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

*Actuarial Valuation as of November 30, 2013*



May 1, 2014

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, 2013, 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, 2014.

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, 2013. 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,

A handwritten signature in black ink that reads 'Denise M. Jones'.

Denise M. Jones  
Senior Consultant

A handwritten signature in black ink that reads 'Sandra W. Rodwan'.

Sandra W. Rodwan  
Member, American Academy of Actuaries

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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, 2013 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, 2014.

### **Funding Value of Assets**

A smoothed market value of assets was used for the November 30, 2013, 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, 2014 has been computed to be 20.07% of active member payroll for the General division, 17.96% of active member payroll for the Police division, and 33.10% 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, 2013 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 24 new retirees during the year compared with 16 last year. Twenty-six retirees were removed compared with 23 last year.

The number of active members decreased to 131 from 155 last year. The active member payroll decreased to \$9,870,211 from \$11,282,044 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>11/30/2013</u>	<u>11/30/2012</u>
Active Members		
- General	42	56
- Police	55	65
- Fire	<u>34</u>	<u>34</u>
Total	131	155
Active Member Payroll		
- General	\$2,419,006	\$3,219,057
- Police	4,411,868	5,138,874
- Fire	<u>3,039,338</u>	<u>2,924,114</u>
Total	\$9,870,211	\$11,282,045
Retirees and Beneficiaries		
- General	308	307
- Police	163	152
- Fire	<u>105</u>	<u>108</u>
Total	576*	567**
Annual Pensions		
- General	\$6,220,116	\$6,007,699
- Police	5,934,317	5,391,591
- Fire	<u>3,544,939</u>	<u>3,537,217</u>
Total	\$15,699,372	\$14,936,507

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

\*\*Includes 15 alternate payees receiving \$183,494 under eligible domestic relations orders.

**Financial Data**

	<u>11/30/2013</u>	<u>11/30/2012</u>
Market Value of Assets	\$218,367,770	\$194,608,266
Smoothed Valuation Assets	\$197,512,737	\$186,244,955

**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, 2014**

The City's computed contribution rate for the year beginning December 1, 2014 has been computed to be 20.07% of payroll for the General division, 17.96% for the Police division and 33.10% 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	\$13,779,659	\$27,376,684	\$18,195,541	\$59,351,884
Pre-Retirement death	400,468	462,277	369,902	1,232,647
Disability	193,433	1,209,670	788,251	2,191,354
Withdrawal	441,560	820,225	84,639	1,346,424
Inactive Members	1,656,046	101,927	260,216	2,018,189
Retirees and Beneficiaries	<u>53,672,370</u>	<u>59,686,626</u>	<u>32,737,122</u>	<u>146,096,118</u>
Total	70,143,536	89,657,409	52,435,671	212,236,616
2. Smoothed Valuation Assets	67,154,331	83,942,913	46,415,493	197,512,737
3. Present Value of Future Member Contributions	370,071	1,019,217	523,351	1,912,639
4. Unfunded Present Value of Benefits: 1. – 2. – 3.	2,619,134	4,695,279	5,496,827	12,811,240
5. Present Value of Future Pay	\$13,048,671	\$26,138,296	\$16,608,208	\$55,795,175
<b>6. City Contribution as a percent of Payroll: 4. / 5.</b>	<b>20.07%</b>	<b>17.96%</b>	<b>33.10%</b>	<b>23.14%</b>
<b>7. City Contribution – Dollars Based on Valuation Payroll</b>	<b>\$485,494</b>	<b>\$770,631*</b>	<b>\$1,006,021</b>	<b>\$2,262,146</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, 2013****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 13.40% for General members, 17.31% for Police members and 17.17% 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.

	<u>General</u>	<u>Percent of Payroll</u>	
		<u>Police</u>	<u>Fire</u>
Normal Cost			
Regular Retirement	12.34%	15.97%	16.89%
Pre-Retirement Death	0.66	0.52	0.65
Disability	0.67	2.01	2.15
Withdrawal	<u>2.66</u>	<u>2.40</u>	<u>0.71</u>
Total Normal Cost	16.33	20.90	20.40
Member portion*	3.21	4.29	3.56
<b>City's Entry Age Normal Cost</b>	<b>13.12%</b>	<b>16.61%</b>	<b>16.84%</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
<b>2013</b>	<b>2015</b>	<b>20.07</b>	<b>17.96</b>	<b>33.10</b>	<b>2,262,146</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

Valuation Date	Valuation Assets	Actuarial Accrued Liabilities#	Funded Ratio	Unfunded Actuarial Accrued Liabilities
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
<b>2013</b>	<b>197,513</b>	<b>201,390</b>	<b>98.1</b>	<b>3,877</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 94.0% as of November 30, 2013. This is a increase from 88.4% in the prior year.

