GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

CITY OF MADISON HEIGHTS
POLICEMEN AND FIREMEN RETIREMENT SYSTEM

ACTUARIAL VALUATION REPORT

JUNE 30, 2013

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GRS

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January 13, 2014

The Retirement Board
City of Madison Heights Policemen
and Firemen Retirement System
Madison Heights, Michigan

Dear Board Members:

Submitted in this report are the results of the Fifty-Seventh Annual Actuarial Valuation of the City of Madison Heights Policemen and Firemen Retirement System, based upon Act No. 345 of the Public Acts of 1937, as amended. The purpose of the June 30, 2013 valuation and gain/loss analysis is to measure funding progress in relation to the actuarial cost method, to determine employer contribution rates and to determine actuarial information for Governmental Accounting Standards Board (GASB) Statement Nos. 25 and 27. The results of the valuation are not applicable for other purposes.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. This report should not be relied on for any purpose other than the purpose described.

The valuation was based upon information, furnished by the City Treasurer, concerning Retirement System benefits, financial transactions, and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the data provided.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. We believe that the assumptions and methods used in this report are reasonable and appropriate for the purpose for which they have been used. However, other assumptions and methods could also be reasonable and could result in materially different results. In addition, because it is not possible or practical to consider every possible contingency, we may use summary information, estimates or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are deemed to be immaterial. The actuarial methods and assumptions used in the actuarial valuation are summarized in Section D of this report. The assumptions are established by the Board after consulting with the actuary.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

To the best of our knowledge, this report is complete and accurate and was made in accordance with generally recognized actuarial methods recognized by the Actuarial Standards Board of the American Academy of Actuaries and in compliance with the provisions of Act 345, as amended. The actuarial assumptions used for the valuation produce results which individually and, in the aggregate, are reasonable.

Brad Lee Armstrong and Heidi G. Barry are independent of the plan sponsor and are Members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,

Brad Lee Armstrong,
ASA, EA, FCA, MAAA

Heidi G. Barry
ASA, MAAA

BLA/HGB:sc

SECTION A

BASIC FINANCIAL OBJECTIVE AND OPERATION OF THE RETIREMENT SYSTEM

Basic Financial Objective and Operation of the Retirement System

Benefit Promises Made Which Must Be Paid For. A retirement system is an orderly means of handing out, keeping track of, and financing contingent pension promises to a group of employees. As each member of the retirement system acquires a unit of service credit he is, in effect, handed an "IOU" which reads: "The Employees Retirement System promises to pay you one unit of retirement benefits, payments in cash commencing when you retire."

The principal related financial question is: When shall the money required to cover the "IOU" be contributed? This year, when the benefit of the member's service is received? Or, some future year when the "IOU" becomes a cash demand?

The constitution of the State of Michigan is directed to the question:

> "Financial benefits arising on account of service rendered in each fiscal year shall be funded during that year and such funding shall not be used for financing unfunded accrued liabilities."

Section 9(2) of Act 345 is also directed to the question:

> "Sec. 9(2). - - - For the purpose of creating and maintaining a fund for the payment of the pensions and other benefits payable hereunder the said city, village or municipality, subject to the provisions of this act, shall appropriate, at the end of such regular intervals as may be adopted, quarterly, semi-annually, or annually, an amount sufficient to maintain actuarially determined reserves covering pensions payable or which might be payable on account of service performed and to be performed by active members and pensions being paid retired members and beneficiaries - - - ."

This retirement system meets this constitutional requirement by having as its ***financial objective to establish and receive contributions, expressed as percents of active member payroll, which will remain approximately level from year-to-year*** and will not have to be increased for future generations of taxpayers.

Translated into actuarial terminology, a level percent-of-payroll contribution objective means that the contribution rate must be at least:

> **Normal Cost** (the current value of benefits likely to be paid on account of members' service being rendered in the current year)
>
> ... plus ...
>
> Interest on the Unfunded Actuarial Accrued Liability (the difference between the actuarial accrued liability and current system assets).

A by-product of the level percent-of-payroll contribution objective is the accumulation of invested assets for varying periods of time. ***Invested assets are a by-product of level percent-of-payroll contributions, not the objective***. Investment income becomes a major contributor to the retirement system and the amount is directly related to the amount of contributions and investment performance.

If contributions to the retirement system are less than the preceding amount, the difference, plus investment earnings not realized thereon, will have to be contributed at some later time, or, benefits will have to be reduced, to satisfy the fundamental fiscal equation under which all retirement programs must operate; that is:

$$\mathbf{B = C + I - E}$$

The aggregate amount of **B**enefit payments to any group of members and their beneficiaries cannot exceed the sum of:

The aggregate amount of **C**ontributions received on behalf of the group

... plus ...

