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December 17, 2015

milliman.com

***PERSONAL & CONFIDENTIAL***

Mr. Robert Thibeault  
Finance Director  
Town of Coventry  
1670 Flat River Road  
Coventry, RI 02816

Re: Coventry Police Officers Retirement Plan

Dear Bob:

At your request, we have performed an actuarial valuation of the Town of Coventry Police Officers Retirement Plan as of July 1, 2015 for the Fiscal Year ending June 30, 2017. The results of the valuation are contained in the following report.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Steve'.

Steve A. Lemanski, FSA, FCA  
Consulting Actuary

SAL/dp 10 COV2015POLValCov



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## **TOWN OF COVENTRY POLICE OFFICERS RETIREMENT PLAN**

**Actuarial Valuation as of July 1, 2015  
For Fiscal Year Ending June 30, 2017**

**Prepared by**  
Milliman, Inc.

**Steve A. Lemanski, FSA, FCA**  
Consulting Actuary

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## **Certification**

We have performed an actuarial valuation of the Plan as of July 1, 2015 for fiscal year ending June 30, 2017. 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.

This report may not be used for purposes other than those listed above without Milliman's prior written consent. If this report is distributed to other parties, it must be copied in its entirety, including this certification section.

Milliman's work is prepared solely for the internal business use of the Town. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s): (a) the Town may provide a copy of Milliman's work, in its entirety, to the Town's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Town; and (b) the Town may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law. No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

In preparing this report, we relied on employee census data and financial information as of the valuation date, furnished by the Town. 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.

I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



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Steve A. Lemanski, FSA, FCA  
Consulting Actuary

## Section I - Executive Summary

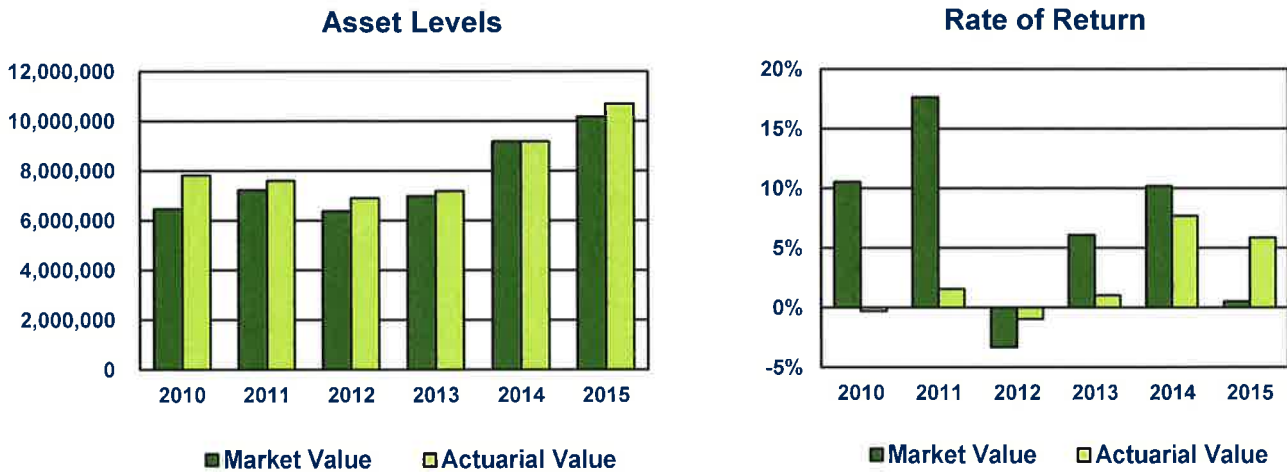
### A. Highlights

#### 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 five years.

	Market	Actuarial
Value as of July 1, 2014	\$9,190,021	\$9,194,265
Contributions	4,439,334	4,439,334
Investment Income	50,099	564,963
Benefit Payments and Administrative Expenses	(3,501,333)	(3,501,333)
Value as of July 1, 2015	10,178,121	10,697,229

For fiscal year 2015, the plan's assets earned 0.52% on a Market Value basis and 5.85% on an Actuarial Value basis. The actuarial assumption for this period was 7.00%; the result is an asset loss of \$624,300 on a Market Value basis and a loss of \$111,100 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.



