a separate valuation of OP&F retiree health care benefits in accordance with and in compliance with the parameters set forth in Statement No. 43.

The valuation was based on the actuarial assumptions and methods that have been adopted by the Board of Trustees, including a valuation interest rate of 8.25 percent per annum compounded annually. The assumptions were effective Jan. 1, 2012 and recommended by

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the actuary based on a five-year experience review covering the period 2007-2011. The next experience review will cover the five-year period 2012-2016. Actuarial Standards of Practice require that the likelihood and extent of future mortality improvements be considered. We have reflected future mortality improvement in the valuation. Additional assumptions related to the benefit provision changes under Senate Bill No. 340 were employed for this valuation.

Assets and Membership Data

OP&F reported to the actuary the individual data for members as of the valuation date. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the pension trust fund taken into account in the valuation was based on financial statements prepared for us by OP&F.

An assumption is made by Buck to account for salary adjustments reported by employers assumed to occur after the census information has been provided to Buck by OP&F. For the Jan. 1, 2016 actuarial valuation, Buck increased all reported salaries by an assumed 1.246 percent.

Funding Objectives and Progress

The actuary uses an actuarial cost method to determine the portion of OP&F's liabilities accrued by the members as of the valuation date and the portion that is attributable to future years of service. The rate of contribution necessary to systematically fund the future service liabilities, the normal cost rate, is calculated under the cost method to be a level percentage of active member payroll. The portion of the liabilities accrued as of the valuation date, the actuarial accrued liability (AAL), is compared to a market-related, actuarial value of OP&F's assets. The amount of liabilities in excess of the assets is called the unfunded actuarial accrued liability (UAAL).

The actuary determines how many years are required by OP&F to completely amortize the UAAL (the funding period), using the member and employer contributions reduced by the amount allocated to health care and the amount of normal cost for the year. For 2003-2012, the funding period was infinite years, meaning the annual contribution toward the unfunded when compared to the unfunded amount was not sufficient to pay it off. As a result of benefit and member contribution changes under Senate Bill No. 340, changes to the DROP program, and a reduction in the contribution allocation to the Health Care Stabilization Fund by the Board of Trustees, and favorable asset investment gains, the pension funding period has decreased to 47 years, 33 years and 30 years for 2013, 2014 and 2015, respectively. As of Jan. 1, 2016, the funding period is 29 years.

Section 742.16 of the ORC, as adopted by Senate Bill No. 82, sets forth an objective that the funding period is no more than 30 years. If the funding period exceeds 30 years, a plan shall be developed and presented by the Board of Trustees to the ORSC to reduce the funding period to not more than 30 years. Section 742.14 of the ORC, as amended by Senate Bill No.

340, sets forth that the 30-year funding analysis be performed every three years and the 30-year funding plan, if necessary, be developed and presented not later than 90 days after the Board of Trustees' receipt of the actuarial valuation and 30-year funding analysis. The current triennial analysis is based on this Jan. 1, 2016 actuarial valuation, which shows the funding period is 29 years, so no 30-year funding plan is required. The next analysis will be performed based on the Jan. 1, 2019 actuarial valuation.

The funded ratio (i.e., the ratio of actuarial assets to the AAL) determined as of Jan. 1, 2016 is 71.3 percent, compared to 70.8 percent determined as of Jan. 1, 2015. If measured using the market value of assets, the funded ratio would be lower at 67.5 percent on account of net investment losses not yet reflected in the actuarial assets. Taking into account the AAL for Medicare Part B premium reimbursements, the funded ratio would be 69.5 percent using the actuarial assets and 65.8 percent using the market value of assets. The funded ratio is not intended to measure the adequacy of funding in any analysis of a possible settlement of plan liabilities.

Supporting Schedules and Certification

The valuation report shows detailed summaries of the financial results of the valuation and membership data used in preparing this valuation. . The actuary prepared the following supporting schedules for inclusion in the Actuarial and Statistical Sections of the OP&F Comprehensive Annual Financial Report: Analysis of Financial Experience, Short-Term Solvency Test, Schedule of Funding Progress, Calculation of Actuarial Value of Assets, and Retirees and Beneficiaries Added to and Removed from the Rolls.

The valuation assumptions were chosen by the Board of Trustees with the advice of the actuary. The assumptions used to develop the Jan. 1, 2016 valuation are individually reasonable and in combination represent our best estimate of anticipated experience under the plan.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. Because of limited scope, Buck performed no analysis of the potential range of such future differences.

This report was prepared under the supervision of Larry Langer and Paul Wilkinson who are pension actuaries, Enrolled Actuaries, Associates of the Society of Actuaries and Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the pension actuarial opinions contained in this report. Bob Besenhofer is a health care actuary, Associate of the Society of Actuaries and Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report regarding the

liability adjustments provided in Table 1A for Medicare Part B reimbursements. This report has been prepared in accordance with all Applicable Actuarial Standards of Practice. We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

Buck is completely independent of OP&F and its officers and key personnel. Neither we, nor anyone closely associated with us, has any relationship with them that would impair our independence.

Respectfully submitted,



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Director, Consulting Actuary



Bob Besenhofer, ASA, MAAA
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Summary of Principal Results

Introduction

This report presents the results of the actuarial valuation as of Jan. 1, 2016 of pension benefits for the OP&F Pension Fund.

The principal valuation results include:

- The unfunded actuarial accrued liability funding period, which is 29 years.
- The funded status of the plan determined as of Jan. 1, 2016 based on the actuarial accrued liability and the actuarial value of assets as of that date, which is 71.3 percent.
- The determination of the experience gain or loss as of Jan. 1, 2016, which is a loss of \$10.3 million.

This valuation report does not contain information under GASB Statement Nos. 67 and 68. Buck Consultants will provide disclosure information under Statement Nos. 67 and 68 in a separate report after OP&F's 2016 year-end.

The valuation was completed based upon membership and financial data submitted by OP&F.

Effective with the Jan. 1, 2016 valuation, an assumption is being made for late reported salary adjustments from employers. Thus, any salary amounts in this report are the amounts reported to Buck by OP&F increased by an assumed percentage. The reported salaries for 2015 have been increased by 1.246 percent.

A separate valuation is performed for all health care benefits. However, at the request of the ORSC, this report includes a supplemental table, Table 1A, that shows what the valuation results would be if the normal cost and AAL for Medicare Part B premium reimbursements were included in this valuation.

Changes since Last Year

The plan provisions and actuarial assumptions and methods used in this valuation are unchanged from last year.

Buck has adjusted the census data reported by OP&F to account for member salaries accrued but not reported by the time of the valuation. The late reported salaries for 2015 have been estimated by Buck based on the percentage of late reported salaries for 2014. For 2014, late reported salaries accounted for about 1.246 percent of reported pays for the valuation, so the 2015 reported salaries have been increased by 1.246 percent for the 2016 valuation. This change increased the actuarial accrued liability and normal cost amounts for active members, but also increased projected contributions that are expected to fund the costs, thus resulting in no material change in the funding period.

OP&F reported to Buck previously unreported adjustments to service credit for members who transferred to OP&F from other Ohio systems. OP&F also reported revisions to the marital status of some retirees. Both adjustments resulted in increases to the actuarial accrued liability, but the adjustments had no material impact on the funding period.



Summary of Principal Results

Summarized below are the principal financial results for the OP&F Pension Fund based upon the actuarial valuation as of Jan. 1, 2016. Comparable results from the Jan. 1, 2015 valuation are also shown.

Item	Jan. 1, 2016	Jan. 1, 2015
Membership Data		
Active Members		
> Number	27,446	27,602
> Annualized Salaries	\$ 2,018,844,301	\$ 1,948,353,563
> Average Pay	73,557	70,587
> Membership Payroll	2,060,850,584	1,986,568,535
Retirees and Beneficiaries		
> Number	28,402	27,963
> Annual Allowances	\$ 975,928,917	\$ 931,176,016
> Average Benefit Payment	34,361	33,300
Vested Former Members		
> Number	236	180
Contribution Rates (as a Percentage of Payroll)		
Statutory Contribution Rates:		
> Employer Average	21.61 %	21.61 %
> Member *	<u>12.25</u>	<u>11.88</u>
> Total	33.86 %	33.49 %
Allocation of Employer Contribution Rate:		
> Pension Contribution Rate:		
— Employer Normal Cost	5.31 %	5.82 %
— Accrued Liability Rate	<u>15.80</u>	<u>15.29</u>
— Total Employer Pension Rate	21.11 %	21.11 %
> Health Care Contribution Rate	<u>0.50</u>	<u>0.50</u>
> Total Employer Contribution Rate	21.61 %	21.61 %
Actuarial Funded Status		
> Actuarial Accrued Liability (AAL)	\$ 19,135,875,916	\$ 18,395,592,476
> Actuarial Assets	13,653,004,516	13,029,291,146
> Unfunded Accrued Liability (UAAL)	5,482,871,400	5,366,301,330
> Funded Ratio	71.3 %	70.8 %
> Funding Period	29 Years	30 Years

* Contribution rates in 2015 are a blended average reflecting mid-year changes in the rates. Member contribution rates for 2015 are 11.50% from Jan. 1, 2015 to July 1, 2015 and 12.25% thereafter. Member contribution rates for 2016 are 12.25%. The increase in member rate from 2015 to 2016 reduced the employer normal cost rate and increased the contribution rate for the accrued liability from 2015 to 2016.



Actuarial Funded Status

OP&F's funded status is measured by comparing the actuarial value of assets with the AAL. The AAL is the present value of benefits attributed to past service under OP&F's funding method and reflects future pay increases for active members. The actuarial value of assets is a value based on OP&F's market value, but defers recognition over four years of any market returns that are greater than or less than the assumed valuation assumption of 8.25 percent. The use of this asset valuation method mitigates, or smoothes, market fluctuation in the valuation assets from year to year. The actuarial valuation method includes a 20 percent corridor around the market value, so that the actuarial value must be no less than 80 percent and no greater than 120 percent of the market value.

As of Jan. 1, 2016, the AAL exceeds the actuarial value of assets, resulting in an unfunded actuarial accrued liability of \$5.5 billion. The funded ratio, which is the ratio of the assets to the AAL, is 71.3 percent. These figures are based on an actuarial value of assets of \$13,653,004,516 and an AAL of \$19,135,875,916.

Reasons for Change in the Funded Ratio

The funded ratio increased from 70.8 percent as of Jan. 1, 2015 to 71.3 percent as of Jan. 1, 2016, an increase of 0.5 percentage points. The primary reasons for the increase are as follows:

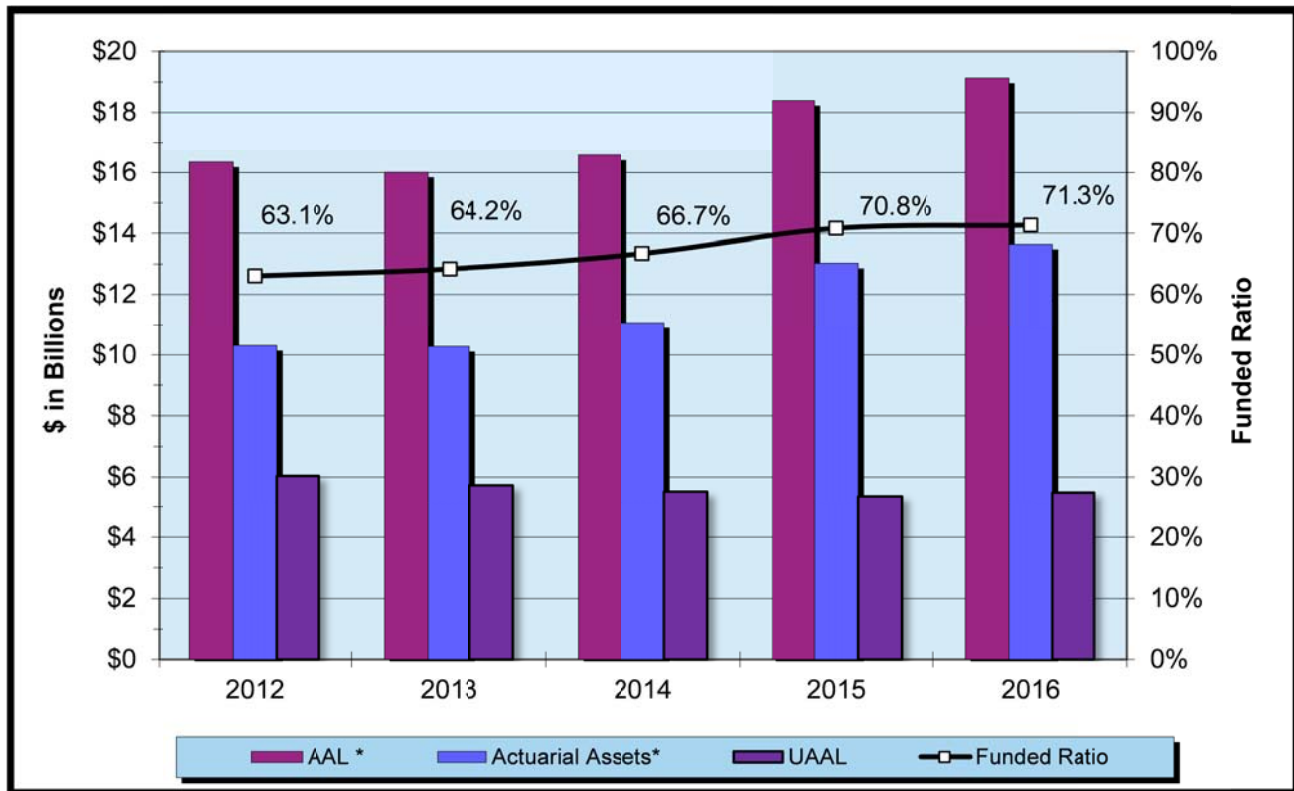
	<u>Increase or (Decrease)</u>
Investment gain based on actuarial value of assets	0.4%
Net liability loss due to plan experience and data adjustments	(0.1)
Liability loss due to assumption for late reported salaries	(0.3)
Contribution level	<u>0.5</u>
Net increase (decrease)	0.5%

Five-Year History of Actuarial Funded Status

Valuation as of Jan. 1	Actuarial Accrued Liability (AAL) *	Actuarial Assets*	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio
2016	\$ 19,135,875,916	\$ 13,653,004,516	\$ 5,482,871,400	71.3 %
2015	18,395,592,476	13,029,291,146	5,366,301,330	70.8
2014	16,577,754,827	11,063,198,418	5,514,556,409	66.7
2013	16,007,887,648	10,278,030,866	5,729,856,782	64.2
2012	16,346,698,951	10,308,958,973	6,037,739,978	63.1

* AAL and asset values shown prior to 2015 exclude DROP balances

Five-Year History of Liabilities, Assets and Funded Ratio



* AAL and asset values shown prior to 2015 exclude DROP balances

Net Actuarial Gain (Loss)

The results of the valuation as of Jan. 1, 2016 determine the net actuarial gain or loss due to plan experience for the year ended Dec. 31, 2015. There was a net experience loss of \$10.3 million, consisting of a gain of \$81.2 million on the actuarial value of assets and a loss of \$91.5 million on liabilities. The asset gain reflects investment performance on a market value basis during 2015 and the previous three years. The analysis of the net experience gain/loss is shown in Table 5.

Five-Year History of Actuarial Gains or (Losses)

Fiscal Year Ended Dec. 31	Net Gain or (Loss)
2015	\$ (10,335,098)
2014	291,700,284
2013	454,507,614
2012	(380,991,785)
2011	(631,881,679)

Rate of Return on Assets

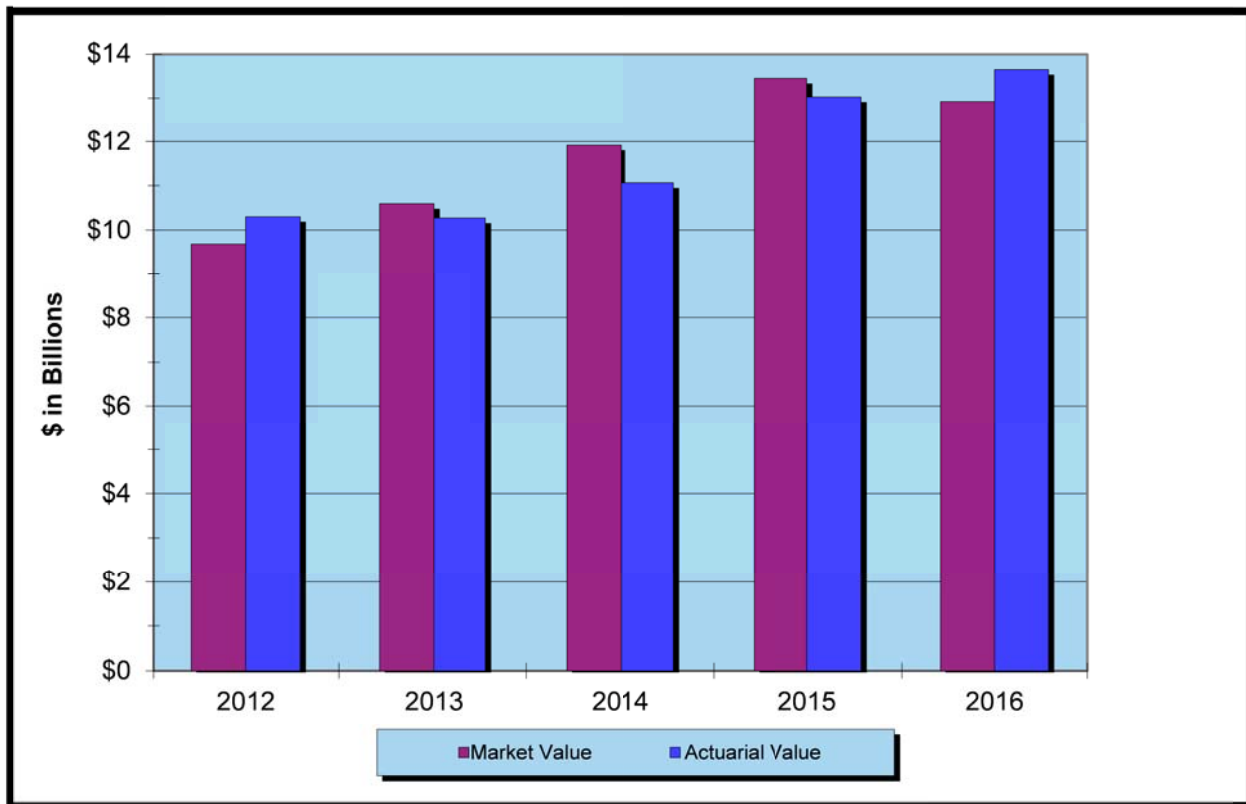
The investment returns of the trust fund on a market value basis (i.e., total return including both realized and unrealized gains and losses) for years ended Dec. 31, 2011 through Dec. 31, 2015 are shown below. Also shown are the rates of return on the actuarial value of assets used to determine OP&F's actuarial funded status.

Five-Year History of Rates of Return

Year Ended Dec. 31	Rate of Return Based on	
	Market Value*	Actuarial Assets
2015	0.65 %	8.94 %
2014	6.79	10.11
2013	16.94	13.63
2012	15.41	5.86
2011	2.57	2.17

* Rate of return gross of fees, as reported in the OP&F CAFR

Five-Year History of Market Value and Actuarial Assets as of Jan. 1



Asset values shown prior to 2015 exclude DROP balances.

Funding Period

The actuary determines how many years are required to completely amortize the UAAL (the funding period), using the member and employer contributions reduced by the amount allocated to health care and the amount of normal cost for the year. The calculation of the funding period takes into account future payroll growth, currently assumed at 3.75 percent per year. The calculation also takes into account adjustments in the normal cost rate and changes in the statutory contribution rates as a result of Senate Bill No. 340.

The funding period based on the Jan. 1, 2016 valuation is 29 years. This is the number of years it will take to pay off the \$5.5 billion UAAL as of Jan. 1, 2016. The funding period decreased from 30 years as of Jan. 1, 2015, primarily due to net investment gains over the past four years.

