

March 2, 2015

The Board of Trustees  
City of Livonia Employees Retirement System  
Livonia, Michigan 48154

Dear Board Members:

***The purpose of the annual actuarial valuation*** of the City of Livonia Employees Retirement System as of November 30, 2014, is to:

- Compute the present value of future benefits likely to be paid on behalf of current retired and active members of the Retirement System, and
- Compute the City's recommended contribution rate for the Fiscal Year beginning December 1, 2015.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices. Data concerning active members, retirees, beneficiaries and assets was provided by the City of Livonia. This data has been reviewed for reasonableness, but no attempt has been made to audit such information. The valuation was based on the provisions of the Retirement System as amended through November 30, 2014. The actuarial assumptions used in this valuation are reasonably related to the past experience of the System and represent reasonable expectations of future experience under the System. This valuation has been prepared under the supervision of a Member of the American Academy of Actuaries who meet the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



Denise M. Jones  
Senior Consultant



Sandra W. Rodwan  
Member, American Academy of Actuaries

***City of Livonia***  
***Employees Retirement System***

*Actuarial Valuation as of November 30, 2014*

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***Section One:***  
***Valuation Summary***



### **Purpose of Valuation**

The purpose of the annual actuarial valuation of the City of Livonia Retirement System as of November 30, 2014 is to:

- ❖ Compute the present value of future benefits likely to be paid on behalf of current retired and active members of the Retirement System,
- ❖ Compute the City's recommended contribution rate for the Fiscal Year beginning December 1, 2015.

### **Funding Value of Assets**

A smoothed market value of assets was used for the November 30, 2014, valuation. This method, which is unchanged from prior years, spreads the difference between actual and expected investment return over five years.

### **City's Computed Contribution Rate**

The City's contribution rate for the fiscal year beginning December 1, 2015 has been computed to be 0.00% of active member payroll for the General division, 4.23% of active member payroll for the Police division, and 22.48% of active member payroll for the Fire division. These contribution rates were computed using the aggregate actuarial cost method, the same method as used in last year's valuation. This method is appropriate for retirement systems which are closed to new hires.

The aggregate method produces a contribution rate for the City which, together with current assets, investment earnings and future member contributions, can be expected to accumulate to the value of the benefits payable at retirement.

The actuarial accrued liability under this method is defined to be the current actuarial value of assets.

### **Retirement System Experience**

The overall experience of the Retirement System during the year ended November 30, 2014 was more favorable than expected based upon the long-term assumptions. The primary source of the favorable experience was the recognized rate of return on the smoothed funding value of assets.

There were 12 new retirees during the year compared with 24 last year. Nineteen retirees were removed compared with 26 last year.

The number of active members decreased to 121 from 131 last year. The active member payroll decreased to \$9,312,278 from \$9,870,211 last year.

### **Benefit Provision Changes**

There were no changes in benefit provisions for this valuation.

### **Assumption and Method Changes**

There were no changes in assumptions and methods for this valuation.

**Participant Data**

	<u>11/30/2014</u>	<u>11/30/2013</u>
Active Members		
- General	40	42
- Police	47	55
- Fire	<u>34</u>	<u>34</u>
Total	121	131
Active Member Payroll		
- General	\$2,367,058	\$2,419,006
- Police	3,861,152	4,411,868
- Fire	<u>3,084,068</u>	<u>3,039,338</u>
Total	\$9,312,278	\$9,870,211
Retirees and Beneficiaries		
- General	300	308
- Police	169	163
- Fire	<u>103</u>	<u>105</u>
Total	572*	576**
Annual Pensions		
- General	\$6,207,690	\$6,220,116
- Police	6,278,116	5,934,317
- Fire	<u>3,491,776</u>	<u>3,544,939</u>
Total	\$15,977,582	\$15,699,372

\*Includes 20 alternate payees receiving \$261,240 under eligible domestic relations orders.

\*\*Includes 17 alternate payees receiving \$214,523 under eligible domestic relations orders.

**Financial Data**

	<u>11/30/2014</u>	<u>11/30/2013</u>
Market Value of Assets	\$226,054,863	\$218,367,770
Smoothed Valuation Assets	\$207,103,472	\$197,512,737

**Conclusion**

The Retirement System is being financed in accordance with a sound funding policy based on the aggregate actuarial cost method. The accrued funding condition of the Retirement System is good. Continuation of this condition is dependent upon future experience and receipt of contributions as required.



***Section Two:***

***Actuarial Calculations –  
Funding***



**Recommended City Contribution Rate for Fiscal Year beginning December 1, 2015**

The City's computed contribution rate for the year beginning December 1, 2015 has been computed to be 0.00% of payroll for the General division, 4.23% for the Police division and 22.48% for the Fire division.

