



City of Lansing Police and Fire Retirement System

Actuarial Valuation For Funding and Contributions

as of December 31, 2015

October, 2016

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Executive Summary

October 24, 2016

City of Lansing Police and Fire Retirement System
124 W. Michigan Avenue
8th Floor
Lansing, MI 48933

Members of the Board:

The following report sets forth the Actuarial Valuation of the City of Lansing Police and Fire Retirement System (the System) as of December 31, 2015. The report is based on participant data and asset summary as of December 31, 2015 as submitted by the Plan Administrator and City finance department. We relied on this information without auditing it.

INVESTMENT PERFORMANCE:

The total Market Value of Plan Assets for the plan year ending December 31, 2015 was \$310,270,615. Plan assets exclude from this a reserve for healthcare benefits. The total yield of the fund for the plan year ending December 31, 2015 was -0.1%% on the market value of assets and 7.2% on an actuarial basis, taking into account asset smoothing.

The Plan uses a smoothing method to determine the City's contributions. Under this method, asset gains or losses are spread over a 5-year period. The gains and losses are determined every year by comparing actual investment returns with expected asset performance.

Details of the development of the Actuarial Asset Value are shown on page 7.

FUNDING RECOMMENDATIONS:

The total recommended City contribution for fiscal year 2015 is \$11,521,768. Last year the total recommended contribution was \$10,884,312. There was an actuarial loss on the Actuarial Liability due to salary increases more than the assumed which resulted in an increase in the City Contribution, as well as more retirements than expected.

FUNDING PROGRESS:

The Actuarial Accrued Liability as of December 31, 2014 is \$410,189,555 compared to the Actuarial Value of Assets of \$292,531,481, resulting in a plan funded ratio of 71.3%. Using the market value of assets, this ratio is 68.6%.

The purposes of this report are to establish the City contribution for the next fiscal year, and to evaluate the funding progress of the System.

The accounting report for the System, under GASB 67 and 68, is provided under separate cover, and serves a different purpose. All the figures presented in this report are to be used for funding and contribution purposes.

This report is prepared in accordance with generally accepted actuarial principles and practices. In the opinion of the Retirement Board and its actuary, the actuarial assumptions used are reasonable related to Retirement System experience and expectations, and represent the best estimate of Retirement System experience.

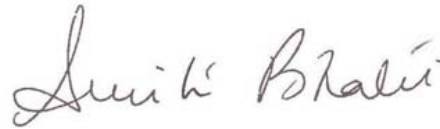
The undersigned below are members of the American Academy of Actuaries, and are qualified to render the actuarial opinions presented in this report.

Respectfully Submitted,

BOOMERSHINE CONSULTING GROUP, L.L.C.



Gregory M. Stump, FSA, EA, MAAA, FCA
Chief Actuary



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Senior Consultant

Section 1: Plan Asset Information

1.1: Summary of Plan Assets

Market Value of Total Fund as of January 1, 2015		\$325,637,582
<u>Receipts:</u>		
Employer Contribution	10,884,312	
Employer Contribution - Healthcare Reserve	585,000	
Member Contributions	2,826,578	
Adjustments Investment Income		
Interest	1,146,100	
Dividends	1,018,265	
Market Appreciation	(1,647,671)	
Total Additions		\$14,812,584
<u>Disbursements:</u>		
Member Refund	107,871	
Distributions to Participants/ Beneficiaries	28,777,990	
Administrative Expenses and Other	221,589	
Investment Expenses	1,072,100	
Total Disbursements		\$30,179,551
Net Increase/(Decrease) in Assets		<u>(\$15,366,967)</u>
Market Value of Total Fund as of December 31, 2015		\$310,270,615

Allocation of Net Plan Assets as of December 31, 2015

Asset Class	Market Value	% of Total
Cash and Short Term Investments	\$ 28,062,259	9.0%
Equity	176,314,169	56.8%
Fixed Income	86,915,794	28.0%
Real Estate	20,594,271	6.7%
Accounts payable	<u>(1,615,879)</u>	<u>-0.5%</u>
TOTAL ASSETS	\$310,270,615	100.0%
Estimated Rate of Return on Market Value for 2015		(0.1%)