Investment earnings on contributions received and not required for immediate payment of benefits

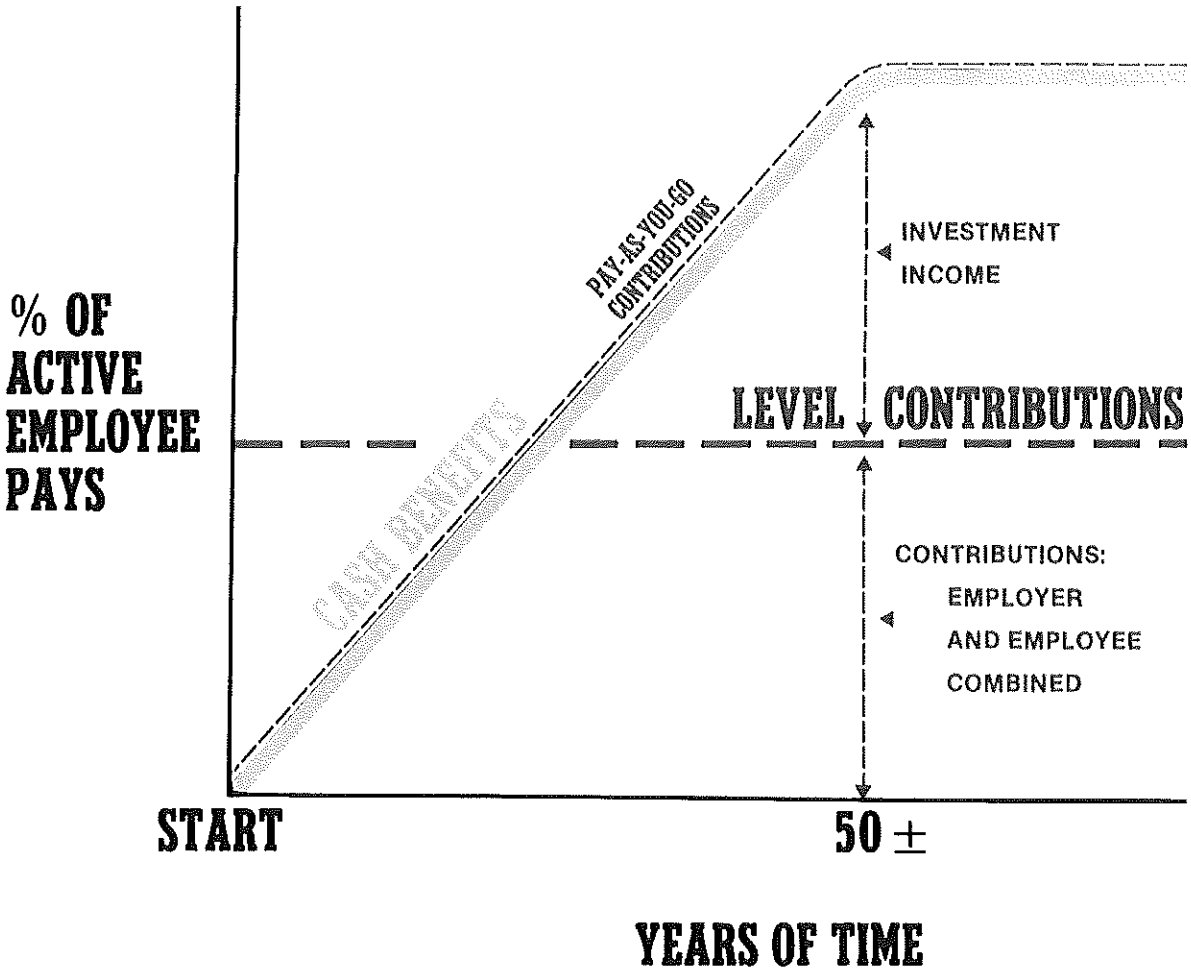
... minus ...

The **E**xpenses of operating the program.

There are retirement systems designed to defer the bulk of contributions far into the future. Lured by artificially low present contributions, the inevitable consequence of a relentlessly increasing contribution rate -- to a level greatly in excess of the level percent-of-payroll rate -- is ignored.

This method of financing is prohibited in Michigan by the state constitution.

Computed Contribution Rate Needed to Finance Benefits. From a given schedule of benefits and from the data furnished him, the actuary calculates the contribution rate by means of an actuarial valuation - the technique of assigning monetary values to the risks assumed in operating a retirement system.



CASH BENEFITS LINE. **This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).**

LEVEL CONTRIBUTION LINE. **Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:**

Economic Risk Areas

- **Rates of investment return**
- **Rates of pay increase**
- **Changes in active member group size**

Non-Economic Risk Areas

- **Ages at actual retirement**
- **Rates of mortality**
- **Rates of withdrawal of active members (turnover)**
- **Rates of disability**

SECTION B

VALUATION RESULTS

City's Computed Contributions for the Fiscal Year Beginning July 1, 2014

Contributions for	Contributions Expressed as Percents of Annual Pay					
	Department Heads	Police		Fire		
		Command	Other	Command	Other	Totals
NORMAL COST						
Age and service pensions	20.63 %	18.35 %	17.65 %	16.67 %	16.65 %	17.59 %
Disability pensions	0.69	0.83	1.01	1.25	1.13	1.02
Death pensions	0.82	0.72	0.68	0.83	0.87	0.76
Totals	22.14	19.90	19.34	18.75	18.65	19.37
MEMBERS' CONTRIBUTIONS						
Gross contributions	11.91	9.17	9.17	8.90	8.90	9.22
Less prospective refunds	0.69	0.70	0.67	0.48	0.48	0.61
Available for pensions	11.22	8.47	8.50	8.42	8.42	8.61
CITY'S NORMAL COST	10.92	11.43	10.84	10.33	10.23	10.76
UNFUNDED ACTUARIAL ACCRUED LIABILITIES						
Retirees and beneficiaries						0.00
Active members*						14.23
Totals						14.23
CITY'S TOTAL CONTRIBUTION (PENSIONS)						24.99 %
Administrative & Investment Expenses						7.15 %

Retiree health insurance costs are not included in this report.

