Milliman

CITY OF BRISTOL
POLICE BENEFIT FUND

Actuarial Valuation as of July 1, 2017
For Fiscal Year 2018-2019

Prepared by

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Table of Contents

Certification

We have performed an actuarial valuation of the Plan as of July 1, 2017 for fiscal year 2018-2019. This report presents the results of our valuation.

The ultimate cost of a pension plan is the total amount needed to provide benefits for plan members and beneficiaries and to pay the expenses of administering the plan. Pension costs are met by contributions and by investment return on plan assets. The principal purpose of this report is to set forth an actuarial recommendation of the contribution, or range of contributions, which will properly fund the plan, in accordance with applicable government regulations. In addition, this report provides:

- A valuation of plan assets and liabilities to review the year-to-year progress of funding.
- Information needed to meet disclosure requirements.
- Review of plan experience for the previous year to ascertain whether the assumptions and methods employed for valuation purposes are reflective of actual events and remain appropriate for prospective application.
- Assessment of the relative funded position of the plan, i.e., through a comparison of plan assets and projected plan liabilities.
- Comments on any other matters which may be of assistance in the funding and operation of the plan.

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In preparing this report, we relied on employee census data as of January 1, 2016 and financial information as of the valuation date, furnished by the City. We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have found them to be reasonably consistent and comparable with data used for other purposes. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete and our calculations may need to be revised. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

Certification

The calculations reported herein have been made on a basis consistent with our understanding of ERISA and the related sections of the tax code. Additional determinations may be needed for purposes other than meeting funding requirements, such as judging benefit security at plan termination or meeting employer accounting requirements. On the basis of the foregoing, we hereby certify that, to the best of our knowledge, this report is complete and accurate and all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices.

I further certify that, in my opinion, each actuarial assumption, method and technique used is reasonable taking into account the experience of the Plan and reasonable expectations or would, in the aggregate, result in a total contribution equivalent to that which would be determined if each such assumption, method, or technique were reasonable. Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurement.

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

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impact the objectivity of our work.

We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Rebecca A. Sielman, FSA
Consulting Actuary

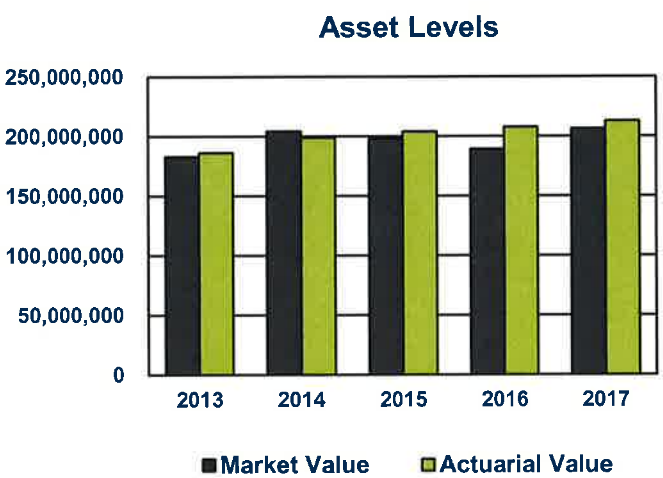
Section I - Executive Summary
A. Highlights

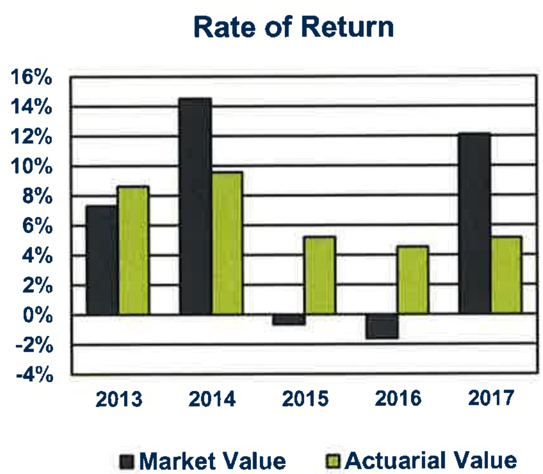
Assets

There are two different measures of the plan's assets that are used throughout this report. The **Market Value** is a snapshot of the plan's investments as of the valuation date. The **Actuarial Value** is a smoothed asset value designed to temper the volatile fluctuations in the market by recognizing investment gains or losses over four years.

	Market	Actuarial
Value as of July 1, 2016	$189,380,619	$207,818,417
Contributions	470,241	470,241
Investment Income	22,617,303	10,605,964
Benefit Payments	(5,981,587)	(5,981,587)
Value as of July 1, 2017	206,486,576	212,913,035

For fiscal year 2017, the plan's assets earned 12.12% on a Market Value basis and 5.17% on an Actuarial Value basis. The actuarial assumption for this period was 7.40%; the result is an asset gain of $8,808,100 on a Market Value basis and a loss of $4,574,700 on an Actuarial Value basis. Historical asset values are shown in the graph below to the left; historical returns are shown in the graph below to the right.





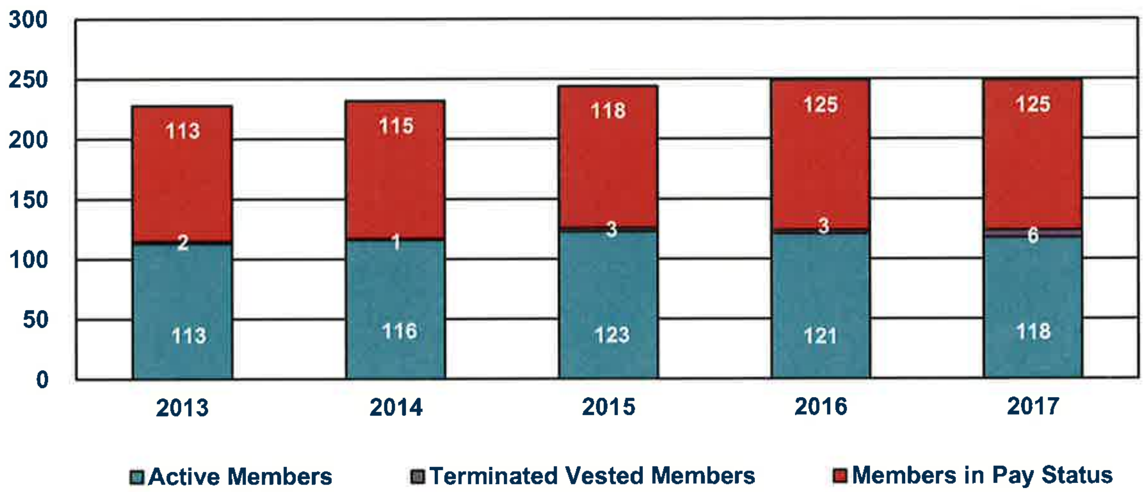
Please note that the Actuarial Value currently exceeds the Market Value by $6,426,500. This figure represents investment losses that will be gradually recognized over the next four years. This process will exert upward pressure on the City's contribution, unless there are offsetting market gains.