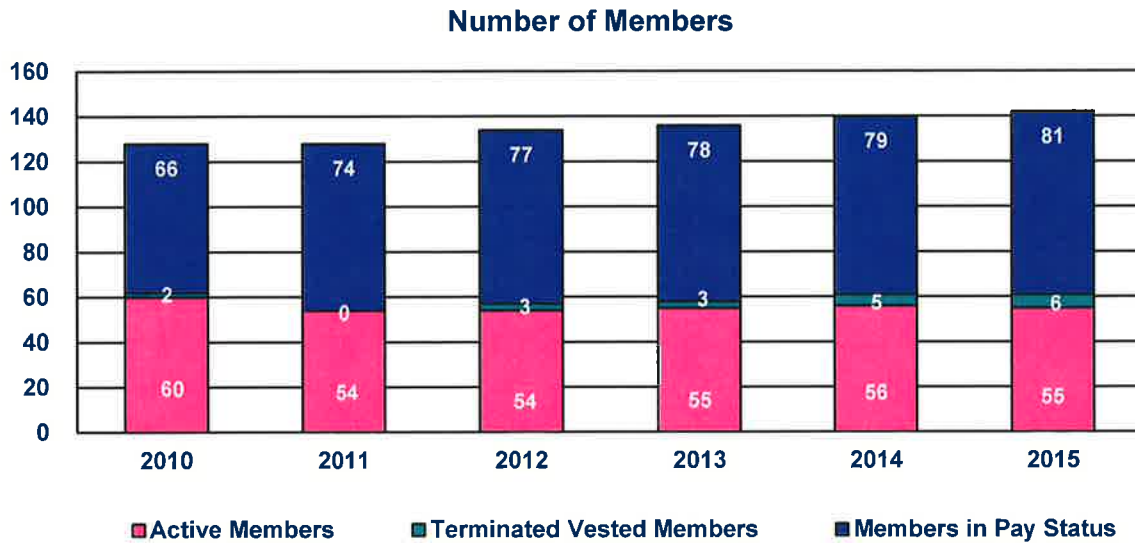
Please note that the Actuarial Value currently exceeds the Market Value by \$519,100. This figure represents investment losses that will be gradually recognized over the next five years. This process will exert upward pressure on the Town's contribution, unless there are offsetting market gains.

## Section I - Executive Summary

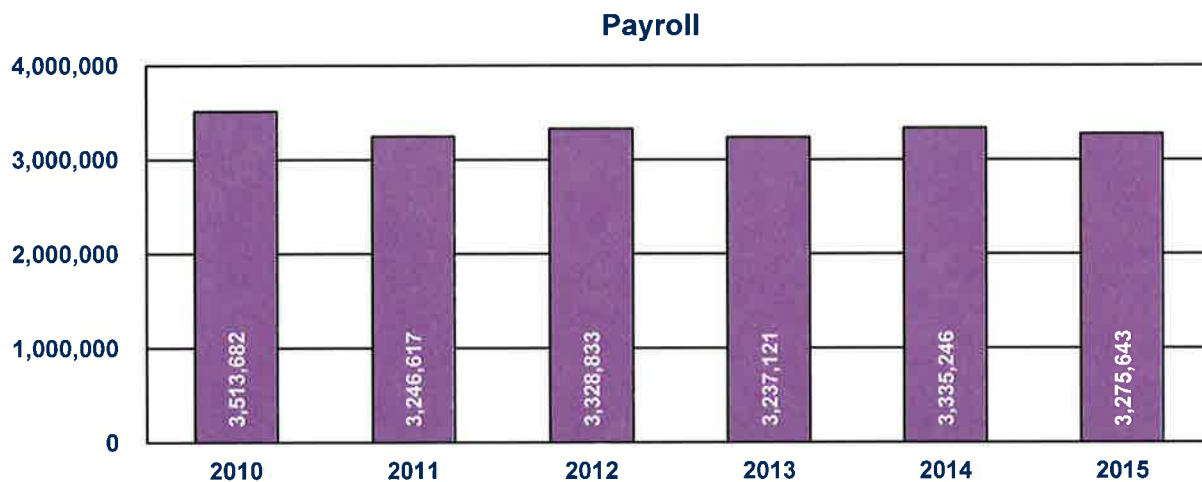
### A. Highlights

#### 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.



From July 1, 2014 to July 1, 2015, the overall membership increased from 140 to 142. During this period, there were a total of 4 new members, 1 active member who terminated with vested benefits, 3 active members who retired, 1 active member who received a lump sum, the death of 2 beneficiaries and 1 new alternate payee.



From July 1, 2014 to July 1, 2015, Total payroll decreased by approximately 1.8%.

## Section I - Executive Summary

### A. Highlights

#### Plan Changes

None.

#### Changes in Actuarial Methods or Assumptions

The proposed assumption changes in the 2014 Experience Study were adopted. Please refer to pages 24-26 for additional details regarding actuarial assumptions.

The impact of the above changes was to reduce the July 1, 2015 Unfunded Accrued Liability by approximately \$111,400 and to increase the Fiscal Year 2017 Actuarially Determined Contribution by about \$76,000.