* *Financed as a level percent-of-payroll over an open period of 30 years.*

In financing the actuarial accrued liabilities, the funding value of assets, $48,067,300 were distributed as shown at the bottom of the page. Please see page C-10 for information concerning the reporting of assets, and page C-11 for the derivation of the funding value of assets.

	Present Reserves Reported for		
Market Value	Member Actuarial Accrued Liabilities	Retired Life Actuarial Liabilities	Totals
Employees' Contributions	$ 7,838,993		$ 7,838,993
Employer Contributions	(3,943,492)	$ 12,853,639	8,910,147
Retired Benefit Payments		28,701,871	28,701,871
Deferred Retirement			
Totals *	$ 3,895,501	$ 41,555,510	$ 45,451,011

** As reported.*

Assets were applied against actuarial accrued liabilities in determining unfunded actuarial accrued liabilities as follows:

	Retired Lives	Active Members	Total
Computed Actuarial Accrued Liabilities	$ 41,555,510	$ 26,189,814	$ 67,745,324
Applied Assets (4-yr. smoothed market value)	41,555,510	6,511,790	48,067,300
Unfunded Actuarial Accrued Liabilities	$ -	$ 19,678,024	$ 19,678,024

Derivation of Experience Gain (Loss)
Year Ended June 30, 2013

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is hoped that aggregate gains and losses will cancel each other over a period of years, but sizeable year-to-year fluctuations are common. Detail on the derivation of the experience gain (loss) is shown below, along with a year-by-year comparative schedule.

	Total
(1) UAAL* at start of year	$ 20,237,949
(2) Employer normal cost from last valuation	720,392
(3) Actual employer contributions	1,757,601
(4) Interest accrual: [(1) + 1/2 [(2) - (3)]] x .075	1,478,951
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	20,679,691
(6) Change from benefit provision application	(1,993,656)
(7) Change from revised actuarial assumptions	-
(8) Expected UAAL after changes: (5) + (6) + (7)	18,686,035
(9) Actual UAAL at end of year	19,678,024
(10) Gain (loss): (8) - (9)	(991,989)
(11) Actuarial accrued liability at start of the year	67,929,700
(12) Gain (loss) as percent of actuarial accrued liabilities at start of year	**(1.5)%**

* *Unfunded actuarial accrued liabilities.*

Valuation Date June 30,	Experience Gain (Loss) As % of Beginning Accrued Liability Total
2004	(7.1) %
2005	(0.9)
2006	(0.7)
2007	2.3
2008	(1.2)
2009	(5.2)
2010	(2.1)
2011	(9.0)
2012	(8.5)
2013	(1.5)

Summary Statement of System Resources and Obligations

Present Resources And Expected Future Resources

A. Present valuation assets:		
1. Net assets from System financial statements		$ 45,451,011
2. Market value adjustment		2,616,289
3. Valuation assets		48,067,300
B. Actuarial present value of expected future employer contributions:		
1. For normal costs		5,694,624
2. For unfunded actuarial accrued liability*	Police Command	14,581,782
	Police Other	5,163,697
	Fire Command	2,126,937
	Fire Other	6,079,252
	Department Heads	(8,273,644)
3. Total of (1) + (2)		25,372,648
C. Actuarial present value of expected future member contributions		4,860,239
D. Total present and expected future resources		$ 78,300,187

* *Allocated based on reported reserves.*

Actuarial Present Value of Expected Future Benefit Payments

A. To retirees and beneficiaries	$ 41,555,510
B. To vested terminated members	1,163,930
C. To present active members:	
1. Allocated to service rendered prior to valuation date - actuarial accrued liability	25,025,884
2. Allocated to service likely to be rendered after valuation date	10,554,863
3. Total	35,580,747
D. Total actuarial present value of expected future benefit payments	$ 78,300,187

Comments, Recommendation and Conclusion

COMMENT A: The overall actuarial experience was less favorable than anticipated as shown on page B-3 primarily due to a recognized investment return of 5.6% compared to the assumed 7.5% and data corrections, offset by mortality and salary increases less than assumed. Market performance from 2010 to 2013 was smoothed over 4 years by the Board's use of an asset smoothing technique. Unrecognized losses in investment return will put upward pressure on the City's contribution rate next year. As an indication of the magnitude, the contribution rate in this valuation would be approximately 26.89% of payroll plus expenses on a market value basis.

COMMENT B: This valuation does not include funding requirements for retiree health insurance (this is submitted in a separate report).

COMMENT C: The Summary of Benefit Provisions submitted by staff reflects changes in the application of the benefit provisions based on the opinion of the City's attorney. These changes included a decrease in the multiplier used for members with less than 25 years of service to 2.0%, and specify that a minimum of 10 years of service is needed to retire at age 60. The effect was a decrease in AAL of $1,993,656 and a decrease in the City's contribution rate of 3.25%.

COMMENT D: A 30-year open amortization period was adopted by the Board at the March 23, 2009 Board meeting to be implemented in the June 30, 2009 valuation. Historical funded ratios are shown on page B-6. As of June 30, 2013, the System's funded ratio was 71.0% compared to 70.2% as of June 30, 2012. On a market value basis the funded ratio would be 67.1% compared to 66.7% last year. The improvement is due to changes in the application of benefit provisions.