Section I - Executive Summary
A. Highlights

Membership

There are three basic categories of plan members included in the actuarial valuation: (1) active employees who have met the eligibility requirements for membership, (2) former employees who have a vested right to benefits but have not yet started collecting, and (3) members who are receiving monthly pension benefits.

Plan Members



From January 1, 2016 to January 1, 2017, the overall membership stayed the same at 249. During this period, there were 2 new active members, 3 active participants who terminated with deferred benefits, 2 new retirees, and 2 retirees that died without a beneficiary..

Section I - Executive Summary
A. Highlights

Plan Changes

None.

Changes in Actuarial Methods and Assumptions

The following actuarial method and assumption changes were reflected in this valuation based on recommendations resulting from the most recent experience study.

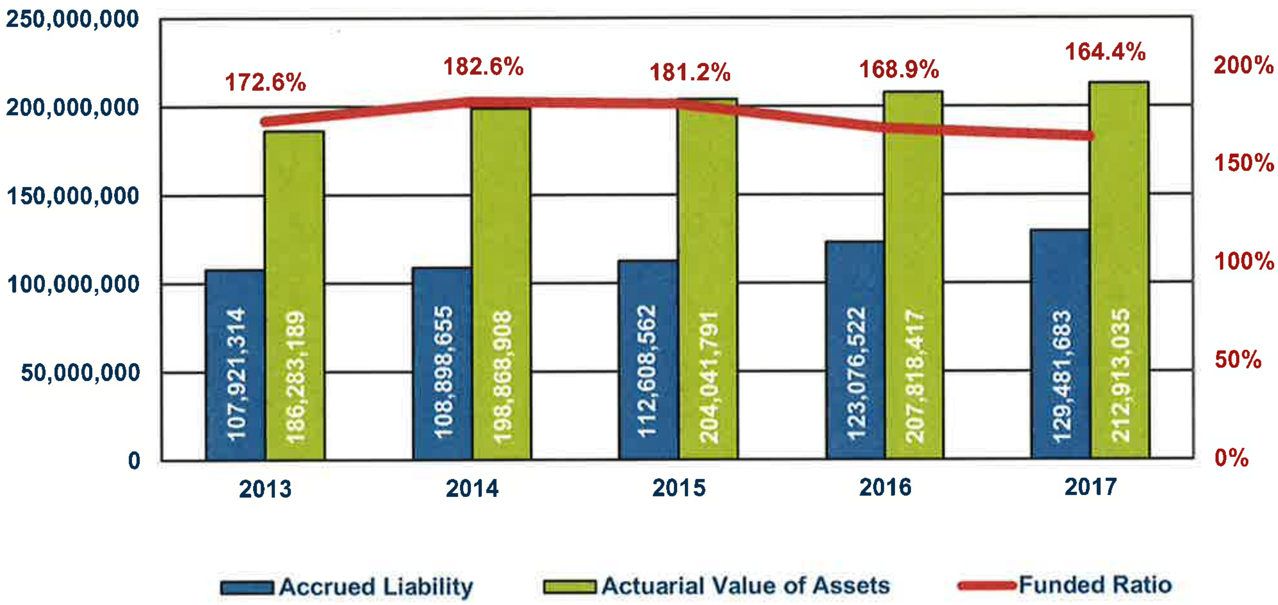
- We are phasing over 5 years a change to the interest rate assumption from 7.5% to 7.0%.
- We are phasing over 5 years a change to the generational mortality projection table from Scale AA to Scale BB.

The effect of these changes was an increase in the Unfunded Accrued Liability of $2,153,600.

Section I - Executive Summary
A. Highlights

Funded Status

The chart below shows the plan's Accrued Liability and Actuarial Value of Assets for the past several years.

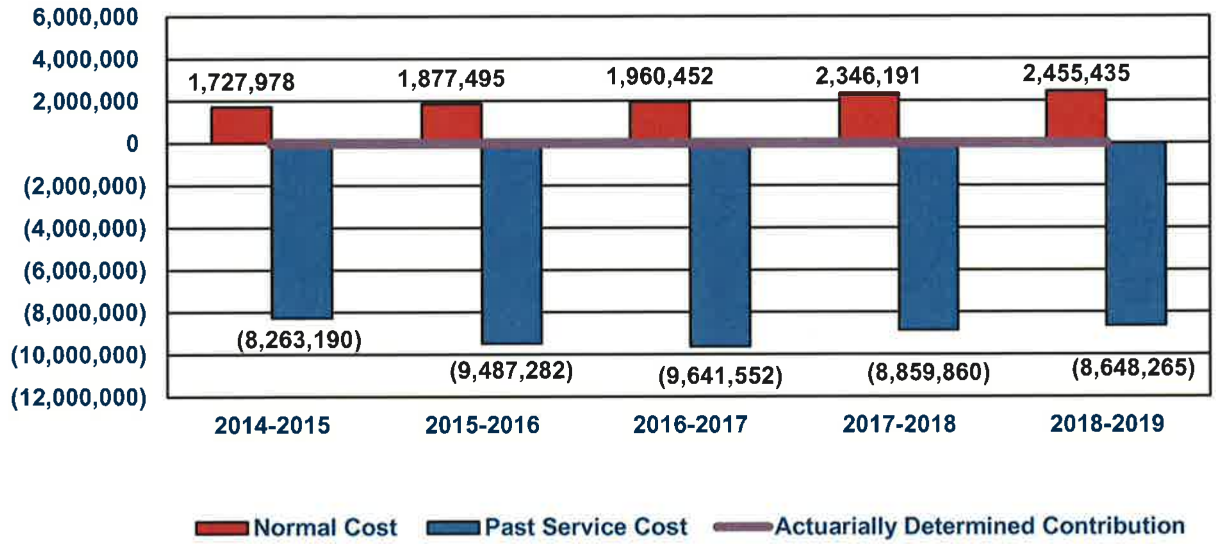


Section I - Executive Summary
A. Highlights

Actuarially Determined Contribution

The Actuarially Determined Contribution consists of three pieces: a **Normal Cost** payment to fund the benefits earned each year, a **Past Service Cost** to gradually reduce any unfunded or surplus liability, and **Interest** assuming payment is made mid-year. If the plan has a sufficiently large surplus, the Past Service Cost may be large enough to cover the Normal Cost, in which case no contribution is required.