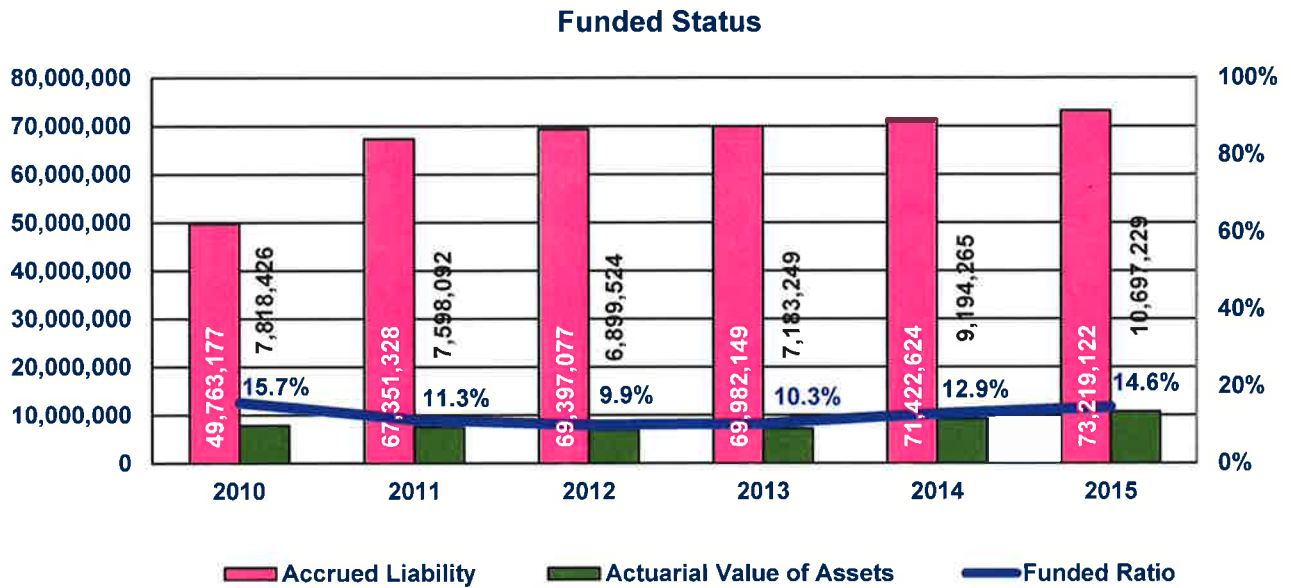


## Section I - Executive Summary

### A. Highlights

#### Funded Status

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



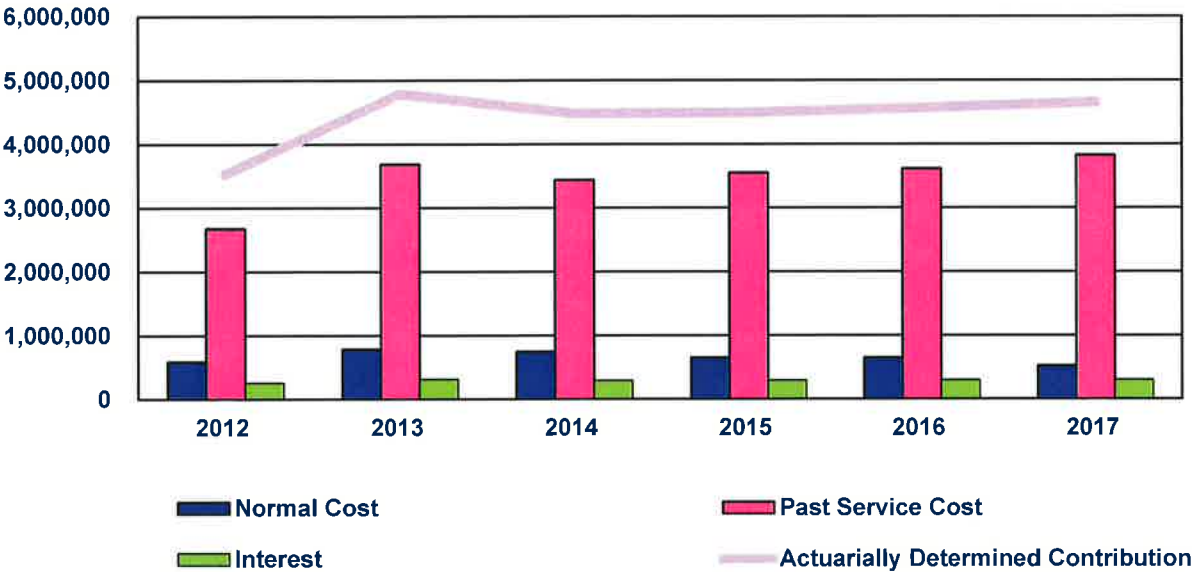
## Section I - Executive Summary

### 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.



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## Section I - Executive Summary

### B. Summary of Principal Results

<b>Membership</b>	<b>July 1, 2014</b>	<b>July 1, 2015</b>
Active Members	56	55
Terminated Vested Members	5	6
Terminated Nonvested Members Due Refund	0	0
Members in Pay Status	79	81
Payroll	\$3,335,246	\$3,275,643
<b>Assets and Liabilities</b>	<b>July 1, 2014</b>	<b>July 1, 2015</b>
Market Value of Assets	\$9,190,021	\$10,178,121
Actuarial Value of Assets	9,194,265	10,697,229
Accrued Liability for Active Members	\$15,124,470	\$13,086,566
Accrued Liability for Terminated Vested Members	389,651	821,317
Accrued Liability for Members in Pay Status	55,908,503	59,311,239
Total Accrued Liability	71,422,624	73,219,122
Unfunded Accrued Liability	62,228,359	62,521,893
Funded Ratio	12.9%	14.6%
<b>Actuarially Determined Contribution for Fiscal Year</b>	<b>2016</b>	<b>2017</b>
Normal Cost	\$653,297	\$526,289
Past Service Cost	3,613,874	3,825,300
Interest	298,702	304,611
Actuarially Determined Contribution	4,565,873	4,656,200
Contribution as a Percent of Payroll	136.9%	142.2%