	<u>General</u>	<u>Police</u>	<u>Fire</u>	<u>Totals</u>
1. Actuarial Present Value of all Future Benefits				
Active Members:				
Regular Retirement	\$13,913,224	\$24,300,925	\$19,119,978	\$57,334,127
Pre-Retirement death	381,063	397,428	351,446	1,129,937
Disability	173,163	1,023,000	713,106	1,909,829
Withdrawal	354,765	672,677	68,202	1,095,644
Inactive Members	1,653,749	280,080	234,341	2,168,170
Retirees and Beneficiaries	<u>53,018,223</u>	<u>63,244,945</u>	<u>31,938,965</u>	<u>148,202,133</u>
Total	69,494,747	89,919,055	52,426,038	211,839,840
2. Smoothed Valuation Assets	70,415,180	88,018,976	48,669,316	207,103,472
3. Present Value of Future Member Contributions	328,738	982,485	456,414	1,767,637
4. Unfunded Present Value of Benefits: 1. – 2. – 3.	(1,249,171)	917,594	3,300,308	2,968,731
5. Present Value of Future Pay	\$11,698,599	\$21,701,199	\$14,679,811	\$48,079,609
<b>6. City Contribution as a percent of Payroll: 4. / 5.</b>	<b>0.00%</b>	<b>4.23%</b>	<b>22.48%</b>	<b>9.20%</b>
<b>7. City Contribution – Dollars Based on Valuation Payroll</b>	<b>\$0</b>	<b>\$163,327*</b>	<b>\$693,298</b>	<b>\$856,625</b>

\*Dollar amount is net of additional contribution paid by LLSA members when City's contribution rate exceeds 4.18% of Police payroll, per LLSA contract.

**Computed Normal Cost Contribution Rates as of November 30, 2014**

**Based on Entry Age Actuarial Cost Method**

**For Illustration Purposes Only**

The normal cost contribution rate based on the entry age actuarial cost method is shown for illustration purposes only and for comparison to prior years' normal costs. Last year the computed entry age normal cost for the City was 13.12% for General members, 16.61% for Police members and 16.84% for Fire members.

The aggregate cost method used to compute the City's recommended contribution rate shown on page 4 is the appropriate method for a plan closed to new hires.

	<b><u>Percent of Payroll</u></b>		
	<b><u>General</u></b>	<b><u>Police</u></b>	<b><u>Fire</u></b>
Normal Cost			
Regular Retirement	12.22%	16.01%	17.01%
Pre-Retirement Death	0.67	0.53	0.67
Disability	0.69	2.06	2.22
Withdrawal	<u>2.79</u>	<u>2.49</u>	<u>0.75</u>
Total Normal Cost	16.37	21.09	20.65
Member portion*	3.21	5.16	3.56
<b>City's Entry Age Normal Cost</b>	<b>13.16%</b>	<b>15.93%</b>	<b>17.09%</b>

\*Weighted average.

## Recommended and Actual City Contributions

Valuation Date Nov. 30	Fiscal Year Ending Nov. 30	Recommended % of Payroll Contributions (Excluding Health after 1991)			Computed Dollar Contributions
		General	Police	Fire	
1990@	1992	13.32%	10.00%	23.38%	\$3,504,711
1991	1993	12.36	9.64	21.53	3,393,951
1992#	1994	11.29	8.98	19.93	3,037,008
1993	1995	10.20	9.67	18.81	3,083,273
1994	1996	10.71	8.68	18.40	3,029,447
1995#	1997	9.59	9.29	19.15	0
1995@	1997	10.78	10.56	20.73	3,505,876
1996#	1998	10.53	11.62	20.14	2,798,760
1997#	1999	1.48	10.90	22.32	0
1997@&	1999	0.00	1.71	19.06	1,919,594
1998#	2000	0.00	4.42	18.79	837,116
1999#@	2001	0.00	1.15	15.20	645,335
2000	2002	0.00	0.00	9.73	417,464
2001#	2003	0.00	0.00	9.50	392,639
2002	2004	0.00	0.00	12.70	0
2003	2005	0.00	0.00	0.00	0
2004	2006	0.00	0.00	0.00	0
2005	2007	0.00	0.00	0.00	0
2006	2008	0.00	0.00	0.00	0
2007#	2009	0.00	0.00	0.00	0
2008#	2010	0.00	0.00	0.00	0
2009@	2011	0.00	0.00	0.00	0
2010#	2012	8.98	3.55	7.49	829,363
2011	2013	28.42	12.10	19.81	2,307,296
2012	2014	45.75	23.71	50.70	4,132,710
2013	2015	20.07	17.96	33.10	2,262,146
<b>2014</b>	<b>2016</b>	<b>0.00</b>	<b>4.23</b>	<b>22.48</b>	<b>856,625</b>

# After changes in benefit provisions.

@ After changes in actuarial assumptions or methods.