1.2: Development of Actuarial Value of Assets

Market Value of Total Fund as of December 31, 2014		\$ 325,637,582
Plus: Contributions		14,295,890
Less: Benefit Payments, Refunds		28,885,862
Less: Admin Expenses		221,589
Plus: Expected Return during 2015 (@ 7.6%)		23,868,996
Expected Asset Value		\$334,695,017
Actual Market Value of Total Fund as of December 31, 2015		\$310,270,615
Asset Gain/(Loss) for 2015 Plan Year		(24,424,402)
Actuarial Value =		
Market Value of Total Fund as of December 31, 2015		\$310,270,615
Less: 80% of 2015 Gain/(Loss)	80%*	(24,424,402)
Less: 60% of 2014 Gain/(Loss)	60%*	(5,226,518)
Less: 40% of 2013 Gain/(Loss)	40%*	25,936,548
Less: 20% of 2012 Gain/(Loss)	20%*	0 ¹
Total Deferred Gain/(Loss)		(12,300,814)
Actuarial Value of Assets, Total Fund - December 31, 2015 (Market Value, less total deferred)		\$322,571,429
as % of Market Value of Assets		104.0%
Healthcare Reserve as of December 31, 2015		\$28,895,679
Adjusted Healthcare Reserve ²		30,039,948
Actuarial Value of Assets, Pension Plan - December 31, 2015		\$292,531,481
Estimated Rate of Return on the Actuarial Value is	7.2%	

¹ 2010 - 2012 Investment Experience fully recognized as of 12/31/2013

² Takes into account asset smoothing

1.3: Reconciliation of Fund Reserves

	EMPLOYEE SAVINGS FUND	RETIREMENT RESERVE	HEALTHCARE RESERVE	TOTAL
1/1/2015	\$ 27,559,570	\$ 271,686,030	\$26,391,982	\$ 325,637,582
Additions:				
EE Contributions	\$2,826,578			\$ 2,826,578
ER Contributions		\$ 10,884,312	\$585,000	\$ 11,469,312
Interest:				
	3.00%	7.60%	7.27%	
Annual Credits	\$ 826,787	\$ 18,461,011	\$1,918,697	\$ 21,206,495
Deductions:				
Refunds/Benefits	\$ (107,871)	\$(28,777,990)		\$(28,885,861)
Adjustment				
	\$(4,363,090)	\$(17,620,401)		\$(21,983,491)
12/31/2015	\$ 26,741,974	\$ 254,632,962	\$28,895,679	\$ 310,270,615

Employees Savings Fund

<i>Purpose</i>	Keep track of employee contribution balances, and interest credited to such
<i>Relevance to Plan Funding</i>	Does not directly impact plan funding

Retirement Reserve Fund

<i>Purpose</i>	Provides funds to finance regular benefit payments to retirees
<i>Relevance to Plan Funding</i>	Does not directly impact plan funding

Healthcare Reserve

<i>Purpose</i>	Funds invested with pension assets, but segregated to be used for retiree healthcare benefits
<i>Relevance to Plan Funding</i>	Excluded from pension assets to determine contributions towards pension funds

Section 2: Participant Summary

2.1: Reconciliation of Plan Participants

	Active Participants	Non-vested Terminations Due Refunds	Deferred Vested Terminations	Retired	Disabled	Beneficiary	Total
Participants as of December 31, 2014	362	15	24	505	65	141	1,112
Correction	0	(2)	(1)	(1)	0	0	(4)
Retired	(22)	0	(2)	24	0	0	0
Terminated Vested	(2)	0	2	0	0	0	0
Terminated Non-Vested (Member Contributions refunded)	(3)	0	0	0	0	0	(3)
Disabled	(1)	0	0	0	1	0	0
Deceased	(1)	0	0	(13)	(1)	(12)	(27)
New Beneficiary / EDRO	0	0	0	0	0	14	14
Rehired	0	0	0	0	0	0	0
Terminated Non-Vested (Member Contributions to be refunded)	0	2	0	0	0	0	2
Transfers In from ERS	0	0	0	0	0	0	0
New Hires	16	0	0	0	0	0	16
Data Adjustments	0	0	0	0	0	0	0
Participants as of December 31, 2015	349	15	23	515	65	143	1,110