COMMENT E: The ratio of the Funding Value of Assets to the Market Value of Assets is 105.8%. Over time, this ratio is intended to stay near 100%. However, highly volatile markets can create distortions in this ratio. The system may wish to establish a "corridor" around the market value of assets such as 80% to 120%.

RECOMMENDATION: We recommend closing the 30-year amortization period to reduce the reporting impact of GASB 67 and 68.

CONCLUSION: The City's contributions (member contributions are additional) to the City of Madison Heights Policemen and Firemen Retirement System, for the fiscal year beginning July 1, 2014, have been computed to be 24.99% of active member payroll for pensions with an additional 7.15% for administrative and investment expenses.

It is the actuary's opinion that the required contribution rates determined by the most recent actuarial valuation are sufficient to meet the System's funding objective, presuming continued timely receipt of required contributions.

Comparative Statement

Valuation Date June 30	Fiscal Year	Actuarial Accrued Liabilities & Reserves	Actuarial Accrued Assets	Funded Ratio	Unfunded Actuarial Accrued Liabilities & Reserves			City's Contribution Rate		
									Dollars	
					Dollars	Amortiz. Period	% of Payroll	Percents	Recommended	Actual
1994	95-96	$ 31,214,773	$ 31,249,310	100.1	$ (34,537)	21	-	18.94	$ 924,001	$ 1,036,095
1995 #	96-97	34,542,883	33,373,255	96.6	1,169,628	20	21.5	17.81	966,710	1,025,363
1996	97-98	36,147,252	35,924,274	99.4	222,978	19	4.3	17.01	892,281	948,377
1997	98-99	38,437,709	38,540,778	100.3	(103,069)	18	-	16.77	883,868	988,090
1998	99-00	40,087,394	41,907,540	104.5	(1,820,146)	17	-	14.25	750,633	909,016
1999 #	00-01	44,416,775	45,285,637	102.0	(868,862)	16	-	14.44	802,364	850,457
2000	01-02	46,244,023	47,689,403	103.1	(1,445,380)	15	-	13.45	727,203	845,881
2001	02-03	48,139,671	48,997,093	101.8	(857,422)	14	-	13.76	798,609	951,923
2002 #	03-04	50,633,078	49,200,870	97.2	1,432,208	13	22.3	17.31	1,113,946	1,221,459
2003 #	04-05	51,665,535	48,919,496	94.7	2,746,039	12	43.5	20.49	1,292,438	1,513,225
2004 *#	05-06	56,133,839	48,976,377	87.2	7,157,462	20	102.4	23.15	1,618,638	1,656,681
2005	06-07	57,733,862	49,887,362	86.4	7,846,500	19	110.3	23.86	1,697,809	1,794,618
2006 @	07-08	59,879,584	51,533,008	86.1	8,346,576	25	118.2	22.88	1,615,365	1,745,795
2007	08-09	61,959,805	55,004,366	88.8	6,955,439	25	96.3	21.90	1,581,304	1,625,338
2008 *	09-10	61,187,814	57,130,630	93.4	4,057,184	25	53.4	17.48	1,327,971	1,589,770
2009 @	10-11	63,175,083	56,156,781	88.9	7,018,302	30	93.6	18.82	1,411,463	1,391,859
2010	11-12	63,161,498	54,888,388	86.9	8,273,110	30	120.9	19.92	1,363,478	1,240,859
2011 #	12-13	65,466,348	51,374,542	78.5	14,091,806	30	234.5	22.72	1,365,401	1,757,601
2012	13-14	67,929,700	47,691,751	70.2	20,237,949	30	356.5	27.82	1,711,368	
**2013 ** **	**14-15**	**67,745,324**	**48,067,300**	**71.0**	**19,678,024**	**30**	**335.4**	**24.99**	**1,588,802**	

** Revised actuarial assumptions.* *# Retirement System was amended.* *@ Amortization period was changed.*
*** Changes in the application of the benefit provisions.*

The Ratio of Valuation Assets to AAL is a traditional measure of a system's funding progress. Except in years when the system is amended or actuarial assumptions are revised, this ratio can be expected to increase gradually toward 100%.

The Ratio of UAAL to Valuation Payroll is another relative index of condition. Unfunded actuarial accrued liabilities represent debt, while active member payroll represents the system's capacity to collect contributions to pay toward debt. The lower the ratio, the greater the financial strength and vice-versa.

SECTION C

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

Brief Summary of Act 345 Benefit Provisions
(June 30, 2013)

Eligibility	Amount
SERVICE RETIREMENT	
Members hired after 7/1/2009 (excluding Dept. Heads) Age 55 with 25 or more years of service or age 60 with 10 years of service.	Straight life pension equals 2.0% (2.5% if member has at least 25 years of service) of 3-year average final compensation (AFC) times first 25 years of service plus 1.0% of AFC times years of service excess of 25 years. AFC is calculated based on base wage only.
Dept. Heads and Members hired before 7/1/2009 25 or more years of service regardless of age or age 60 with 10 years of service.	Straight life pension equals 2.0% (2.8% if member has at least 25 years of service) of 3-year average final compensation (AFC) times first 25 years of service plus 1.0% of AFC times years of service excess of 25 years.
DEFERRED RETIREMENT	
10 or more years of service.	Computed as service retirement but based upon service, AFC and benefits in effect at termination. Benefit begins at date retirement would have occurred had member remained in employment.
DEATH AFTER RETIREMENT SURVIVOR'S PENSION	
Payable to a surviving spouse, if any, upon the death of a retired member who was receiving a straight life pension which was effective July 1, 1975 or later.	Spouse's pension equals 60% of the straight life pension the deceased retiree was receiving.
NON-DUTY DEATH-IN-SERVICE SURVIVOR'S PENSION	
Payable to a surviving spouse, if any, upon the death of a member with 20 or more years of service.	Accrued straight life pension actuarially reduced in accordance with an Option I election.