& After removal of contribution for post-retirement health insurance benefits.

*Note: Results prior to 2003 are based on reports provided by previous actuarial firm.*

**History of Assets and Accrued Liabilities**

<b>Valuation Date</b>	<b>Valuation Assets</b>	<b>Actuarial Accrued Liabilities#</b>	<b>Funded Ratio</b>	<b>Unfunded Actuarial Accrued Liabilities</b>
1993	\$132,136	\$122,975	107.4%	\$ (9,161)
1994	140,037	130,496	107.3	(9,541)
1995	152,456	142,053	107.3	(10,403)
1996	167,361	151,870	110.2	(15,491)
1997	168,884	148,806	113.5	(20,078)
1998	177,035	151,085	117.2	(25,950)
1999	184,782	149,052	124.0	(35,730)
2000	192,477	148,670	129.5	(43,807)
2001	200,937	151,438	132.7	(49,499)
2002	199,627	159,272	125.3	(40,355)
2003	203,505	159,900	127.3	(43,605)
2004	199,578	164,378	121.4	(35,200)
2005	200,005	167,226	119.6	(32,779)
2006	205,101	169,506	121.0	(35,595)
2007	215,675	173,486	124.3	(42,189)
2008	210,519	179,096	117.5	(31,423)
2009	207,959	190,134	109.4	(17,925)
2010	203,934	195,105	104.5	(8,829)
2011	194,515	196,420	99.0	1,905
2012	186,245	200,224	93.0	13,979
2013	197,513	201,390	98.1	3,877
<b>2014</b>	<b>207,103</b>	<b>202,435</b>	<b>102.3</b>	<b>(4,668)</b>

Results shown throughout this report, for years prior to 2003, were prepared by the previous actuarial firm.

# Based on entry age actuarial accrued liability for comparison to prior years. The entry age accrued liability has not been used to compute contribution requirements after the 1998 valuation. Under the aggregate cost method used to compute contributions beginning in 1999, the accrued liability is defined to be equal to the accrued assets.

The ratio of valuation assets plus future employee contributions to the total present value of future benefits was 98.6% as of November 30, 2014. This is an increase from 94.0% in the prior year.

### Comment, Recommendation and Conclusion

**Comment:** The overall experience of the Retirement System during the year ended November 30, 2014 was more favorable than expected based on the long-term assumptions. The primary source of the favorable experience was the rate of investment return on the smoothed market value of assets (11.6% vs. 8% assumed). The decrease in the City’s computed contribution reflects this experience.

**Recommendation:** We recommend that the following transfers be made to the Reserve for Retired Benefit Payments from the Reserve for Employer Contributions so that it equals the retired life liabilities as of November 30, 2014.

<b>Division</b>	<b>Reported Reserve for Retired Benefit Payments</b>	<b>Computed Retiree Liabilities</b>	<b>Recommended Transfer from Reserve for Employer Contributions</b>
General	\$53,916,588	\$53,018,223	\$(898,365)
Police	61,843,303	63,244,945	\$1,401,642
Fire	30,466,629	31,938,965	\$1,472,336

**Conclusion:** The Retirement System is being financed in accordance with a sound funding policy based on the aggregate actuarial cost method. The accrued funding condition of the Retirement System is good. Continuation of this condition is dependent upon future experience and receipt of contributions as required.



***Section Three:***

***Retirement System  
Benefit Provisions***



## **Benefit Provision Summary**

### ***Membership Requirements***

Membership includes all persons in the classified and unclassified service of the City who perform services on a permanent part-time or full-time basis. New employees do not become members in this Retirement System.

### ***Voluntary Retirement Eligibility***

General Members: 30 years of service regardless of age, or age 55 with 10 years of service. Permanent part-time General members need only 10 calendar years of membership instead of 10 years of credited service.

Police Officers, Sergeants & Lieutenants: 25 years of service regardless of age, or age 52 with 10 years of service. (Age 50 with 10 years but less than 25 years of service early retirement with reduced benefit benefit reduced ½% per month below age 52).

Police Chief, Deputy Chief & Captains: 27 years of service regardless of age, or age 50 with 10 years of service. (Age 48 with 10 years but less than 27 years of service early retirement with reduced benefit - benefit reduced 1/2% per month below age 50).

Fire Members: 27 years of service regardless of age, or age 52 with 10 years of service (age 50 with 10 years of service early retirement with reduced benefit – benefit reduced ½% per month below age 52).

### ***Normal Pension Amount***

General Members: 2.5% of the member's average final compensation (AFC) times years of credited service (maximum is 75% of AFC).

Police Officers, Sergeants & Lieutenants: 2.8% of the member's average final compensation (AFC) times the first 24 years of credited service, plus 7.8% of AFC for the 25<sup>th</sup> year of credited service (maximum is 75% of AFC).