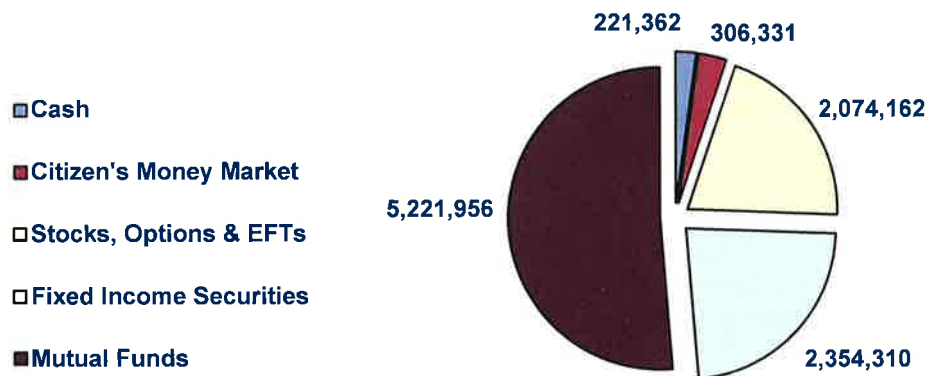
## Section II - Plan Assets

### A. Summary of Fund Transactions

	Trust Assets	Accrued Contributions	Total
<b>Market Value as of July 1, 2014</b>	\$9,168,367	\$21,654	\$9,190,021
Employer Contributions	4,152,024	0	4,152,024
Employee Contributions	308,964	(21,654)	287,310
Benefit Payments	(3,495,162)	0	(3,495,162)
Interest and Dividends	275,412	0	275,412
Unrealized Gains/(Losses)	(225,313)	0	(225,313)
Realized Gains/(Losses)	0	0	0
Investment Expenses	0	0	0
Administrative Expenses	(6,171)	0	(6,171)
<b>Market Value as of July 1, 2015</b>	10,178,121	0	10,178,121
<b>Approximate Rate of Return</b>			0.52%

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.

#### Asset Allocation



## Section II - Plan Assets

### B. 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 five year period. The Actuarial Value of Assets as of July 1, 2015 is determined below.

1.	Expected Market Value of Assets:		
	a. Market Value of Assets as of July 1, 2014		\$9,190,021
	b. Employer and Employee Contributions		4,439,334
	c. Benefit Payments and Administrative Expenses		(3,501,333)
	d. Expected Investment Return Based on 7.00% Interest		<u>674,410</u>
	e. Expected Market Value of Assets as of July 1, 2015		10,802,432
2.	Actual Market Value of Assets as of July 1, 2015		10,178,121
3.	Delayed Recognition of Market Gains/(Losses):		
		<b>Percent Not</b>	<b>Amount Not</b>
	<b>Plan Year End</b>	<b>Recognized</b>	<b>Recognized</b>
	06/30/2015	80%	(\$499,449)
	06/30/2014	60%	147,272
	06/30/2013	40%	(24,106)
	06/30/2012	20%	<u>(142,825)</u>
			(519,108)
4.	Actuarial Value as of July 1, 2015: (2) - (3)		10,697,229
5.	Approximate Rate of Return on Actuarial Value		5.85%
6.	Actuarial Value Gain/(Loss)		(111,061)

## Section III - Development of Contribution

### A. Past Service Cost

For determining the Past Service Cost, the Unfunded Accrued Liability is amortized as a level percent over a period of 26 years starting on July 1, 2012.

	July 1, 2014	July 1, 2015
1. Accrued Liability		
Active Members	\$15,124,470	\$13,086,566
Terminated Vested Members	389,651	821,317
Terminated Non-Vested Members Due Refund	0	0
Retired Members	50,912,883	54,631,274
Disabled Members	0	0
Beneficiaries of Deceased Members	<u>4,995,620</u>	<u>4,679,965</u>
Total	71,422,624	73,219,122
2. Actuarial Value of Assets (see Section II B)	9,194,265	10,697,229
3. Unfunded Accrued Liability: (1) - (2)	62,228,359	62,521,893
4. Funded Ratio: (2) / (1)	12.9%	14.6%
5. Amortization Period	24	23
6. Amortization Growth Rate	3.75%	3.50%
7. Past Service Cost: (3) amortized over (5)	3,613,874	3,825,300

**Section III - Development of Contribution  
B. Actuarially Determined Contribution**

	Fiscal Year June 30, 2016	Fiscal Year June 30, 2017
1. Total Normal Cost	\$918,266	\$811,806
2. Expected Employee Contributions	286,569	291,917
3. Expected Expenses	21,600	6,400
4. Net Normal Cost: (1) - (2) + (3)	653,297	526,289
5. Past Service Cost (see Section III A)	3,613,874	3,825,300
6. Interest on (4) + (5)	298,702	304,611
7. Actuarially Determined Contribution: (4) + (5) + (6)	4,565,873	4,656,200
8. Total Payroll	3,335,246	3,275,643
9. Contribution as a Percent of Total Payroll: (7) / (8)	136.90%	142.15%