If all assumptions are met on an actuarial basis, the funding period will continue to decrease each year. However, if all assumptions are not met, the period could increase. Two assumptions that greatly impact the funding period are investment returns and future payroll growth. OP&F has experienced overall favorable investment results the last four years through 2015, but returns for 2014 and 2015 have been below the assumed 8.25 percent rate of return, resulting in investment losses to be recognized over four years. As those losses are recognized, and if no significant gains are realized in the next few years to offset the losses, the funding period may increase. If future returns are lower than the assumed 8.25 percent, projected contributions may not be sufficient to keep the funding period at or below 30 years. If the investment assumption is met, but payroll growth is less than 3.75 percent over time, which it has been in recent years, future contributions will be less than projected and may be insufficient to pay off the UAAL over 30 years.

Recent white papers regarding public sector actuarial practice favor a funding period for a system's UAAL of 15 to 20 years. Similar to a mortgage, the shorter the amortization period, the higher the annual payments needed, the faster the UAAL is paid off and the lesser the overall interest costs.

Five-Year History of Contribution Rates and Funding Period

Member contribution rates increased from 10 percent to 10.75 percent on July 2, 2013, to 11.50 percent on July 2, 2014 and to 12.25 percent on July 2, 2015. The member rates shown in the table below for 2013, 2014 and 2015 are the average, or blended, rates for the year. A funding period of infinity means the contribution level is not sufficient to pay down the unfunded over any number of years.

Valuation as of Jan. 1	Contribution Rates				Allocation		Funding Period
	Member	Police Employer	Fire Employer	Employer Average	Health Care	Pension	
2016	12.25 %	19.50 %	24.00 %	21.61 %	0.50 %	33.36 %	29 Years
2015	11.88	19.50	24.00	21.61	0.50	32.99	30 Years
2014	11.13	19.50	24.00	21.61	0.50	32.24	33 Years
2013	10.38	19.50	24.00	21.61	3.62	28.37	47 years
2012	10.00	19.50	24.00	21.62	6.75	24.87	Infinity

The remainder of this report consists of tables and exhibits.

Table 1
Summary of Results of Actuarial Valuation
as of Jan. 1, 2016

Item	Police	Firefighters	Total
Membership Data			
1. Number of Members			
a) Active Members			
i) Vested Actives	7,659	6,826	14,485
ii) Non-Vested Actives	7,060	5,901	12,961
iii) Total Actives	14,719	12,727	27,446
b) Vested Former Members	151	85	236
c) Rehired Retirees	127	51	178
d) Retirees and Disableds	11,802	8,770	20,572
e) Beneficiaries and Survivors	4,424	3,406	7,830
f) Contributions Refund Due	2,583	728	3,311
g) Total	33,806	25,767	59,573
2. Annualized Salaries	\$ 1,074,134,187	\$ 944,710,114	\$ 2,018,844,301
3. Membership Payroll	1,094,753,221	966,097,363	2,060,850,584
4. Annual Allowances	556,944,795	418,984,122	975,928,917
Valuation Results			
5. Present Value of Future Benefits (PVFB)			
a) Active Members	\$ 5,959,320,619	\$ 5,549,483,030	\$ 11,508,803,649
b) Vested Former Members	29,044,878	13,831,295	42,876,173
c) Rehired Retirees	9,064,515	3,876,820	12,941,335
d) Retirees and Disableds	5,679,943,906	4,322,947,333	10,002,891,239
e) Beneficiaries and Survivors	405,951,671	291,302,484	697,254,155
f) Contributions Refund Due	24,648,741	9,609,315	34,258,056
g) Total PVFB	\$ 12,107,974,330	\$ 10,191,050,277	\$ 22,299,024,607
6. Normal Cost			
a) Normal Cost	\$ 181,151,025	\$ 161,412,887	\$ 342,563,912
b) Administrative Expenses	11,245,678	8,483,582	19,729,260
c) State Subsidy	254,639	192,096	446,735
d) Total: (a) + (b) - (c)	\$ 192,142,064	\$ 169,704,373	\$ 361,846,437
e) Normal Cost Rate: (d) / (3)	17.55%	17.57%	17.56%
7. Present Value of Future Normal Cost	\$ 1,621,815,517	\$ 1,522,807,808	\$ 3,144,623,325

Table 1
Summary of Results of Actuarial Valuation
as of Jan. 1, 2016
(Continued)

Item	Police	Firefighters	Total
8. Actuarial Accrued Liability (AAL)			
a) Active Members	\$ 4,337,505,102	\$ 4,026,675,222	\$ 8,364,180,324
b) Vested Former Members	29,044,878	13,831,295	42,876,173
c) Rehired Retirees	9,064,515	3,876,820	12,941,335
d) Retirees and Disableds	5,679,943,906	4,322,947,333	10,002,891,239
e) Beneficiaries and Survivors	405,951,671	291,302,484	697,254,155
f) Contributions Refund Due	24,648,741	9,609,315	34,258,056
g) Total	\$ 10,486,158,813	\$ 8,668,242,469	\$ 19,154,401,282
h) Employer Accrued Liability	(10,725,124)	(7,800,242)	(18,525,366)
i) Adjusted AAL	\$ 10,475,433,689	\$ 8,660,442,227	\$ 19,135,875,916
9. Actuarial Value of Assets *	\$ 7,473,979,456	\$ 6,179,025,060	\$ 13,653,004,516
10. Unfunded Accrued Liability: (8) - (9)	\$ 3,001,454,233	\$ 2,481,417,167	\$ 5,482,871,400
11. Funding Period			29 Years
12. Funded Ratio	71.3%	71.3%	71.3%
Allocation of Employer Contribution Rate			
13. Employer Contribution Rate			
a) Total Employer Rate (by law)	19.50%	24.00%	21.61%
b) Health Care Stabilization Fund Allocation	<u>0.50%</u>	<u>0.50%</u>	<u>0.50%</u>
c) Employer Pension Rate: (a) - (b)	19.00%	23.50%	21.11%
d) Total Normal Cost Rate	17.55%	17.57%	17.56%
e) Member Rate (by law)	<u>12.25%</u>	<u>12.25%</u>	<u>12.25%</u>
f) Employer Normal Cost Rate: (d) - (e)	5.30%	5.32%	5.31%
g) Unfunded Accrued Liability Amortization Rate: (c) - (f)	13.70%	18.18%	15.80%

* The Actuarial Value of Assets is split between Police and Firefighters in proportion to the Actuarial Accrued Liability.

Table 1A
Valuation Results as of Jan. 1, 2016
Adjusted for Medicare Part B Reimbursement Liabilities

Item	Police	Firefighters	Total
Valuation Results			
1. Present Value of Future Benefits			
a) Pension Benefits	\$ 12,107,974,330	\$ 10,191,050,277	\$ 22,299,024,607
b) Medicare Part B Benefits	<u>297,028,359</u>	<u>284,670,651</u>	<u>581,699,010</u>
c) Total	\$ 12,405,002,689	\$ 10,475,720,928	\$ 22,880,723,617
2. Normal Cost			
a) Pension Benefits	17.55%	17.57%	17.56%
b) Medicare Part B Benefits	<u>0.41%</u>	<u>0.43%</u>	<u>0.42%</u>
c) Total	17.96%	18.00%	17.98%
3. Actuarial Accrued Liability			
a) Pension Benefits	\$ 10,475,433,689	\$ 8,660,442,227	\$ 19,135,875,916
b) Medicare Part B Benefits	<u>242,634,729</u>	<u>235,851,949</u>	<u>478,486,678</u>
c) Total	\$ 10,718,068,418	\$ 8,896,294,176	\$ 19,614,362,594
4. Actuarial Value of Assets *	\$ 7,473,979,456	\$ 6,179,025,060	\$ 13,653,004,516
5. Unfunded Accrued Liability	\$ 3,244,088,962	\$ 2,717,269,116	\$ 5,961,358,078
6. Funded Ratio	69.7%	69.5%	69.6%
Allocation of Employer Contribution Rate			
7. Employer Contribution Rate			
a) Total Employer Rate (by law)	19.50%	24.00%	21.61%
b) Health Care Stabilization Fund Allocation	<u>0.50%</u>	<u>0.50%</u>	<u>0.50%</u>
c) Employer Pension Rate: (a) - (b)	19.00%	23.50%	21.11%
d) Pension Normal Cost Rate	17.55%	17.57%	17.56%
e) Medicare Part B Normal Cost Rate	<u>0.41%</u>	<u>0.43%</u>	<u>0.42%</u>
f) Total Normal Cost Rate: (d) + (e)	17.96%	18.00%	17.98%
g) Member Rate (by law)	<u>12.25%</u>	<u>12.25%</u>	<u>12.25%</u>
h) Employer Normal Cost Rate: (f) - (g)	5.71%	5.75%	5.73%
i) Unfunded Accrued Liability Amortization Rate: (c) - (h)	13.29%	17.75%	15.38%

* The Actuarial Value of Assets is split between Police and Firefighters in proportion to the pension Actuarial Accrued Liability. While the Actuarial Accrued Liability and Normal Cost have been adjusted in this illustration to reflect the liability for Medicare Part B reimbursements, the Actuarial Value of Assets is unadjusted for any Health Care Stabilization Fund assets that might be associated with Medicare Part B reimbursements.

Table 2
Summary of Market Value of Plan Assets
as of Dec. 31, 2015

Item	Amount
1. Market Value of Assets as of Dec. 31, 2014*	\$ 13,453,447,836
2. Contributions During 2015	
a) Member	\$ 245,834,623
b) Employer	428,526,214
c) State Subsidy	446,735
d) Total	\$ 674,807,572
3. Benefit Payments During 2015	1,170,476,866
4. Administrative Expenses During 2015	15,635,762
5. Income During 2015	
a) Interest, Dividends and Other Income	\$ 320,205,400
b) Appreciation/(Depreciation)	(300,669,262)
c) Investment Expenses	36,241,003
d) Investment Return After Expenses (a) + (b) - (c)	\$ (16,704,865)
e) Interest on Receivables and Other Income	5,445,667
f) Total Income (d) + (e)	\$ (11,259,198)
6. Prior Period Adjustment	\$ (6,940,426)
7. Market Value of Assets as of Dec. 31, 2015*	
(1) + (2d) - (3) - (4) + (5f) + (6)	\$ 12,923,943,156
8. Rate of Return	(0.09)%
(5f) / [(1) + (6) + 0.5 * ((2d) - (3) - (4))]	

* The Market Value of Assets includes the DROP accrual balances of \$1,304,210,784 at Dec. 31, 2014 and \$1,362,869,292 at Dec. 31, 2015.

Table 3
Derivation of Actuarial Value of Assets
as of Jan. 1, 2016

Item					Amount
1. Market Value of Assets as of Dec. 31, 2015					\$ 12,923,943,156
2. Determination of Deferred Gain (Loss)					
Return on Market Value of Assets					
<u>Year</u>	<u>Actual</u>	<u>Expected</u>	<u>Gain/(Loss)</u>	<u>% Deferred</u>	<u>Deferred Amount</u>
2015	\$ (11,259,198)	\$ 1,088,245,528	\$ (1,099,504,726)	75%	\$ (824,628,545)
2014	786,522,451	1,065,611,384	(279,088,933)	50%	(139,544,467)
2013	1,893,854,624	953,408,015	940,446,609	25%	235,111,652
2012	1,531,042,478	878,042,138	653,000,340	0%	-
					\$ (729,061,360)
3. Adjustment for 20% corridor					\$ -
4. Actuarial Value of Assets as of Jan. 1, 2016: (1) - (2) + (3)					\$ 13,653,004,516
5. Actuarial Rate of Return *					
a) Actuarial Value of Assets as of Jan. 1, 2015					\$ 13,029,291,146
b) Prior Period Adjustment					(6,940,426)
c) Contributions During 2015					674,807,572
d) Benefits Paid During 2015					1,170,476,866
e) Expenses During 2015					15,635,762
f) Return on an Actuarial Basis					1,141,958,852
g) Actuarial Rate of Return: (f) / [(a) + (b) + 0.5 * ((c) - (d) - (e))]					8.94%

* The actuarial rate of return is the rate of return based on the change in the actuarial value of assets from last year to this year. The rate of return is calculated assuming contributions and disbursements occur halfway through the year.

Table 4
Analysis of Change in Unfunded Actuarial Accrued Liability
as of Jan. 1, 2016

Item	Amount
1. Unfunded Accrued Liability at Jan. 1, 2015	\$ 5,366,301,330
2. Contributions Toward Unfunded Accrued Liability	\$ 323,154,754
3. Interest Credit at 8.25% to Dec. 31, 2015	\$ 429,389,726
4. Expected Unfunded Accrued Liability at Dec. 31, 2015 (1) - (2) + (3)	\$ 5,472,536,302
5. Actual Unfunded Accrued Liability at Jan. 1, 2016	\$ 5,482,871,400
6. Net Loss (4) - (5)	\$ (10,335,098)
7. Reasons for Net Loss	
(a) Experience Gains (Losses)	
(i) Gain from Investment Return on Actuarial Value of Assets	\$ 81,193,240
(ii) Gain from Demographic Experience and Other	<u>\$ 31,799,249</u>
Subtotal	\$ 112,992,489
(b) Loss from Marital Status Adjustments	\$ (11,293,665)
(c) Loss from Pay Load Adjustment for Late Reported Pays	\$ (65,729,371)
(d) Loss from Transfer Service Adjustments	<u>\$ (46,304,551)</u>
(e) Total	\$ (10,335,098)

Table 5
Detailed Analysis of Gains and Losses due to Plan Experience
Resulting In Differences between Assumed and Actual Experience

Type of Activity	Gain (Loss)	
	Jan. 1, 2016	Jan. 1, 2015
Plan Experience:		
Turnover <i>If more liabilities are released by withdrawal separations from active membership than assumed, there is a gain. If smaller releases, there is a loss.</i>	\$ (1,786,735)	\$ (9,205,962)
Retirement <i>If members retire at older ages than assumed, there is a gain. If younger, there is a loss.</i>	(4,939,352)	(742,371)
Death among retired members and beneficiaries <i>If more deaths occur than assumed, there is a gain. If fewer deaths than assumed, there is a loss.</i>	(16,176,502)	(43,649,147)
Disability retirements <i>If disability claims are less than assumed, there is a gain. If more claims, a loss.</i>	25,587,040	32,032,671
Salary increase/decrease <i>If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.</i>	40,251,935	78,297,521
Return to work <i>If participants return to work with previous service restored, there is a loss.</i>	(1,215,348)	(497,912)
New Entrants <i>If new entrants join OP&F, there is a loss.</i>	(5,043,837)	(5,138,911)
Deaths among actives <i>If claims costs are less than assumed, there is a gain. If more claims, a loss.</i>	(2,396,203)	(2,689,167)
Investment <i>If there is greater investment return than assumed, there is a gain. If less return, a loss.</i>	81,193,240	224,797,351
Other Experience and Payroll Growth <i>If other experience, including less than expected payroll growth, increases the unfunded liability, there is a loss. Otherwise, there is a gain.</i>	<u>(2,481,749)</u>	<u>18,496,211</u>
Net gain (or loss) during the year due to plan experience	\$ 112,992,489	\$ 291,700,284

Table 6
Schedule of Funding Progress
(\$ Amounts in Millions)

Valuation as of Jan. 1	Valuation Assets	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Ratio of Assets to AAL	Active Member Payroll	UAAL as Percentage of Active Member Payroll
2016	\$ 13,653.0	19,135.9	\$ 5,482.9	71.3 %	\$ 2,060.9	266.1 %
2015	13,029.3	18,395.6	5,366.3	70.8 %	1,986.6	270.1 %
2014	11,063.2	16,577.8	5,514.6	66.7 %	1,942.3	283.9 %
2013	10,278.0	16,007.9	5,729.9	64.2 %	1,913.4	299.5 %
2012	10,309.0	16,346.7	6,037.7	63.1 %	1,897.4	318.2 %
2011	10,681.0	15,384.4	4,703.4	69.4 %	1,868.5	251.7 %
2010	10,794.1	14,830.7	4,036.6	72.8 %	1,895.2	213.0 %
2009	9,309.2	14,307.1	4,997.9	65.1 %	1,900.9	262.9 %
2008	11,212.9	13,727.8	2,514.9	81.7 %	1,831.4	137.3 %
2007	10,158.0	12,987.5	2,829.5	78.2 %	1,782.9	158.7 %

* Actuarial Assets and Liabilities prior to Jan. 1, 2015 are net of DROP balances.

** The amounts reported in this schedule do not include assets or liabilities for post-employment health care benefits.

Table 7
Unfunded Actuarial Accrued Liability Funding Period

Year	Plan Year	Outstanding Balance at Beginning of Year of January 1, 2016	Assumed Amortization Contribution	Assumed Payroll @ 3.75% Growth Rate	Mid-Year Amortization Contribution Amount ²	Outstanding Balance at End of Year of January 1, 2016
		UAAL (a)	Rate ¹ (b)	(c)	(d)	UAAL ³ (e)
1	2016	5,482,871,400	15.80%	2,094,550,962	330,939,052	5,590,888,511
2	2017	5,590,888,511	15.89%	2,173,096,623	345,305,053	5,692,870,178
3	2018	5,692,870,178	15.98%	2,254,587,746	360,283,122	5,787,681,662
4	2019	5,787,681,662	16.06%	2,339,134,787	375,665,047	5,874,311,237
5	2020	5,874,311,237	16.12%	2,426,852,341	391,208,597	5,951,915,735
6	2021	5,951,915,735	16.19%	2,517,859,304	407,641,421	6,018,825,358
7	2022	6,018,825,358	16.22%	2,612,279,028	423,711,658	6,074,535,027
8	2023	6,074,535,027	16.26%	2,710,239,492	440,684,941	6,117,181,186
9	2024	6,117,181,186	16.28%	2,811,873,473	457,773,001	6,145,566,679
10	2025	6,145,566,679	16.30%	2,917,318,728	475,522,953	6,157,826,347
11	2026	6,157,826,347	16.32%	3,026,718,180	493,960,407	6,151,914,509
12	2027	6,151,914,509	16.34%	3,140,220,112	513,111,966	6,125,589,037
13	2028	6,125,589,037	16.36%	3,257,978,366	533,005,261	6,076,394,082
14	2029	6,076,394,082	16.38%	3,380,152,555	553,668,988	6,001,641,328
15	2030	6,001,641,328	16.40%	3,506,908,276	575,132,957	5,898,389,658
16	2031	5,898,389,658	16.42%	3,638,417,336	597,428,127	5,763,423,104
17	2032	5,763,423,104	16.42%	3,774,857,986	619,831,681	5,594,012,421
18	2033	5,594,012,421	16.42%	3,916,415,161	643,075,369	5,386,441,866
19	2034	5,386,441,866	16.42%	4,063,280,729	667,190,696	5,136,656,368
20	2035	5,136,656,368	16.42%	4,215,653,756	692,210,347	4,840,232,306
21	2036	4,840,232,306	16.42%	4,373,740,772	718,168,235	4,492,345,826
22	2037	4,492,345,826	16.42%	4,537,756,051	745,099,544	4,087,738,499
23	2038	4,087,738,499	16.42%	4,707,921,903	773,040,777	3,620,680,098
24	2039	3,620,680,098	16.43%	4,884,468,975	802,518,253	3,084,420,053
25	2040	3,084,420,053	16.43%	5,067,636,561	832,612,687	2,472,607,322
26	2041	2,472,607,322	16.43%	5,257,672,932	863,835,663	1,777,834,640
27	2042	1,777,834,640	16.43%	5,454,835,667	896,229,500	992,039,606
28	2043	992,039,606	16.43%	5,659,392,005	929,838,106	106,448,993
29	2044	106,448,993	16.44%	5,871,619,205	965,294,197	-
30	2045	-	16.44%	6,091,804,925	1,001,492,730	-

Resulting Funding Period = 29 Years

¹ The amortization contribution rate is the total statutory contribution rate, minus the total normal cost rate, minus the health care contribution rate. The statutory contribution rate is assumed to remain unchanged except for any legislated increases, for which none are assumed after the July 1, 2015 member contribution rate increase. The impact of SB 340 and changes adopted by OP&F that will impact new members will reduce the total normal cost rate over time, and, thus, increase the amortization contribution rate, as reflected above.