### Comment, Recommendation and Conclusion

**Comment:** The overall experience of the Retirement System during the year ended November 30, 2013 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 (13.9% vs. 8% assumed). The decrease in the City's computed contribution reflects this experience.

**Recommendation:** In all divisions the computed retiree liabilities were greater than the Reserve for Retired Benefit Payments as of November 30, 2013. We recommend that the following transfers be made to the Reserve for Retired Benefit Payments from the Reserve for Employees Contributions so that it equals the retired life liabilities as of November 30, 2013.

<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	\$6,377,624	\$53,672,370	\$47,294,746
Police	18,198,358	59,686,626	41,488,268
Fire	24,814,538	32,737,122	7,922,584

**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:

Actual Years of Service	Maximum Total Years Used to Compute Benefit	Maximum Benefit As a Percent of AFC
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 early 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.



***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**

<b>Age</b>	<b>Across-the-Board</b>	<b>Merit and Longevity</b>	<b>Total</b>
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, 2013, the market value of Retirement System assets was reported to be \$218,367,770.

### Revenues and Expenses for the Year Ended November 30, 2013

#### (a) Revenues

(i) Member Contributions	\$ 441,931
(ii) Employer Contributions	2,082,219
(iii) Investment Income (Net of Expenses)	37,389,116
(iv) Other income	<u>0</u>
(v) Total Income	39,913,266

#### b. Expenses

(i) Pensions	15,226,472
(ii) Refunds and annuity withdrawal	860,932
(iii) Non-Investment Expenses	<u>66,358</u>
(iv) Total Expenses	\$16,153,762

**Investment Allocation**

The reported asset allocation at market value was as follows:

a. Cash and Short Term	
(i) Cash (incl. Checking/Savings Accounts)	\$107,123
(ii) Accruals and Receivables	1,050,943
(iii) Money Market Funds	0
(iv) Treasury Bills	0
(v) Short Term Investments	1,989,486
b. Fixed Income	
(i) U.S. Government/Agency Bond	2,447,706
(ii) Corporate Bonds	14,212,111
(iii) Asset Backed Securities	3,452,209
(iv) Private Placements	698,341
(v) Municipal Obligations	765,336
(vi) Mortgage Backed Securities	6,038,925
(vii) Collateralized Mortgage Obligations	8,339,641
(viii) Fixed Income mutual funds	28,964,869
(ix) Other: Foreign Bonds & Notes	3,002,828
c. Equities	
(i) Common Stock	94,164,655
(ii) Closely held equity	0
(iii) Open End mutual funds	31,669,815
(iii) Other: Foreign	3,835,524
American Depository Receipts	6,157,530
General Growth RTS	7,370,000
d. Real Estate:	
(i) Real estate investment funds	4,437,192
e. Other Assets:	1,826,515
f. Less accounts payable	2,162,979
g. Total Market Value of Assets as of November 30, 2012	\$218,367,770

**Funding Value of Assets**

	<b>Year Ended 11/30/2012</b>	<b>Year Ended 11/30/2013</b>
A. Funding Value Beginning of Year	\$194,514,611	\$186,244,955
B. Market Value End of Year	194,608,266	218,367,770
C. Market Value Beginning of Year	184,073,635	194,608,266
D. Non-Investment Income Net Cash Flow	(14,057,721)	(13,629,612)
E. Investment Income		
E1. Market Total B-C-D	24,592,352	37,389,116
E2. Amount for Immediate Recognition	14,998,860	14,354,412
E3. Amount for Phased-In Recognition E1 – E2	9,593,492	23,034,704
F. Phased-In Recognition of Investment Income		
F1. From the Current Year 0.20 x E3	1,918,698	4,606,941
F2. First Prior Year	(1,174,874)	1,918,698
F3. Second Prior Year	484,231	(1,174,874)
F4. Third Prior Year	4,707,986	484,231
F5. Fourth Prior Year	(15,146,836)	4,707,986
F6. Total Recognized Investment Gain	(9,210,795)	10,542,982
G. Gross Funding Value end of Year A + D + E2 + F6	186,244,955	197,512,737
H. Health Insurance Reserve	0	0
I. Net Funding Value	186,244,955	197,512,737
J. Difference Between Market and Funding Value	8,363,311	20,855,033
K. Market Rate of Return	12.5%	17.5%
L. Recognized Rate of Return	3.1%	13.9%