## 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:

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<b>Valuation Date</b>	July 1, 2015
<b>Actuarial Cost Method</b>	Entry Age Normal
<b>Amortization Method</b>	Level percent
<b>Amortization Period</b>	Closed 26 years from July 1, 2012
<b>Asset Valuation Method</b>	5 Year Smoothed Market Value
<b>Actuarial Assumptions</b>	
Investment Rate of Return	7.00%
Projected Salary Increases	Graded 13.50% to 3.50%
Amortization Growth Rate	3.50%
Inflation	2.70%
Cost-of-Living Adjustments	For officers retired prior to July 1, 1986; 1.50% (compounded)
	For officers retired after July 1, 1986 (and hired prior to January 1, 1994); 2.50% (compounded)
	For officers hired on or after January 1, 1994; 2.70% (non-compounded)

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**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)	(4) Funded Ratio (1) / (2)	(5) Covered Payroll	(6) UAAL as a Percentage of Covered Payroll (3) / (5)
07/01/2010	2012	7,818,426	49,763,177	41,944,751	15.7%	3,513,682	1193.8%
07/01/2011	2013	7,598,092	67,351,328	59,753,236	11.3%	3,246,617	1840.5%
07/01/2012	2014	6,899,524	69,397,077	62,497,553	9.9%	3,124,718	2000.1%
07/01/2013	2015	7,183,249	69,982,149	62,798,900	10.3%	3,047,317	2060.8%
07/01/2014	2016	9,194,265	71,422,624	62,228,359	12.9%	3,144,906	1978.7%
07/01/2015	2017	10,697,229	73,219,122	62,521,893	14.6%	3,076,771	2032.1%

**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)
2012	\$3,530,006	\$2,274,733	\$1,255,273	\$3,513,682	65%
2013	4,784,708	3,260,756	1,523,952	3,246,617	100%
2014	4,481,020	4,563,733	(82,713)	3,124,718	146%
2015	4,495,252	4,152,024	343,228	3,047,317	136%
2016	4,565,873	TBD	TBD	3,144,906	TBD
2017	4,656,200	TBD	TBD	3,076,771	TBD

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## 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, 2014	As of July 1, 2015
1. Value of Vested Benefits		
Active Members	\$12,613,487	\$10,548,155
Terminated Vested Members	389,651	821,317
Terminated Non-Vested Due Refund	0	0
Retired Members	50,912,883	54,631,274
Disabled Members	0	0
Beneficiaries of Deceased Members	<u>4,995,620</u>	<u>4,679,965</u>
Total Value of Vested Benefits	68,911,641	70,680,711
2. Value of Non-Vested Benefits	4,043,981	3,961,842
3. Total Value of Accrued Benefits: (1) + (2)	72,955,622	74,642,553
4. Market Value of Assets	9,190,021	10,178,121
5. Vested Funded Ratio: (4) / (1)	13.3%	14.4%
6. Accrued Funded Ratio: (4) / (3)	12.6%	13.6%

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

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**Increase/(Decrease) during the 2014 plan year attributable to:**

Increase for interest due to the decrease in the discount period	\$4,986,632
Benefits Accumulated/(Forfeited)	256,772
Benefit Payments	(3,495,162)
Plan Amendments	0
Changes in Actuarial Assumptions	(61,311)
Net Increase/(Decrease)	1,686,931

**Value of Accrued Plan Benefits:**

July 1, 2015	\$74,642,553
July 1, 2014	72,955,622
Net Increase/(Decrease)	1,686,931

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**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	Bene- ficiaries	Total
<b>Count as of July 1, 2014</b>	56	5	0	61	0	18	140
Terminated not vested	-	-	-	-	-	-	0
Terminated, benefits due	(1)	1	-	-	-	-	0
Retired	(3)	-	-	3	-	-	0
Died, with beneficiary	-	-	-	-	-	-	0
Died, no beneficiary	-	-	-	-	-	(2)	(2)
New member	4	-	-	-	-	-	4
New beneficiary	-	-	-	-	-	-	0
Lump sum paid	(1)	-	-	-	-	-	(1)
Rehired	-	-	-	-	-	-	0
New QDRO	-	-	-	-	-	1	1
Adjustment	-	-	-	-	-	-	0
<b>Count as of July 1, 2015</b>	55	6	0	64	0	17	142

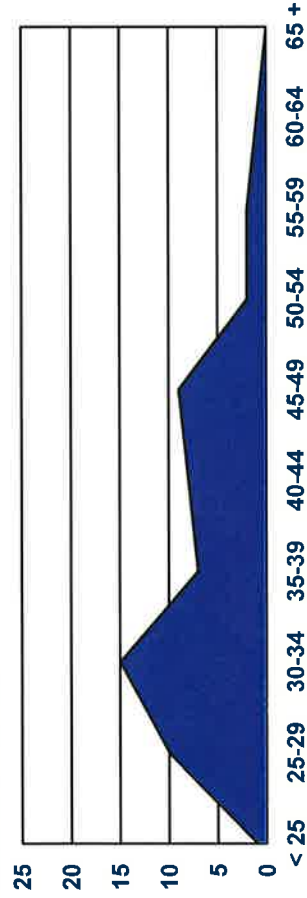
**Section V - Membership Data**  
**B. Statistics of Membership**