Police Chief, Deputy Chief & Captains: 2.8% of the member's average final compensation (AFC) times years of credited service (maximum is 75% of AFC).

Fire Members: 2.8% of the member's average final compensation (AFC) times years of credited service (maximum is 75% of AFC).

**Average Final Compensation**

The average of the highest annual compensations received during any 3 years of service contained within the 10 years of service immediately preceding retirement, including base salary, longevity, shift differential, paid time off, holiday pay, and payment of accumulated vacation time up to the limits established by the respective bargaining agreements. In addition, merit pay is included for Police members and Paramedic/EMT or ALS bonuses are included for firefighters.

**Deferred Pension (Vesting)**

**Eligibility:** Termination of City employment, other than by death or disability, prior to attaining voluntary retirement age but after completing at least 10 full years of credited service.

**Amount:** A monthly pension, payable beginning at voluntary retirement age (or early retirement age with a reduced benefit), computed in the same manner as a Normal Pension but based on credited service and AFC at time of termination of City employment.

**Disability Retirement**

**Eligibility:** Termination of City employment by reason of total and permanent disability after completing at least 10 full years of credited service, except that in the event of a duty disability the 10 year service requirement is waived.

**Amount:** (1) Disability incurred after age 55: A monthly pension computed in the same manner as a Normal Pension but based on credited service and AFC at the time of termination. (2) Disability incurred before age 55: A monthly pension computed in the same manner as a Normal Pension but based on AFC at time of termination and the credited service the member would have completed had employment continued until age 55, provided that in the event of a duty disability the pension payable to age 55 shall not be less than 75% of AFC. Worker’s compensation benefits are deducted. For non-duty disability cases, the following limitations apply:

<b>Actual Years of Service</b>	<b>Maximum Total Years Used to Compute Benefit</b>	<b>Maximum Benefit As a Percent of AFC</b>
10-15	20	50.0%
16-20	25	62.5
over 20	30- or actual service if greater	75.0

**Non-Duty Death**

**Eligibility:** Death after completing 10 years of credited service, but before termination of City employment. If member had not attained age 55 at the time of death, the death benefit shall commence at the time they would have attained voluntary retirement age. Member must either: (1) have elected Option A and named a beneficiary, or (2) leave a surviving spouse in the event Option A was not elected.

**Amount:** Monthly pension the beneficiary would have received had the member retired the day before death (notwithstanding that he might not have attained his voluntary retirement age) and elected the 100% joint and survivor Option A.

**Duty Death**

**Eligibility:** Death from causes arising solely and exclusively out of and in the course of a member's City employment.

**Amount:** Surviving spouse, or unmarried children under age 18 (if no surviving spouse), or dependent parents (if no surviving spouse or children) shall receive a monthly pension equal to the pension payable if the member had become duty disabled, elected the 100% survivor option and subsequently died. The option factor for children or parents is assumed to equal 80%. The benefit shall continue until: (a) death in the case of the widow, (b) death, marriage, adoption or attainment of age 18 in the case of the children. Worker's compensation benefits are deducted.

**Employee Contributions**

General - Local 1917	3.66% of compensation.
- Others	3.10% of compensation.
Police - LPOA	2.55% of compensation.
- LLSA	6.25% of compensation (eff. 8/24/2010)
	7.30% of compensation when City contribution rate exceeds 4.18%
Police Chief, Deputy Chief and Captains	5.21% of compensation.
Fire	3.56% of compensation.

Upon voluntary, mandatory or disability retirement (or deferred retirement, in the case of General members), a member may withdraw his accumulated contributions with interest and receive an actuarially reduced lifetime benefit.

***Cost-of-Living Allowance***

An additional cost-of-living allowance will be paid to all retirees. The monthly amount is determined as follows:

- (1) Members retired before December 1, 1979:
  - (a) \$20 per month for one year period commencing one year after retirement.
  - (b) \$40 per month for one year period commencing two years after retirement.
  - (c) \$40 per month for one year period commencing three years after retirement.
  - (d) \$60 per month for one year period commencing four years after retirement.
  - (e) \$80 per month commencing five years after retirement.
  
- (2) Members retiring on or after December 1, 1979 and before December 1, 1986:
  - (a) \$20 per month for one year period commencing one year after retirement.
  - (b) \$40 per month for one year period commencing two years after retirement.
  - (c) \$60 per month for one year period commencing three years after retirement.
  - (d) \$80 per month commencing four years after retirement.
  
- (3) Members retiring on or after December 1, 1986:
  - (a) \$20 per month for one year period commencing one year after retirement.
  - (b) \$40 per month for one year period commencing two years after retirement.
  - (c) \$60 per month for one year period commencing three years after retirement.
  - (d) \$80 per month for one year period commencing four years after retirement.
  - (e) \$100 per month for one year period commencing five years after retirement.
  - (f) \$120 per month commencing six years after retirement.
  