DUTY DEATH-IN-SERVICE SURVIVOR'S PENSION

Payable upon the expiration of workers' compensation to the survivors of a member who died in the line of duty.	Same amount that was paid by workers' compensation.

NON-DUTY DISABILITY

Payable upon the total and permanent disability of a member with 5 or more years of service.	To Age 55: 1.5% of AFC times years of service. At Age 55: Same as Service Retirement Pension.

DUTY DISABILITY

Payable upon the total and permanent disability of a member in line of duty.	To Age 55: 50% of AFC. At Age 55: Same as Service Retirement Pension with service credit from date of disability to age 55.

MEMBER CONTRIBUTIONS

8.9% of pay for Firefighters
8.9% of pay for Fire Command
9.17% for Police
9.17% for Police Command
11.91% for Department Heads

Annuity withdrawal based on Merrill Lynch Bond Index available at retirement with 25 years of service.

Interest earned on Member Contributions is 3.5% annually effective July 1, 2011.

Retirees and Beneficiaries Added to and Removed from Rolls
Comparative Statement

Year Ended June 30	Added to Rolls		Removed from Rolls		Rolls End of Year				% Incr. in Annual Pensions	Average Pension	Present Value of Pensions
	No.	Annual Pensions	No.	Annual Pensions	No.	Active Per Retired	Annual Pensions Dollars	Annual Pensions % of Pay			
1994	4	$ 77,162	2	$ 43,823	60	1.7	$ 1,142,982	23.4 %	3.0 %	$ 19,049	$ 12,572,352
1995	2	26,017	2	37,037	60	1.7	1,131,962	20.9	(1.0)	18,866	12,420,297
1996	9	284,932	3	47,452	66	1.5	1,369,442	26.1	32.3	20,749	14,974,854
1997	9	378,255	1	37,802	74	1.3	1,709,895	32.4	24.9	23,107	18,742,035
1998	9	239,598	3	50,033	80	1.2	1,899,460	36.1	11.1	23,743	20,770,987
1999	11	350,221	4	71,463	87	1.1	2,178,218	37.5	14.7	25,037	24,146,654
2000	13	515,306	3	59,400	97	1.0	2,634,124	47.1	20.9	27,156	29,462,600
2001	5	233,147	1	34,484	101	0.9	2,832,787	48.8	7.5	28,047	31,482,029
2002	2	38,323	2	63,872	101	1.0	2,807,238	43.6	(0.9)	27,794	30,706,301
2003	3	122,791	2	15,098	102	1.0	2,914,931	46.2	3.8	28,578	31,583,764
2004	4	99,475	3	76,875	103	1.0	2,937,531	42.0	0.8	28,520	31,928,907
2005	1	23,232	3	79,834	101	1.0	2,880,929	40.5	(1.9)	28,524	30,919,712
2006	3	170,036	1	3,880	103	0.9	3,047,085	43.2	5.8	29,583	32,399,560
2007	2	93,031	4	83,266	101	0.9	3,056,850	42.3	0.3	30,266	32,176,238
2008	5	78,960	4	114,827	102	0.9	3,020,983	39.8	(1.2)	29,617	30,142,812
2009	3	82,044	1	25,502	104	0.9	3,077,525	41.0	1.9	29,592	30,340,870
2010	5	142,333	4	104,122	105	0.8	3,115,736	45.5	1.2	29,674	30,412,190
2011	12	634,045	2	32,757	115	0.7	3,717,024	61.9	19.3	32,322	37,300,027
2012	7	440,833	2	27,202	120	0.6	4,130,655	72.8	11.1	34,422	41,541,931
2013	**4**	**195,238**	**4**	**148,883**	**120**	**0.6**	**4,177,010**	**71.2**	**1.1**	**34,808**	**41,555,510**

Retirees and Beneficiaries as of June 30, 2013
Tabulated by Type of Pensions Being Paid

Type of Pensions Being Paid	Number	Annual Pensions
Age and Service Pensions		
Regular pensions - benefit terminating at death of retiree	13	$ 473,903
Regular pensions - automatic 60% to spouse	64	2,897,156
Regular pension - survivor	26	447,213
Option 1 pension	1	55,531
Option 2 pension - modified joint and survivor benefit	0	0
Total age and service pensions	104	$ 3,873,803
Casualty Pensions		
Duty disability pensions	5	$ 118,226
Non-duty disability pensions	3	81,717
Duty disability pension - survivor	4	39,072
Non-duty disability pension - survivor	0	0
Duty death pension - survivor	1	14,484
Non-duty death pensions - survivor	3	49,708
Total casualty pensions	16	303,207
Total Pensions Being Paid	**120**	**$ 4,177,010**