Contribution levels for the current year and the past several fiscal years are shown below.

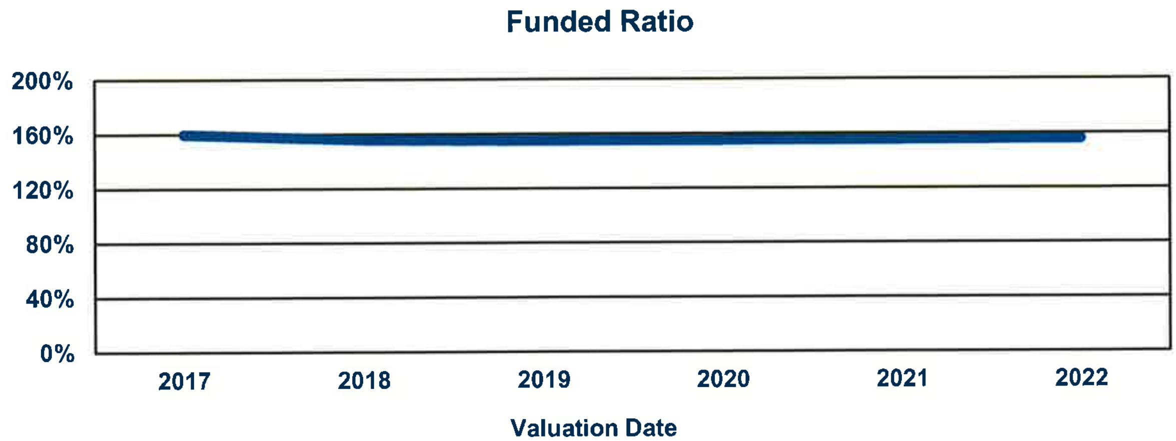


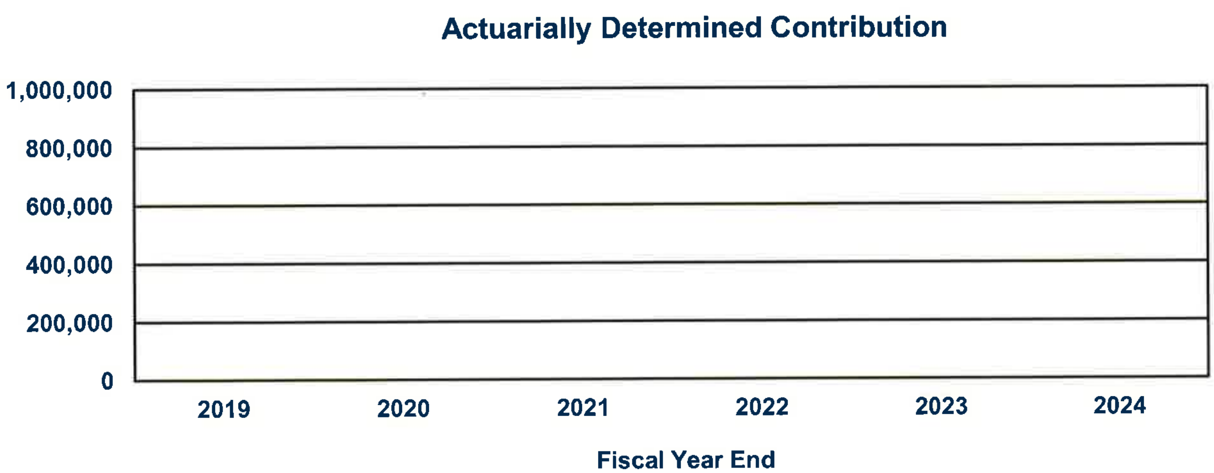
The City's contribution has remained at zero since the last valuation, reflecting the overfunded status of the plan. The plan's overfunded status fully subsidizes the Normal Cost.

Section I - Executive Summary
A. Highlights

Long Range Forecast

We expect the valuation results for the next several years to follow the patterns illustrated below:





To the extent that there are future investment or liability gains or losses, changes in the actuarial assumptions or methods, or plan changes, the actual valuation results will differ from these forecasts. Please see Section III C for more details of the long range forecast.

Section I - Executive Summary
B. Summary of Principal Results

Membership	January 1, 2016	January 1, 2017
Active Members	121	118
Terminated Vested Members	3	6
Members in Pay Status	125	125
Base Payroll as of Valuation Date	$9,257,771	$9,420,775
Assets and Liabilities	**July 1, 2016**	**July 1, 2017**
Market Value of Assets	$189,380,619	$206,486,576
Actuarial Value of Assets	207,818,417	212,913,035
Accrued Liability for Active Members	$41,731,567	$44,750,087
Accrued Liability for Terminated Vested Members	353,154	1,063,582
Accrued Liability for Members in Pay Status	80,991,801	83,668,014
Total Accrued Liability	123,076,522	129,481,683
Unfunded Accrued Liability / (Surplus)	(84,741,895)	(83,431,352)
Funded Ratio	168.9%	164.4%
Actuarially Determined Contribution for Fiscal Year	**2017-2018**	**2018-2019**
Normal Cost	$2,346,191	$2,455,435
Past Service Cost / (Credit)	(8,859,860)	(8,648,265)
Actuarially Determined Contribution	(6,513,669)	(6,192,830)
Actuarially Determined Contribution, not less than 0	0	0
Estimated Base Payroll for Fiscal Year	$9,734,546	$9,898,408
Actuarially Determined Contribution as a Percent of Base Payroll	0.00%	0.00%