	As of July 1, 2014	As of July 1, 2015
<b>Number of Active Members</b>		
Number	56	55
Average Age	38.1	37.5
Average Service	11.0	10.5
Total Payroll	\$3,335,246	\$3,275,643
Average Payroll	59,558	59,557
<b>Terminated Vested Members</b>		
Number	5	6
Total Annual Benefit	\$45,645	\$78,762
Average Annual Benefit	9,129	13,127
Average Age	40.0	41.2
<b>Terminated Nonvested Members Due Refund</b>		
Number	0	0
<b>Retired Members</b>		
Number	61	64
Total Annual Benefit	\$3,086,291	\$3,348,299
Average Annual Benefit	50,595	52,317
Average Age	59.9	60.5
<b>Disabled Members</b>		
Number	0	0
Total Annual Benefit	\$0	\$0
Average Annual Benefit	0	0
Average Age	0.0	0.0
<b>Beneficiaries of Deceased Members</b>		
Number	18	17
Total Annual Benefit	\$416,705	\$384,413
Average Annual Benefit	23,150	22,613
Average Age	66.3	63.8

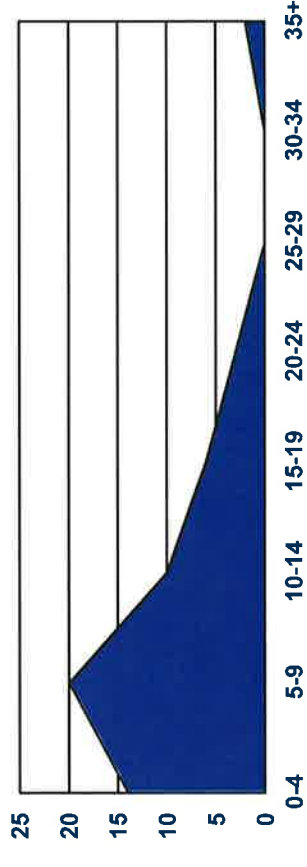
**Section V - Membership Data**  
**C. Distribution of Active Members as of July 1, 2015 - Count**

Age	Years of Service										Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	35+	Total	
< 25	1	0	0	0	0	0	0	0	0	1	1
25-29	9	1	0	0	0	0	0	0	0	10	10
30-34	1	13	1	0	0	0	0	0	0	15	15
35-39	0	2	5	0	0	0	0	0	0	7	7
40-44	1	1	3	3	0	0	0	0	0	8	8
45-49	2	2	1	2	2	0	0	0	0	9	9
50-54	0	0	0	1	1	0	0	0	0	2	2
55-59	0	1	0	0	0	0	0	0	1	2	2
60-64	0	0	0	0	0	0	0	0	1	1	1
65 +	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>14</b>	<b>20</b>	<b>10</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>55</b>	<b>55</b>

**Distribution By Age**



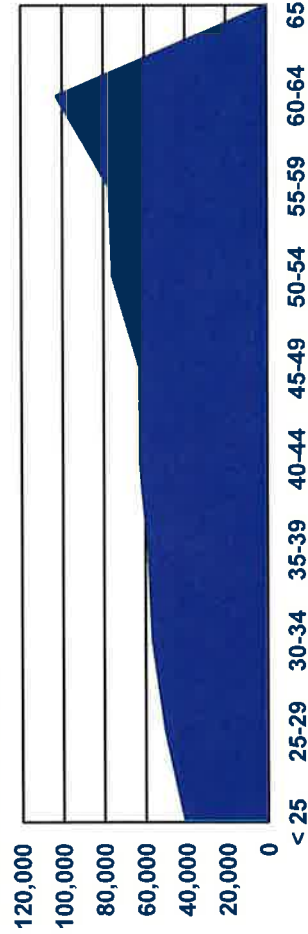
**Distribution by Years of Service**



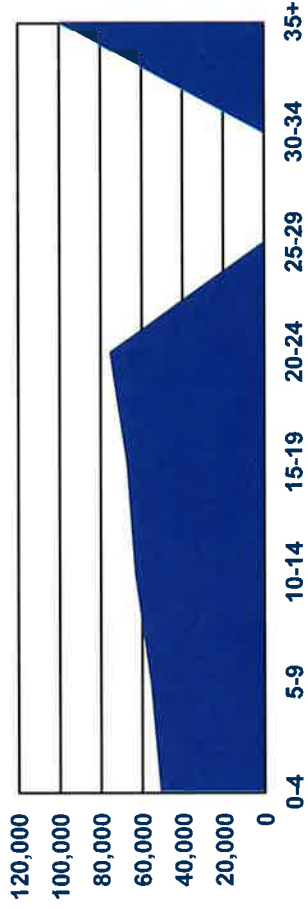
**Section V - Membership Data**  
**D. Distribution of Active Members as of July 1, 2015 - Average Pay**