Retirees and Beneficiaries as of June 30, 2013
Tabulated by Attained Ages

Attained Ages	No.	Annual Pensions
32	1	$ 14,484
45	1	37,589
48	1	61,900
49	2	67,882
50	3	111,851
51	4	229,705
52	3	185,009
53	1	76,788
54	4	171,206
55	3	197,038
56	1	34,814
57	3	157,067
58	6	262,662
59	7	286,672
60	1	46,462
61	2	80,491
62	1	44,864
63	3	130,693
64	6	227,934
65	3	160,624
66	2	60,041
67	4	172,939
68	3	79,520
70	5	109,927
71	10	296,602
72	3	103,183
73	5	93,156
74	3	84,539
75	5	163,021
76	5	139,413
77	1	23,674
78	2	42,659
79	2	20,567
80	3	47,508
81	1	18,941
82	4	64,572
83	2	37,053
84	1	8,783
87	1	13,205
89	1	9,458
90	1	2,514
Totals	**120**	**$ 4,177,010**

Vested Terminated Members as of June 30, 2013*
Tabulated by Attained Age

Attained Ages	No.	Estimated Annual Pensions
31	1	$ 30,664
34	1	23,125
41	1	23,876
44	1	36,997
55	1	47,928
Totals	**5**	**$ 162,590**

* *Members currently on leave of absence from service.*

Active Members Included in Valuation by Division

Division	No.	Valuation Payroll	Average Pay
Police - Command	11	$ 1,005,856	$ 91,441
- Other	32	2,463,753	76,992
Fire - Command	7	647,315	92,474
- Other	19	1,439,466	75,761
Department Heads	3	310,729	103,576
Totals	**72**	**$5,867,119**	**$ 81,488**

Active Members Added to and Removed from Rolls

Year Ended June 30	Number Added During Year		Terminations										Active Members End of Year
			Normal Retirement		Disabled		Died-in Service		Withdrawal				
									Vested	Other	Total		
	A	E	A	E	A	E	A	E	A	A	A	E	
1994	0	2	2	3.0	0	0.2	0	0.4	0	0	0	2.3	102
1995	0	0	0	3.3	0	0.1	0	0.3	0	0	0	2.0	102
1996	4	7	6	3.1	1	0.2	0	0.2	0	0	0	1.1	99
1997	8	9	8	2.1	0	0.2	0	0.3	0	1	1	2.2	98
1998	8	8	5	1.8	1	0.2	0	0.2	0	2	2	1.2	98
1999	7	8	7	2.4	0	0.2	0	0.2	0	1	1	1.2	97
2000	8	11	11	1.0	0	0.2	0	0.1	0	0	0	1.0	94
2001	4	5	4	0.7	0	0.2	0	0.1	0	1	1	0.9	93
2002	6	0	0	0.2	0	0.2	0	0.0	0	0	0	1.0	99
2003	1	2	2	0.6	0	0.2	0	0.1	0	0	0	1.1	98
2004	1	1	1	1.0	0	0.2	0	0.0	0	0	0	1.1	98
2005	0	2	0	0.5	0	0.2	0	0.1	0	2	2	1.9	96
2006	1	3	3	0.4	0	0.3	0	0.1	0	0	0	1.6	94
2007	1	3	1	0.5	0	0.3	0	0.1	0	2	2	1.4	92
2008	0	0	0	0.4	0	0.3	0	0.1	0	0	0	1.3	92
2009	0	2	1	0.6	0	0.3	1	0.1	0	0	0	1.1	90
2010	0	8	1	0.6	1	0.4	0	0.2	0	6	6	1.0	82
2011	3	10	10	2.1	0	0.3	0	0.2	0	0	0	0.8	75
2012	4	9	7	1.5	0	0.3	0	0.2	2	0	2	0.7	70
2013	5	3	2	1.0	0	0.3	0	0.2	1	0	1	0.8	72
5 Yr. Totals	12	32	21	5.8	1	1.6	1	0.9	3	6	9	4.4	
Expected for 2014				3.0		0.3		0.1				1.3	

A = actual
E = expected

Active Members in Valuation
Comparative Schedule

Valuation Date June 30	No.	Valuation Payroll	Average Pay	% Incr.	Age	Service
1994	102	$ 4,879,150	$ 47,835	7.5	39.9	13.6 yrs.
1995	102	5,427,906	53,215	11.2	40.9	14.6
1996	99	5,245,624	52,986	4.3	40.5	14.1
1997	98	5,270,531	53,781	1.5	39.4	12.8
1998	98	5,267,598	53,751	0.0	38.8	12.2
1999	97	5,801,619	59,811	11.3	38.5	11.5
2000	94	5,593,871	59,509	(0.5)	36.9	9.9
2001	93	5,799,631	62,362	4.8	37.1	9.8
2002	99	6,435,274	65,003	4.2	37.5	10.2
2003	98	6,307,652	64,364	(1.0)	38.1	10.8
2004	98	6,991,955	71,346	10.8	38.8	11.6
2005	96	7,115,713	74,122	3.9	39.9	12.6
2006	94	7,060,160	75,108	1.3	40.2	13.0
2007	92	7,220,564	78,484	4.5	41.0	13.8
2008	92	7,597,087	82,577	5.2	42.0	14.8
2009	90	7,499,803	83,331	0.9	43.1	15.8
2010	82	6,844,767	83,473	0.2	44.1	16.8
2011	75	6,009,688	80,129	(4.0)	44.0	16.6
2012	70	5,676,851	81,098	1.2	43.8	16.2
2013	72	5,867,119	81,488	0.5	43.8	15.8

Active Members as of June 30, 2013
By Near Age and Years of Service

Near Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	2							2	$ 83,290
25-29	2	1						3	169,927
30-34	2		1					3	179,966
35-39	1		5	3				9	680,090
40-44	1		12	7	1			21	1,768,051
45-49			3	3	12	1		19	1,679,629
50-54			1	1	8			10	883,108
55-59					5			5	423,058
Totals	**8**	**1**	**22**	**14**	**26**	**1**		**72**	**$ 5,867,119**

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 43.8 years.