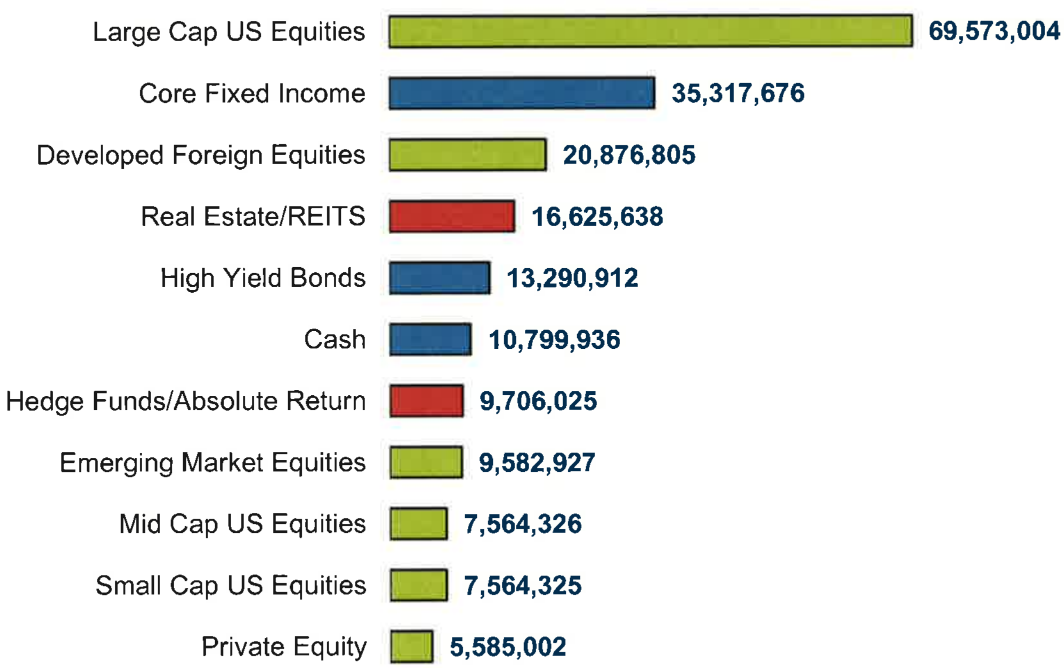
Section II - Plan Assets
A. Summary of Fund Transactions

Market Value as of July 1, 2016	$189,380,619
Fund Correction	0
Employer Contributions	0
Employee Contributions	470,241
Benefit Payments	(5,981,587)
Interest and Dividends	2,480,160
Unrealized Gains/(Losses)	24,137,120
Realized Gains/(Losses)	(2,627,330)
Expenses	(1,372,647)
Market Value as of July 1, 2017	206,486,576
Approximate Rate of Return	12.12%

Note: The rate shown here is not the dollar or time weighted investment yield rate which measures investment performance. It is an approximate net return assuming all activity occurred on average midway through the fiscal year.

Section II - Plan Assets
B. Asset Allocation

This table shows the allocation of assets as of July 1, 2017. Equity investments are shown in green, fixed income investments are shown in blue, and other types of investments are shown in red.



Section II - Plan Assets
C. Development of Actuarial Value of Assets

In order to minimize the impact of market fluctuations on the contribution level, we use an Actuarial Value of Assets that recognizes gains and losses over a four year period. The Actuarial Value of Assets as of July 1, 2017 is determined below.

1.	Expected Market Value of Assets:	
	a. Market Value of Assets as of July 1, 2016	$189,380,619
	b. Employer and Employee Contributions	470,241
	c. Benefit Payments	(5,981,587)
	d. Expected Investment Return Based on 7.40% Interest	13,809,244
	e. Expected Market Value of Assets as of July 1, 2017	197,678,517
2.	Actual Market Value of Assets as of July 1, 2017	206,486,576
3.	Market Value (Gain)/Loss: (1e) - (2)	(8,808,059)
4.	Delayed Recognition of Market (Gains)/Losses:	

Plan Year End	(Gain)/Loss	Percent Not Recognized	Amount Not Recognized	
06/30/2017	($8,808,059)	75%	($6,606,044)	
06/30/2016	17,816,961	50%	8,908,481	
06/30/2015	16,496,089	25%	4,124,022	
				6,426,459

5.	Preliminary Actuarial Value as of July 1, 2017: (2) + (4)		212,913,035
6.	Corridor Limit:	80% of Market Value	165,189,261
		120% of Market Value	247,783,891
7.	Final Actuarial Value as of July 1, 2017: (5) constrained by (6)		212,913,035
8.	Approximate Rate of Return on Actuarial Value		5.17%
9.	Actuarial Value (Gain)/Loss		4,574,719

Section III - Development of Contribution
A. Past Service Cost

For determining the Past Service Cost, the Unfunded Accrued Liability is amortized as a level dollar amount over a period of 20 years.

		July 1, 2016	July 1, 2017
1.	Accrued Liability		
	Active Members	$41,731,567	$44,750,087
	Terminated Vested Members	353,154	1,063,582
	Terminated Non-Vested Members Due Refund	0	0
	Retired Members	77,724,490	80,425,837
	Beneficiaries of Deceased Members	3,267,311	3,242,177
	Total	123,076,522	129,481,683
2.	Actuarial Value of Assets (see Section II C)	207,818,417	212,913,035
3.	Unfunded Accrued Liability / (Surplus): (1) - (2)	(84,741,895)	(83,431,352)
4.	Funded Ratio: (2) / (1)	168.9%	164.4%
5.	Amortization Period	20	20
6.	Past Service Cost / (Credit): (3) amortized over (5)	(8,249,404)	(8,059,893)
7.	Interest on (6) to Following Fiscal Year	(610,456)	(588,372)
8.	Past Service Cost/(Credit) for Following Fiscal Year	(8,859,860)	(8,648,265)