**Reported Reserve Balances**

	<b><u>11/30/2012</u></b>	<b><u>11/30/2013</u></b>
Reserve for Employees' Contributions	\$8,855,523	\$10,610,082
Reserve for Employer Contributions	132,417,830	158,367,168
Reserve for Retired Benefit Payments	53,334,913	49,390,520
Reserve for Health Insurance	0	0
Total	\$194,608,266	\$218,367,770

## Participant Summary

### Retirees and Beneficiaries Included in the Valuation

There were 576 retirees and beneficiaries included in the valuation, with annual pensions totaling \$15,699,372. There were 24 new retirees and 9 new survivor beneficiaries added during the year and 26 were removed. Two 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
1985	248	\$2,438,598	16.0%	\$9,833	\$26,147,989	\$105,435
1986	285	3,045,379	18.0	10,686	32,753,337	114,924
1987	298	3,360,383	18.8	11,276	35,993,277	120,783
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
<b>2013</b>	<b>576</b>	<b>15,699,372</b>	<b>159.1</b>	<b>27,256</b>	<b>146,096,118</b>	<b>253,639</b>

## Retirees and Beneficiaries - November 30, 2013

Attained Age	General		Police		Fire		Totals	
	No.	Annual Pensions						
45-49	1	\$6,149	22	\$1,191,152		\$ -	23	\$1,197,301
50-54	4	130,625	31	1,594,294	10	557,324	45	2,282,243
55-59	31	1,059,910	10	405,218	13	689,329	54	2,154,457
60-64	41	1,040,138	12	303,284	13	603,763	66	1,947,185
65-69	53	1,353,303	18	573,909	12	458,120	83	2,385,332
70-74	35	617,762	37	1,091,157	17	488,974	89	2,197,893
75-79	39	669,502	19	517,942	11	260,139	69	1,447,583
80-84	46	686,260	7	178,429	16	290,458	69	1,155,147
85-89	35	448,136	6	72,555	10	152,201	51	672,892
90-94	20	180,355	1	6,379	3	44,631	24	231,365
95-99	3	27,974					3	27,974
<b>Totals</b>	<b>308</b>	<b>\$6,220,114</b>	<b>163</b>	<b>\$5,934,319</b>	<b>105</b>	<b>\$3,544,939</b>	<b>576</b>	<b>\$15,699,372</b>

There were 20 inactive vested members with estimated annual benefits of \$243,423 included in the valuation.

**Inactive Vested Members -  
November 30, 2013**

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	\$37,974	1	\$37,974
45-49	3	20,506				-	3	20,506
50-54	10	115,456					10	115,456
55-59	2	22,879	1	5,822			3	28,701
60-64	1	30,986					1	30,986
70-74			1	7,000			1	7,000
95-99	1	2,800					1	2,800
<b>Totals</b>	<b>17</b>	<b>\$192,627</b>	<b>2</b>	<b>\$12,822</b>	<b>1</b>	<b>\$37,974</b>	<b>20</b>	<b>\$243,423</b>

**Total Active Members - November 30, 2013  
Age and Service Distribution**

Attained Age				Totals	
	15-19	20-24	25-29	No.	Payroll
35-39	9			9	\$725,474
40-44	29	9		38	2,995,532
45-49	10	24	7	41	3,286,190
50-54	6	9	16	31	2,080,045
55-59		2	5	7	497,674
60-64	1	3		4	227,044
65-69		1		1	58,252
<b>Total</b>	<b>55</b>	<b>48</b>	<b>28</b>	<b>131</b>	<b>\$9,870,211</b>