- (4) General members (excluding District Court) retiring on or after December 1, 2007:
  - (a) \$25 per month for one year period commencing one year after retirement.
  - (b) \$50 per month for one year period commencing two years after retirement.
  - (c) \$75 per month for one year period commencing three years after retirement.
  - (d) \$100 per month for one year period commencing four years after retirement.
  - (e) \$125 per month for one year period commencing five years after retirement.
  - (f) \$150 per month for one year period commencing six years after retirement.
  - (g) \$175 per month for one year period commencing seven years after retirement.
  - (h) \$200 per month for one year period commencing eight years after retirement.
  - (i) \$225 per month for one year period commencing nine years after retirement.
  - (j) \$250 per month commencing ten years after retirement.

(5) Fire and Police members (excluding dispatchers) retiring on or after December 1, 2006 (March 20, 2006 for Fire) and before December 1, 2008:

- (a) \$20 per month for one year period commencing one year after retirement.
- (b) \$40 per month for one year period commencing two years after retirement.
- (c) \$60 per month for one year period commencing three years after retirement.
- (d) \$80 per month for one year period commencing four years after retirement.
- (e) \$100 per month for one year period commencing five years after retirement.
- (f) \$120 per month for one year period commencing six years after retirement.
- (g) \$140 per month for one year period commencing seven years after retirement.
- (h) \$160 per month for one year period commencing eight years after retirement.
- (i) \$180 per month for one year period commencing nine years after retirement.
- (j) \$200 per month commencing ten years after retirement

(6) Police and Fire members retiring on or after December 1, 2008:

- (a) \$25 per month for one year period commencing one year after retirement.
- (b) \$50 per month for one year period commencing two years after retirement.
- (c) \$75 per month for one year period commencing three years after retirement.
- (d) \$100 per month for one year period commencing four years after retirement.
- (e) \$125 per month for one year period commencing five years after retirement.
- (f) \$150 per month for one year period commencing six years after retirement.
- (g) \$175 per month for one year period commencing seven years after retirement.
- (h) \$200 per month for one year period commencing eight years after retirement.
- (i) \$225 per month for one year period commencing nine years after retirement.
- (j) \$250 per month commencing ten years after retirement

For Police retirees retiring before December 1, 1991 and for Fire retirees retiring before December 1, 1993 the maximum increase is \$80 per month.

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***Section Four:***

***Actuarial Assumptions  
And Methods***



**Actuarial Assumptions**

**Economic Assumptions**

- (i) Interest Rate 8.0% (net of expenses)
  
- (ii) Salary Increases
  - Across-the-Board 4.0%
  - Merit and Longevity Age-related rates

**Sample Annual Rates of Salary Increase**

Age	Across-the-Board	Merit and Longevity	Total
20	4.0%	7.92%	11.92%
25	4.0	5.75	9.75
30	4.0	3.98	7.98
35	4.0	2.89	6.89
40	4.0	2.10	6.10
45	4.0	1.48	5.48
50	4.0	0.96	4.96
55	4.0	0.53	4.53
60	4.0	0.15	4.15
65	4.0	0.00	4.00

**Demographic Assumptions**

(i) Mortality

1983 Group Annuity Mortality Table

Sample Ages	Value of \$1 Monthly for Life		Future Life Expectancy (Years)	
	Men	Women	Men	Women
50	\$136.10	\$139.31	29.20	34.93
55	128.65	132.91	24.84	30.25
60	119.09	124.55	20.66	25.69
65	107.54	114.36	16.71	21.30
70	94.37	102.55	13.20	17.15
75	79.75	89.28	10.15	13.39
80	64.49	74.88	7.66	10.22

(ii) Rates of Disability

Sample Ages	Percent Becoming Disabled Within Next Year	
	General	Police-Fire
20	0.02%	0.07%
25	0.04	0.12
30	0.07	0.24
35	0.11	0.40
40	0.16	0.55
45	0.20	0.71
50	0.25	0.87
55	0.30	1.03

(iii) Termination of Employment

Service related rates for first 5 years of employment. Age related rates after first 5 years of employment

Sample Ages	Years of Service	% of Active Members Separating Within Next Year		
		General	Police	Fire
All	0	12.00%	13.00%	9.00%
	1	9.50	6.00	6.00
	2	8.50	5.50	5.55
	3	7.50	5.00	4.00
	4	4.00	3.50	3.00
25	5 & Over	4.00	3.50	1.62
30		3.50	3.02	1.40
35		3.25	2.25	0.83
40		2.00	1.44	0.32
45		1.25	0.80	0.18
50		1.25	0.50	0.18
55		0.75	0.50	0.18
60	0.50	0.50	0.18	