Section III - Development of Contribution
B. Actuarially Determined Contribution

	Fiscal Year 2017-2018	Fiscal Year 2018-2019
1. Total Normal Cost	$2,507,940	$2,611,142
2. Expected Employee Contributions	473,922	478,446
3. City Normal Cost: (1) - (2)	2,034,018	2,132,696
4. City Normal Cost at End of Year	2,184,535	2,288,383
5. City Normal Cost at End of Fiscal Year	2,346,191	2,455,435
6. Past Service Cost at End of Fiscal Year (see Section III A)	(8,859,860)	(8,648,265)
7. Preliminary Actuarially Determined Contribution at End of Fiscal Year: (5) + (6)	(6,513,669)	(6,192,830)
8. Actuarially Determined Contribution at End of Fiscal Year not less than 0	0	0
9. Estimated Base Payroll for Fiscal Year	9,734,546	9,898,408
10. City Normal Cost as a % of Payroll: (5) / (9)	24.1%	24.8%
11. Actuarially Determined Contribution at End of Fiscal Year as a % of Payroll: (8) / (9)	0.0%	0.0%

Section III - Development of Contribution
C. Changes in Unfunded Accrued Liability/Surplus

1.	Unfunded Accrued Liability / (Surplus) as of July 1, 2016	($84,741,895)
2.	Total Normal Cost as of July 1, 2016	2,507,940
3.	Interest on (1) and (2)	(6,085,312)
4.	Contributions for the 2016-2017 Fiscal Year	470,241
5.	Interest on (4) assuming mid-year payment	17,088
6.	Expected Unfunded Accrued Liability / (Surplus) as of June 30, 2017: (1) + (2) + (3) - (4) - (5)	(88,806,596)
7.	Asset (Gain) / Loss (see Section II C)	4,574,719
8.	Liability (Gain) / Loss	(1,353,050)
9.	Actual Unfunded Accrued Liability / (Surplus) as of July 1, 2017 before any changes: (6) + (7) + (8)	(85,584,927)
10.	Change in Unfunded Accrued Liability / (Surplus) as of July 1, 2017 due to assumption changes	2,153,575
11.	Change in Unfunded Accrued Liability / (Surplus) as of July 1, 2017 due to plan changes	0
12.	Final Unfunded Accrued Liability / (Surplus) as of July 1, 2017 after changes: (9) + (10) + (11)	(83,431,352)

Section III - Development of Contribution
D. Summary of Experience During Year

The principal sources of the net actuarial loss of approximately $3,222,000 are as follows:

	Gains	Losses
Investment Income		$4,575,000
Salary Increase		379,000
Pension Escalation		47,000
New Entrants		15,000
Mortality and Other Sources	949,000	
Disability	443,000	
Retirements and Deferred Retirements	402,000	
Totals	1,794,000	5,016,000
Net Actuarial Loss During Year		3,222,000

While the fund earned 12.12% on a Market Value basis, the recognition of investment losses from the two prior years resulted in a return of just 5.17% on an Actuarial Value basis. The actuarial assumption during the 2016-17 year was 7.40%; the result is an actuarial asset loss of $4,575,000.

The number of active members who retired during the year was lower than expected. In addition, there are a significant number of active members who are eligible to retire but have not done so, resulting in an actuarial gain.

Most pre-December 15, 2002 retirees received pension escalations of 2.75%, which is lower than the 3.25% expected. This generated a modest actuarial gain. Howerver, a few retirees received pension escalations of 4.55%, which generated a modest actuarial loss. Overall, pension escalations resulted in a $47,000 actuarial loss.

Pay levels increased by 0.5% more than expected, resulting in a modest actuarial loss.

There were 2 new entrants who produced a loss of approximately $15,000

Section III - Development of Contribution
E. Long Range Forecast

This forecast is based on the results of the July 1, 2017 actuarial valuation and assumes that the City will pay the Actuarially Determined Contribution each year, the assets will return the assumed interest rate on a market value basis each year, and there are no future changes in the actuarial methods or assumptions or in the plan provisions. Actual results at each point in time will yield different values, reflecting the actual experience of the plan membership and assets.

		Values as of the Valuation Date					Cash Flows Projected to the Following Fiscal Year			
Valuation Date	Interest Rate	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio	Fiscal Year Ending	City Contributions	Employee Contributions	Benefit Payments	Net Cash Flows
7/1/2017	7.30%	$129,481,683	$212,913,035	($83,431,352)	164.4%	2019	$0	$496,730	($6,973,811)	($6,477,081)
7/1/2018	7.20%	134,811,000	215,306,000	(80,495,000)	159.7%	2020	0	505,000	(7,419,000)	(6,914,000)
7/1/2019	7.10%	142,435,000	221,842,000	(79,407,000)	155.7%	2021	0	531,000	(7,885,000)	(7,354,000)
7/1/2020	7.00%	150,297,000	232,791,000	(82,494,000)	154.9%	2022	0	555,000	(8,294,000)	(7,739,000)
7/1/2021	7.00%	155,709,000	241,475,000	(85,766,000)	155.1%	2023	0	562,000	(8,715,000)	(8,153,000)
7/1/2022	7.00%	161,117,000	250,368,000	(89,251,000)	155.4%	2024	0	598,000	(9,094,000)	(8,496,000)
7/1/2023	7.00%	166,534,000	259,456,000	(92,922,000)	155.8%	2025	0	621,000	(9,408,000)	(8,787,000)
7/1/2024	7.00%	172,165,000	268,825,000	(96,660,000)	156.1%	2026	0	654,000	(9,722,000)	(9,068,000)
7/1/2025	7.00%	177,996,000	278,548,000	(100,552,000)	156.5%	2027	0	675,000	(9,991,000)	(9,316,000)
7/1/2026	7.00%	184,034,000	288,661,000	(104,627,000)	156.9%	2028	0	665,000	(10,284,000)	(9,619,000)
7/1/2027	7.00%	190,300,000	299,224,000	(108,924,000)	157.2%	2029	0	688,000	(10,631,000)	(9,943,000)
7/1/2028	7.00%	196,751,000	310,214,000	(113,463,000)	157.7%	2030	0	688,000	(11,074,000)	(10,386,000)
7/1/2029	7.00%	203,370,000	321,638,000	(118,268,000)	158.2%	2031	0	698,000	(11,554,000)	(10,856,000)
7/1/2030	7.00%	209,887,000	333,404,000	(123,517,000)	158.8%	2032	0	726,000	(11,934,000)	(11,208,000)
7/1/2031	7.00%	216,400,000	345,506,000	(129,106,000)	159.7%	2033	0	749,000	(12,303,000)	(11,554,000)
7/1/2032	7.00%	223,227,000	358,091,000	(134,864,000)	160.4%	2034	0	748,000	(12,730,000)	(11,982,000)
7/1/2033	7.00%	230,194,000	371,199,000	(141,005,000)	161.3%	2035	0	792,000	(13,197,000)	(12,405,000)
7/1/2034	7.00%	237,181,000	384,782,000	(147,601,000)	162.2%	2036	0	841,000	(13,544,000)	(12,703,000)
7/1/2035	7.00%	244,274,000	398,877,000	(154,603,000)	163.3%	2037	0	822,000	(13,882,000)	(13,060,000)
7/1/2036	7.00%	251,743,000	413,650,000	(161,907,000)	164.3%	2038	0	822,000	(14,243,000)	(13,421,000)