* Includes distinction made between retiree EDROs and beneficiary EDROs

Inactive Participants	12/31/2014			12/31/2015		
	Fire	Police	Total	Fire	Police	Total
Number of Retired Participants	215	290	505	219	296	515
Average Age	65.4	65.3	65.3	65.2	65.5	65.4
Average Annual Benefit	\$49,777	\$43,742	\$46,311	\$51,188	\$44,838	\$47,538
Number of Disabled Participants	40	25	65	40	25	65
Average Age	54.7	53.5	54.2	54.5	54.6	54.5
Average Annual Benefit	\$41,084	\$39,701	\$40,552	41,394	39,861	\$40,804
Number of Beneficiaries/EDROs	68	73	141	69	74	143
Average Age	76.4	72.4	74.3	76.5	73.1	74.7
Average Annual Benefit	\$16,455	\$16,226	\$16,336	16,863	15,914	\$16,368
Number of Deferred Vested Participants	5	19	24	5	18	23
Average Age	42.7	47.9	46.8	43.9	48.6	47.6
Average Annual Benefit	\$34,519	\$27,173	\$28,703	34,519	31,473	\$32,135

2.2: Distribution of Active Participants

Nearest Age	-----Completed Years of Service from Date of Hire-----								Total
	<1	1	2 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25+	
<20									
20 - 24	6 11,641	8 50,261	1 52,744						15 34,979
25 - 29	5 10,914	17 52,923	8 58,627	1 71,612					31 48,222
30 - 34		11 50,439	6 68,683	25 75,417	7 71,362				49 68,406
35 - 39			2 75,206	15 73,971	25 76,901	12 79,034			54 76,499
40 - 44		2 48,352	1 65,104	4 75,016	17 78,127	50 77,699	7 94,995		81 78,271
45 - 49	1 10,015			3 80,269	7 75,829	28 80,956	38 86,738	1 90,098	78 82,494
50 - 54				1 74,430	3 78,768	10 82,923	15 91,844	2 101,773	31 87,780
55 - 59						3 75,787	6 88,741		9 84,423
60 - 64									
>64							1 80,810		1 80,810
Total	12 11,203	38 51,403	18 63,854	49 75,141	59 76,565	103 79,192	67 88,835	3 97,881	349

	<u>Males</u>	<u>Females</u>	<u>Total</u>
Total Compensation	21,988,772	3,849,893	25,838,665
Average Compensation	74,036	74,036	74,036
Arithmetic Averages:			
Nearest Age	40.1	39.6	40.0
Completed Years of Service	12.7	13.4	12.8
Salary-Weighted Averages:			
Nearest Age	41.4	40.8	41.4
Completed Years of Service	14.1	14.3	14.1
Number of Participants	297	52	349
Percent male / female	85.1%	14.9%	100.0%

Section 3: Valuation Summary

3.1: Summary of Actuarial Liability and Funding Progress

Actuarial Accrued Liability	12/31/2014	12/31/2015
Active Employees	\$104,149,553	\$106,965,325
Terminated Vested	4,701,287	5,315,759
<u>Retirees and Beneficiaries</u>	<u>286,238,481</u>	<u>297,908,471</u>
Total Actuarial Accrued Liability	\$395,089,321	\$410,189,555
Actuarial Value of Assets	288,785,965	292,531,481
Net Unfunded Actuarial Accrued Liability	106,303,356	117,658,075
Plan Funding Ratio	73.1%	71.3%

3.2: Development of Employer Contributions

	12/31/2014	12/31/2015
1) Total Entry Age Normal Cost ¹	\$ 6,548,752	\$ 6,463,974
2) <u>Estimated Employee Contributions</u>	<u>2,486,995</u>	<u>2,625,342</u>
3) Net City Normal Cost: (1) – (2)	\$4,061,757	\$3,838,632
4) Valuation Payroll	\$ 26,264,214	\$ 27,038,601
5) City Normal Cost Rate (% of pay): (3) ÷ (4)	15.5%	14.2%
6) Amortization of Unfunded Actuarial Accrued Liability	\$ 6,495,287	\$ 7,336,709
7) Amortization Rate (% of Pay): (6) ÷ (4)	24.7%	27.1%
8) Total Contribution Rate: (5) + (7)	40.2%	41.3%
9) Projected Fiscal Payroll	\$ 27,078,405	\$ 27,876,798
10) Total City Contribution: (8) x (9)	\$10,884,312	\$11,521,768

Estimated Cash Flow for Next Five Years

Fiscal Year	City Contribution*	Member Contributions	Benefit Payments
2018	11,900,000	2,700,000	29,400,000
2019	12,300,000	2,800,000	30,100,000
2020	13,100,000	2,900,000	30,400,000
2021	13,700,000	3,000,000	30,900,000
2022	14,100,000	3,100,000	31,800,000

* City contribution will be impacted by actual experience as well as assumption changes in 2017 and later.