## (iv) Retirement Rates

**Percent of Active Members Retiring within Year  
Following Attainment of Indicated Retirement Age or Service**

Retirement Ages	Age Based			Service Based		
	General	Police	Fire	Service	Police	Fire
46	-%	50%	-%	25	50%	
47	45	25	-	26	50	
48	45	25	-	27	50	50%
49	45	25	-	28	50	50
50	45	40	-	29	50	50
51	45	40	-	30 & up	100	100
52	45	25	50			
53	45	25	50			
54	45	25	50			
55	45	25	50			
56	45	25	50			
57	20	25	50			
58	20	25	50			
59	10	25	50			
60	10	100	100			
61	25	100	100			
62	20	100	100			
63	20	100	100			
64	20	100	100			
65	15	100	100			
66	20	100	100			
67	20	100	100			
68	40	100	100			
69 & Up	100	100	100			

## Actuarial Method Used for the Valuation

***Aggregate Cost Method.*** This method spreads the unfunded present value of future benefits as of the valuation date over the expected future working lifetimes of the remaining active members. Characteristics of this method are as follows:

- ❖ The aggregate annual normal costs payable from the valuation date to the group's projected dates of retirement, disability or death are expected to accumulate to the actuarial present value of the group's benefit at date of retirement, disability or death.
  
- ❖ By definition, the accrued liability is equal to the actuarial funding value of assets.



***Section Five:***  
***Valuation Data***



## Summary of Asset Information Submitted for the Valuation

### Statement of Assets

As of November 30, 2014, the market value of Retirement System assets was reported to be \$226,054,863.

### Revenues and Expenses for the Year Ended November 30, 2014

(a) Revenues	
(i) Member Contributions	\$ 400,503
(ii) Employer Contributions	3,634,058
(iii) Investment Income (Net of Expenses)	20,214,130
(iv) Other income	<u>0</u>
(v) Total Income	24,248,691
b. Expenses	
(i) Pensions	15,916,004
(ii) Refunds and annuity withdrawal	604,440
(iii) Non-Investment Expenses	<u>41,154</u>
(iv) Total Expenses	\$16,561,598

**Investment Allocation**

The reported asset allocation at market value was as follows:

a. Cash and Short Term	
(i) Cash (incl. Checking/Savings Accounts)	\$106,967
(ii) Accruals and Receivables	881,279
(iii) Money Market Funds	0
(iv) Treasury Bills	0
(v) Short Term Investments	2,237,756
b. Fixed Income	
(i) U.S. Government/Agency Bond	2,792,458
(ii) Corporate Bonds	13,113,921
(iii) Asset Backed Securities	3,735,493
(iv) Private Placements	642,006
(v) Municipal Obligations	189,878
(vi) Mortgage Backed Securities	8,389,151
(vii) Collateralized Mortgage Obligations	6,517,028
(viii) Fixed Income mutual funds	30,921,462
(ix) Other: Foreign Bonds & Notes	2,389,920
c. Equities	
(i) Common Stock	97,084,278
(ii) Closely held equity	0
(iii) Open End mutual funds	32,623,805
(iii) Other: Foreign	4,721,993
American Depository Receipts	9,436,565
General Growth RTS	7,592,661
d. Real Estate:	
(i) Real estate investment funds	3,296,579
e. Other Assets:	3,332,289
f. Less accounts payable	3,950,626
g. Total Market Value of Assets as of November 30, 2014	\$226,054,863

**Funding Value of Assets**

	<b>Year Ended 11/30/2013</b>	<b>Year Ended 11/30/2014</b>
A. Funding Value Beginning of Year	\$186,244,955	\$197,512,737
B. Market Value End of Year	218,367,770	226,054,863
C. Market Value Beginning of Year	194,608,266	218,367,770
D. Non-Investment Income Net Cash Flow	(13,629,612)	(12,527,037)
E. Investment Income		
E1. Market Total B-C-D	37,389,116	20,214,130
E2. Amount for Immediate Recognition	14,354,412	15,299,937
E3. Amount for Phased-In Recognition E1 – E2	23,034,704	4,914,193
F. Phased-In Recognition of Investment Income		
F1. From the Current Year 0.20 x E3	4,606,941	982,839
F2. First Prior Year	1,918,698	4,606,941
F3. Second Prior Year	(1,174,874)	1,918,698
F4. Third Prior Year	484,231	(1,174,874)
F5. Fourth Prior Year	4,707,986	484,231
F6. Total Recognized Investment Gain	10,542,982	6,817,835
G. Gross Funding Value end of Year A + D + E2 + F6	197,512,737	207,103,472
H. Health Insurance Reserve	0	0
I. Net Funding Value	197,512,737	207,103,472
J. Difference Between Market and Funding Value	20,855,033	18,951,391
K. Market Rate of Return	17.5%	8.8%
L. Recognized Rate of Return	13.9%	11.6%