Section IV - Accounting Information
A. Notes to Required Supplementary Information

The information presented in Section IV has been determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date	July 1, 2017
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level dollar amount
Amortization Period	Open 20 years
Asset Valuation Method	4 Year Smoothed Market Value
Actuarial Assumptions	
Investment Rate of Return	7.30%
Projected Salary Increases	Age based scale
Inflation	2.70%
Pension Escalation	Pre-December 15, 2002 retirees: 3.25% Post December 15, 2002 retirees: 2.25%

Section IV - Accounting Information
B. Historical Schedule of Funding Progress

Actuarial Valuation Date	For Fiscal Year	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL)	(3) Unfunded AAL (UAAL) (2) - (1)	(4) Funded Ratio (1) / (2)	(5) Covered Payroll	(6) UAAL as a Percentage of Covered Payroll (3) / (5)
07/01/2010	2011-2012	$172,814,049	$86,099,367	($86,714,682)	200.7%	$8,294,729	(1045.4%)
07/01/2011	2012-2013	175,218,794	91,282,998	(83,935,796)	192.0%	7,837,742	(1070.9%)
07/01/2012	2013-2014	176,388,737	95,526,371	(80,862,366)	184.6%	8,214,737	(984.4%)
07/01/2013	2014-2015	186,283,189	107,921,314	(78,361,875)	172.6%	8,498,327	(922.1%)
07/01/2014	2015-2016	198,868,908	108,898,655	(89,970,253)	182.6%	9,139,541	(984.4%)
07/01/2015	2016-2017	204,041,791	112,608,562	(91,433,229)	181.2%	9,139,541	(1000.4%)
07/01/2016	2017-2018	207,818,417	123,076,522	(84,741,895)	168.9%	9,257,771	(915.4%)
07/01/2017	2018-2019	212,913,035	129,481,683	(83,431,352)	164.4%	9,420,775	(885.6%)

Section IV - Accounting Information
C. Schedule of Employer Contributions

Fiscal Year Ending June 30	(1) Actuarially Determined Contribution	(2) Contribution in Relation to the Actuarially Determined Contribution	(3) Contribution Deficiency/ (Excess) (1) - (2)	(4) Covered Payroll	(5) Contribution as a Percentage of Covered Payroll (2) / (4)
2010	$0	$0	$0	$8,245,450	0.00%
2011	0	0	0	8,377,025	0.00%
2012	0	0	0	8,294,729	0.00%
2013	0	0	0	7,837,742	0.00%
2014	0	0	0	8,214,737	0.00%
2015	0	0	0	8,498,327	0.00%
2016	0	0	0	9,139,541	0.00%
2017	0	0	0	9,139,541	0.00%
2018	0	TBD	TBD	9,257,771	TBD
2019	0	TBD	TBD	9,420,775	TBD

Section IV - Accounting Information
D. Accrued and Vested Benefits

The actuarially computed Value of Accrued Benefits represents the present value of (a) the benefits based on earnings and service to date expected to become payable at future dates to present employees, (b) the benefits expected to become payable to former employees who have terminated service with vested rights or who have become inactive, and (c) the benefits currently payable to retired participants and beneficiaries.

	As of July 1, 2016	As of July 1, 2017
1. Value of Vested Benefits		
Active Members	$29,037,072	$31,220,414
Terminated Vested Members	353,154	1,063,582
Terminated Non-Vested Due Refund	0	0
Retired Members	77,724,490	80,425,837
Beneficiaries of Deceased Members	3,267,311	3,242,177
Total Value of Vested Benefits	110,382,027	115,952,010
2. Value of Non-Vested Benefits	7,610,996	8,128,101
3. Total Value of Accrued Benefits: (1) + (2)	117,993,023	124,080,111
4. Market Value of Assets	189,380,619	206,486,576
5. Vested Funded Ratio: (4) / (1)	171.6%	178.1%
6. Accrued Funded Ratio: (4) / (3)	160.5%	166.4%

Section IV - Accounting Information
E. Statement of Changes in Accrued Plan Benefits

Increase/(Decrease) during the 2016-2017 plan year attributable to:

Increase for interest due to the decrease in the discount period	$8,514,115
Benefits Accumulated/(Forfeited)	1,466,406
Benefit Payments	(5,981,587)
Plan Amendments	0
Changes in Actuarial Assumptions	2,088,154
Net Increase/(Decrease)	6,087,088

Value of Accrued Plan Benefits:

July 1, 2017	$124,080,111
July 1, 2016	117,993,023
Net Increase/(Decrease)	6,087,088

Section V - Membership Data
A. Reconciliation of Membership from Prior Valuation

Details of the changes in the Plan membership since the last valuation are shown below. Additional details on the Plan membership are provided in the remainder of Section V.