² The contribution amount is the product of (b) the amortization contribution rate and (c) the assumed payroll amount.

³ The outstanding balance at the end of the year is derived from the outstanding balance at the beginning of the year with interest minus the mid-year amortization contribution with interest.

$$(e) = [(a) \times 1.0825] - [(d) \times 1.0825^{0.5}]$$

Table 8
Solvency Test
Comparative Summary of Actuarial Accrued Liability and
Actuarial Value of Assets
(\$ Amounts in Thousands)

POLICE

Valuation as of January 1	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
					(1)	(2)	(3)
2016	\$ 1,386,649	\$ 6,085,896	\$ 3,002,889	\$ 7,473,979	100 %	100 %	0 %
2015	1,210,400	5,857,146	3,015,390	7,141,575	100 %	100 %	2 %
2014	1,171,496	5,368,637	2,583,711	6,088,816	100 %	92 %	0 %
2013	1,131,664	5,166,808	2,532,580	5,670,069	100 %	88 %	0 %
2012	1,100,146	4,960,051	2,969,900	5,694,783	100 %	93 %	0 %
2011	1,100,251	4,368,659	3,008,219	5,885,449	100 %	100 %	14 %
2010	1,067,209	4,216,219	2,926,199	5,975,121	100 %	100 %	24 %
2009	1,026,597	4,077,113	2,832,235	5,163,648	100 %	100 %	2 %

FIREFIGHTERS

Valuation as of January 1	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
					(1)	(2)	(3)
2016	\$ 1,213,330	\$ 4,614,250	\$ 2,832,862	\$ 6,179,025	100 %	100 %	12 %
2015	1,062,097	4,337,819	2,912,741	5,887,716	100 %	100 %	17 %
2014	1,028,465	3,924,388	2,501,058	4,974,383	100 %	100 %	1 %
2013	974,362	3,751,279	2,451,195	4,607,962	100 %	97 %	0 %
2012	965,598	3,581,800	2,769,204	4,614,176	100 %	100 %	2 %
2011	956,559	3,132,521	2,818,228	4,795,563	100 %	100 %	25 %
2010	916,033	3,004,267	2,700,815	4,818,972	100 %	100 %	33 %
2009	874,756	2,895,243	2,601,180	4,145,508	100 %	100 %	14 %

TOTAL

Valuation as of January 1	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
					(1)	(2)	(3)
2016	\$ 2,599,979	\$ 10,700,146	\$ 5,835,751	\$ 13,653,004	100 %	100 %	6 %
2015	2,272,496	10,194,965	5,928,132	13,029,291	100 %	100 %	9 %
2014	2,199,961	9,293,025	5,084,769	11,063,199	100 %	95 %	0 %
2013	2,106,027	8,918,087	4,983,774	10,278,031	100 %	92 %	0 %
2012	2,065,744	8,541,851	5,739,104	10,308,959	100 %	97 %	0 %
2011	2,056,810	7,501,180	5,826,447	10,681,012	100 %	100 %	19 %
2010	1,983,242	7,220,486	5,627,014	10,794,093	100 %	100 %	28 %
2009	1,901,353	6,972,356	5,433,415	9,309,156	100 %	100 %	8 %

Note: Actuarial Assets and Liabilities prior to Jan. 1, 2015 are net of DROP balances

Table 9
Description of Actuarial Assumptions and Methods

Assumptions

The actuarial assumptions were adopted as of Jan. 1, 2012, based on a five-year experience review covering the period 2007-2011. The next review of the actuarial assumptions is to be completed for adoption with the Jan. 1, 2017 valuation.

INTEREST RATE: 8.25 percent per annum, compounded annually.

SALARY INCREASE RATES: Assumed annual salary increases are as follows:

Years of Service	Salary Increase Rate
Less than 1	11.00%
1	9.50%
2	8.50%
3	6.50%
4	5.00%
5 or more	4.25%

DROP INTEREST RATE: 4.5 percent per annum, compounded annually.

COLA: Three percent simple; 2.6 percent simple for increases based on the lesser of the increase in CPI and three percent.

WITHDRAWAL RATES: The following sample withdrawal rates are based on age and service (for causes other than death, disability, or retirement):

Police

Age	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
25	10.3%	6.3%	3.5%	4.4%	3.9%	2.2%	2.1%	2.0%	1.8%	1.8%	1.5%
30	10.4%	5.8%	4.4%	3.5%	3.2%	3.0%	2.9%	2.5%	2.2%	1.8%	1.5%
35	13.0%	5.3%	3.2%	3.8%	3.5%	3.4%	3.2%	3.1%	2.5%	1.7%	1.3%
40	14.0%	6.0%	4.6%	4.5%	4.1%	3.9%	3.3%	3.2%	1.8%	1.5%	0.9%
45	16.0%	6.3%	6.1%	5.9%	5.2%	4.3%	3.5%	3.5%	2.1%	1.2%	0.8%
50	18.0%	8.3%	8.1%	7.5%	6.5%	5.3%	4.1%	4.0%	3.9%	3.1%	1.5%
55	20.0%	12.0%	10.0%	9.4%	8.0%	6.5%	5.2%	5.1%	4.9%	4.5%	1.7%
60	20.0%	12.0%	10.0%	9.4%	8.0%	6.5%	5.2%	5.1%	4.9%	4.5%	1.7%

Table 9
Description of Actuarial Assumptions and Methods
(Continued)

Firefighters

Age	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
25	2.8%	2.2%	1.6%	1.5%	1.2%	1.1%	1.0%	1.0%	0.9%	0.9%	0.8%
30	3.8%	1.6%	1.8%	1.7%	1.6%	1.3%	1.2%	1.1%	1.0%	1.0%	0.9%
35	4.2%	3.4%	2.1%	2.0%	1.9%	1.4%	1.3%	1.25%	1.1%	0.9%	0.8%
40	4.5%	3.6%	2.2%	2.1%	2.0%	1.5%	1.4%	1.3%	1.2%	1.0%	0.6%
45	4.6%	3.8%	2.7%	2.6%	2.5%	1.9%	1.6%	1.4%	1.3%	1.1%	0.5%
50	6.1%	4.4%	4.0%	3.8%	3.5%	2.7%	2.4%	2.2%	2.1%	1.5%	0.7%
55	6.1%	5.0%	5.0%	5.0%	4.0%	3.5%	2.4%	2.2%	2.0%	1.5%	1.1%
60	6.1%	5.0%	5.0%	5.0%	4.0%	3.5%	2.4%	2.2%	2.0%	1.5%	1.1%

RATES OF DISABILITY: The following are sample rates of disability and occurrence of disability by type:

Age	Police	Firefighters
20	.002%	.004%
30	.255%	.063%
40	.732%	.454%
50	1.126%	.891%
55	.933%	1.350%
60	.966%	1.331%
64	1.441%	3.126%

On duty permanent and total 23%
 On duty partial 61%
 off duty ordinary 16%

Table 9
Description of Actuarial Assumptions and Methods
(Continued)

RETIREMENT RATES: The following rates of retirement apply to members not in DROP:

Age	Police	Firefighters
48	10%	10%
49-52	5%	5%
53-54	11%	5%
55-57	11%	10%
58-59	5%	13%
60	15%	20%
61	25%	20%
62	25%	50%
63	25%	20%
64	25%	25%
65-69	35%	25%
70	100%	100%

DEFERRED RETIREMENT OPTION PLAN ELECTIONS: 90 percent of members who do not retire when first eligible are assumed to elect DROP.

DROP RETIREMENT RATES: The following rates of retirement apply to members in DROP on or before July 1, 2013:

Police

Age	Years in DROP									
	0	1	2	3	4	5	6	7	8	
48	5%									
49	5%	5%								
50	4%	5%	5%							
51	4%	5%	5%	10%						
52	4%	5%	5%	10%	10%					
53	4%	5%	5%	10%	10%	12%				
54	4%	5%	5%	10%	10%	12%	14%			
55	5%	5%	5%	15%	15%	12%	17%	30%		
56	5%	5%	5%	15%	15%	12%	17%	30%	100%	
57	5%	5%	5%	15%	15%	12%	17%	30%	100%	
58	5%	5%	5%	15%	15%	12%	17%	30%	100%	
59	16%	5%	5%	15%	16%	15%	18%	32%	100%	
60	16%	5%	5%	15%	16%	15%	18%	32%	100%	
61	16%	5%	5%	15%	16%	15%	18%	32%	100%	
62	16%	5%	5%	15%	16%	15%	18%	32%	100%	
63	16%	5%	5%	15%	16%	15%	18%	32%	100%	
64	19%	5%	5%	17%	17%	16%	19%	35%	100%	
65-69	19%	5%	5%	17%	17%	16%	19%	35%	100%	
70	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 9
Description of Actuarial Assumptions and Methods
(Continued)

Firefighters

Age	Years in DROP								
	0	1	2	3	4	5	6	7	8
48	2%								
49	4%	3%							
50	4%	3%	3%						
51	4%	3%	3%	10%					
52	4%	3%	3%	10%	12%				
53	4%	3%	3%	10%	12%	13%			
54	4%	3%	3%	10%	12%	13%	15%		
55	5%	3%	3%	12%	12%	13%	17%	27%	
56	5%	3%	3%	12%	12%	13%	17%	27%	100%
57	5%	3%	3%	12%	12%	13%	17%	27%	100%
58	5%	3%	3%	17%	16%	15%	20%	35%	100%
59	6%	3%	3%	17%	16%	15%	20%	35%	100%
60	6%	3%	3%	17%	16%	15%	20%	35%	100%
61	6%	3%	3%	17%	16%	15%	20%	35%	100%
62	6%	3%	3%	17%	16%	15%	20%	35%	100%
63	30%	3%	3%	20%	20%	20%	20%	40%	100%
64	30%	3%	3%	20%	20%	20%	20%	40%	100%
65-69	30%	3%	3%	20%	20%	20%	20%	40%	100%
70	100%	100%	100%	100%	100%	100%	100%	100%	100%

The same rates apply for members entering DROP after July 1, 2013, except the rates for years three and four are replaced with the rates for year two.

RETIREMENT AGE FOR INACTIVE VESTED PARTICIPANTS: Commencement at age 48 and 25 years of service from full-time hire date, whichever is later.

MORTALITY: Rates of death are based on the RP2000 Combined Table, age-adjusted as follows. For active members, set back six years. For disability retirements, set forward five years for police and three years for firefighters. For service retirements, set back zero years for police and two years for firefighters. For beneficiaries, set back zero years. The rates are applied on a fully generational basis, with a base year of 2009, using mortality improvement Scale AA.

CREDITED SERVICE: Credited service on the valuation date, as provided by OP&F, includes all service credited under the plan, including service transferred from other municipal plans and purchased service. The valuation assumes future service will be credited at the rate of one year per year worked, with no assumed future crediting of transferred service or purchased service.

415 LIMITS: Benefits are limited by the IRC Section 415, assumed to increase 3.25 percent per annum.

FUTURE EXPENSES: The normal cost is increased by all administrative expenses budgeted, net of the State Subsidy received from the State of Ohio.

Table 9
Description of Actuarial Assumptions and Methods
(Continued)

UNKNOWN DATA FOR MEMBERS: Same as those exhibited by members with similar known characteristics.

LATE REPORTED SALARIES: 1.246 percent load to 2015 reported salaries to account for salaries accrued but not reported for the valuation. This adjustment is based on plan experience for the prior year. This adjustment will be reviewed annually for future late reported salaries.

PERCENT MARRIED: 75 percent of active members are assumed to be married.

AGE OF SPOUSE: Wives are assumed to be three years younger than their husbands.

OPTIONAL FORM ELECTION: 33 percent of service retirees and 10 percent of disability retirees are assumed to elect the 50 percent Joint and Survivor pension. If the joint annuitant predeceases the retiree, assume the retiree's benefit increases 17.65 percent.

DEPENDENT PARENTS: Costs based upon allowance for mortality (same rates as for beneficiaries), but no specific allowance for change in dependency status.

DEPENDENT CHILDREN: Each member is assumed to have two children, born when the member was age 26. Dependency is assumed to cease when the child is 22.

MEDICARE PART B PREMIUM TREND RATES: The Medicare Part B premium subsidy (\$104.90 per month for 2016) is assumed to increase as follows:

Year	Increase
2016	5.30%
2017	5.20%
2018	5.10%
2019 and Later	5.00%

MEDICARE PART B PREMIUM REIMBURSEMENT: 90 percent of members are assumed to be eligible for reimbursement once they reach age 65.

Table 9
Description of Actuarial Assumptions and Methods
(Continued)

METHODS

ACTUARIAL COST METHOD: Projected benefit method with individual level percentage entry age normal cost and actuarial accrued liability. Gains and losses are reflected in the actuarial accrued liability. Prior to Jan. 1, 2015, to be consistent with the asset methodology employed by OP&F, DROP balances were netted out of the liabilities.

ADJUSTMENT FOR RE-EMPLOYED RETIREES: The present value of future benefits and the actuarial accrued liability are increased by an amount for the re-employed retirees' defined contribution plan benefit equal to two times the re-employed retirees' post-retirement contribution balances on the valuation date.

ADJUSTMENT FOR EMPLOYER ACCRUED LIABILITY: The actuarial accrued liability is reduced by the present value of special employer contributions -- referred to as "Local Funds." Local governments are required by state statute to pay the unfunded portion of the actuarially-determined liability of the local police and firefighter's relief and pension funds that were merged to form OP&F in 1967. The ORC designates this obligation of the local governments to the Employers' Accrued Liability. Interest on the outstanding balance is being accrued at the rate of 4.25 percent, compounded semiannually. Local governments began repayment in 1969 and payments are required to be made until 2035. The present value of the remaining payments on the valuation date is determined using the valuation interest rate.

ASSET VALUATION METHOD: A four-year moving average market value of assets that spreads the difference between the actual investment income and the expected income on the market value (based on the valuation interest rate) over a period of four years. The actuarial value shall not be less than 80 percent or more than 120 percent of market value.

PAYROLL GROWTH: Inflation rate of 3.25 percent plus productivity increase rate of 0.5 percent.

DATA

CENSUS AND ASSETS: The valuation was based on members of OP&F as of the valuation date and does not take into account future members. All census and asset data was supplied by OP&F. Salaries and benefits tabulated in the tables in this report were summed to pennies, but displayed to whole dollars, thus, totals may not be consistent with amounts displayed due to rounding.

Table 10
Plan Summary

Summary of Benefit and Contribution Provisions

The following is intended to summarize the key provisions valued in this valuation. Members of OP&F and other parties should not rely on this summary as a substitute for or legal interpretation of the laws and rules covering this retirement plan.

Membership

Membership in OP&F is mandatory under Ohio Law for all full-time police officers employed by Ohio municipalities and appointed under the required statutory provisions. Membership is also mandatory for all full-time firefighters employed by Ohio municipalities, townships, villages, joint fire districts or other political subdivisions. In order to become members of OP&F, full-time firefighters are required to satisfactorily complete, or have satisfactorily completed, a firefighter training course approved under former Section 3303.07, Section 4765.55 or conducted under Section 3737.33 of the ORC.

Eligibility for Membership

Full-time police officers or firefighters are eligible for membership in OP&F immediately upon commencement of employment as a full-time police officer or firefighter.

Contributions

Employer and member contributions are established by statute and both are due monthly. Employers of police officers pay 19.5 percent of salary; employers of firefighters pay 24 percent of salary. Members contributed 10 percent of salary through July 1, 2013. On July 2, 2013 the member contribution rate increased by 0.75 percent to 10.75 percent. The member contribution rate increased annually by 0.75 percent until it reached the current 12.25 percent on July 2, 2015.

Employer Contribution Rates – Percentage of Active Member Payroll:

Time Frame of Rates	Police	Fire
Jan 1, 1986 thru Present	19.50%	24.00%

Member Contribution Rates – Percentage of Active Member Payroll:

Time Frame of Rates	Police	Fire
July 2, 2015 and Thereafter	12.25%	12.25%
July 2, 2014 thru July 1, 2015	11.50%	11.50%
July 2, 2013 thru July 1, 2014	10.75%	10.75%
Sept. 9, 1988 thru July 1, 2013	10.00%	10.00%

Table 10
Plan Summary
(Continued)

BENEFITS

Service Retirement

Upon attaining a qualifying age with sufficient years of service, a member of OP&F may retire and receive a lifetime monthly pension. OP&F offers four types of service retirement: normal, service commuted, age/service commuted and actuarially reduced. Each type has different eligibility guidelines and is calculated using the member's average annual salary.

Since average annual salary is subject to certain statutory and administrative limitations, not all salary, earnings, or compensation may be used in the calculation. OP&F calculates allowable average annual salary as follows:

- For OP&F members with 15 or more years of service credit as of July 1, 2013, average annual salary is an average of the three years of highest allowable earnings, regardless of when in their career the highest years occurred.
- For OPF members with less than 15 years of service credit as of July 1, 2013, average annual salary is an average of the five years of highest allowable earnings, regardless of when in their career the highest years occurred.
- A "salary benchmark" is established for members with 15 or more years of service credit as of July 1, 2013, under which certain increases are excluded from salary for the purpose of determining allowable average annual salary. This benchmarking does not apply to members with less than 15 years of service credit as of July 1, 2013.

Normal Service Retirement

Eligibility

- For members hired into an OP&F-covered position after July 1, 2013, minimum retirement age is 52 with at least 25 years of service credit.
- For members hired into an OP&F-covered position on or before July 1, 2013, minimum retirement age is 48 with 25 years of service credit.

Benefit

An annual pension equal to a percentage of the allowable average annual salary. The percentage equals 2.5 percent for each of the first 20 years of service, 2.0 percent for each of the next five years of service, and 1.5 percent for each year of service in excess of 25 years. The maximum pension of 72 percent of the allowable average annual salary is paid after 33 years of service.

Table 10
Plan Summary
(Continued)

Service Commuted Retirement

Eligibility

- For members hired into an OP&F-covered position after July 1, 2013, the minimum retirement age is 52, they must have at least 15 years of service credit and 25 years have elapsed from the date of their full-time hire.
- For members hired into an OP&F-covered position on or before July 1, 2013, the minimum retirement age is 48, they must have at least 15 years of service credit and 25 years of service and 25 years have elapsed from the date of their full-time hire.

Benefit

An annual pension equal to 1.5 percent of the allowable average annual salary multiplied by the number of full years of service credit (up to 25 years).

Age/Service Commuted Retirement

Eligibility

Age 62, 15 years of service credit and still working as a full-time police officer or firefighter.

Benefit

An annual pension that uses the same formula as for the Normal Service Retirement benefit.

Actuarially Reduced

Eligibility

For members hired into an OP&F-covered position after July 1, 2013, age 48 with 25 years of service.

Benefit

An annual pension reduced to the actuarial equivalent of the amount payable had the member retired at age 52.

Table 10
Plan Summary
(Continued)

Rights Upon Separation From Service

Deferred Pension

If a member meets the years of service credit required for any of the service retirement pensions but leaves service before attaining the minimum retirement age, a pension becomes payable upon attainment of the qualifying age and filing the appropriate paperwork with OP&F.

Refund of Employee Contributions

Upon separation from service, a member can receive the contributions that he or she made to the plan or the employee share of member contributions picked-up on the member's behalf by their employer. Employer contributions are not refundable.

Termination Before Retirement With 25 Years of Service Credit

Benefit

Same as the Normal Service Retirement benefit, except benefit commences once the member reaches minimum retirement age.

- For members hired into an OP&F-covered position after July 1, 2013, minimum retirement age is 52.
- For members hired into an OP&F-covered position on or before July 1, 2013, minimum retirement age is 48.