**Reported Reserve Balances**

	<b><u>11/30/2013</u></b>	<b><u>11/30/2014</u></b>
Reserve for Employees' Contributions	\$10,610,082	\$7,197,706
Reserve for Employer Contributions	158,367,168	72,630,636
Reserve for Retired Benefit Payments	49,390,520	146,226,521
Reserve for Health Insurance	<u>0</u>	<u>0</u>
Total	\$218,367,770	\$226,054,863

## Participant Summary

### Retirees and Beneficiaries Included in the Valuation

There were 572 retirees and beneficiaries included in the valuation, with annual pensions totaling \$15,977,582. There were 12 new retirees and no new survivor beneficiaries added during the year and 19 were removed. Three new alternate payees were added and no alternate payees were removed.

### Pensions Being Paid

Valuation Date	No.	Annual Pensions	% of Active Payroll	Average Pension	Discounted Value of Pensions	
					Total	Average
1988	308	\$3,586,869	18.3%	\$11,646	\$37,993,837	\$123,357
1989	331	4,122,475	19.8	12,455	43,437,508	131,231
1990	344	4,426,535	19.8	12,868	43,526,995	126,532
1991	362	4,941,277	21.6	13,650	48,403,086	133,710
1992	388	5,487,251	23.0	14,142	52,852,822	136,219
1993	396	5,795,349	24.1	14,635	56,746,560	143,299
1994	416	6,466,603	25.3	15,545	63,150,428	151,804
1995	433	6,915,782	27.1	15,972	66,978,476	154,685
1996	450	7,503,958	26.8	16,675	72,267,650	160,595
1997	468	8,030,733	39.0	17,161	76,656,612	163,796
1998	483	8,444,938	40.9	17,484	80,195,707	166,037
1999	493	8,948,784	47.9	18,152	84,683,874	171,773
2000	502	9,357,146	54.6	18,640	88,078,816	175,456
2001	515	9,671,679	57.8	18,780	90,253,559	175,250
2002	519	9,961,049	57.6	19,193	92,404,782	178,044
2003	524	10,308,740	60.3	19,673	95,345,963	181,958
2004	538	10,967,097	68.2	20,385	101,737,860	189,104
2005	536	11,135,810	70.1	20,776	102,438,312	191,116
2006	542	11,462,445	71.0	21,148	104,737,223	193,242
2007	547	11,812,063	75.4	21,594	107,405,977	196,355
2008	546	11,981,932	74.6	21,945	107,771,201	197,383
2009	546	12,170,553	76.8	22,290	110,805,883	202,941
2010	562	13,369,294	96.9	23,789	122,739,076	218,397
2011	567	14,273,423	114.6	25,174	129,949,005	229,187
2012	567	14,936,507	132.4	26,343	138,322,423	243,955
2013	576	15,699,372	159.1	27,256	146,096,118	253,639
<b>2014</b>	<b>572</b>	<b>15,977,582</b>	<b>171.6</b>	<b>27,933</b>	<b>148,202,133</b>	<b>259,095</b>

## Retirees and Beneficiaries - November 30, 2014

Attained Age	General		Police		Fire		Totals	
	No.	Annual Pensions						
45-49	-	\$ -	21	\$1,131,384		\$ -	21	\$1,131,384
50-54	4	98,863	37	1,882,096	8	469,755	49	2,450,714
55-59	31	1,082,106	14	572,880	9	458,311	54	2,113,297
60-64	39	938,513	9	215,504	14	673,188	62	1,827,205
65-69	54	1,418,264	16	481,492	13	565,800	83	2,465,556
70-74	34	623,704	35	1,088,154	19	578,531	88	2,290,389
75-79	35	648,480	19	521,906	12	275,549	66	1,445,935
80-84	45	635,807	11	292,727	15	285,197	71	1,213,731
85-89	36	543,915	5	78,447	9	120,759	50	743,121
90-94	17	181,829	2	13,526	4	64,686	23	260,041
95-99	4	30,792					4	30,792
Over 100	1	5,417					1	5,417
<b>Totals</b>	<b>300</b>	<b>\$6,207,690</b>	<b>169</b>	<b>\$6,278,116</b>	<b>103</b>	<b>\$3,491,776</b>	<b>572</b>	<b>\$15,977,582</b>

There were 21 inactive vested members with estimated annual benefits of \$278,094 included in the valuation.