	Active	Term. Vested	Due Refund	Retirees	Disabled	Beneficiaries	Total
Count as of January 1, 2016	121	2	1	102	8	15	249
Terminated, due refund	-	-	-	-	-	-	0
Terminated, benefits due	(3)	3	-	-	-	-	0
Retired	(2)	-	-	2	-	-	0
Disabled	-	-	-	-	-	-	0
Died, with beneficiary	-	-	-	-	-	-	0
Died, no beneficiary	-	-	-	(2)	-	-	(2)
New member	2	-	-	-	-	-	2
New beneficiary	-	-	-	-	-	-	0
Lump sum paid	-	-	-	-	-	-	0
Rehired	-	-	-	-	-	-	0
New QDRO	-	-	-	-	-	-	0
Correction	-	-	-	-	-	-	0
Count as of January 1, 2017	118	5	1	102	8	15	249

Section V - Membership Data
B. Statistics of Membership

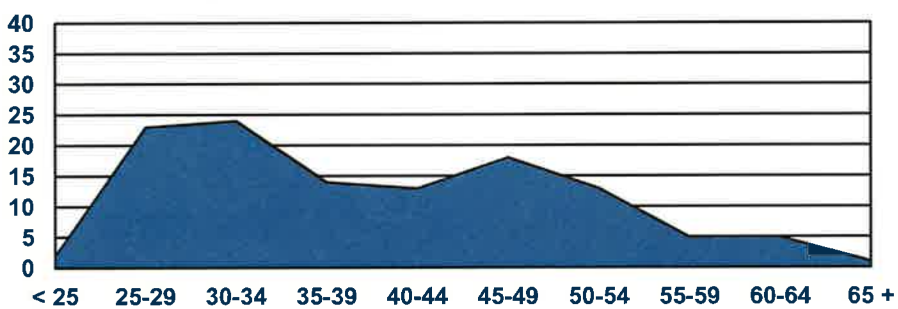
	As of January 1, 2016	As of January 1, 2017
Active Members		
Number	121	118
Average Age	39.4	40.0
Average Service	13.3	14.1
Total Annual Compensation	$9,493,431	$9,656,295
Average Annual Compensation	78,458	81,833
Terminated Vested Members *		
Number	3	6
Total Annual Benefit	$47,797	$134,958
Average Annual Benefit	23,899	26,991
Average Age	34.0	39.8
Retired Members		
Number	102	102
Total Annual Benefit	$5,384,256	$5,588,602
Average Annual Benefit	52,787	54,790
Average Age	65.8	66.3
Disabled Members		
Number	8	8
Total Annual Benefit	$394,624	$403,878
Average Annual Benefit	49,328	50,485
Average Age	49.7	50.7
Beneficiaries of Deceased Members		
Number	15	15
Total Annual Benefit	$350,954	$345,084
Average Annual Benefit	23,397	23,005
Average Age	74.5	75.5

* Participant count includes 1 Terminated Non-Vested Member who is due a return of employee contributions.

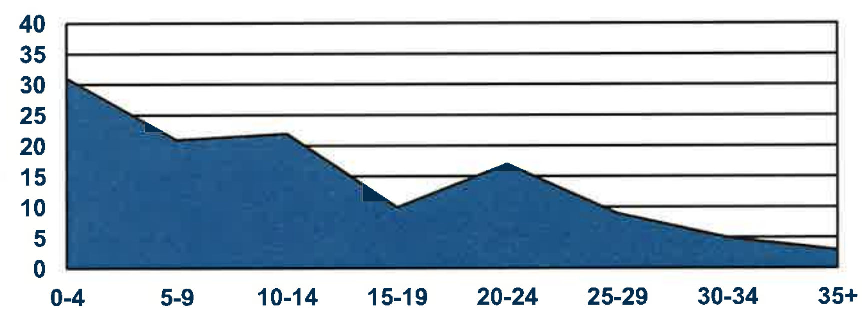
Section V - Membership Data
C. Distribution of Active Members as of January 1, 2017

	Years of Service								
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
< 25	2	0	0	0	0	0	0	0	2
25-29	17	6	0	0	0	0	0	0	23
30-34	9	9	6	0	0	0	0	0	24
35-39	1	3	8	2	0	0	0	0	14
40-44	1	2	5	4	1	0	0	0	13
45-49	1	0	2	3	10	2	0	0	18
50-54	0	1	1	1	4	4	2	0	13
55-59	0	0	0	0	1	2	2	0	5
60-64	0	0	0	0	1	1	1	2	5
65 +	0	0	0	0	0	0	0	1	1
Total	31	21	22	10	17	9	5	3	118

Distribution By Age



Distribution by Years of Service



Section V - Membership Data
D. Distribution of Inactive Members as of January 1, 2017

	Age	Number	Annual Benefits
Terminated Vested Members *	< 30	1	$0
	30 - 39	3	67,832
	40 - 49	1	26,998
	50 - 59	0	0
	60 - 64	1	40,128
	65 +	0	0
	Total	6	134,958
Retired Members	< 50	5	238997
	50 - 59	21	1,372,824
	60 - 69	35	2,131,079
	70 - 79	31	1,459,712
	80 - 89	8	317,372
	90 +	2	68,618
	Total	102	5,588,602
Disabled Retirees	< 50	3	160920
	50 - 59	4	205,245
	60 - 69	1	37,713
	70 - 79	0	0
	80 - 89	0	0
	90 +	0	0
	Total	8	403,878
Beneficiaries	< 50	0	$0
	50 - 59	0	0
	60 - 69	4	89,670
	70 - 79	7	152,288
	80 - 89	2	40,628
	90 +	2	62,498
	Total	15	345,084

* Participant count includes 1 Terminated Non-Vested Member who is due a return of employee contributions.

Appendix A - Actuarial Funding Method

The actuarial funding method used in the valuation of this Plan is the **Entry Age Normal Cost Method**. Recommended annual contributions until the accrued liability is completely funded will consist of three pieces: Normal Cost plus a payment towards the Unfunded Accrued Liability plus interest to adjust for the lag between the valuation date and the start of the fiscal year.

The **Normal Cost** is determined by calculating the present value of future benefits for present active Members that will become payable as the result of death, disability, retirement or termination. This cost is then spread as a level percentage of earnings from entry age to termination as an Active Member. If Normal Costs had been paid at this level for all prior years, a fund would have accumulated. Because this fund represents the portion of benefits that would have been funded to date, it is termed the **Accrued Liability**. In fact, it is calculated by adding the present value of benefits for Retired Members and Terminated Vested Members to the present value of benefits for Active Members and subtracting the present value of future Normal Cost contributions.

The funding cost of the Plan is derived by making certain specific assumptions as to rates of interest, mortality, turnover, etc. which are assumed to hold for many years into the future. Since actual experience may differ somewhat from the assumptions, the costs determined by the valuation must be regarded as estimates of the true costs of the Plan.