Termination Before Retirement With 15 Years of Service Credit

Benefit

Same as the Service Commuted Retirement, except benefit commences once the member reaches minimum retirement age and 25 years have elapsed from the date of full-time hire.

- For members hired into an OP&F-covered position after July 1, 2013, the minimum retirement age is 52.
- For members hired into an OP&F-covered position on or before July 1, 2013, the minimum retirement age is 48.

Table 10
Plan Summary
(Continued)

Termination Before Retirement With Less Than 15 Years of Service Credit

Benefit

A lump sum amount equal to the sum of the member's contributions to OP&F.

Deferred Retirement Option Plan

Eligibility

When a member is eligible for a normal service retirement they can enter DROP by delaying retirement and continuing to work as a full-time police officer or firefighter.

- For members hired into an OP&F-covered position after July 1, 2013, normal service retirement eligibility is age 52 with at least 25 years of service credit.
- For members hired into an OP&F-covered position on or before July 1, 2013, normal service retirement eligibility is age 48 with at least 25 years of service credit.

Benefit

DROP is a cost neutral benefit offered by OP&F. Upon the DROP effective date, the member's pension is calculated as if that were their date of retirement. While the member continues to work and draw their normal salary, the amount they would have received in retirement benefits accumulates tax-deferred at OP&F on their behalf, as well as a portion of their OP&F employee contributions and interest. Since the member's pension has already been calculated:

- The years of DROP service do not apply towards the member's normal service retirement.
- If a member earns a higher salary after their DROP effective date due to a raise, job promotion, etc., it will not be used to recalculate their pension and, therefore, will not result in that member receiving a higher pension upon retirement.

The DROP interest rate is set by administrative rule and is subject to change at any time. OP&F credits interest to all DROP balances each month at a rate equal to the 10-year United States (U.S.) Treasury Note Business Day Series, as published by the U.S. Department of the Treasury, with a cap of five percent. This variable interest rate is adjusted quarterly to match the published 10-year U.S. Treasury Note rate for the last trading business day of the preceding quarter and is in effect for the subsequent quarter.

Table 10
Plan Summary
(Continued)

Members whose election to participate in DROP is effective after July 1, 2013 do not qualify for annual cost-of-living allowances (COLA) at any time during DROP. Members whose election to participate in DROP is effective on or before July 1, 2013 will continue to receive a cost-of-living allowance during DROP, but only when they reach 55 years of age and have been participating in DROP for at least one year. Those members whose enrollment date into DROP qualify them for a cost-of-living allowance during DROP will receive three percent of their base pension.

Member contributions are credited to their DROP account based on the number of years of DROP service. For those members whose election to participate in DROP is effective after July 1, 2013, OP&F applies contributions to DROP in the following manner:

Years of DROP Service	Percentage of Member Contributions
Years 1-3	50 percent of member's contributions
Year 4-5	75 percent of member's contribution
Years 6-8	100 percent of member's contributions

For this group of members, the minimum participation in DROP, without penalty, is five years and the maximum is eight.

- If a member terminates employment within the first five years of joining DROP, then the member forfeits all of their DROP interest. In addition to losing their accumulated interest, members who choose to terminate employment before completing their required participation period cannot withdraw any of the funds in their DROP account until the minimum participation period has expired. The only exception to this rule is if the member dies during the minimum participation period. The member's surviving spouse, designated beneficiary or estate, as applicable will receive the entire DROP account balance determined at the time of death.
- If a member chooses to continue working after eight years in DROP, the member forfeits all DROP benefits and receives the Normal Service Retirement benefit upon retirement, which will be calculated to include the service credit earned during the DROP participation period.

For those members whose election to participate in DROP was on or before July 1, 2013, member contributions are applied to DROP under the following schedule:

Years of DROP Service	Percentage of Member Contributions
Years 1-2	50 percent of member's contributions
Year 3	75 percent of member's contribution
Years 4-8	100 percent of member's contributions

Table 10
Plan Summary
(Continued)

For this group of members, the minimum participation in DROP, without penalty, is three years and the maximum is eight.

- If a member terminates employment within the first three years of joining DROP, then the member forfeits all of their DROP interest. In addition to losing their accumulated interest, members who choose to terminate employment before completing their required participation period cannot withdraw any of the funds in their DROP account until the minimum participation period has expired. The only exception to this rule is if the member dies during the minimum participation period. The member's surviving spouse, designated beneficiary or estate, as applicable will receive the entire DROP account balance determined at the time of death.
- If a member chooses to continue working after eight years in DROP, the member forfeits all DROP benefits and receives the Normal Service Retirement benefit upon retirement, which will be calculated to include the service credit earned during the DROP participation period.

All DROP members retiring before the eight-year max receive their Normal Service Retirement benefit determined at the time of DROP entry, with the COLA adjustment (if applicable) to date of retirement when eligible. These members will also receive the DROP account balance as a lump sum or monthly annuity.

If a member dies while participating in DROP, the member's surviving spouse, designated beneficiary or estate will receive the entire DROP account balance determined at the time of death. The surviving spouse or contingent dependent beneficiary will receive the greater of the retirement allowance made at the time of DROP entry or the Normal Service Retirement benefit paid with COLA adjustments (if applicable) to the date of death, paid as if the member had elected a 50 percent joint and survivor option at death. All other statutory death benefits will apply.

If the member becomes disabled while in DROP, and has not terminated employment, the member must choose either to receive a disability benefit or a service retirement with DROP. If the member chooses the disability benefit, the member forfeits all DROP benefits and receives the disability benefit, with service credit during the DROP period included.

Table 10
Plan Summary
(Continued)

Disability Benefits

Members who become unable to perform their official duties and whose earning capacities are impaired may qualify for disability benefits. Disability benefits are classified as either service-incurred (on-duty) or non-service-incurred (off-duty) and differ in eligibility requirements and benefit formulas. Annual medical evaluations are required for disability benefit recipients who would not have met the age and service requirements for a Normal Service Retirement, unless the Board of Trustee waives this requirement based upon an OP&F physician's certification that the disability is ongoing and further evaluation would not be cost effective. Annual earnings statements are also required to be submitted to OP&F.

Permanent and Total Disability (On-Duty)

Eligibility

No age or service requirement.

Benefit

An annual benefit equal to 72 percent of the allowable average annual salary.

Partial Disability (On-Duty)

Eligibility

No age or service requirement.

Benefit

If the member has less than 25 years of service credit an annual benefit fixed by the Board of Trustees to be a certain percent up to 60 percent of the allowable average annual salary. If the member has 25 or more years of service credit, the annual disability benefit is equal to the Normal Service Retirement amount.

Non-Service Incurred Disability (off-Duty)

Eligibility

Any age and five years of service credit.

Benefit

An annual amount is the percent awarded by the Board of Trustees and may not exceed 60 percent of the allowable average annual salary. Service over 25 years cannot be used in calculating an off-duty disability award.

Table 10
Plan Summary
(Continued)

Pre-Retirement Survivor Annuity

Eligibility

Upon death before retirement, but after having satisfied the requirements for a Normal Service Retirement or an Age/Service Commuted retirement.

Benefit

The surviving spouse or contingent dependent beneficiary will receive the equivalent of a 50 percent joint and survivor annuity, calculated under the assumption that the decedent had retired effective the day following his/her death.

Statutory Survivor Benefits

Eligibility

Upon death of any active or retired member of OP&F.

Benefit

Surviving Spouse's Benefit

An annual amount equal to \$6,600 (\$550 monthly), plus an annual COLA of three percent of the original base benefit, paid each July 1, beginning July 1, 2000. The benefit is paid to the surviving spouse for life.

If the spouse is receiving a full death benefit under the Death Fund Benefit statute, the spouse's statutory survivor benefit is \$4,920 (\$410 monthly). The Death Benefit Fund is funded by the State of Ohio and provides special benefits to eligible survivors of public safety officers who are killed in the line of duty or who die from injuries or disease incurred in the performance of official duties. These eligible survivors are entitled to receive the member's full monthly salary, which will be reduced at the member's retirement eligibility date. These death benefit payments are in addition to any optional payment plan benefits elected by the member.

Surviving Child's Benefit

An annual amount equal to \$1,800 (\$150 monthly), payable until such child attains age 18 or marries, whichever occurs first. The payment can continue to an unmarried full-time student until age 22. A dependent disabled child, regardless of age at time of member's death, is entitled to a benefit until death or recovery from disability. A COLA of three percent of the original base is payable each July 1.

Table 10
Plan Summary
(Continued)

Dependent Parents' Benefit

If there is no surviving spouse or dependent children, an annual amount of \$2,400 (\$200 monthly) is payable to one dependent parent or \$1,200 (\$100 monthly) each to two dependent parents for life or until dependency ceases or remarriage. A COLA of three percent of the original base is payable each July 1.

Survivors	Monthly Pension	Causes of Termination
Widow / Widower	current amount + future COLA	* Death
Minor child	current amount + future COLA	* Death * Marriage * Attainment of age 18
Dependent disabled child	current amount + future COLA	* Death * Recovery from disability
Student	current amount + future COLA	* Death * Marriage * Attainment of age 22 * Loss of student status
One dependent parent	current amount + future COLA	* Death * Re-marriage
Two dependent parents	½ current amount (each) + future COLA	* Termination of dependency

Benefit Type	Base Monthly Benefit Amount	Base Monthly Benefit Amount Plus Increases Through July 1, 2015	Monthly Increases Effective July 1, 2016
Spouse *	\$550	\$809.60 **	\$16.50
Child	150	220.80 ***	4.50
One Parent	200	294.40 ****	6.00
Two Parents	100	147.20	3.00

* Spouse's benefit is \$410 if spouse is receiving a full death benefit under the Death Fund Benefit statute. There is no annual increase on this benefit payment.

** On July 1, 2000 the Statutory Surviving Spouse Benefit increased by \$12.10 per month. This increase was a percentage of the original benefit amount, equaling the percentage increase in the CPI plus unused prior increases, to a maximum of three percent. Every year after 2000, the monthly increase was \$16.50 or three percent of the base benefit.

*** On July 1, 2000 the Statutory Child Benefit increased by \$3.30 per month. This increase was a percentage of the original benefit amount, equaling the percentage increase in the CPI plus unused prior increases, to a maximum of three percent. Every year after 2000, the monthly increase was \$4.50 or three percent of base benefit.

**** On July 1, 2000 the Statutory Surviving One Parent Benefit increased by \$4.40 per month. This increase was a percentage of the original benefit amount, equaling the percentage increase in the CPI plus unused prior increases, to a maximum of three percent. Every year after 2000, the monthly increase was \$6.00 or three percent of base benefit.

Table 10
Plan Summary
(Continued)

Lump Sum Death Benefit

Eligibility

Upon death of any retired or disabled member of OP&F.

Benefit

A lump sum payment of \$1,000 is paid to the member's surviving spouse or, if no surviving spouse, to a designated beneficiary. If there is no surviving spouse or beneficiary, then it is paid to the member's estate.

ANNUITIES

Effective Feb. 28, 1980, for those members who are retiring on either a service pension or a disability benefit, optional annuity plans can be chosen, subject to certain limitations. The member can elect actuarially reduced benefits under a joint and survivor annuity, life annuity certain and continuous, or multiple beneficiary annuity plan. The optional annuity plans allow the member's beneficiary(ies) to receive a lifetime payment upon the member's death.

Annuity Types

Single Life Annuity

For unmarried members, this is the standard annuity plan. Married members may elect this plan only if the spouse consents to the selection in writing. This plan pays the maximum retirement allowance that the member is entitled to receive and, upon the member's death, none of the pension or benefit is continued to any beneficiary.

Joint and Survivor Annuity (JSA)

Under this plan, a member designates that, upon his or her death, a certain percentage of the member's actuarially reduced benefit is continued to a surviving designated beneficiary for life.

Any percentage between one percent and 100 percent of the member's reduced pension may be continued to the surviving designated beneficiary, but the percent continued may be limited based on the beneficiary's age. If a member is married at the time benefits are elected, the standard plan is a 50 percent JSA continuing one-half of the member's reduced monthly benefit to his or her surviving spouse. If the member wants to select a plan which provides for the continuation of benefits for someone other than the spouse or less than 50 percent JSA to the spouse, the spouse must consent in writing to this choice. This plan automatically terminates upon death of the beneficiary, to be effective the month following OP&F's receipt of notice of death, or it may be cancelled upon divorce with the consent of the member's spouse or a specific court order, at which point the annuity reverts to the single life annuity to

Table 10
Plan Summary
(Continued)

the member. Elected option may be cancelled within one year after benefits commence, with the consent of the beneficiary.

Multiple Beneficiary Annuity

Under the multiple beneficiary annuity plan, a member may designate up to four beneficiaries at the time of retirement so that, upon death, a certain percentage of the member's actuarially reduced benefit is continued to the surviving beneficiaries for their lives. If the member is married at the time of retirement, the spouse must consent in writing for an annuity selection that provides for less than 50 percent JSA payable to the spouse.

Life Annuity Certain and Continuous (LACC)

This plan provides a lifetime allowance to the member and will only be paid to a designated beneficiary if the member dies and the period elected by the member has not expired. The minimum guarantee period is five years and the maximum is 20 years. 100 percent of the member's reduced pension continues to the beneficiary for the guarantee period selected. Elected option may be cancelled within one-year after benefits commence, with the consent of the beneficiary. If the member is married at the time of retirement, the spouse must consent in writing for an annuity selection that provides for less than a 50 percent JSA payable to the spouse.

Tiered Retirement Plan – COLA or Terminal Pay (Non-COLA)

Members retiring on or after July 24, 1986, who had 15 or more years of service credit as of Jan. 1, 1989, are eligible to select between two different pension calculation plans. Under the terminal pay method, a member's monthly pension benefit is calculated using terminal payouts at the time of retirement such as accrued sick leave and vacation compensation to increase the amount of the average annual salary, but subject to certain limitations, and these members are not eligible to receive cost-of-living allowance adjustments. Under the COLA method, terminal payments are not included in the calculation of a member's average annual salary, but the member is eligible to receive COLA increases. The COLA method is the automatic calculation method for any active member with fewer than 15 years of service as of Jan. 1, 1989.

Under the COLA method, members who are at least 55 years old and have been receiving OP&F pension benefits for at least one year are eligible for cost-of-living allowance adjustments. The age 55 provision for receiving a COLA does not apply to those who are receiving a permanent and total disability benefit, surviving beneficiaries under optional plans and statutory survivors.

The COLA amount for members who have 15 or more years of service credit as of July 1, 2013 and members who are receiving a pension benefit that became effective before July 1, 2013 will be equal to three percent of the member's base pension benefit.

Table 10
Plan Summary
(Continued)

The COLA amount for members who have less than 15 years of service credit as of July 1, 2013, and members whose pension benefit became effective on or after July 1, 2013, will be equal to a percentage of the member's base pension benefit where the percentage is the lesser of three percent or the percentage increase in the consumer price index, if any, over the twelve-month period that ends on the thirtieth day of September of the immediately preceding year, rounded to the nearest one-tenth of one percent.

Members who retired prior to July 24, 1986 or their surviving beneficiaries under optional plans are entitled to cost-of-living allowance increases. The annual increase is paid on July 1st of each year. The annual COLA increase is \$360 under a Single Life Annuity Plan with proportional reductions for optional payment plans.

Re-employed Retiree's Defined Contribution Plan Benefit

Effective June 30, 1991, every person who is retired under an Ohio public pension plan and who is re-employed in an OP&F covered position must contribute to OP&F at the same rate as other police officers or firefighters. The employer pays the normal rate as well. If the re-employed member terminates employment before age 60, Ohio law allows the member to receive a lump sum payment of post-retirement employee contributions made during the period of re-employment, plus interest. If the member waits until age 60 to receive this benefit, he or she can choose to receive either a lump sum payment in an amount equal to twice his or her contributions, plus interest, or a lifetime annuity paid monthly. If, after calculation, the member's lifetime monthly annuity is less than \$25, the member may only select the lump sum payment option. If the member is married spousal consent is required before payment can occur.

Group Health Insurance and Medicare

Commencing Jan. 1, 1974, the Board of Trustees may contract for group health insurance on the basis of part or all of the cost of the premium for the coverage to be paid by OP&F. Medical and prescription drug coverage sponsored by OP&F are not vested rights and are subject to change at any time upon action of the Board of Trustees.

Effective Jan. 1, 1977, OP&F is mandated to pay the premium for supplemental Medicare (Part B) up to the statutory maximum provided the benefit recipient is not eligible for reimbursement from any other sources. By law, OP&F is required to pay monthly to each recipient of service benefits, disability benefits and survivor benefits not less than \$96.40, with the exception that OP&F cannot pay an amount that exceeds the amount paid by the recipient for the coverage. Once OP&F obtains the proper documentation from the service retiree, disability retiree or surviving beneficiary of their enrollment in the Medicare program, Medicare (Part B) premium payments begin. Note: This benefit is not included in the principal valuation results, but is included in the retiree health care valuation results.

Effective July 1992, retirees and survivors make monthly medical benefit contributions, which are credited to the Health Care Stabilization Fund. These contributions are reviewed on an annual basis to determine adequacy with the rising cost of health care. In 2004, a new contribution strategy was implemented. Retirees and survivors now pay a percentage of the full cost of the benefit. The percentage ranges from 25 percent to 100 percent for themselves and dependents based on the year of retirement.

Table 11
Summary of Membership Data as of Jan. 1, 2016

Active Members

POLICE

Item	Male	Female	Total
Number of Members	13,352	1,367	14,719
Annual Salaries	\$ 976,668,039	\$ 97,466,148	\$ 1,074,134,187
Average Annual Salary	\$ 73,148	\$ 71,299	\$ 72,976
Average Age	42.2	42.3	42.2
Average Service	15.0	14.8	15.0

FIREFIGHTERS

Item	Male	Female	Total
Number of Members	12,391	336	12,727
Annual Salaries	\$ 920,902,162	\$ 23,807,952	\$ 944,710,114
Average Annual Salary	\$ 74,320	\$ 70,857	\$ 74,229
Average Age	43.0	42.0	43.0
Average Service	15.6	13.4	15.5

TOTAL

Item	Male	Female	Total
Number of Members	25,743	1,703	27,446
Annual Salaries	\$ 1,897,570,201	\$ 121,274,100	\$ 2,018,844,301
Average Annual Salary	\$ 73,712	\$ 71,212	\$ 73,557
Average Age	42.6	42.3	42.6
Average Service	15.3	14.5	15.3

Table 11
Summary of Membership Data as of Jan. 1, 2016
(Continued)

Inactive Members

POLICE

Item	Male	Female	Total
Eligible for Allowances	140	11	151
Eligible for Refunds Only	<u>2,242</u>	<u>341</u>	<u>2,583</u>
Total	2,382	352	2,734

FIREFIGHTERS

Item	Male	Female	Total
Eligible for Allowances	83	2	85
Eligible for Refunds Only	<u>666</u>	<u>62</u>	<u>728</u>
Total	749	64	813

TOTAL

Item	Male	Female	Total
Eligible for Allowances	223	13	236
Eligible for Refunds Only	<u>2,908</u>	<u>403</u>	<u>3,311</u>
Total	3,131	416	3,547

Table 11
Summary of Membership Data as of Jan. 1, 2016
(Continued)

Retirees and Beneficiaries

POLICE

Item	Number	Annual Allowance	Average Allowance	Average Age
Service Retirees	8,048	\$ 367,943,845	\$ 45,719	67.9
Survivors and Beneficiaries	4,424	46,447,832	10,499	71.3
Disability Retirees	<u>3,754</u>	<u>142,553,118</u>	37,974	62.2
Total	16,226	\$ 556,944,795	\$ 34,324	67.5

FIREFIGHTERS

Item	Number	Annual Allowance	Average Allowance	Average Age
Service Retirees	6,207	\$ 281,651,653	\$ 45,376	68.8
Survivors and Beneficiaries	3,406	35,642,356	10,465	73.7
Disability Retirees	<u>2,563</u>	<u>101,690,113</u>	39,676	64.5
Total	12,176	\$ 418,984,122	\$ 34,411	69.3

TOTAL

Item	Number	Annual Allowance	Average Allowance	Average Age
Service Retirees	14,255	\$ 649,595,498	\$ 45,570	68.3
Survivors and Beneficiaries	7,830	82,090,188	10,484	72.3
Disability Retirees	<u>6,317</u>	<u>244,243,231</u>	38,664	63.1
Total	28,402	\$ 975,928,917	\$ 34,361	68.2

Exhibit I
Active Membership Data as of Jan. 1, 2016
Number and Allowable Average Annual Salary

Police

Age	Years of Service									Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
Under 25	362 \$48,893										362 \$48,893
25-29	1,365 \$55,728	130 \$72,872									1,495 \$57,219
30-34	827 \$57,406	888 \$72,460	195 \$76,341	1 \$97,967							1,911 \$66,354
35-39	330 \$55,097	529 \$71,043	813 \$76,764	304 \$79,395	2 \$82,889						1,978 \$72,030
40-44	131 \$51,610	257 \$68,209	555 \$74,028	1,276 \$78,082	408 \$83,813	5 \$86,488					2,632 \$75,850
45-49	59 \$50,356	118 \$64,639	279 \$70,505	781 \$75,141	1,399 \$81,949	481 \$86,328	13 \$82,281				3,130 \$78,656
50-54	22 \$56,659	33 \$62,987	86 \$67,828	211 \$73,016	510 \$77,636	933 \$84,934	249 \$86,884	4 \$80,415			2,048 \$80,741
55-59	16 \$43,503	14 \$62,329	27 \$62,543	58 \$69,164	156 \$71,241	264 \$79,056	280 \$86,626	37 \$89,209	1 \$81,795		853 \$78,418
60-64	6 \$67,988	7 \$48,693	5 \$70,689	17 \$68,817	53 \$69,794	71 \$76,813	75 \$80,106	27 \$89,383	5 \$88,796		266 \$76,279
Over 64	2 \$ 52,856	2 \$ 78,764	2 \$ 67,037	5 \$ 59,561	5 \$ 64,167	7 \$ 69,461	10 \$ 75,354	2 \$ 91,786	9 \$ 89,279		44 \$ 73,700
Total	3,120 \$55,004	1,978 \$70,782	1,962 \$74,445	2,653 \$76,682	2,533 \$80,433	1,761 \$84,049	627 \$85,679	70 \$88,847	15 \$88,619		14,719 \$72,976

Note: Excludes rehired retirees.