¹ A breakdown of normal cost by bargaining unit is shown in Appendix III.

Section 4: Actuarial Assumptions and Methods

- Funding Method:** Entry Age Normal Actuarial Cost Method. The contribution equals the sum of the normal cost and the amount necessary to amortize the unfunded actuarial liability as a level percent of payroll over a closed period of thirty years, decreasing by 1 year to an ultimate period of 15 years (26 years remaining as of December 31, 2015).
- Asset Smoothing Method:** Investment gains and losses are determined annually and each is spread over a 5-year period. This is done on a total fund basis. The value of the healthcare reserve is then excluded from the valuation assets.
- Investment Return:** 7.60% compounded annually, net of investment expenses
- Cost of Living (inflation):** The cost of living as measured by the Consumer Price Index (CPI) is assumed to increase at the rate of 3.10% per year.
- Salary Increases:** Increases in salary are assumed to be equal to inflation, plus 7.00% for those with less than 5 years of service or 0.75% for all others
- Mortality:** RP2000 with Blue Collar adjustments for males and females. For Disabled members, the disabled version of these tables are assumed with a 5 year age setback for males. Each of these tables is projected to 2008 using Scale BB. Future improvements in mortality for non disabled members are anticipated by projecting these tables an additional 15 years using 50% of Scale BB.
- Percent Married:** 90% of participants are assumed to be married. Male spouses are assumed to be three years older than their female spouse.
- Disability:** Rates of disability vary based on the age of the member. 95% of disabilities are assumed to be duty related.

Sample rates are shown below:

<u>Age</u>	<u>Rate</u>
20	0.0800%
30	0.4000%
40	0.6250%
50	0.7500%
60	0.0000%

Termination: Rates of termination vary based on the service of the member.

Sample Rates are shown below:

<u>Years of Service</u>	<u>Fire</u>	<u>Police</u>
0	4.0%	5.0%
1	3.2%	4.3%
5	1.3%	2.2%
10	0.4%	1.0%
15	0.1%	0.4%
20	0.0%	0.0%

Retirement: Rates of retirement vary based on the service of the member as shown below.

<u>Years of Service</u>	<u>Fire</u>	<u>Police</u>
10-24	5.0%	5.0%
25	80.0%	80.0%
26-29	60.0%	25.0%
30+	100.0%	100.0%

Changes in assumptions and methods

There have been no changes in assumptions since the prior valuation.

The assumptions above are based on the most recent experience study, covering 2005 through 2011. An experience study is being conducted in 2016.

Section 5: Summary of Plan Benefits

All benefits are subject to the language in the City Ordinance and relevant collective bargaining agreements.

Employee Group Covered: Police Officers and Fire Fighters

Normal Retirement: Age 55 or 25 years of service
For FOP-NS hired on or after August 1, 2014, full retirement is at age 50 with 25 years of service

Mandatory Retirement: Age 60 for Police and age 70 for Firefighters

Normal Form of Benefit: Monthly life annuity with 50% of the benefit payable to the spouse upon the member's death.

	<u>Group</u>	Contribution Rate <u>(% of Pay)</u>	
Member Contribution Rates:	Fire (IAFF)	9.08%	(10.00% as of 05/19/2014)
	Police, Supervisor (FOP-S)	9.52%	
	Police, Non Supervisor (FOP-NS)	8.50%	(9.00% as of 07/01/2015)
Hires after 5/19/2014	Fire (IAFF)	7.00%	
Hires after 08/01/2014	Police, Non Supervisor (FOP-NS)	7.00%	

Included Compensation: For a police officer member, Included Compensation is defined as annual base salary, overtime pay (including holiday pay), longevity, gun allowance, clothing allowances, sick leave reimbursement (buy-back), shift premium and retroactive pay (prorated by effective date). For a Police Supervisory Division Unit member, the definition also includes compensatory time buy-back (up to a maximum of 160 hours), provided that the compensatory time was earned in the same 24 months on which final average compensation is based. For a firefighter member, Included Compensation is defined as annual base salary, overtime pay, acting pay, ambulance wage differential pay, longevity, holiday pay, field training instructor pay and retroactive pay (prorated by effective date).