The unfunded liability for the plan is the excess of the Accrued Liability over the assets which have been accumulated for the plan. This Unfunded Accrued Liability is amortized as a level dollar with an amortization period of 20 years.

The **Actuarial Value of Assets** is determined by recognizing asset gains and losses over four years. The resulting value is constrained to within +/- 20% of the market value of assets.

Appendix B - Actuarial Assumptions

Each of the assumptions used in this valuation was set based on a formal study of the plan's experience for the period July 1, 2011 through June 30, 2015 which reflected industry standard published tables and data, the particular characteristics of the plan, relevant information from the plan sponsor or other sources about future expectations, and our professional judgment regarding future plan experience. We believe the assumptions are reasonable for the contingencies they are measuring, and are not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Interest Rate 7.3% (Prior: 7.4%) This assumption will decline by 0.1% until it reaches 7.0%.

Salary Basis Base Pay

Salary Scale Salaries are assumed to increase at the following rates:

Age	Current Rate	Prior Rate
25 and below	7.00%	8.00%
30	5.00%	5.75%
35	4.00%	4.50%
40	3.75%	4.00%
45	3.50%	3.75%
50 and above	3.25%	3.50%

Expenses None.

Mortality Current: RP-2000 Mortality Table for Employees and Healthy Annuitants with generational projection 40% phase-in from Scale AA to BB. The projection scale will continue to be phased in by 20% each year. This assumption includes a margin for mortality improvements beyond the valuation date.

Prior: RP-2000 Mortality Table for Employees and Healthy Annuitants with generational projection 20% phase-in from Scale AA to BB.

Pre-Retirement Disability 1985 Pension Disability Table (DP-85) Class 4 with 100% of disabilities assumed to be service-connected.

Percent Married 80% of active members are assumed to have an eligible spouse.

Age of Spouse The female spouse is assumed to be three years younger than the male spouse.

Appendix B - Actuarial Assumptions

Turnover

Based on the following table:

Age	Current Rate	Prior Rate
20	5.0%	2.0%
25	5.0%	2.0%
30	2.0%	1.5%
35	1.0%	1.0%
40	1.0%	0.0%
45	1.0%	0.0%
50	0.0%	0.0%

Retirement

Members who have satisfied normal retirement eligibility are assumed to retire according to the following rates:

Age	Current Rate	Prior Rate
47-49	25%	15%
50	40%	20%
51-54	25%	20%
55-57	25%	40%
58-59	40%	40%
60-64	30%	50%
65+	100%	100%

Annuity Election

85% of active members are assumed to elect a 50% Joint & Survivor Annuity and 15% of active members are assumed to elect Life Annuity.

Pension Escalation

Pre-December 15, 2002 retirees: 3.25% per year.

Post-December 15, 2002 retirees: 2.25% per year.

Compensated Absences

The Actuarial Accrued Liability and Normal Cost have been increased by 9% for active members in order to reflect an explicit assumption regarding compensated absences.

Appendix C - Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Eligibility

Members of the Police Department. Includes the City's animal control officer and/or assistant animal control officer.

Compensation

Base Pay.

Credited Service

Years and months of continuous service.

Normal Retirement Date

Any member after 25 years of continuous service as a regular police officer, by the request of the member and with the approval of the Trustees.

Any member after 30 years of continuous service as a regular police officer, by the request of the member.

Any regular member after 25 years of continuous service and attainment of age 60, by the request of the member.

Any regular member after 20 years of continuous service and attainment of age 65, by the request of the member.

Note: All members of the regular Police Department shall be retired on the day following attainment of age 65.

Normal Retirement Benefit

A pension for life at 70% of Compensation paid to the member in the year prior to his retirement, adjusted for escalation.

Disability Retirement Benefit

If any member becomes permanently disqualified for active duty through age or physical disabilities incurred in the discharge of duties, the member may be transferred to the "Veteran Reserve" at the rate of 70% of Compensation at the time of transfer. Such transfer may be revoked and the member returned to active duty if the disability is removed. If permanently disqualified from performing all police duties, the member may be permanently retired at 70% of Compensation.

If any member with at least 10 years of service who becomes disqualified for active duty due to a disability not incurred in the performance of duties, he shall be retired at a rate equal to 28% for the first 10 years plus 2.8% for each additional year, thereafter, subject to a maximum of 70% of Compensation.

Normal Form of Annuity

Life Annuity.

Appendix C - Summary of Plan Provisions

Vested Benefit Eligibility

Effective July, 1 2003, a member terminating after at least 10 years of Credited Service as a regular police officer, provided the member elects to leave all accumulated contributions in the retirement fund, is entitled to a vested deferred pension, to commence at the earliest normal retirement age. The vested deferred pension is based on 2.8% of Compensation per year of Credited Service completed prior to separation from employment. Such percentage shall be applied at the time of separation and the resulting allowance shall not be increased thereafter for any reason. This section shall not apply in the case of a discharge for just cause which is not reversed upon appeal or a resignation by a member who has been informed he is under investigation for an offense which constitutes just cause for discharge and from which the member is not exonerated.

Member Contributions

All members contribute 6% of Compensation on a pre-tax (Section 414(h)(2)) basis. Contributions shall cease upon the completion of 25 years of Credited Service.

Members' contributions are returnable on termination or death if active, or after retirement (less any benefits paid), provided in each case that no death benefits are otherwise payable.

Pre-Retirement Spouse's Death Benefit

In case of a service-connected death of a member, the surviving spouse shall receive annually a sum equal to 70% of Compensation until death or remarriage, with continuation to any children under age 18, share and share alike, or to any dependent if no surviving spouse or children exist. Worker's Compensation payments are deducted from amounts hereunder.

In case of the death of a member with at least 10 years of regular service, or of a retired member or a member placed on the "Veteran Reserve" at 70% of Compensation, one-half of the benefit that would have been payable to the member on retirement or, if a retired member, one-half of the benefit being paid to the member at time of death, shall be paid to the surviving spouse until death or remarriage.

Prior Service Purchase

Members' dates of participation are adjusted to reflect periods purchased.

Pension Escalation

Pre-December 15, 2002 retirees: benefits increase as active members' salaries increase, with no limit.

Post-December 15, 2002 retirees: benefit increase is 50% of active members' salary increases, but not more than 2.25% per year.