Exhibit I
Active Membership Data as of Jan. 1, 2016
Number and Allowable Average Annual Salary
(Continued)

Firefighters

Age	Years of Service									Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
Under 25	250 \$49,646										250 \$49,646
25-29	913 \$55,166	175 \$69,352									1,088 \$57,448
30-34	737 \$57,943	732 \$70,737	195 \$75,262	2 \$73,756							1,666 \$65,611
35-39	343 \$58,208	499 \$71,351	684 \$76,131	355 \$78,376							1,881 \$72,018
40-44	83 \$58,290	188 \$71,956	538 \$74,290	1,059 \$78,597	280 \$82,841	5 \$76,536					2,153 \$76,705
45-49	31 \$58,955	75 \$70,007	253 \$73,966	754 \$77,521	807 \$83,567	377 \$86,030	4 \$94,149				2,301 \$80,178
50-54	13 \$61,532	28 \$67,662	94 \$71,916	277 \$78,760	586 \$80,726	757 \$83,882	268 \$86,701	8 \$94,336			2,031 \$81,766
55-59	3 \$54,731	10 \$63,909	33 \$69,999	95 \$77,028	204 \$80,392	352 \$80,935	307 \$84,664	41 \$89,533	2 \$69,143		1,047 \$81,300
60-64	3 \$46,533	4 \$59,302	11 \$73,872	20 \$73,850	48 \$75,291	83 \$77,380	82 \$84,089	15 \$87,211	4 \$79,947		270 \$78,615
Over 64		1 \$ 61,382	5 \$ 72,951	1 \$ 80,094	9 \$ 74,652	13 \$ 71,840	4 \$ 78,029	4 \$ 72,606	3 \$ 85,518		40 \$ 74,278
Total	2,376 \$56,068	1,712 \$70,754	1,813 \$74,837	2,563 \$78,169	1,934 \$82,019	1,587 \$83,277	665 \$85,431	68 \$88,590	9 \$79,403		12,727 \$74,229

Note: Excludes rehired retirees.



Exhibit I
Active Membership Data as of Jan. 1, 2016
Number and Allowable Average Annual Salary
(Continued)

Total

Age	Years of Service									Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
Under 25	612 \$49,201										612 \$49,201
25-29	2,278 \$55,503	305 \$70,853									2,583 \$57,315
30-34	1,564 \$57,659	1,620 \$71,681	390 \$75,801	3 \$81,826							3,577 \$66,008
35-39	673 \$56,683	1,028 \$71,193	1,497 \$76,475	659 \$78,846	2 \$82,889						3,859 \$72,024
40-44	214 \$54,201	445 \$69,792	1,093 \$74,157	2,335 \$78,316	688 \$83,418	10 \$81,512					4,785 \$76,235
45-49	90 \$53,318	193 \$66,725	532 \$72,151	1,535 \$76,310	2,206 \$82,541	858 \$86,197	17 \$85,074				5,431 \$79,301
50-54	35 \$58,469	61 \$65,133	180 \$69,963	488 \$76,276	1,096 \$79,288	1,690 \$84,463	517 \$86,789	12 \$89,696			4,079 \$81,251
55-59	19 \$45,276	24 \$62,987	60 \$66,644	153 \$74,047	360 \$76,427	616 \$80,130	587 \$85,600	78 \$89,379	3 \$73,360		1,900 \$80,006
60-64	9 \$60,837	11 \$52,550	16 \$72,877	37 \$71,538	101 \$72,406	154 \$77,119	157 \$82,186	42 \$88,607	9 \$84,863		536 \$77,456
Over 64	2 \$ 52,856	3 \$ 72,970	7 \$ 71,261	6 \$ 62,983	14 \$ 70,907	20 \$ 71,008	14 \$ 76,118	6 \$ 78,999	12 \$ 88,339		84 \$ 73,975
Total	5,496 \$55,464	3,690 \$70,769	3,775 \$74,633	5,216 \$77,413	4,467 \$81,120	3,348 \$83,683	1,292 \$85,551	138 \$88,721	24 \$85,163		27,446 \$73,557

Note: Excludes rehired retirees.



Exhibit II
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances

Police

Group	Annual Allowances as of January 1, 2016			
	Number	Basic	Cost-of-Living Increases	Total
Service Retirees				
Males	7,650	\$ 261,992,073	\$ 87,324,253	\$ 349,316,326
Females	<u>398</u>	<u>15,054,876</u>	<u>3,572,643</u>	<u>18,627,519</u>
Subtotal	8,048	\$ 277,046,949	\$ 90,896,896	\$ 367,943,845
Survivors and Beneficiaries				
Males	170	\$ 737,940	\$ 283,272	\$ 1,021,212
Females	<u>4,254</u>	<u>31,713,835</u>	<u>13,712,785</u>	<u>45,426,620</u>
Subtotal	4,424	\$ 32,451,775	\$ 13,996,057	\$ 46,447,832
Disability Retirees				
Males	3,260	\$ 91,579,916	\$ 32,497,916	\$ 124,077,832
Females	<u>494</u>	<u>14,274,458</u>	<u>4,200,828</u>	<u>18,475,286</u>
Subtotal	3,754	\$ 105,854,374	\$ 36,698,744	\$ 142,553,118
Grand Total	16,226	\$ 415,353,098	\$ 141,591,697	\$ 556,944,795

Exhibit II
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
(Continued)

Firefighters

Group	Annual Allowances as of January 1, 2016			
	Number	Basic	Cost-of-Living Increases	Total
Service Retirees				
Males	6,165	\$ 210,934,538	\$ 68,871,492	\$ 279,806,030
Females	<u>42</u>	<u>1,689,697</u>	<u>155,926</u>	<u>1,845,623</u>
Subtotal	6,207	\$ 212,624,235	\$ 69,027,418	\$ 281,651,653
Survivors and Beneficiaries				
Males	104	\$ 266,860	\$ 111,019	\$ 377,879
Females	<u>3,302</u>	<u>24,857,476</u>	<u>10,407,001</u>	<u>35,264,477</u>
Subtotal	3,406	\$ 25,124,336	\$ 10,518,020	\$ 35,642,356
Disability Retirees				
Males	2,461	\$ 73,610,509	\$ 24,528,506	\$ 98,139,015
Females	<u>102</u>	<u>2,933,641</u>	<u>617,457</u>	<u>3,551,098</u>
Subtotal	2,563	\$ 76,544,150	\$ 25,145,963	\$ 101,690,113
Grand Total	12,176	\$ 314,292,721	\$ 104,691,401	\$ 418,984,122



Exhibit II
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
(Continued)

Total

Group	Annual Allowances as of January 1, 2016			
	Number	Basic	Cost-of-Living Increases	Total
Service Retirees				
Males	13,815	\$ 472,926,611	\$ 156,195,745	\$ 629,122,356
Females	<u>440</u>	<u>16,744,573</u>	<u>3,728,569</u>	<u>20,473,142</u>
Subtotal	14,255	\$ 489,671,184	\$ 159,924,314	\$ 649,595,498
Survivors and Beneficiaries				
Males	274	\$ 1,004,800	\$ 394,291	\$ 1,399,091
Females	<u>7,556</u>	<u>56,571,311</u>	<u>24,119,786</u>	<u>80,691,097</u>
Subtotal	7,830	\$ 57,576,111	\$ 24,514,077	\$ 82,090,188
Disability Retirees				
Males	5,721	\$ 165,190,425	\$ 57,026,422	\$ 222,216,847
Females	<u>596</u>	<u>17,208,099</u>	<u>4,818,285</u>	<u>22,026,384</u>
Subtotal	6,317	\$ 182,398,524	\$ 61,844,707	\$ 244,243,231
Grand Total	28,402	\$ 729,645,819	\$ 246,283,098	\$ 975,928,917



Exhibit III
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Average Annual Allowance

Police

Age Last Birthday	Number	Annual Allowance	Average Annual Allowance
Service Retirees			
Under 60	1,515	\$ 72,411,997	\$ 47,797
60 - 64	1,704	85,952,773	50,442
65 - 69	1,911	94,187,356	49,287
70 - 74	1,336	60,512,052	45,293
75 - 79	775	30,440,816	39,278
Over 79	<u>807</u>	<u>24,438,851</u>	<u>30,284</u>
Total	8,048	\$ 367,943,845	\$ 45,719
Survivors and Beneficiaries			
Under 60	737	\$ 7,078,219	\$ 9,604
60 - 64	402	4,871,548	12,118
65 - 69	585	6,941,422	11,866
70 - 74	611	6,709,219	10,981
75 - 79	640	6,665,219	10,414
Over 79	<u>1,449</u>	<u>14,182,205</u>	<u>9,788</u>
Total	4,424	\$ 46,447,832	\$ 10,499
Disability Retirees			
Under 60	1,533	\$ 60,181,624	\$ 39,257
60 - 64	624	25,504,329	40,872
65 - 69	690	26,655,385	38,631
70 - 74	447	16,275,716	36,411
75 - 79	264	8,754,226	33,160
Over 79	<u>196</u>	<u>5,181,838</u>	<u>26,438</u>
Total	3,754	\$ 142,553,118	\$ 37,974



Exhibit III
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Average Annual Allowance
(Continued)

Firefighters

Age Last Birthday	Number	Annual Allowance	Average Annual Allowance
Service Retirees			
Under 60	1,158	\$ 57,114,583	\$ 49,322
60 - 64	1,304	66,279,960	50,828
65 - 69	1,237	59,689,829	48,254
70 - 74	925	41,942,416	45,343
75 - 79	660	27,856,021	42,206
Over 79	<u>923</u>	<u>28,768,844</u>	<u>31,169</u>
Total	6,207	\$ 281,651,653	\$ 45,376
Survivors and Beneficiaries			
Under 60	500	\$ 5,121,124	\$ 10,242
60 - 64	208	2,770,730	13,321
65 - 69	319	3,773,557	11,829
70 - 74	417	4,553,110	10,919
75 - 79	491	5,013,946	10,212
Over 79	<u>1,471</u>	<u>14,409,889</u>	<u>9,796</u>
Total	3,406	\$ 35,642,356	\$ 10,465
Disability Retirees			
Under 60	868	\$ 34,556,782	\$ 39,812
60 - 64	441	19,404,039	44,000
65 - 69	488	20,768,092	42,558
70 - 74	349	13,539,322	38,795
75 - 79	238	8,498,214	35,707
Over 79	<u>179</u>	<u>4,923,664</u>	<u>27,507</u>
Total	2,563	\$ 101,690,113	\$ 39,676

Exhibit III
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Average Annual Allowance
(Continued)

Total

Age Last Birthday	Number	Annual Allowance	Average Annual Allowance
Service Retirees			
Under 60	2,673	\$ 129,526,580	\$ 48,457
60 - 64	3,008	152,232,733	50,609
65 - 69	3,148	153,877,185	48,881
70 - 74	2,261	102,454,468	45,314
75 - 79	1,435	58,296,837	40,625
Over 79	<u>1,730</u>	<u>53,207,695</u>	<u>30,756</u>
Total	14,255	\$ 649,595,498	\$ 45,570
Survivors and Beneficiaries			
Under 60	1,237	\$ 12,199,343	\$ 9,862
60 - 64	610	7,642,278	12,528
65 - 69	904	10,714,979	11,853
70 - 74	1,028	11,262,329	10,956
75 - 79	1,131	11,679,165	10,326
Over 79	<u>2,920</u>	<u>28,592,094</u>	<u>9,792</u>
Total	7,830	\$ 82,090,188	\$ 10,484
Disability Retirees			
Under 60	2,401	\$ 94,738,406	\$ 39,458
60 - 64	1,065	44,908,368	42,167
65 - 69	1,178	47,423,477	40,258
70 - 74	796	29,815,038	37,456
75 - 79	502	17,252,440	34,367
Over 79	<u>375</u>	<u>10,105,502</u>	<u>26,948</u>
Total	6,317	\$ 244,243,231	\$ 38,664



Exhibit IV
10-Year History of Membership Data

ACTIVE MEMBERS
(Dollars in Thousands)

Valuation as of Jan. 1	Number of Members *	Percentage Change in Membership	Valuation Membership Payroll	Percentage Change in Payroll
2016	27,624	(0.52%)	\$ 2,060,851	3.74% **
2015	27,769	0.59%	1,986,569	2.28%
2014	27,605	0.59%	1,942,269	1.51%
2013	27,444	(0.65%)	1,913,383	0.84%
2012	27,623	(2.12%)	1,897,413	1.55%
2011	28,222	(1.39%)	1,868,502	(1.41%)
2010	28,619	(1.52%)	1,895,196	(0.30%)
2009	29,062	0.69%	1,900,935	3.79%
2008	28,864	0.89%	1,831,438	2.73%
2007	28,609		1,782,851	

* Includes rehired retirees

** Increase for 2016 includes 1.246% assumed increase for late reported salaries

RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS
(Dollars in Thousands)

Year Ended Dec. 31	Added to Rolls		Removed from Rolls		Number on Rolls End of Year	Annual Allowances	Percentage Change in Allowances	Average Annual Allowances	Percentage Change in Membership
	Number	Annual Allowances	Number	Annual Allowances					
2015	1,450	\$ 48,864	1,011	\$ 22,141	28,402	\$ 975,929	4.81%	\$ 34.36	1.57%
2014	1,261	41,378	859	17,204	27,963	931,176	4.59%	33.30	1.46%
2013	1,362	44,842	1,044	23,851	27,561	890,288	4.42%	32.30	1.17%
2012	1,390	48,249	1,225	19,469	27,243	852,602	5.58%	31.30	0.61%
2011	1,783	65,572	779	16,397	27,078	807,550	8.52%	29.82	3.85%
2010	1,165	34,553	803	15,721	26,074	744,144	4.74%	28.54	1.41%
2009	1,128	30,920	733	14,566	25,712	710,463	4.52%	27.63	1.56%
2008	1,046	25,590	607	12,825	25,317	679,769	4.18%	26.85	1.76%
2007	1,128	27,877	933	14,586	24,878	652,474	3.55%	26.23	0.79%
2006	1,186	32,147	962	12,701	24,683	630,080		25.53	0.92%



Exhibit V
Reconciliation of Membership Data
From Jan. 1, 2015 to Jan. 1, 2016

Police

	Active Members	Vested Former Members	Rehired Retirees	Disableds	Service Retirees	Beneficiaries	Total
Number as of January 1, 2015	14,798	112	121	3,784	7,842	4,403	31,060
New participants	845	0	0	0	0	0	845
Vested terminations	(61)	61	0	0	0	0	0
Non-vested terminations	(430)	0	0	0	0	0	(430)
Retirements	(390)	(10)	(6)	0	400	0	(6)
Disabilities	(61)	(5)	0	66	0	0	0
Return to work	35	(1)	0	0	0	0	34
Died with beneficiary	(12)	0	0	(67)	(118)	288	91
Died without beneficiary	(2)	(1)	0	(32)	(82)	(227)	(344)
Rehired retirees	0	0	12	0	0	0	12
Cessation of benefits	0	0	0	0	0	(39)	(39)
Data corrections	(3)	(5)	0	3	6	(1)	0
Number as of January 1, 2016	14,719	151	127	3,754	8,048	4,424	31,223



Exhibit V
Reconciliation of Membership Data
From Jan. 1, 2015 to Jan. 1, 2016
(Continued)

Firefighters

	Active Members	Vested Former Members	Rehired Retirees	Disableds	Service Retirees	Beneficiaries	Total
Number as of January 1, 2015	12,804	68	46	2,576	5,972	3,386	24,852
New participants	549	0	0	0	0	0	549
Vested terminations	(29)	29	0	0	0	0	0
Non-vested terminations	(144)	0	0	0	0	0	(144)
Retirements	(401)	(9)	(7)	0	410	0	(7)
Disabilities	(53)	(2)	0	55	0	0	0
Return to work	9	0	0	0	0	0	9
Died with beneficiary	(5)	(1)	0	(39)	(103)	218	70
Died without beneficiary	0	0	0	(31)	(74)	(174)	(279)
Rehired retirees	0	0	12	0	0	0	12
Cessation of benefits	0	0	0	0	0	(23)	(23)
Data corrections	(3)	0	0	2	2	(1)	0
Number as of January 1, 2016	12,727	85	51	2,563	6,207	3,406	25,039



Exhibit V
Reconciliation of Membership Data
From Jan. 1, 2015 to Jan. 1, 2016
(Continued)

Total

	Active Members	Vested Former Members	Rehired Retirees	Disableds	Service Retirees	Beneficiaries	Total
Number as of January 1, 2015	27,602	180	167	6,360	13,814	7,789	55,912
New participants	1,394	0	0	0	0	0	1,394
Vested terminations	(90)	90	0	0	0	0	0
Non-vested terminations	(574)	0	0	0	0	0	(574)
Retirements	(791)	(19)	(13)	0	810	0	(13)
Disabilities	(114)	(7)	0	121	0	0	0
Return to work	44	(1)	0	0	0	0	43
Died with beneficiary	(17)	(1)	0	(106)	(221)	506	161
Died without beneficiary	(2)	(1)	0	(63)	(156)	(401)	(623)
Rehired retirees	0	0	24	0	0	0	24
Cessation of benefits	0	0	0	0	0	(62)	(62)
Data corrections	<u>(6)</u>	<u>(5)</u>	<u>0</u>	<u>5</u>	<u>8</u>	<u>(2)</u>	<u>0</u>
Number as of January 1, 2016	27,446	236	178	6,317	14,255	7,830	56,262

Exhibit VI

Detailed Tabulations of the Data

Exhibit VI-1
Active Membership Data as of Jan. 1, 2016
Number and Annual Salaries
Distributed by Age