Final Average Compensation: Final Average Compensation means the monthly average of the member's final compensation that is included in Included Compensation, paid during the period of the member's 24 highest consecutive months of credited service as a police officer, or firefighter. If the member has less than 24 months of credited service, the member's final average compensation shall be the monthly average of the Included Compensation paid for his or her total period of credited service.

Normal Retirement Benefit Formula: 3.2% of Final Average Compensation times years of credited service, not to exceed 25 years. Maximum benefit is 80% of Final Average Compensation. Pension benefit is capped at 110% of Base Wage for IAFF and FOP-NS

Benefit Multiplier is changed to 2.5% and Pension Benefit is capped at 100% of Base Wage for hires on or after May 19, 2014 for IAFF and August 1, 2014 for FOP-NS

Termination Prior to Retirement

Eligibility	Vesting is after 10 years of credited service
Benefit Amount	Benefit is payable beginning at age 55 and computed in the same manner as the Normal Retirement Benefit, but based on credited service and Final Average Compensation at date of termination.

Duty Disability

Eligibility	Members are eligible for Duty Disability Retirement benefits immediately upon employment.
Benefit Amount (Before Retirement Eligibility)	The Duty Disability Retirement Benefit payable to members is equal to 2/3 of Final Average Compensation.
Benefit Amount (After Retirement Eligibility)	Benefit is paid at the effective date of disability retirement as a Life Annuity and is equal to the accrued Retirement Benefit. In computing the benefit amount, credited service is increased to include the period of disability, and Final Average Compensation is calculated using current rates of compensation for those with similar rank.
	The Disability Benefit will be offset by any workers' compensation payable on account of the disability.

Non Duty Disability

Eligibility	Members are eligible for Non Duty Disability Retirement benefits after completing 10 years of service.
Benefit Amount	Benefit is paid at the effective date of disability retirement as a Life Annuity and is equal to the accrued Retirement benefit, with a maximum benefit equal to 2/3 of the annual rate of compensation of either a full-paid patrolman or a full-paid firefighter as of the date of retirement, whichever is higher.

Death incurred in the Line of Duty

Eligibility	The Death in Line of Duty Benefit is payable to the survivors of a member who died as a result of an injury or disease arising out of and in the course of duty.
Benefit Amount - Fire	A benefit, equal to 1/3 of the deceased member's Final Compensation, is payable to the widow or widower. In addition, unmarried children under the age of 21 will receive a benefit equal to 1/4 of the deceased member's Final Compensation, divided equally among children.
Benefit Amount - Police	A benefit is payable to the widow or widower, equal to the greater of 80% of the deceased member's Final Average Compensation, or 80% of the top paid base salary for the rank the officer held at the time of his or her death. Benefit is paid to surviving children if there is no surviving spouse.

Non Duty Pre-Retirement Death

Eligibility	The non-duty pre-retirement death benefit is payable upon the death of a member after earning 10 years of credited service.
Benefit Amount	50% of the accrued retirement benefit, computed in the same manner as the Retirement Benefit payable as a Life Annuity.

Optional Benefit Forms

Prior to retirement, a member may elect a reduced benefit of either 93% or 86% of the original amount, thereby increasing the spouse benefit to either 75% or 86%, respectively.

Ad Hoc Cost-of-Living Adjustments

One-time cost of living increases were granted in 1973, 1984 and 1987.

Post Retirement Benefit Adjustments

Effective January 1, 1995 and each January 1 thereafter, the annual benefit amount will be increased by \$525 for each retiree who meets each of the following conditions:

- 1) 25 or more years of credited service at the time of retirement
- 2) Age 60 as of the January 1 increase date
- 3) Has been retired at least 6 months as of the January 1 increase date

The \$525 amount is reduced for retirees who elected the 75% or 86% optional forms of benefit (\$488.25 and \$451.50, respectively).

Spouses of deceased members are also eligible for benefit increases each January 1 if:

- 1) The deceased member had at least 25 years of credited service at the time of retirement
- 2) The deceased member would have attained at least age 60 as of the January 1 increase date
- 3) The deceased member had been deceased at least 6 months as of the January 1 increase date.

The spouse's annual benefit increase amount is adjusted based on the form of payment elected by the deceased member, according to the following schedule:

<u>Spouse Benefit %</u>	<u>Annual Benefit Increase</u>
50%	\$262.50
75%	\$393.75
86%	\$451.50

The benefit increases accumulate from year to year, but cumulative benefit increases shall not exceed cumulative increases in the Consumer Price Index.