Age	Years of Service										Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	35+	Total	
< 25	40,451	0	0	0	0	0	0	0	0	0	40,451
25-29	49,148	59,156	0	0	0	0	0	0	0	0	50,149
30-34	54,881	55,700	68,986	0	0	0	0	0	0	0	56,531
35-39	0	47,245	63,130	0	0	0	0	0	0	0	58,591
40-44	56,708	59,156	62,470	66,592	0	0	0	0	0	0	62,881
45-49	57,613	56,282	59,235	71,693	66,663	0	0	0	0	0	62,637
50-54	0	0	0	59,160	92,323	0	0	0	0	0	75,742
55-59	0	59,160	0	0	0	0	0	0	0	96,035	77,598
60-64	0	0	0	0	0	0	0	0	0	103,073	103,073
65 +	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>50,686</b>	<b>55,431</b>	<b>63,128</b>	<b>67,054</b>	<b>75,216</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>99,554</b>	<b>59,574</b>	

**Distribution By Age**



**Distribution by Years of Service**





**Section V - Membership Data**  
**E. Distribution of Inactive Members as of July 1, 2015**

	Age	Number	Annual Benefits
<b>Terminated Vested Members</b>	< 30	0	\$0
	30 - 39	2	2,814
	40 - 49	4	75,948
	50 - 59	0	0
	60 - 64	0	0
	65 +	0	0
	Total	6	78,762
<b>Retired Members</b>	< 50	12	\$763,896
	50 - 59	19	1,026,017
	60 - 69	23	1,163,610
	70 - 79	7	300,693
	80 - 89	3	94,083
	90 +	0	0
	Total	64	3,348,299
<b>Disabled Retirees</b>	< 50	0	\$0
	50 - 59	0	0
	60 - 69	0	0
	70 - 79	0	0
	80 - 89	0	0
	90 +	0	0
	Total	0	0
<b>Beneficiaries</b>	< 50	1	\$4,736
	50 - 59	7	121,285
	60 - 69	5	148,774
	70 - 79	2	50,973
	80 - 89	2	58,645
	90 +	0	0
	Total	17	384,413

## Appendix A - Actuarial Funding Method

The actuarial funding method used in the valuation of this Plan is known as the **Entry Age Normal Cost Method**. Recommended annual contributions until the accrued liability is completely funded will consist of two pieces: Normal Cost plus a payment towards the Unfunded Accrued Liability.

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 percent. Beginning on July 1, 2012, the amortization period is 26 years (closed period).

The **Actuarial Value of Assets** is determined by first projecting the Actuarial Value forward from the last valuation date based on the actual cash flow during the year and the assumed interest rate. The difference between this expected actuarial value and the actual market value is recognized over a **five** year period, subject to the Actuarial Value remaining within +/- 20% of the Market Value.

## 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, 2010 to June 30, 2014, 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. Please see the report dated March 23, 2015 for details concerning the information, analysis, and conclusions from the formal study of the plan's 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** 7.00%

**Salary Scale**

<u>Current valuation</u>	Hired Pre 1/1/2013	Hired Post 12/31/2012
<u>Service</u>	<u>Rate</u>	<u>Rate</u>
1	9.70%	9.70%
2	6.10	6.10
3	13.50	13.50
4	2.70	2.70
5	7.70	3.70
6-9	3.70	3.70
10	7.10	3.70
11-14	3.70	3.70
15	5.10	3.70
16-19	3.70	3.70
20	3.70	3.70
21	3.66	3.66
22	3.62	3.62
23	3.58	3.58
24	3.54	3.54
25	3.50	3.50
26 - on	3.50	3.50

Employees hired prior to 1994 receive an additional 55% salary increase in the year before retirement.

## Appendix B - Actuarial Assumptions

**Salary Scale**

<u>Prior valuation</u>	Hired Pre 1/1/2013	Hired Post 12/31/2012
<u>Service</u>	<u>Rate</u>	<u>Rate</u>
1	9.75%	9.75%
2	6.15	6.15
3	13.55	13.55
4	2.75	2.75
5	7.75	3.75
6-9	3.75	3.75
10	7.15	3.75
11-14	3.75	3.75
15	5.15	3.75
16-19	3.75	3.75
20	3.75	3.75
21-24	3.75	3.75
25	3.75	3.75
26 - on	3.75	3.75

Employees hired prior to 1994 receive an additional 60% salary increase in the year before retirement.

**Amortization Growth Rate**

3.50% (Prior valuation - 3.75%)

**Expenses**

Prior year's actual administrative expenses increased by 3% and rounded to the nearest \$100.

**Mortality**

RP-2000 Combined Healthy Mortality Table with generational projection per Scale AA with separate male and female tables. This assumption recognizes future mortality improvements beyond the valuation date.