Police

Age	Male		Female		Totals	
	Number	Compensation	Number	Compensation	Number	Compensation
18	1	\$ 31,998			1	\$ 31,998
19						
20	1	31,386			1	31,386
21	12	556,394	2	84,534	14	640,928
22	51	2,378,911	11	510,490	62	2,889,401
23	91	4,378,615	14	676,031	105	5,054,646
24	154	7,699,299	25	1,351,675	179	9,050,974
25	209	11,123,671	27	1,462,610	236	12,586,281
26	259	14,115,923	24	1,240,146	283	15,356,069
27	286	16,432,646	16	859,720	302	17,292,366
28	321	18,996,202	23	1,354,103	344	20,350,304
29	297	17,992,242	33	1,965,409	330	19,957,651
30	342	21,755,113	29	1,850,993	371	23,606,106
31	361	23,352,626	28	1,902,794	389	25,255,420
32	355	24,017,726	33	2,125,327	388	26,143,053
33	354	23,528,904	35	2,372,184	389	25,901,089
34	339	23,451,301	35	2,446,349	374	25,897,650
35	365	25,451,941	43	3,012,347	408	28,464,288
36	345	24,815,945	35	2,471,503	380	27,287,448
37	343	24,763,528	32	2,392,525	375	27,156,053
38	388	28,559,374	23	1,602,939	411	30,162,313
39	360	26,408,072	44	2,996,520	404	29,404,592
40	387	29,089,441	41	3,053,114	428	32,142,555
41	418	31,592,423	42	3,053,206	460	34,645,629
42	454	34,468,909	55	4,072,200	509	38,541,109
43	527	40,243,466	53	4,078,826	580	44,322,292
44	597	45,654,174	58	4,331,794	655	49,985,968
45	657	50,951,275	80	6,076,016	737	57,027,290
46	595	46,854,229	62	4,594,228	657	51,448,457
47	572	45,175,280	54	4,149,187	626	49,324,466
48	505	40,357,443	55	4,229,169	560	44,586,612
49	492	39,396,099	58	4,411,457	550	43,807,556
50	460	38,032,689	47	3,407,453	507	41,440,142
51	429	34,509,213	48	3,770,044	477	38,279,257
52	351	28,356,230	40	2,969,907	391	31,326,137
53	322	26,212,614	27	2,068,156	349	28,280,769
54	294	23,602,243	30	2,429,805	324	26,032,048
55	239	19,185,357	22	1,698,891	261	20,884,249
56	187	14,898,604	14	1,125,928	201	16,024,531
57	135	10,362,865	21	1,613,712	156	11,976,577

Exhibit VI-1
Active Membership Data as of Jan. 1, 2016
Number and Annual Salaries
Distributed by Age

Police
(Continued)

Age	Male		Female		Totals	
	Number	Compensation	Number	Compensation	Number	Compensation
58	110	8,499,365	15	1,192,263	125	9,691,628
59	101	7,683,451	9	630,481	110	8,313,933
60	76	5,814,623	8	653,191	84	6,467,814
61	61	4,676,616	6	431,187	67	5,107,803
62	50	3,771,495	3	243,044	53	4,014,539
63	39	2,988,291	2	145,477	41	3,133,769
64	19	1,436,298	2	129,934	21	1,566,232
65	10	768,953			10	768,953
66	11	808,052	1	78,631	12	886,683
67	9	670,558			9	670,558
68	5	344,520			5	344,520
69	3	230,988	1	67,043	4	298,030
70			1	83,607	1	83,607
71	1	35,525			1	35,525
72	1	40,517			1	40,517
73						
74						
75						
76	1	114,413			1	114,413
Total	13,352	\$ 976,668,039	1,367	\$ 97,466,148	14,719	\$1,074,134,187

Exhibit VI-2
Active Membership Data as of Jan. 1, 2016
Number and Annual Salaries
Distributed by Years of Service

Police

Years of Service	Male		Female		Totals	
	Number	Compensation	Number	Compensation	Number	Compensation
0	753	\$ 35,023,386	101	\$ 4,885,581	854	\$ 39,908,967
1	625	32,960,256	57	2,907,583	682	35,867,839
2	601	34,017,219	49	2,756,455	650	36,773,674
3	484	29,313,388	32	1,895,187	516	31,208,575
4	385	25,655,156	33	2,199,264	418	27,854,420
5	308	21,201,360	17	1,016,202	325	22,217,563
6	215	14,531,572	16	1,141,746	231	15,673,318
7	385	27,105,926	40	2,846,127	425	29,952,053
8	501	35,683,780	63	4,529,373	564	40,213,153
9	390	28,849,703	43	3,100,434	433	31,950,137
10	302	21,836,343	43	3,061,320	345	24,897,663
11	321	23,952,250	41	2,914,687	362	26,866,937
12	298	22,283,544	33	2,370,712	331	24,654,256
13	394	29,898,926	49	3,750,766	443	33,649,692
14	427	31,853,544	54	4,139,213	481	35,992,757
15	410	31,206,894	34	2,402,989	444	33,609,883
16	451	34,067,242	58	4,390,021	509	38,457,263
17	522	39,500,958	54	3,880,845	576	43,381,802
18	499	39,001,181	47	3,720,297	546	42,721,478
19	522	40,892,088	56	4,375,188	578	45,267,276
20	546	43,428,494	52	3,892,212	598	47,320,707
21	495	39,950,726	53	4,051,148	548	44,001,875
22	443	36,164,740	57	4,275,034	500	40,439,774
23	397	32,303,909	49	3,843,622	446	36,147,531
24	400	32,523,303	41	3,302,760	441	35,826,062
25	415	34,774,602	44	3,517,106	459	38,291,708
26	337	28,479,754	35	2,762,393	372	31,242,147
27	321	27,299,682	28	2,233,839	349	29,533,521
28	309	26,283,495	31	2,458,662	340	28,742,157
29	232	19,530,208	9	670,718	241	20,200,926
30	198	17,020,444	17	1,461,951	215	18,482,395
31	150	12,759,328	11	928,645	161	13,687,973
32	128	11,091,208	11	927,657	139	12,018,866
33	59	5,134,803	6	473,569	65	5,608,372
34	47	3,922,872			47	3,922,872
35	27	2,441,716	1	88,166	28	2,529,882
36	14	1,155,045	2	294,677	16	1,449,722
37	10	830,755			10	830,755
38	13	1,119,608			13	1,119,608
39	3	289,346			3	289,346

Exhibit VI-2
Active Membership Data as of Jan. 1, 2016
Number and Annual Salaries
Distributed by Years of Service

Police
(Continued)

Years of Service	Male		Female		Totals	
	Number	Compensation	Number	Compensation	Number	Compensation
40	6	462,684			6	462,684
41						
42	2	239,871			2	239,871
43	1	78,819			1	78,819
44	2	180,822			2	180,822
45	2	171,585			2	171,585
46						
47						
48						
49	1	81,090			1	81,090
50						
51						
52						
53						
54	1	114,413			1	114,413
Total	13,352	\$ 976,668,039	1,367	\$ 97,466,148	14,719	\$1,074,134,187

Exhibit VI-3
Active Membership Data as of Jan. 1, 2016
Number and Annual Salaries
Distributed by Age

Firefighters

Age	Male		Female		Totals	
	Number	Compensation	Number	Compensation	Number	Compensation
19			1	\$ 10,434	1	\$ 10,434
20	8	326,678			8	326,678
21	18	813,193	1	61,909	19	875,102
22	40	1,817,550	1	43,341	41	1,860,891
23	72	3,554,882	2	92,195	74	3,647,077
24	104	5,535,367	3	155,955	107	5,691,322
25	141	7,449,539	2	114,608	143	7,564,146
26	183	10,072,911	3	178,654	186	10,251,565
27	199	11,186,154	8	464,802	207	11,650,956
28	262	15,228,830	10	565,040	272	15,793,870
29	274	16,897,710	6	344,983	280	17,242,693
30	317	19,682,152	11	678,326	328	20,360,479
31	307	19,543,742	11	649,228	318	20,192,970
32	308	20,350,539	12	760,888	320	21,111,427
33	343	23,076,928	12	789,482	355	23,866,410
34	337	23,238,932	8	537,025	345	23,775,957
35	347	24,126,256	14	934,457	361	25,060,713
36	374	26,509,280	9	686,520	383	27,195,799
37	383	27,622,107	10	726,311	393	28,348,418
38	346	25,255,006	12	814,507	358	26,069,513
39	372	27,878,193	14	914,150	386	28,792,343
40	381	28,785,185	15	1,095,492	396	29,880,677
41	394	30,238,922	7	560,478	401	30,799,400
42	381	29,221,495	11	836,385	392	30,057,880
43	445	34,407,443	11	743,814	456	35,151,257
44	494	38,223,755	14	1,033,946	508	39,257,702
45	500	39,297,954	7	523,779	507	39,821,733
46	494	39,606,617	13	1,081,923	507	40,688,540
47	441	35,210,006	13	1,003,726	454	36,213,732
48	406	32,920,958	6	557,836	412	33,478,795
49	413	33,606,115	8	681,290	421	34,287,405
50	439	35,796,166	9	629,265	448	36,425,430
51	466	38,284,010	8	655,495	474	38,939,504
52	376	30,557,669	10	719,008	386	31,276,676
53	361	29,836,951	8	605,921	369	30,442,871
54	346	28,387,042	8	594,359	354	28,981,402
55	313	25,542,127	7	575,412	320	26,117,539
56	239	19,316,395	7	520,438	246	19,836,834
57	203	16,655,163	8	629,803	211	17,284,966
58	146	12,000,551	6	428,572	152	12,429,123

Exhibit VI-3
Active Membership Data as of Jan. 1, 2016
Number and Annual Salaries
Distributed by Age

Firefighters
(Continued)

Age	Male		Female		Totals	
	Number	Compensation	Number	Compensation	Number	Compensation
59	116	9,308,255	2	144,406	118	9,452,661
60	88	6,711,146	6	515,181	94	7,226,327
61	64	5,112,738	1	85,519	65	5,198,257
62	52	4,082,139	1	63,091	53	4,145,230
63	35	2,809,124			35	2,809,124
64	23	1,847,173			23	1,847,173
65	12	861,329			12	861,329
66	8	612,206			8	612,206
67	7	546,920			7	546,920
68	7	455,509			7	455,509
69	2	134,554			2	134,554
70	1	98,541			1	98,541
71	1	66,535			1	66,535
72						
73	2	195,522			2	195,522
Total	12,391	\$ 920,902,162	336	\$ 23,807,952	12,727	\$ 944,710,114

Exhibit VI-4

**Active Membership Data as of Jan. 1, 2016
Number and Annual Salaries
Distributed by Years of Service**

Firefighters

Years of Service	Male		Female		Totals	
	Number	Compensation	Number	Compensation	Number	Compensation
0	532	\$ 23,838,576	12	\$ 492,645	544	\$ 24,331,221
1	492	26,517,097	23	1,234,853	515	27,751,950
2	500	29,024,254	19	1,047,853	519	30,072,107
3	375	23,395,914	11	623,863	386	24,019,777
4	402	26,370,812	10	671,340	412	27,042,152
5	320	22,474,101	11	785,120	331	23,259,221
6	246	16,871,485	6	426,825	252	17,298,310
7	372	25,982,646	10	672,215	382	26,654,860
8	345	24,447,234	11	771,434	356	25,218,668
9	376	27,620,195	15	1,079,618	391	28,699,813
10	240	17,263,832	8	527,982	248	17,791,813
11	286	21,572,060	12	852,345	298	22,424,405
12	424	31,277,723	9	596,045	433	31,873,768
13	353	26,788,051	17	1,228,858	370	28,016,909
14	445	34,172,296	19	1,399,545	464	35,571,841
15	489	37,064,418	20	1,553,790	509	38,618,208
16	505	39,310,940	17	1,331,877	522	40,642,817
17	496	38,924,276	24	1,870,173	520	40,794,449
18	500	39,298,025	5	325,751	505	39,623,775
19	495	39,674,296	12	993,699	507	40,667,995
20	422	33,787,602	3	238,699	425	34,026,301
21	381	31,038,498	4	391,520	385	31,430,018
22	357	29,136,611	6	480,459	363	29,617,070
23	388	32,703,082	4	350,899	392	33,053,981
24	362	29,922,495	7	575,231	369	30,497,727
25	310	25,378,676	4	334,769	314	25,713,445
26	447	37,124,905	8	609,559	455	37,734,464
27	312	25,934,608	5	407,091	317	26,341,698
28	268	22,790,965	4	294,932	272	23,085,898
29	223	18,825,066	6	459,933	229	19,284,999
30	258	21,810,951	8	709,110	266	22,520,061
31	156	13,604,304	2	149,306	158	13,753,609
32	116	9,927,819	3	246,588	119	10,174,407
33	66	5,626,325			66	5,626,325
34	55	4,663,265	1	74,026	56	4,737,291
35	29	2,587,332			29	2,587,332
36	14	1,242,679			14	1,242,679
37	13	1,234,450			13	1,234,450
38	10	782,649			10	782,649
39	2	177,018			2	177,018

Exhibit VI-4

**Active Membership Data as of Jan. 1, 2016
Number and Annual Salaries
Distributed by Years of Service**

**Firefighters
(Continued)**

Years of Service	Male		Female		Totals	
	Number	Compensation	Number	Compensation	Number	Compensation
40	2	164,008			2	164,008
41	3	190,740			3	190,740
42	1	66,008			1	66,008
43						
44						
45	1	81,378			1	81,378
46	1	102,787			1	102,787
47	1	109,706			1	109,706
Total	12,391	\$ 920,902,162	336	\$ 23,807,952	12,727	\$ 944,710,114

Exhibit VI-5
Active Membership Data as of Jan. 1, 2016
Number and Annual Salaries
Distributed by Age

Total

Age	Male		Female		Totals	
	Number	Compensation	Number	Compensation	Number	Compensation
18	1	\$ 31,998			1	\$ 31,998
19			1	10,434	1	10,434
20	9	358,064			9	358,064
21	30	1,369,587	3	146,442	33	1,516,030
22	91	4,196,461	12	553,831	103	4,750,292
23	163	7,933,497	16	768,226	179	8,701,722
24	258	13,234,666	28	1,507,629	286	14,742,295
25	350	18,573,210	29	1,577,218	379	20,150,427
26	442	24,188,834	27	1,418,800	469	25,607,635
27	485	27,618,800	24	1,324,523	509	28,943,322
28	583	34,225,032	33	1,919,142	616	36,144,174
29	571	34,889,952	39	2,310,393	610	37,200,344
30	659	41,437,266	40	2,529,319	699	43,966,585
31	668	42,896,368	39	2,552,022	707	45,448,390
32	663	44,368,265	45	2,886,216	708	47,254,481
33	697	46,605,833	47	3,161,667	744	49,767,499
34	676	46,690,233	43	2,983,374	719	49,673,606
35	712	49,578,197	57	3,946,804	769	53,525,001
36	719	51,325,225	44	3,158,023	763	54,483,248
37	726	52,385,635	42	3,118,836	768	55,504,471
38	734	53,814,380	35	2,417,446	769	56,231,826
39	732	54,286,265	58	3,910,670	790	58,196,936
40	768	57,874,626	56	4,148,606	824	62,023,232
41	812	61,831,345	49	3,613,684	861	65,445,029
42	835	63,690,404	66	4,908,585	901	68,598,989
43	972	74,650,909	64	4,822,640	1,036	79,473,549
44	1,091	83,877,929	72	5,365,741	1,163	89,243,670
45	1,157	90,249,229	87	6,599,795	1,244	96,849,024
46	1,089	86,460,846	75	5,676,151	1,164	92,136,997
47	1,013	80,385,286	67	5,152,912	1,080	85,538,198
48	911	73,278,402	61	4,787,005	972	78,065,407
49	905	73,002,215	66	5,092,746	971	78,094,961
50	899	73,828,855	56	4,036,718	955	77,865,572
51	895	72,793,223	56	4,425,538	951	77,218,761
52	727	58,913,899	50	3,688,915	777	62,602,813
53	683	56,049,564	35	2,674,076	718	58,723,640
54	640	51,989,285	38	3,024,164	678	55,013,450
55	552	44,727,485	29	2,274,303	581	47,001,788
56	426	34,214,999	21	1,646,366	447	35,861,365
57	338	27,018,028	29	2,243,515	367	29,261,543

Exhibit VI-5

**Active Membership Data as of Jan. 1, 2016
Number and Annual Salaries
Distributed by Age**

**Total
(Continued)**

Age	Male		Female		Totals	
	Number	Compensation	Number	Compensation	Number	Compensation
58	256	20,499,916	21	1,620,835	277	22,120,751
59	217	16,991,706	11	774,887	228	17,766,593
60	164	12,525,769	14	1,168,372	178	13,694,141
61	125	9,789,354	7	516,706	132	10,306,061
62	102	7,853,635	4	306,134	106	8,159,769
63	74	5,797,415	2	145,477	76	5,942,892
64	42	3,283,471	2	129,934	44	3,413,405
65	22	1,630,282			22	1,630,282
66	19	1,420,257	1	78,631	20	1,498,888
67	16	1,217,478			16	1,217,478
68	12	800,029			12	800,029
69	5	365,541	1	67,043	6	432,584
70	1	98,541	1	83,607	2	182,148
71	2	102,060			2	102,060
72	1	40,517			1	40,517
73	2	195,522			2	195,522
74						
75						
76	1	114,413			1	114,413
Total	25,743	\$1,897,570,201	1,703	\$ 121,274,100	27,446	\$2,018,844,301

Exhibit VI-6
Active Membership Data as of Jan. 1, 2016
Number and Annual Salaries
Distributed by Years of Service

Total

Years of Service	Male		Female		Totals	
	Number	Compensation	Number	Compensation	Number	Compensation
0	1,285	\$ 58,861,963	113	\$ 5,378,226	1,398	\$ 64,240,188
1	1,117	59,477,353	80	4,142,437	1,197	63,619,789
2	1,101	63,041,473	68	3,804,308	1,169	66,845,781
3	859	52,709,302	43	2,519,050	902	55,228,352
4	787	52,025,968	43	2,870,604	830	54,896,572
5	628	43,675,461	28	1,801,322	656	45,476,783
6	461	31,403,057	22	1,568,571	483	32,971,628
7	757	53,088,572	50	3,518,341	807	56,606,913
8	846	60,131,014	74	5,300,807	920	65,431,821
9	766	56,469,898	58	4,180,052	824	60,649,950
10	542	39,100,174	51	3,589,302	593	42,689,476
11	607	45,524,311	53	3,767,031	660	49,291,342
12	722	53,561,267	42	2,966,757	764	56,528,024
13	747	56,686,977	66	4,979,623	813	61,666,601
14	872	66,025,840	73	5,538,758	945	71,564,598
15	899	68,271,311	54	3,956,779	953	72,228,090
16	956	73,378,182	75	5,721,898	1,031	79,100,080
17	1,018	78,425,234	78	5,751,018	1,096	84,176,251
18	999	78,299,206	52	4,046,048	1,051	82,345,254
19	1,017	80,566,384	68	5,368,887	1,085	85,935,271
20	968	77,216,097	55	4,130,911	1,023	81,347,008
21	876	70,989,225	57	4,442,668	933	75,431,893
22	800	65,301,351	63	4,755,492	863	70,056,844
23	785	65,006,992	53	4,194,521	838	69,201,513
24	762	62,445,798	48	3,877,991	810	66,323,789
25	725	60,153,278	48	3,851,875	773	64,005,153
26	785	65,666,039	43	3,371,952	828	69,037,991
27	632	53,172,910	33	2,640,929	665	55,813,840
28	577	49,074,461	35	2,753,595	612	51,828,055
29	455	38,355,275	15	1,130,650	470	39,485,925
30	456	38,831,395	25	2,171,061	481	41,002,456
31	306	26,363,631	13	1,077,951	319	27,441,582
32	244	21,019,028	14	1,174,245	258	22,193,273
33	125	10,761,128	6	473,569	131	11,234,697
34	102	8,586,137	1	74,026	103	8,660,163
35	56	5,029,048	1	88,166	57	5,117,214
36	28	2,397,724	2	294,677	30	2,692,401
37	23	2,065,205			23	2,065,205
38	23	1,902,257			23	1,902,257
39	5	466,364			5	466,364