Changes in Plan provisions since the prior valuation

There have been no changes in Plan provisions since the prior valuation.

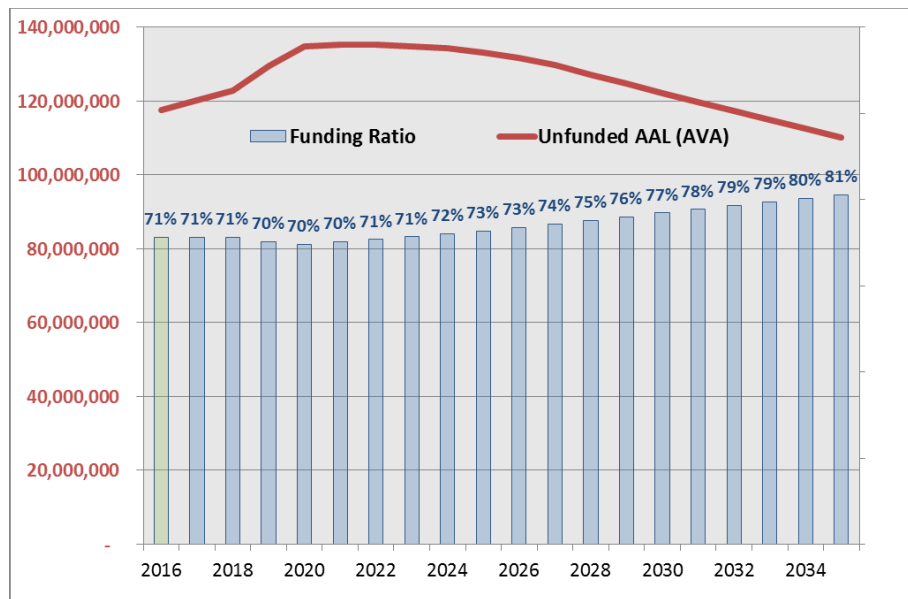
Glossary of Terms

Actuarial Accrued Liability (AAL):	The portion of benefits deemed to be accrued by participants based on past service. The AAL serves as the asset funding target, when annual contributions are determined.
Actuarial Value of Assets (AVA):	The smoothed value of assets, used to compute the Unfunded AAL. The purpose of the AVA is to control volatility in annual cash contributions .
Amortization of Unfunded Liability:	The portion of the annual cash contribution that represents a portion of the Unfunded AAL. The amortization can be positive or negative.
Actuarially Determined Employer Contribution (ADEC):	The contribution determined by the actuary for funding purposes .
Market Value of Assets (MVA):	The total value of Plan assets available to pay benefits.
Normal Cost:	That portion of the annual contribution that represents one year's accrual of benefits. In funding calculations, this is known as the Service Cost.
Unfunded Actuarial Accrued Liability:	The difference between the Actuarial Value of Assets and the Actuarial Accrued Liability, used for funding purposes .

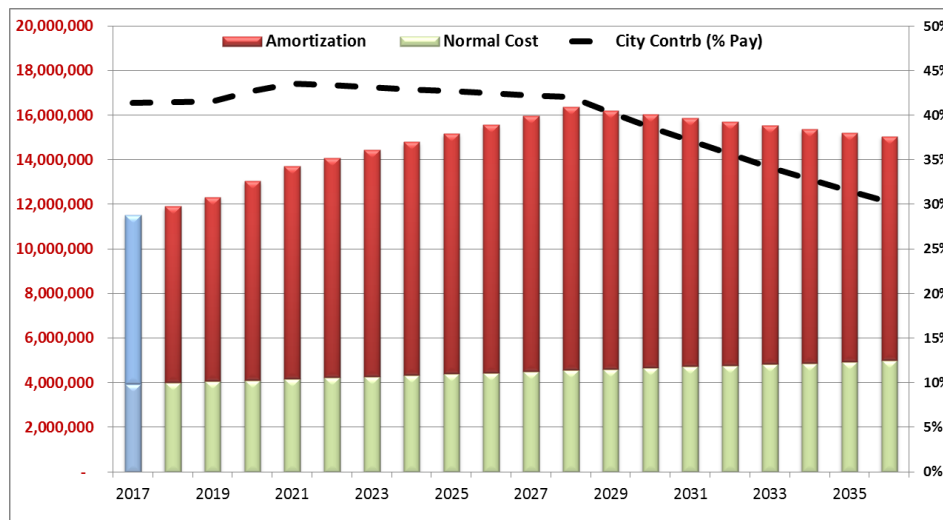
Appendix I: 20 Year Projection of Funding and Contributions