**Turnover**

None

**Pre-Retirement Disability**

1987 Commissioner's Group Disability Table, six month elimination period, separately for males and females:

<u>Age</u>	<u>Male</u>	<u>Female</u>
22	0.0800%	0.1000%
27	0.0890	0.1157
32	0.1050	0.1554
37	0.1370	0.2315
42	0.2020	0.3050
47	0.3560	0.4628
52	0.6620	0.7282
57	1.1870	1.0683
62	1.6710	1.2532

## Appendix B - Actuarial Assumptions

### Rate of Retirement

#### Current valuation

Active members are assumed to retire based on the following rates:

60% of employees hired prior to 1994 are assumed to retire when first eligible. 35% are assumed to retire in the year thereafter. 25% are assumed to retire in the two years thereafter. 20% are assumed to retire in the two years thereafter. 15% are assumed to retire in the four years thereafter. 100% of employees are assumed to retire at 30 years of service.

75% of employees hired after 1994 and prior to 2013 are assumed to retire when first eligible. 20% are assumed to retire in the years thereafter. 100% of employees are assumed to retire at 30 years of service.

75% of employees hired after 2012 are assumed to retire at 25 years of service (no earlier than age 55). 20% are assumed to retire in the years thereafter. 100% of employees are assumed to retire at 30 years of service.

#### Prior valuation

Active members are assumed to retire based on the following rates:

50% of employees hired prior to 1994 are assumed to retire when first eligible. 30% are assumed to retire in the three years thereafter. 15% are assumed to retire in the six years thereafter. 100% of employees are assumed to retire at 30 years of service.

75% of employees hired after 1994 are assumed to retire when first eligible. 20% are assumed to retire in the years thereafter. 100% of employees are assumed to retire at 30 years of service.

75% of employees hired after 2012 are assumed to retire at 25 years of service (no earlier than age 55). 20% are assumed to retire in the years thereafter. 100% of employees are assumed to retire at 30 years of service.

### Percent Married

75% of active and terminated vested members are assumed to be married.

### Age of Spouse

Females are assumed to be three years younger than their male spouses.

### Cost of Living Adjustment

1.50% (compounded) for officers retired prior to July 1, 1986.

2.50% (compounded) for officers retired after July 1, 1986 (and hired prior to January 1, 1994).

2.70% (non-compounded) for officers hired on or after January 1, 1994 (prior valuation - 2.75%).

## 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.

<b>Eligibility</b>	Full-time police officers that have received his/her appointment.
<b>Employee Contributions</b>	Members hired on or after January 1, 2013 contribute 12% of pensionable earnings. Members hired on or after January 1, 1994 contribute 9% of pensionable earnings. Members hired before January 1, 1994 contribute 8% of pensionable earnings. Interest is credited at 5% per year.
<b>Normal Retirement Date</b>	Officers who received their appointments prior to January 1, 1994: 20 years of service.  Officers who received their appointments after January 1, 1994, but prior to January 1, 2013: 23 years of service.  Officers who received their appointments on or after January 1, 2013: 25 years of service, but no earlier than age 55.
<b>Normal Retirement Benefit</b>	50% of Compensation. For members hired before January 1, 2013, Compensation is the final 12 months of pensionable earnings. For members hired after January 1, 2013, Compensation is the final five years' average pensionable earnings.
<b>Disability Retirement Eligibility</b>	Injured in the line of duty and unable to return to work within 2 years.
<b>Disability Retirement Benefit</b>	Immediate benefit equal to 66 2/3% of accrued benefit, payable until the member's Normal Retirement Date.
<b>Normal Form of Annuity</b>	100% Joint & Survivor Annuity with Modified Cash Refund. Optional forms of benefit are available on an actuarially equivalent basis.
<b>Pre-Retirement Spouse's Death Eligibility</b>	Has attained Normal Retirement Date
<b>Pre-Retirement Spouse's Death Benefit</b>	100% of the benefit that would have been payable as if he/she had retired on the date of death.
<b>Pre-Retirement Lump Sum Death Eligibility</b>	Immediate (if not eligible for Pre-Retirement Spouse's Death Benefit).
<b>Pre-Retirement Lump Sum Death Benefit</b>	Refund of Employee Contributions with interest to date of death.

## Appendix C - Summary of Plan Provisions

<b>Death Benefits After Retirement</b>	Based on form of benefit elected at retirement.
<b>Vesting</b>	25% after 5 years of service, increasing 5% for each of the next 5 years, then increasing 10% for each of the next 5 years to 100% after 15 years. Members are 100% vested at their Early Retirement Date, Normal Retirement Date, or Disability Retirement Date.
<b>Termination Benefit Pre-Retirement</b>	Refund of Employee Contributions with interest to date of termination.
<b>Cost of Living Adjustment</b>	<p>1 ½% (compounded) for officers retired prior to July 1, 1986.</p> <p>2 ½% (compounded) for officers retired after July 1, 1986 (and hired prior to January 1, 1994).</p> <p>For officers hired on or after January 1, 1994, there will be an annual non-compounded cost-of-living adjustment (COLA) equal to the greater of (a) 1.50%, or (b) the Consumer Price Index (CPI-W) as published by the Bureau of Labor Statistics (BLS).</p>