**Group Averages:**

Age: 47.9 years  
Service: 21.6 years  
Annual Pay: \$75,345

**General Active Members - November 30, 2013  
Age and Service Distribution**

Attained Age				Totals	
	15-19	20-24	25-29	No.	Payroll
40-44	2	1		3	\$152,810
45-49	1	2	5	8	466,300
50-54	2	6	13	21	1,222,472
55-59		2	3	5	292,128
60-64	1	3		4	227,044
65-69		1		1	58,252
<b>Total</b>	<b>6</b>	<b>15</b>	<b>21</b>	<b>42</b>	<b>\$2,419,006</b>

**Group Averages:**

Age: 52.7 years  
Service: 24.1 years  
Annual Pay: \$57,595

**Police Active Members - November 30, 2013**  
**Age and Service Distribution**

Attained Age				Totals	
	15-19	20-24	25-29	No.	Payroll
35-39	8			8	\$638,896
40-44	17	7		24	1,924,898
45-49	4	12	2	18	1,452,008
50-54	2	2	1	5	396,065
<b>Total</b>	<b>31</b>	<b>21</b>	<b>3</b>	<b>55</b>	<b>\$4,411,867</b>

**Group Averages:**

Age: 44.7 years  
Service: 20.1 years  
Annual Pay: \$80,216

**Fire Active Members - November 30, 2013**  
**Age and Service Distribution**

Attained Age				Totals	
	15-19	20-24	25-29	No.	Payroll
35-39	1			1	\$86,578
40-44	10	1		11	917,827
45-49	5	10		15	1,367,883
50-54	2	1	2	5	461,504
55-59			2	2	205,546
<b>Total</b>	<b>18</b>	<b>12</b>	<b>4</b>	<b>34</b>	<b>\$3,039,338</b>

**Group Averages:**

Age: 47.2 years  
Service: 20.7 years  
Annual Pay: \$89,392

## Active Members – Three Year Comparison

	November 30,		
	2013	2012	2011
Active Members	131	155	171
Average Age (yrs.)	47.9	47.8	47.1
Average Service (yrs.)	21.6	21.1	20.5
Average Pay	\$75,345	\$72,787	\$72,838

## Active Members by Division – November 30, 2013

Valuation Division	No.	Payroll	Age	Service	Pay
General - Court	2	\$105,258	49.4	24.5	\$52,629
- Dispatchers	2	119,612	46.4	22.6	59,806
- Local 192 – FT	19	980,369	52.5	24.0	51,599
- Local 1917	7	458,929	50.4	26.1	65,561
- Other	<u>12</u>	<u>754,838</u>	55.7	23.3	62,903
Total	42	\$2,419,006	52.7	24.1	\$57,595
Police – LPOA	31	\$2,341,378	47.2	20.3	\$75,528
- Lts. & Sgts.	<u>24</u>	<u>2,070,489</u>	46.4	20.0	86,270
Total	55	\$4,411,867	44.7	20.1	\$80,216
Fire – 56 Hours	29	\$2,545,041	47.2	20.7	\$87,760
- 40 Hours	4	365,807	47.3	23.6	91,452
- Administration	<u>1</u>	<u>128,490</u>	48.7	23.6	87,760
Total	34	\$3,039,338	47.2	20.7	\$89,392
<b>Totals</b>	<b>131</b>	<b>\$9,870,211</b>	<b>47.9</b>	<b>21.6</b>	<b>\$75,345</b>



***Section Six:***

***Accounting Disclosures***



**GASB Statement No. 25 Supplementary Information**

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date:	November 30, 2013
Actuarial Cost Method:	Aggregate
Amortization method:	N/A
Remaining amortization period:	Expected future working lifetime
Asset valuation method:	Closed 5-year smoothed market value
Actuarial assumptions:	
Investment rate of return	8.0%
Projected salary increases*	4.0% - 11.92%
* Includes inflation at	4.0%

Membership data as of November 30, 2013, is indicated in Section Five of this report.