Service: 15.8 years.

Annual Pay: $ 81,488

Summary of Current Asset Information Furnished for Valuation

BALANCE SHEET

Current Assets (Market Value)		Reserve for	
Accrued Interest & Dividends	$ 190,379	Employees' Contributions	$ 7,838,993
Contributions Receivable	435,716	Employers' Contributions	8,910,147
Stocks	9,909,691	Retired Benefit Payments	28,701,871
Stock Mutual Funds	18,016,541		
U.S. Government Bonds	9,109,726		
Corporate Bonds	6,597,108		
Cash and Short Term Investments	1,191,850		
Accounts Payable	0		
Total Current Assets	$ 45,451,011	Total Reserves *	$ 45,451,011

* *As reported.*

RECEIPTS AND DISBURSEMENTS

	2012-13	2011-12
Balance - July 1,	$ 45,299,336	$ 50,159,010
Receipts:		
Employees' contributions	534,290	529,413
Employer contributions	1,757,601	1,240,859
- for retiree health insurance	N/A	N/A
- for admin. & inv. expenses	N/A	429,582
Investment income	2,798,640	(1,533,811)
Disbursements:		
Benefit payments	4,153,843	3,930,751
Refund of member contributions	365,515	1,165,384
Retiree health insurance	N/A	N/A
Administrative & investment expenses	419,498	429,582
Audit Adjustment	0	0
Balance June 30,	$ 45,451,011	$ 45,299,336
Gross rate of investment return	6.4%	(3.2)%

Development of Funding Value of Retirement System Assets

Year Ended June 30:	2011	2012	2013	2014	2015	2016
(A) Funding Value Beginning of Year	$54,888,388	$51,374,542	$47,691,751			
(B) Market Value End of Year	50,159,010	45,299,336	45,451,011			
(C) Market Value Beginning of Year	45,877,162	50,159,010	45,299,336			
(D) Non Investment Net Cash Flow (EE+ER cont.)-(Ret. Ben.+Refunds+Expenses +Health Ret. Ben.)	(3,119,627)	(3,325,863)	(2,227,467)			
(E) Investment Income:						
(E1) Market Total: B-C-D	7,401,475	(1,533,811)	2,379,142			
(E2) Assumed Rate	7.50%	7.50%	7.50%			
(E3) Amount for Immediate Recognition E2 * (A + D/2)	3,999,643	3,728,371	3,493,351			
(E4) Amount for Phased-In Recognition: E1-E3	3,401,832	(5,262,182)	(1,114,209)			
(F) Phased-In Recognition Investment Income:						
(F1) From Current Year = .25 x (E3)	850,458	(1,315,546)	(278,552)			
(F2) First Year Prior	(146,697)	850,458	(1,315,546)	$ (278,552)		
(F3) Second Year Prior	(3,473,515)	(146,697)	850,458	(1,315,546)	$ (278,552)	
(F4) Third Year Prior	(1,624,108)	(3,473,514)	(146,695)	850,458	(1,315,544)	$ (278,553)
(F5) Total Recognized Investment Gain	(4,393,862)	(4,085,299)	(890,335)	(743,640)	(1,594,096)	(278,553)
(G) Funding Value End of Year = (A) + (D) + (E3) + (F5)	**$51,374,542**	**$47,691,751**	**$48,067,300**			
(H) Difference between Market & Funding Value	(1,215,532)	(2,392,415)	(2,616,289)			
(I) Recognized Rate of Return	-0.7%	-0.7%	5.6%			
(J) Ratio of Funding Value of Assets to Market Value	102.4%	105.3%	105.8%			

The Funding Value of Assets recognizes assumed investment income (line E2) fully each year. Differences between actual and assumed investment income (line E3) are phased-in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than Market Value. The Funding Value of Assets is ***unbiased*** with respect to Market Value. At any time, it may be either greater or less than Market Value. If actual and assumed rates of investment income are exactly equal for 3 consecutive years, the Funding Value will become equal to Market Value.

SECTION D

SUMMARY OF ACTUARIAL COST METHOD AND ASSUMPTIONS

Actuarial Cost Method

Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an individual ***entry-age normal cost*** method having the following characteristics:

(i) the annual normal costs for each individual active member, payable from the date of employment to the date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement;

(ii) each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded actuarial accrued liabilities (the portion of total liabilities not covered by present assets or expected future normal cost contributions) were amortized by level (principal or interest combined) percent-of-payroll contributions over an open period of 30 years.

Actuarial Assumptions Used for the Valuations

The actuary calculates the contribution requirements and benefit values of the System by applying actuarial assumptions to the benefit provisions and people information furnished, using the actuarial cost method described on the previous page.

The principal areas of financial risk which require assumptions about future experiences are:

(i) Long-term rates of investment return to be generated by the assets of the System.

(ii) Patterns of pay increases to members.

(iii) Rates of mortality among members, retirees and beneficiaries.

(iv) Rates of withdrawal of active members (without entitlement to a retirement benefit).

(v) Rates of disability among members.