**Inactive Vested Members -  
November 30, 2014**

Attained Age	General		Police		Fire		Totals	
	No.	Estimated Annual Pensions	No.	Estimated Annual Pensions	No.	Estimated Annual Pensions	No.	Estimated Annual Pensions
40-44	1	\$5,039		\$ -		\$ -	1	\$5,039
45-49	4	37,666	1	35,945	1	37,974	6	111,585
50-54	8	90,259					8	90,259
55-59	2	24,603	1	5,822			3	30,425
60-64	1	30,986					1	30,986
75-79			1	7,000			1	7,000
95-99	1	2,800					1	2,800
<b>Totals</b>	<b>17</b>	<b>\$191,353</b>	<b>3</b>	<b>\$48,767</b>	<b>1</b>	<b>\$37,974</b>	<b>21</b>	<b>\$ 278,094</b>

**Total Active Members - November 30, 2014  
Age and Service Distribution**

<b>Attained Age</b>				<b>Totals</b>	
	<b>15-19</b>	<b>20-24</b>	<b>25-29</b>	<b>No.</b>	<b>Payroll</b>
35-39	3			3	\$245,222
40-44	21	12		33	2,741,123
45-49	8	22	11	41	3,232,001
50-54	5	11	14	30	2,093,674
55-59	1	1	8	10	762,131
60-64	1	2		3	183,960
65-69			1	1	54,167
<b>Total</b>	<b>39</b>	<b>48</b>	<b>34</b>	<b>121</b>	<b>\$9,312,278</b>

**Group Averages:**

Age: 48.7 years  
 Service: 22.4 years  
 Annual Pay: \$76,961

**General Active Members - November 30, 2014  
Age and Service Distribution**

<b>Attained Age</b>				<b>Totals</b>	
	<b>15-19</b>	<b>20-24</b>	<b>25-29</b>	<b>No.</b>	<b>Payroll</b>
45-49	2	3	6	11	\$633,274
50-54	1	7	11	19	1,135,989
55-59		1	5	6	359,668
60-64	1	2		3	183,960
65-69			1	1	54,167
<b>Total</b>	<b>4</b>	<b>13</b>	<b>23</b>	<b>40</b>	<b>\$2,367,058</b>

**Group Averages:**

Age: 53.2 years  
 Service: 25.0 years  
 Annual Pay: \$59,176

**Police Active Members - November 30, 2014  
Age and Service Distribution**

<b>Attained Age</b>				<b>Totals</b>	
	<b>15-19</b>	<b>20-24</b>	<b>25-29</b>	<b>No.</b>	<b>Payroll</b>
35-39	3			3	\$245,222
40-44	14	9		23	1,882,890
45-49	1	13	1	15	1,229,405
50-54	2	3	1	6	503,635
<b>Total</b>	<b>20</b>	<b>25</b>	<b>2</b>	<b>47</b>	<b>\$3,861,152</b>

**Group Averages:**  
 Age: 45.3 years  
 Service: 20.6 years  
 Annual Pay: \$82,152

**Fire Active Members - November 30, 2014  
Age and Service Distribution**

<b>Attained Age</b>				<b>Totals</b>	
	<b>15-19</b>	<b>20-24</b>	<b>25-29</b>	<b>No.</b>	<b>Payroll</b>
40-44	7	3		10	\$858,240
45-49	5	6	4	15	1,369,315
50-54	2	1	2	5	454,050
55-59	1		3	4	402,463
<b>Total</b>	<b>15</b>	<b>10</b>	<b>9</b>	<b>34</b>	<b>\$3,084,068</b>

**Group Averages:**  
 Age: 48.2 years  
 Service: 21.7 years  
 Annual Pay: \$90,708

**Active Members – Three Year Comparison**

	November 30,		
	2014	2013	2012
Active Members	121	131	155
Average Age (yrs.)	48.7	47.9	47.8
Average Service (yrs.)	22.4	21.6	21.1
Average Pay	\$76,961	\$75,345	\$72,787

**Active Members by Division – November 30, 2014**

Valuation Division	No.	Annual Payroll	Average Age	Average Service	Average Pay
General - Court	2	\$105,375	50.4	25.5	\$52,687
- Dispatchers	2	119,992	47.4	23.6	59,996
- Local 192 – FT	18	946,733	53.4	24.8	52,596
- Local 1917	7	466,142	51.4	27.1	66,592
- Other	<u>11</u>	<u>728,816</u>	55.7	24.3	66,256
Total	40	\$2,367,058	53.2	25.0	\$59,176
Police – LPOA	23	\$1,740,790	45.1	20.3	\$75,684
- Lts. & Sgts.	<u>24</u>	<u>2,120,362</u>	45.1	21.0	88,348
Total	47	\$3,861,152	45.3	20.6	\$82,152
Fire – 56 Hours	29	\$2,573,644	48.2	21.7	\$88,746
- 40 Hours	4	381,482	48.3	21.5	95,370
- Administration	<u>1</u>	<u>128,942</u>	49.7	24.6	128,942
Total	34	\$3,084,068	48.2	21.7	\$90,708
<b>Totals</b>	<b>121</b>	<b>\$9,312,278</b>	<b>48.7</b>	<b>22.4</b>	<b>\$76,961</b>