Exhibit VI-6
Active Membership Data as of Jan. 1, 2016
Number and Annual Salaries
Distributed by Years of Service

Total
(Continued)

Years of Service	Male		Female		Totals	
	Number	Compensation	Number	Compensation	Number	Compensation
40	8	626,692			8	626,692
41	3	190,740			3	190,740
42	3	305,879			3	305,879
43	1	78,819			1	78,819
44	2	180,822			2	180,822
45	3	252,964			3	252,964
46	1	102,787			1	102,787
47	1	109,706			1	109,706
48						
49	1	81,090			1	81,090
50						
51						
52						
53						
54	1	114,413			1	114,413
Total	25,743	\$1,897,570,201	1,703	\$ 121,274,100	27,446	\$2,018,844,301

Exhibit VI-7
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Police
Service Retirees

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
48	18	\$ 786,667	2	\$ 91,631	20	\$ 878,297
49	42	1,689,745	5	213,247	47	1,902,992
50	50	2,257,394	5	201,500	55	2,458,894
51	62	2,697,616	5	229,261	67	2,926,877
52	68	2,763,389	10	400,122	78	3,163,512
53	78	3,389,944	8	336,841	86	3,726,784
54	89	3,877,271	20	886,827	109	4,764,099
55	85	4,019,065	10	499,590	95	4,518,656
56	145	7,291,954	14	693,084	159	7,985,037
57	189	9,695,922	26	1,270,538	215	10,966,459
58	242	11,982,204	24	1,067,507	266	13,049,712
59	286	14,548,030	32	1,522,647	318	16,070,678
60	307	15,526,843	24	1,201,992	331	16,728,835
61	331	16,927,813	32	1,556,176	363	18,483,989
62	290	14,609,844	24	1,149,508	314	15,759,352
63	318	15,836,333	23	1,154,769	341	16,991,102
64	335	16,979,534	20	1,009,961	355	17,989,495
65	337	16,332,139	18	861,571	355	17,193,710
66	350	17,220,413	18	849,771	368	18,070,183
67	372	18,939,631	13	639,013	385	19,578,644
68	424	21,323,571	16	825,350	440	22,148,921
69	358	16,964,222	5	231,675	363	17,195,898
70	255	12,047,753	9	405,642	264	12,453,395
71	252	11,982,816	8	406,718	260	12,389,533
72	269	12,171,793	2	65,150	271	12,236,943
73	277	12,196,506	6	263,280	283	12,459,786
74	255	10,826,548	3	145,846	258	10,972,394
75	194	7,883,096	3	104,948	197	7,988,044
76	171	6,742,534			171	6,742,534
77	163	6,369,656			163	6,369,656
78	143	5,496,126			143	5,496,126
79	98	3,760,364	3	84,091	101	3,844,455
80	114	3,916,808	1	39,080	115	3,955,888
81	84	2,905,307			84	2,905,307
82	89	3,118,734	2	37,023	91	3,155,756
83	73	2,209,960	5	136,148	78	2,346,108
84	57	1,636,737	1	21,310	58	1,658,047
85	61	1,812,866	1	25,703	62	1,838,568
86	50	1,448,849			50	1,448,849
87	62	1,758,387			62	1,758,387

Exhibit VI-7
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Police
Service Retirees
(Continued)

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
88	41	1,181,766			41	1,181,766
89	51	1,370,985			51	1,370,985
90	36	934,287			36	934,287
91	30	751,326			30	751,326
92	20	467,631			20	467,631
93	7	160,898			7	160,898
94	8	200,935			8	200,935
95	7	143,723			7	143,723
96	4	93,546			4	93,546
97	2	45,835			2	45,835
98						
99	1	21,009			1	21,009
Total	7,650	\$ 349,316,326	398	\$ 18,627,519	8,048	\$ 367,943,844

Exhibit VI-8
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Police
Disability Retirees

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
32	1	\$ 17,778			1	\$ 17,778
33	1	43,869	2	57,642	3	101,511
34	3	95,486	1	35,029	4	130,515
35	5	153,416	1	27,156	6	180,572
36	5	148,510	2	27,677	7	176,186
37	9	279,546	1	26,822	10	306,369
38	7	242,381	4	156,420	11	398,800
39	10	341,915	1	17,694	11	359,609
40	17	603,115	7	227,946	24	831,061
41	20	658,335	5	175,536	25	833,871
42	14	419,851	12	431,738	26	851,589
43	35	1,295,295	7	173,014	42	1,468,309
44	45	1,782,117	10	391,148	55	2,173,265
45	55	2,181,644	16	601,971	71	2,783,615
46	44	1,591,791	13	496,701	57	2,088,492
47	63	2,526,806	18	643,051	81	3,169,857
48	80	3,108,014	11	334,380	91	3,442,394
49	64	2,505,226	15	530,830	79	3,036,056
50	78	3,272,368	19	723,821	97	3,996,189
51	74	2,857,976	25	859,823	99	3,717,799
52	63	2,520,806	18	733,762	81	3,254,567
53	56	2,268,764	19	741,700	75	3,010,464
54	75	2,974,701	14	474,400	89	3,449,101
55	67	2,804,810	10	425,757	77	3,230,566
56	66	2,785,908	12	486,952	78	3,272,860
57	79	3,288,995	18	777,790	97	4,066,785
58	105	4,623,615	28	1,159,302	133	5,782,917
59	73	2,988,038	30	1,062,488	103	4,050,526
60	85	3,398,051	21	826,630	106	4,224,681
61	115	4,911,601	17	565,135	132	5,476,736
62	101	4,347,247	25	1,002,355	126	5,349,603
63	106	4,361,327	19	799,749	125	5,161,075
64	124	4,838,915	11	453,319	135	5,292,234
65	106	4,112,222	15	589,374	121	4,701,596
66	108	4,168,516	17	648,847	125	4,817,363
67	120	4,680,791	12	496,659	132	5,177,450
68	165	6,505,498	12	388,107	177	6,893,606
69	125	4,710,291	10	355,079	135	5,065,370
70	97	3,851,592	3	88,757	100	3,940,349
71	83	3,099,596	4	149,598	87	3,249,194

Exhibit VI-8

**Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age**

**Police
Disability Retirees
(Continued)**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
72	104	3,701,841	1	33,914	105	3,735,755
73	82	2,723,866	3	82,892	85	2,806,758
74	69	2,505,265	1	38,395	70	2,543,660
75	54	1,891,533			54	1,891,533
76	67	2,230,000			67	2,230,000
77	56	1,732,220	3	133,909	59	1,866,128
78	45	1,477,475			45	1,477,475
79	39	1,289,089			39	1,289,089
80	45	1,275,909			45	1,275,909
81	22	648,000			22	648,000
82	21	577,935			21	577,935
83	15	395,525			15	395,525
84	11	267,977			11	267,977
85	22	599,396			22	599,396
86	12	295,060			12	295,060
87	7	170,302			7	170,302
88	13	334,321			13	334,321
89	9	222,706			9	222,706
90	6	123,194			6	123,194
91	7	158,115			7	158,115
92	3	57,328			3	57,328
93	2	34,052	1	22,018	3	56,070
Total	3,260	\$ 124,077,832	494	\$ 18,475,286	3,754	\$ 142,553,118

Exhibit VI-9
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Police
Survivors and Beneficiaries

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
2			1	\$ 2,650	1	\$ 2,650
3	2	5,299			2	5,299
4	1	2,650			1	2,650
5	1	2,650	1	2,650	2	5,299
6	1	2,650	1	2,650	2	5,299
7	4	10,598	4	10,598	8	21,197
8	5	13,248	1	2,650	6	15,898
9	7	18,547	5	13,248	12	31,795
10	5	13,248	3	7,949	8	21,197
11	5	13,248	3	7,949	8	21,197
12	3	7,949	5	13,248	8	21,197
13	6	31,577	7	18,547	13	50,124
14	9	23,846	6	15,898	15	39,744
15	5	13,248	10	26,309	15	39,557
16	9	23,846	7	18,508	16	42,354
17	14	49,576	9	23,753	23	73,329
18	5	13,248	9	23,846	14	37,094
19	10	25,167	8	36,728	18	61,896
20	3	7,949	4	10,598	7	18,547
21	4	10,559	4	10,505	8	21,064
22	1	2,650	1	2,650	2	5,299
23						
24						
25	2	19,480			2	19,480
26	1	2,650	1	2,650	2	5,299
27						
28			2	12,365	2	12,365
29	1	25,414			1	25,414
30	1	28,747	2	11,882	3	40,629
31						
32						
33			2	19,430	2	19,430
34						
35	2	28,697	4	19,934	6	48,631
36	2	5,299	1	4,920	3	10,219
37						
38	1	2,650	3	29,461	4	32,110
39			5	74,874	5	74,874
40			6	60,892	6	60,892
41	1	2,650	7	58,416	8	61,066

Exhibit VI-9

**Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age**

**Police
Survivors and Beneficiaries
(Continued)**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
42	1	2,650	11	143,493	12	146,143
43	1	14,548	6	86,478	7	101,027
44	1	28,286	6	48,701	7	76,987
45	1	2,650	14	223,188	15	225,838
46	3	35,875	10	87,562	13	123,437
47	1	2,650	14	137,427	15	140,076
48	4	42,853	20	256,412	24	299,266
49	2	25,816	23	298,650	25	324,466
50	1	2,650	21	307,775	22	310,425
51	1	2,650	30	369,797	31	372,446
52	2	12,365	20	246,896	22	259,261
53	1	2,650	32	389,882	33	392,532
54	3	16,406	37	468,395	40	484,800
55	4	33,602	34	354,177	38	387,779
56	3	47,625	36	451,137	39	498,761
57	2	12,365	52	631,252	54	643,617
58	4	46,827	59	795,587	63	842,415
59	3	34,415	41	461,432	44	495,847
60			58	588,174	58	588,174
61	1	9,715	56	684,955	57	694,670
62			87	1,122,473	87	1,122,473
63			109	1,353,312	109	1,353,312
64	1	9,715	90	1,103,204	91	1,112,919
65	5	62,979	79	894,533	84	957,512
66	2	19,430	125	1,594,038	127	1,613,469
67	3	29,146	132	1,663,711	135	1,692,857
68			134	1,504,070	134	1,504,070
69	1	9,715	104	1,163,799	105	1,173,514
70	1	29,668	66	702,307	67	731,975
71			130	1,456,708	130	1,456,708
72			129	1,452,075	129	1,452,075
73	1	9,715	144	1,495,148	145	1,504,864
74			140	1,563,598	140	1,563,598
75	1	2,650	122	1,310,396	123	1,313,046
76	2	35,113	115	1,185,410	117	1,220,523
77			135	1,414,308	135	1,414,308
78			133	1,366,680	133	1,366,680
79			132	1,350,662	132	1,350,662
80			145	1,446,713	145	1,446,713
81	2	19,430	115	1,219,368	117	1,238,798

Exhibit VI-9
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Police
Survivors and Beneficiaries
(Continued)

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
82			115	1,152,989	115	1,152,989
83			118	1,126,097	118	1,126,097
84			116	1,197,096	116	1,197,096
85			134	1,310,121	134	1,310,121
86			120	1,187,221	120	1,187,221
87			124	1,173,119	124	1,173,119
88			100	973,514	100	973,514
89			80	756,989	80	756,989
90			60	571,710	60	571,710
91			69	664,187	69	664,187
92			42	403,261	42	403,261
93			22	189,607	22	189,607
94			28	248,947	28	248,947
95	1	9,715	21	193,928	22	203,643
96			12	109,980	12	109,980
97			3	25,319	3	25,319
98			8	66,879	8	66,879
99			5	48,576	5	48,576
100			4	38,861	4	38,861
101			3	29,146	3	29,146
102			2	19,430	2	19,430
Total	170	\$ 1,021,212	4,254	\$ 45,426,615	4,424	\$ 46,447,827

Exhibit VI-10
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Firefighters
Service Retirees

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
43	1	\$ 17,171			1	\$ 17,171
44						
45						
46						
47						
48	13	512,491			13	512,491
49	20	873,196	2	100,164	22	973,360
50	27	1,201,590	2	84,113	29	1,285,703
51	34	1,414,767	5	203,012	39	1,617,780
52	42	1,894,270	4	188,685	46	2,082,955
53	71	3,354,229	2	113,826	73	3,468,055
54	76	3,450,124	4	166,305	80	3,616,429
55	98	4,747,270	3	93,617	101	4,840,887
56	139	6,825,068	2	107,569	141	6,932,637
57	176	9,196,685	1	49,631	177	9,246,315
58	213	11,002,671	1	37,749	214	11,040,420
59	221	11,403,641	1	76,739	222	11,480,380
60	261	13,527,638			261	13,527,638
61	261	13,291,801	1	38,617	262	13,330,418
62	257	12,870,825	4	189,781	261	13,060,605
63	248	12,510,897	2	80,881	250	12,591,778
64	269	13,743,520	1	26,000	270	13,769,520
65	255	12,514,700	2	81,949	257	12,596,649
66	232	11,431,910	1	42,171	233	11,474,081
67	234	11,449,007	1	38,999	235	11,488,006
68	275	12,939,654			275	12,939,654
69	237	11,191,439			237	11,191,439
70	152	7,184,415	2	82,325	154	7,266,740
71	188	8,624,411	1	43,490	189	8,667,901
72	207	9,269,819			207	9,269,819
73	209	9,311,526			209	9,311,526
74	166	7,426,430			166	7,426,430
75	166	7,275,689			166	7,275,689
76	141	5,966,545			141	5,966,545
77	137	5,659,318			137	5,659,318
78	105	4,663,163			105	4,663,163
79	111	4,291,305			111	4,291,305
80	107	3,954,360			107	3,954,360
81	103	3,710,394			103	3,710,394
82	89	3,100,158			89	3,100,158

Exhibit VI-10

**Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age**

**Firefighters
Service Retirees
(Continued)**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
83	66	2,044,633			66	2,044,633
84	99	3,159,763			99	3,159,763
85	88	2,640,465			88	2,640,465
86	67	1,911,743			67	1,911,743
87	65	1,774,483			65	1,774,483
88	85	2,339,576			85	2,339,576
89	53	1,542,812			53	1,542,812
90	31	799,402			31	799,402
91	22	574,704			22	574,704
92	15	364,181			15	364,181
93	10	242,793			10	242,793
94	8	243,182			8	243,182
95	7	177,579			7	177,579
96	2	55,854			2	55,854
97	3	70,105			3	70,105
98	3	62,653			3	62,653
Total	6,165	\$ 279,806,030	42	\$ 1,845,623	6,207	\$ 281,651,653

Exhibit VI-11
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Firefighters
Disability Retirees

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
30	1	\$ 35,385			1	\$ 35,385
31						
32	1	29,886			1	29,886
33	1	33,692			1	33,692
34	3	99,117	2	28,601	5	127,718
35	1	8,625			1	8,625
36	2	74,641	1	10,011	3	84,652
37	6	183,482	1	21,891	7	205,374
38	5	123,874	1	34,640	6	158,514
39	2	81,777	1	11,271	3	93,048
40	5	167,677			5	167,677
41	12	434,649	1	40,359	13	475,008
42	13	462,825			13	462,825
43	14	441,230	2	60,313	16	501,542
44	18	635,140	2	33,458	20	668,598
45	25	1,024,042	1	45,411	26	1,069,453
46	17	730,309	5	148,530	22	878,839
47	24	868,111	2	116,156	26	984,267
48	33	1,171,696	4	139,714	37	1,311,410
49	31	1,344,449	3	98,856	34	1,443,304
50	46	1,733,333	3	113,501	49	1,846,834
51	48	2,022,207	9	336,662	57	2,358,869
52	44	1,747,953	2	74,956	46	1,822,909
53	47	1,921,937	6	214,975	53	2,136,912
54	57	2,180,558	4	146,361	61	2,326,920
55	53	2,324,085	5	184,103	58	2,508,188
56	54	2,255,265	3	131,278	57	2,386,543
57	71	3,069,788	6	194,886	77	3,264,674
58	72	3,111,495	10	356,211	82	3,467,706
59	84	3,586,149	4	111,259	88	3,697,408
60	72	3,297,018	3	122,369	75	3,419,388
61	77	3,339,876	5	202,562	82	3,542,439
62	92	4,241,400	3	133,154	95	4,374,555
63	98	4,116,755	4	111,760	102	4,228,514
64	86	3,785,971	1	53,172	87	3,839,144
65	89	3,889,133	2	56,821	91	3,945,953
66	101	4,423,999	2	84,483	103	4,508,482
67	89	3,737,840	3	98,546	92	3,836,386
68	111	4,823,568			111	4,823,568
69	90	3,618,874	1	34,827	91	3,653,702

Exhibit VI-11

**Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age**

**Firefighters
Disability Retirees
(Continued)**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
70	64	2,493,484			64	2,493,484
71	67	2,635,913			67	2,635,913
72	77	2,933,395			77	2,933,395
73	73	2,883,848			73	2,883,848
74	68	2,592,683			68	2,592,683
75	61	2,352,533			61	2,352,533
76	51	2,047,907			51	2,047,907
77	48	1,600,937			48	1,600,937
78	43	1,341,470			43	1,341,470
79	35	1,155,367			35	1,155,367
80	24	776,605			24	776,605
81	24	766,355			24	766,355
82	16	424,685			16	424,685
83	17	504,363			17	504,363
84	14	374,965			14	374,965
85	13	325,068			13	325,068
86	7	192,494			7	192,494
87	21	559,769			21	559,769
88	15	331,068			15	331,068
89	12	303,450			12	303,450
90	11	256,029			11	256,029
91	1	26,223			1	26,223
92	1	29,166			1	29,166
93	1	20,065			1	20,065
94	2	33,360			2	33,360
Total	2,461	\$ 98,139,015	102	\$ 3,551,098	2,563	\$ 101,690,113

Exhibit VI-12
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Firefighters
Survivors and Beneficiaries

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
2	1	\$ 2,650	1	\$ 2,650	2	\$ 5,299
3	2	5,299	1	2,650	3	7,949
4	1	2,650			1	2,650
5			3	7,949	3	7,949
6						
7	1	2,650			1	2,650
8	1	2,650	3	7,949	4	10,598
9			3	7,949	3	7,949
10	4	10,598	4	10,598	8	21,197
11	1	2,650	3	7,895	4	10,544
12	3	7,949	4	10,598	7	18,547
13	10	30,195	6	15,898	16	46,092
14	4	10,505	5	13,248	9	23,753
15	6	15,898	7	18,454	13	34,351
16	5	13,248	9	23,846	14	37,094
17	12	31,662	6	15,898	18	47,560
18	7	18,547	7	22,246	14	40,793
19	10	26,402	8	21,143	18	47,545
20	1	2,650	5	13,248	6	15,898
21	3	7,949	2	5,299	5	13,248
22			1	2,650	1	2,650
23	1	16,945	1	10,959	2	27,904
24						
25			1	9,715	1	9,715
26			1	2,650	1	2,650
27			1	47,372	1	47,372
28	1	2,650			1	2,650
29			2	20,674	2	20,674
30			1	9,715	1	9,715
31			1	10,959	1	10,959
32			3	10,219	3	10,219
33	1	2,650	2	19,430	3	22,080
34			1	9,715	1	9,715
35			2	19,430	2	19,430
36						
37			2	46,095	2	46,095
38			1	9,715	1	9,715
39			1	9,715	1	9,715
40	1	27,012	4	34,066	5	61,078
41			2	49,850	2	49,850