**GASB Statement Nos. 25 and 27  
Required Supplementary Actuarial Information**

**Analysis of Funding Progress**

Valuation Date	(1) Valuation Value of Assets	(2) Actuarial Accrued Liability#	(3) Percent Funded (1)/(2)	(4) Unfunded AAL (2)-(1)	(5) Annual Covered Payroll	(6) UAAL As a % Of Covered Payroll
1993	\$132,136	\$122,975	107.4%	\$ (9,161)	\$24,039	-%
1994	140,037	130,496	107.3	(9,541)	35,538	-
1995	152,456	142,053	107.3	(10,403)	35,510	-
1996	167,361	151,870	110.2	(15,491)	28,003	-
1997	168,884	148,806	113.5	(20,078)	20,598	-
1998	177,035	151,085	117.2	(25,950)	20,653	-
1999	184,782	149,052	124.0	(35,730)	18,684	-
2000	192,477	148,670	129.5	(43,807)	17,132	-
2001	200,937	151,438	132.7	(49,499)	16,721	-
2002	199,627	159,272	125.3	(40,355)	17,285	-
2003	203,505	159,900	127.3	(43,605)	17,109	-
2004	199,578	164,378	121.4	(35,200)	16,070	-
2005	200,005	167,226	119.6	(32,779)	15,885	-
2006	205,101	169,506	121.0	(35,595)	16,135	-
2007	215,675	173,486	124.3	(42,189)	15,657	-
2008	210,519	179,096	117.5	(31,423)	16,055	-
2009	207,959	190,134	109.4	(17,925)	15,855	-
2010	203,934	195,105	104.5	(8,829)	13,800	-
2011	194,515	196,420	99.0	1,905	12,455	15.3
2012	186,245	200,224	93.0	13,979	11,282	123.9
<b>2013</b>	<b>197,513</b>	<b>201,390</b>	<b>98.1</b>	<b>3,877</b>	<b>9,870</b>	<b>39.3</b>

# Based on the Entry Age Normal Actuarial cost-method.

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

**Required Supplementary Information  
Schedule of Employer Contributions**

Fiscal Year Ended November 30,	Actual Required Contribution*			Percent Contributed
	<u>General</u>	<u>Police</u>	<u>Fire</u>	
1995	10.20%	9.67%	18.81%	100%
1996	10.71	8.68	18.40	100
1997	10.78	10.56	20.73	100
1998	10.53	11.62	20.14	100
1999	0.00	1.71	19.06	100
2000	0.00	2.91	17.06	100
2001	0.00	1.15	15.20	100
2002	0.00	0.00	9.73	100
2003	0.00	0.00	9.50	100
2004	0.00	0.00	12.70	100
2005	0.00	0.00	0.00	100
2006	0.00	0.00	0.00	100
2007	0.00	0.00	0.00	100
2008	0.00	0.00	0.00	100
2009	0.00	0.00	0.00	100
2010	0.00	0.00	0.00	100
2011	0.00	0.00	0.00	100
2012	8.98	3.55	7.49	100
2013	28.42	12.10	19.81	100
2014	45.75	23.71	50.70	
<b>2015</b>	<b>20.07</b>	<b>17.96</b>	<b>33.10</b>	

\*Based on actual payroll.

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

**Required Supplementary Information**  
**Statement of Reported Plan Assets November 30, 2013**

## Market Value of Assets:

Cash and equivalents	\$107,123
Accruals & Receivables	<u>3,040,429</u>
Total	3,147,552
Investments at market value:	
Stocks & Other Equities	143,197,524
Bonds & Other Fixed Income	67,921,966
Real Estate	<u>4,437,192</u>
Total Investments	215,556,682
Other Assets	1,826,515
Total Assets	220,530,749
Less accounts payable	<u>2,162,979</u>
Net assets held in trust for pension benefits	\$218,367,770

**Required Supplementary Information**  
**Statement of Changes in Plan Net Assets**  
**For The Fiscal Year Ended**  
**November 30, 2013**

Additions:	
Contributions	
Employer	\$2,082,219
Members	<u>441,931</u>
Total	2,524,150
Investment Income (net)	37,389,116
Miscellaneous	<u>0</u>
Total Additions	39,913,266
Deductions:	
Benefits Paid	15,226,472
Refund of Contributions	860,932
Administrative Expenses	<u>66,358</u>
Total Deductions	16,153,762
Net Increase	23,759,504
Net assets held in Trust Fund:	
Beginning of year	\$194,608,266
End of year	\$218,367,770