The graphs below show a projection of expected funding progress and City pension contributions to the Fund. The actual funding progress and contributions over this time period will differ from what is shown here, due to the actual experience of the Plan as well as changes in assumptions. However, we can see that the Plan is on a path to decreasing the unfunded liability (top graph, red line) and improving the funding ratio to 80% over 20 years. During this time, the City contribution rate is expected to remain relatively level for 10 years, before gradually decreasing.

Projection of Funding Progress



Projection of City Contributions



Appendix II: History of Employer Contributions and Funding Progress

Historical Employer Contributions

Fiscal Year Ending	Actuarially Determined Employer Contribution	Actual Employer Contribution	
6/30/2008	\$ 6,520,974	\$ 6,520,974	
6/30/2009	6,094,397	6,483,000	(1)
6/30/2010	7,179,360	6,790,757	(1)
6/30/2011	8,240,688	8,240,688	
6/30/2012	9,242,173	9,057,080	(2)
6/30/2013	10,133,599	10,133,599	(3)
6/30/2014	11,248,857	11,248,857	
6/30/2015	11,050,091	11,050,091	(4)
6/30/2016	10,884,312	10,884,312	
6/30/2017	11,521,768	To Be determined	

(1) The City contributed in excess of its FY 2009 ADEC. The City's FY 2010 contribution was reduced by the dollar amount of the FY 2009 overpayment.

(2) The FY 2012 City contribution was reduced by \$185,093 in recognition of additional contributions by International Association of Firefighters (IAFF) employees, which were negotiated and contributed after the establishment of the June 30, 2012 ADEC from the December 31, 2010 valuation.

(3) Fiscal year 2013 ADEC reflects changes made to actuarial assumptions based on an Experience Study. Changes included a decrease in the assumed rate of return from 8.0% to 7.8%. A closed amortization period was also adopted as of 12/31/2011, beginning at 30 years and decreasing each year until 15 years is reached.

(4) Fiscal year 2015 ADEC reflects changes made to assumed return and inflation from 7.8% and 3.3% to 7.6% and 3.1%, respectively. ADEC also reflects change in asset smoothing to immediately recognize all investment gains and losses prior to 12/31/2012.

Historical Funding Progress

Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Percentage Funded	Unfunded Actuarial Accrued Liability
12/31/2006	\$ 278,839,000	\$ 308,193,000	90.5%	\$ 29,354,000
12/31/2007	293,571,000	315,635,000	93.0%	22,064,000
12/31/2008	287,394,000	326,673,000	88.0%	39,279,000
12/31/2009	280,342,000	337,315,000	83.1%	56,973,000
12/31/2010	276,377,041	359,293,016	76.9%	82,915,975
12/31/2011	264,492,738	372,547,509	71.0%	108,054,771 (5)
12/31/2012	257,898,061	373,083,911	69.1%	115,185,850
12/31/2013	277,267,947	383,879,280	72.2%	106,611,333 (6)
12/31/2014	288,785,965	395,089,321	73.1%	106,303,356
12/31/2015	292,531,481	410,189,555	71.3%	117,658,075

(5) Reflects changes made to actuarial assumptions, based on Experience Study, including a reduction in the assumed return 8.0% to 7.8%.

(6) Reflects changes made to assumed return and inflation from 7.8% and 3.3% to 7.6% and 3.1%, respectively. AVA also reflects change in asset smoothing to immediately recognize all investment gains and losses prior to 12/31/2012.

Appendix III: Benefit Costs by Unit/Formula

Employee Group(s)	# Employees	Benefit Multiplier	Total		Net City	
			Normal Cost	% of Pay	Normal Cost	% of Pay
Police I	169	3.20%	\$ 3,460,831	25.4%	\$ 2,119,015	15.6%
Police II	18	2.50%	68,727	14.4%	35,360	7.4%
Fire I	137	3.20%	2,670,021	23.3%	1,524,111	13.3%
Fire II	25	2.50%	264,395	17.8%	160,146	10.8%
All Police and Fire Employees	349	N/A	\$ 6,463,974	23.9%	\$ 3,838,632	14.2%