Exhibit VI-12

**Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age**

**Firefighters
Survivors and Beneficiaries
(Continued)**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
42			3	37,043	3	37,043
43			7	102,449	7	102,449
44	1	2,650	5	60,591	6	63,241
45	1	2,650	9	149,792	10	152,441
46	1	2,650	9	140,189	10	142,839
47	2	12,365	7	76,632	9	88,997
48	2	5,299	13	276,419	15	281,718
49	1	2,650	12	127,415	13	130,065
50			17	200,659	17	200,659
51	1	2,650	21	332,698	22	335,348
52	2	5,299	19	331,000	21	336,299
53	2	5,299	20	281,718	22	287,017
54	1	2,650	12	170,223	13	172,873
55	1	2,650	22	280,506	23	283,156
56	4	49,686	23	322,915	27	372,602
57			25	306,902	25	306,902
58			46	638,403	46	638,403
59	1	2,650	30	412,573	31	415,222
60	1	2,650	32	453,004	33	455,653
61			39	480,344	39	480,344
62	1	9,715	32	369,081	33	378,796
63			53	710,722	53	710,722
64			50	745,214	50	745,214
65			46	534,833	46	534,833
66	1	2,650	56	692,734	57	695,384
67			72	814,269	72	814,269
68	1	2,650	68	804,865	69	807,515
69			75	921,556	75	921,556
70			67	721,049	67	721,049
71	1	2,650	79	891,219	80	893,868
72			85	919,261	85	919,261
73	1	9,715	89	969,474	90	979,189
74			95	1,039,742	95	1,039,742
75			105	1,102,928	105	1,102,928
76			109	1,126,826	109	1,126,826
77			84	859,838	84	859,838
78			115	1,169,528	115	1,169,528
79			78	754,825	78	754,825
80			105	1,051,904	105	1,051,904
81			126	1,205,858	126	1,205,858

Exhibit VI-12
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Firefighters
Survivors and Beneficiaries
(Continued)

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
82			137	1,349,009	137	1,349,009
83	1	2,650	109	1,099,891	110	1,102,541
84			86	818,918	86	818,918
85			153	1,497,111	153	1,497,111
86			102	1,022,485	102	1,022,485
87	1	2,650	98	1,099,620	99	1,102,270
88			115	1,138,296	115	1,138,296
89			105	965,394	105	965,394
90			98	901,749	98	901,749
91			63	621,203	63	621,203
92			52	508,516	52	508,516
93			25	222,645	25	222,645
94			32	292,078	32	292,078
95			19	202,717	19	202,717
96			15	139,370	15	139,370
97			12	111,590	12	111,590
98			4	38,861	4	38,861
99			9	78,515	9	78,515
100			1	9,715	1	9,715
101						
102			2	19,430	2	19,430
103						
104			1	9,715	1	9,715
Total	104	\$ 377,879	3,302	\$ 35,264,474	3,406	\$ 35,642,354

Exhibit VI-13
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Total
Service Retirees

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
43	1	\$ 17,171			1	\$ 17,171
44						
45						
46						
47						
48	31	1,299,157	2	91,631	33	1,390,788
49	62	2,562,941	7	313,411	69	2,876,352
50	77	3,458,984	7	285,613	84	3,744,597
51	96	4,112,384	10	432,273	106	4,544,657
52	110	4,657,659	14	588,807	124	5,246,466
53	149	6,744,172	10	450,667	159	7,194,839
54	165	7,327,395	24	1,053,132	189	8,380,527
55	183	8,766,336	13	593,207	196	9,359,543
56	284	14,117,022	16	800,653	300	14,917,675
57	365	18,892,606	27	1,320,168	392	20,212,775
58	455	22,984,875	25	1,105,256	480	24,090,131
59	507	25,951,672	33	1,599,386	540	27,551,058
60	568	29,054,481	24	1,201,992	592	30,256,474
61	592	30,219,614	33	1,594,793	625	31,814,407
62	547	27,480,669	28	1,339,288	575	28,819,958
63	566	28,347,230	25	1,235,650	591	29,582,880
64	604	30,723,054	21	1,035,961	625	31,759,015
65	592	28,846,839	20	943,520	612	29,790,359
66	582	28,652,323	19	891,942	601	29,544,264
67	606	30,388,638	14	678,012	620	31,066,651
68	699	34,263,224	16	825,350	715	35,088,574
69	595	28,155,661	5	231,675	600	28,387,337
70	407	19,232,168	11	487,967	418	19,720,135
71	440	20,607,227	9	450,208	449	21,057,435
72	476	21,441,611	2	65,150	478	21,506,762
73	486	21,508,032	6	263,280	492	21,771,312
74	421	18,252,979	3	145,846	424	18,398,824
75	360	15,158,785	3	104,948	363	15,263,733
76	312	12,709,080			312	12,709,080
77	300	12,028,974			300	12,028,974
78	248	10,159,289			248	10,159,289
79	209	8,051,670	3	84,091	212	8,135,761
80	221	7,871,168	1	39,080	222	7,910,249
81	187	6,615,701			187	6,615,701
82	178	6,218,892	2	37,023	180	6,255,915

Exhibit VI-13

**Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age**

**Total
Service Retirees
(Continued)**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
83	139	4,254,593	5	136,148	144	4,390,741
84	156	4,796,500	1	21,310	157	4,817,810
85	149	4,453,331	1	25,703	150	4,479,033
86	117	3,360,592			117	3,360,592
87	127	3,532,870			127	3,532,870
88	126	3,521,342			126	3,521,342
89	104	2,913,798			104	2,913,798
90	67	1,733,689			67	1,733,689
91	52	1,326,030			52	1,326,030
92	35	831,812			35	831,812
93	17	403,692			17	403,692
94	16	444,117			16	444,117
95	14	321,302			14	321,302
96	6	149,400			6	149,400
97	5	115,941			5	115,941
98	3	62,653			3	62,653
99	1	21,009			1	21,009
Total	13,815	\$ 629,122,356	440	\$ 20,473,141	14,255	\$ 649,595,497

Exhibit VI-14
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Total
Disability Retirees

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
30	1	\$ 35,385			1	\$ 35,385
31						
32	2	47,664			2	47,664
33	2	77,561	2	57,642	4	135,203
34	6	194,603	3	63,631	9	258,234
35	6	162,041	1	27,156	7	189,197
36	7	223,150	3	37,688	10	260,838
37	15	463,029	2	48,714	17	511,742
38	12	366,255	5	191,059	17	557,314
39	12	423,692	2	28,966	14	452,658
40	22	770,792	7	227,946	29	998,738
41	32	1,092,984	6	215,895	38	1,308,879
42	27	882,676	12	431,738	39	1,314,414
43	49	1,736,525	9	233,326	58	1,969,851
44	63	2,417,258	12	424,605	75	2,841,863
45	80	3,205,686	17	647,381	97	3,853,068
46	61	2,322,101	18	645,231	79	2,967,332
47	87	3,394,917	20	759,207	107	4,154,124
48	113	4,279,710	15	474,094	128	4,753,805
49	95	3,849,674	18	629,685	113	4,479,360
50	124	5,005,701	22	837,323	146	5,843,023
51	122	4,880,183	34	1,196,485	156	6,076,668
52	107	4,268,759	20	808,717	127	5,077,476
53	103	4,190,702	25	956,674	128	5,147,376
54	132	5,155,260	18	620,761	150	5,776,021
55	120	5,128,895	15	609,859	135	5,738,754
56	120	5,041,172	15	618,230	135	5,659,402
57	150	6,358,783	24	972,675	174	7,331,459
58	177	7,735,110	38	1,515,513	215	9,250,622
59	157	6,574,188	34	1,173,747	191	7,747,935
60	157	6,695,069	24	948,999	181	7,644,069
61	192	8,251,477	22	767,697	214	9,019,174
62	193	8,588,648	28	1,135,510	221	9,724,158
63	204	8,478,081	23	911,508	227	9,389,590
64	210	8,624,886	12	506,492	222	9,131,378
65	195	8,001,354	17	646,195	212	8,647,549
66	209	8,592,515	19	733,330	228	9,325,845
67	209	8,418,631	15	595,205	224	9,013,836
68	276	11,329,067	12	388,107	288	11,717,174
69	215	8,329,166	11	389,906	226	8,719,072

Exhibit VI-14

**Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age**

**Total
Disability Retirees
(Continued)**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
70	161	6,345,076	3	88,757	164	6,433,833
71	150	5,735,509	4	149,598	154	5,885,107
72	181	6,635,236	1	33,914	182	6,669,150
73	155	5,607,714	3	82,892	158	5,690,606
74	137	5,097,948	1	38,395	138	5,136,343
75	115	4,244,066			115	4,244,066
76	118	4,277,907			118	4,277,907
77	104	3,333,157	3	133,909	107	3,467,066
78	88	2,818,945			88	2,818,945
79	74	2,444,456			74	2,444,456
80	69	2,052,514			69	2,052,514
81	46	1,414,355			46	1,414,355
82	37	1,002,620			37	1,002,620
83	32	899,888			32	899,888
84	25	642,942			25	642,942
85	35	924,463			35	924,463
86	19	487,554			19	487,554
87	28	730,071			28	730,071
88	28	665,389			28	665,389
89	21	526,156			21	526,156
90	17	379,224			17	379,224
91	8	184,338			8	184,338
92	4	86,494			4	86,494
93	3	54,117	1	22,018	4	76,135
94	2	33,360			2	33,360
Total	5,721	\$ 222,216,848	596	\$ 22,026,384	6,317	\$ 244,243,231

Exhibit VI-15
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Total
Survivors and Beneficiaries

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
2	1	\$ 2,650	2	\$ 5,299	3	\$ 7,949
3	4	10,598	1	2,650	5	13,248
4	2	5,299			2	5,299
5	1	2,650	4	10,598	5	13,248
6	1	2,650	1	2,650	2	5,299
7	5	13,248	4	10,598	9	23,846
8	6	15,898	4	10,598	10	26,496
9	7	18,547	8	21,197	15	39,744
10	9	23,846	7	18,547	16	42,394
11	6	15,898	6	15,844	12	31,741
12	6	15,898	9	23,846	15	39,744
13	16	61,771	13	34,445	29	96,216
14	13	34,351	11	29,146	24	63,497
15	11	29,146	17	44,762	28	73,908
16	14	37,094	16	42,354	30	79,448
17	26	81,238	15	39,650	41	120,889
18	12	31,795	16	46,092	28	77,887
19	20	51,570	16	57,871	36	109,441
20	4	10,598	9	23,846	13	34,445
21	7	18,508	6	15,804	13	34,312
22	1	2,650	2	5,299	3	7,949
23	1	16,945	1	10,959	2	27,904
24						
25	2	19,480	1	9,715	3	29,195
26	1	2,650	2	5,299	3	7,949
27			1	47,372	1	47,372
28	1	2,650	2	12,365	3	15,014
29	1	25,414	2	20,674	3	46,088
30	1	28,747	3	21,597	4	50,345
31			1	10,959	1	10,959
32			3	10,219	3	10,219
33	1	2,650	4	38,861	5	41,510
34			1	9,715	1	9,715
35	2	28,697	6	39,365	8	68,062
36	2	5,299	1	4,920	3	10,219
37			2	46,095	2	46,095
38	1	2,650	4	39,176	5	41,826
39			6	84,589	6	84,589
40	1	27,012	10	94,958	11	121,970
41	1	2,650	9	108,266	10	110,916

Exhibit VI-15

**Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age**

**Total
Survivors and Beneficiaries
(Continued)**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
42	1	2,650	14	180,536	15	183,186
43	1	14,548	13	188,927	14	203,476
44	2	30,936	11	109,292	13	140,228
45	2	5,299	23	372,980	25	378,279
46	4	38,525	19	227,751	23	266,276
47	3	15,014	21	214,059	24	229,073
48	6	48,153	33	532,831	39	580,983
49	3	28,466	35	426,065	38	454,530
50	1	2,650	38	508,434	39	511,083
51	2	5,299	51	702,495	53	707,794
52	4	17,664	39	577,896	43	595,560
53	3	7,949	52	671,600	55	679,549
54	4	19,055	49	638,618	53	657,673
55	5	36,251	56	634,683	61	670,935
56	7	97,311	59	774,052	66	871,363
57	2	12,365	77	938,154	79	950,519
58	4	46,827	105	1,433,991	109	1,480,818
59	4	37,065	71	874,005	75	911,070
60	1	2,650	90	1,041,178	91	1,043,828
61	1	9,715	95	1,165,299	96	1,175,015
62	1	9,715	119	1,491,554	120	1,501,269
63			162	2,064,034	162	2,064,034
64	1	9,715	140	1,848,418	141	1,858,133
65	5	62,979	125	1,429,366	130	1,492,346
66	3	22,080	181	2,286,773	184	2,308,853
67	3	29,146	204	2,477,981	207	2,507,126
68	1	2,650	202	2,308,935	203	2,311,585
69	1	9,715	179	2,085,355	180	2,095,070
70	1	29,668	133	1,423,356	134	1,453,024
71	1	2,650	209	2,347,927	210	2,350,576
72			214	2,371,336	214	2,371,336
73	2	19,430	233	2,464,622	235	2,484,052
74			235	2,603,340	235	2,603,340
75	1	2,650	227	2,413,324	228	2,415,973
76	2	35,113	224	2,312,236	226	2,347,348
77			219	2,274,145	219	2,274,145
78			248	2,536,208	248	2,536,208
79			210	2,105,488	210	2,105,488
80			250	2,498,617	250	2,498,617
81	2	19,430	241	2,425,226	243	2,444,656

Exhibit VI-15
Retiree and Beneficiary Membership Data as of Jan. 1, 2016
Number and Annual Retirement Allowances
Distributed by Age

Total
Survivors and Beneficiaries
(Continued)

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
82			252	2,501,999	252	2,501,999
83	1	2,650	227	2,225,988	228	2,228,637
84			202	2,016,014	202	2,016,014
85			287	2,807,232	287	2,807,232
86			222	2,209,706	222	2,209,706
87	1	2,650	222	2,272,740	223	2,275,389
88			215	2,111,810	215	2,111,810
89			185	1,722,384	185	1,722,384
90			158	1,473,458	158	1,473,458
91			132	1,285,390	132	1,285,390
92			94	911,776	94	911,776
93			47	412,251	47	412,251
94			60	541,025	60	541,025
95	1	9,715	40	396,645	41	406,360
96			27	249,349	27	249,349
97			15	136,909	15	136,909
98			12	105,740	12	105,740
99			14	127,091	14	127,091
100			5	48,576	5	48,576
101			3	29,146	3	29,146
102			4	38,861	4	38,861
103						
104			1	9,715	1	9,715
Total	274	\$ 1,399,091	7,556	\$ 80,691,090	7,830	\$ 82,090,181

Glossary of Terms

Note that the first definitions given are the “official” definitions of the term. For some terms there is a second definition, in italics.

Actuarial Accrued Liability (AAL). The portion of the Present Value of Projected Benefits (PVFB) allocated to past service. Also difference between (i) the actuarial present value of future benefits, and (ii) the present value of future normal cost. Sometimes referred to as “accrued liability” or “past service liability.” *The amount of money that should be in the Fund. The funding target.*

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, retirement, investment income and salary increases. Demographic (“people”) assumptions (rates of mortality, separation, and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic (“money”) assumptions (salary increases and investment income) consist of an underlying rate appropriate in an inflation-free environment plus a provision for a long-term average rate of inflation. *Estimates of future events used to project what we know now- current member data, assets, and benefit provisions – into an estimate of future benefits.*

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the Present Value of Projected Benefits (PVFB) between the normal costs to be paid in the future and the actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

Actuarial Methods. The collective term for the Actuarial Cost Method, the Amortization Payment for UAAL Method, and the Asset Valuation Method used to develop the contribution requirements for the Retirement System. *The Funding Policy.*

Actuarial Equivalent. Benefits whose actuarial present values are equal.

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.

Actuarial Value of Assets (AVA). The value of assets used to determine the contribution requirement and funded ratio. The AVA can be thought of as the average value of assets over a period of years. This smoothed value of assets is used to limit contribution volatility. Also known as the funding value of assets. *Smoothed value of assets.*

Glossary of Terms (Continued)

Amortization Payment for UAAL. Payment of the unfunded actuarial accrued liability by means of periodic contributions of interest and principal, as opposed to a lump sum payment. The components of the amortization payment for UAAL includes:

- Amortization Period Length – Generally amortization periods up to 30 years are allowed, although more recent white papers regarding public sector actuarial practice favor reducing the period to 15 to 20 years. Similar to a mortgage, the shorter the amortization period, the higher the payment and the faster the UAAL is paid off.
- Amortization payment increases – Future payments can be level dollar, like a mortgage, or as a level percent of pay. Most PERS amortize UAAL as a level percent of pay which when combined with the employer normal cost that is developed as a level percent of pay can result in contributions that are easier to budget.
- Amortization schedule can be closed or open. A closed amortization schedule is similar to a mortgage – at the end of the amortization period the UAAL is designed to be paid off. An open amortization period is similar to refinancing the UAAL year after year.
- Amortization schedule UAAL can be amortized over a single amortization period, or it can be amortized over a schedule, also known as layered amortization.

The amortization payment for UAAL can be thought of as the UAAL mortgage payment.

Asset Valuation Method. The components of how the actuarial value of assets is to be developed. Typical components are the averaging period and the corridor. The averaging period tends to be 3 to 5 years but can be longer. The corridor limits the actuarial value of assets to within a percent, say 20%, of the actual market value. Corridors are more common with longer averaging periods; white papers on the subject suggest that no corridor is needed for averaging periods of five years or less because the period is short enough to recognize asset gains and losses over a sufficiently small period and because corridors provide for excessive contribution volatility.

Experience Gain Loss. A measure of the difference between actual experience and experience anticipated by a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used. *The experience Gain (Loss) represents how much the actuary missed the mark in a given year.*

Fiduciary Net Position (FNP). Used for GASB 67, it represents the assets, measured at fair value, held in trust to provide benefits.

Funded Ratio. The percent of the actuarial accrued liabilities covered by the actuarial value of assets. Also known as the funded status. *The ratio of how much money you actually have in the fund to the amount you should have in the fund.*

Net Pension Liability (NPL). Used for GASB 67, it is the difference between the total pension liability (TPL) and fiduciary net position (FNP). It is similar to the UAAL. It represents the liability of employers and nonemployer contributing entities to plan members for benefits provided through a defined benefit pension plan.

Glossary of Terms (Continued)

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as “current service cost.” An amortization payment toward the unfunded actuarial accrued liability is paid in addition to the normal cost to arrive at the total contribution in a given year. *The cost of benefits accruing during the year.*

PERS. A generic term given to a Public Employees Retirement System

Present Value of Future Normal Cost (PVFNC). The portion of the Present Value of Future Benefits (PVFB) allocated to future service. *The value in today’s dollars of the amount of contribution to be made in the future for benefits accruing for members in the Retirement System as of the valuation date. Note that in practice, this number is rarely discussed.*

Present Value of Future Benefits (PVFB). The projected future benefit payments of the plan are discounted into today’s dollars using an assumed rate of investment return assumption to determine the Present Value of Future Benefits (PVFB) of the Retirement System. The PVFB is the discounted value of the projected benefits promised to all members as of a valuation date, including future pay and service for members which has not yet been earned. *If the Retirement System held assets equal to the PVFB and all the assumptions were realized, there would be sufficient funds to pay off all the benefits to be paid in the future for members in the Retirement System as of the valuation date.*

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.

Service Cost. Used for GASB 67, it is the annual cost assigned, using the cost method (entry age normal) and assumptions under GASB 67, to current and subsequent plan years. It is similar to normal cost.

Total Pension Liability (TPL). Used for GASB 67, it is the portion of the Present Value of Future Benefits (PVFB) allocated to past service using the cost method (entry age normal) and assumptions under GASB 67. It is similar to the actuarial accrued liability.

Unfunded Actuarial Accrued Liability (UAAL). The difference between the actuarial accrued liability (AAL) and actuarial value of assets (AVA). The UAAL is sometimes referred to as “unfunded accrued liability.” *Funding shortfall, pension debt or prefunded amount if negative.*

Valuation Date. The date that the actuarial valuation calculations are performed as of. *Also known as the “snapshot date”.*