(vi) The age patterns of actual retirement.

In making a valuation, the actuary calculates the monetary effect of each assumption for as long as a present covered person survives - - - a period of time which can be as long as a century.

Actual experience of the System will not coincide exactly with assumed experience, regardless of the wisdom of the assumptions, or the skill of the actuary and the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations).

Valuation Assumptions

The rate of investment return was 7.5% a year, compounded annually. This assumption is used to make money payable at one point in time equal in value to a different amount of money payable at another point in time.

This rate is not the assumed real return which, for funding purposes, is the rate of return in excess of average salary increases. Considering other assumptions used in the valuation, the 7.5% translates to a real return of approximately 2.0%. Experience over the last 5 years has been as illustrated below:

	Year Ending June 30,					5-Year
	2013	2012	2011	2010	2009	Average
1) Recognized rate*	5.6 %	(0.7) %	(0.7) %	(0.3) %	(0.1) %	0.8 %
2) Increase in CPI	1.8	1.7	3.6	1.1	(1.4)	1.4
3) Average salary increase	4.4	4.7	(2.5)	(0.3)	1.0	1.5
4) Real return						
- investment purposes	3.8	(2.4)	(4.3)	(1.4)	1.3	(0.6)
- funding purposes	1.2	(5.4)	1.8	0.0	(1.1)	(0.7)

* *The recognized rate of return was computed using the approximate formula: i = I divided by 1/2 (A+B-I), where I is realized investment income, A is the beginning of year asset value and B is the end of year asset value.*

The rates of salary increase used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefit amounts will be based.

	Salary Increase Assumptions For an Individual Member		
Sample Ages	Merit & Seniority	Base (Economic)	Increase Next Year
20	3.0 %	5.5 %	8.5 %
25	3.0	5.5	8.5
30	2.6	5.5	8.1
35	1.1	5.5	6.6
40	0.2	5.5	5.7
45	0.2	5.5	5.7
50	0.2	5.5	5.7
55	0.1	5.5	5.6
60	0.0	5.5	5.5

If the number of active members remains constant, then the total active member payroll will increase 5.5% annually, the base portion of the individual salary increase assumptions. This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities.

The mortality table used to measure pre and post-retirement mortality was the 1971 Group Annuity Mortality Table projected to 1984, set back 0 years for men and 6 years for women. Disabled mortality rates are the standard post-retirement mortality rates set forward 10 years. No margin for future mortality improvements are included in these tables.

	Single Life Retirement Values			
	Present Value of $1 Monthly for Life		Future Life Expectancy (Years)	
Sample Ages	Men	Women	Men	Women
45	$142.21	$149.34	32.01	37.64
50	134.71	143.55	27.53	32.93
55	125.72	136.32	23.28	28.40
60	114.86	127.65	19.27	24.11
65	102.12	117.20	15.55	20.05
70	88.28	104.80	12.25	16.27
75	74.58	91.07	9.49	12.87
80	60.87	77.36	7.17	10.02

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. For purposes of the pre-retirement death benefit, it was assumed that 100% of members were married at the time of death. 25% of pre-retirement deaths were assumed to be duty related.

Probabilities of retirement for members eligible to retire were:

Hired Before July 1, 2009

Retirement Ages	Percent of Active Members Retiring Within Next Year	
	Police	Fire & Dept. Heads
45	40 %	20 %
46	40	20
47	40	20
48	40	20
49	40	20
50	40	20
51	35	15
52	20	10
53	15	10
54	15	10
55	15	10
56	15	10
57	15	10
58	15	10
59	25	20
60	100	100

Hired On or After July 1, 2009

Retirement Ages	Percent of Active Members Retiring Within Next Year	
	Police	Fire & Dept. Heads
55	62.5 %	50 %
56	47.5	30
57	47.5	30
58	47.5	30
59	47.5	30
60	100.0	100

Sample Rates of Separation From Active Employment Before Retirement, other than Death or Disability

Sample Ages	Years of Service	% of Active Members Separating Within Next Year	
		Police	Fire & Dept. Heads
ALL	0	12.00 %	10.00 %
	1	9.00	7.00
	2	7.00	5.00
	3	5.00	4.00
	4	4.50	3.50
25	5 & Over	4.50	3.50
30		3.90	2.90
35		2.30	1.50
40		0.90	0.60
45		0.50	0.50
50		0.50	0.50
55		0.50	0.50
60		0.50	0.50

Sample Rates of Disability

Sample Ages	Probabilities of Becoming Disabled During Next Year	
	Men	Women
20	0.07 %	0.03 %
25	0.09	0.05
30	0.10	0.07
35	0.14	0.13
40	0.21	0.19
45	0.32	0.28
50	0.52	0.45
55	0.92	0.76
60	1.53	1.10

50% of disabilities were assumed to be duty related.

Summary of Assumptions Used
June 30, 2013

Pensions in an Inflationary Environment

Value of $1,000/month Retirement Benefit To an Individual Who Retires at Age 50 In an Environment of 5.5% Wage Inflation

Age	Value
50	$ 1,000
51	948
52	898
53	852
54	807
55	765
60	585
65	448
70	343
75	262
80	201
85	154

Miscellaneous and Technical Assumptions

Marriage Assumption. 100% of members are assumed to be married for purposes of death-in-service benefits. 90% of members are assumed to be married at time of retirement for purposes of death after retirement benefits.

Pay Increase Timing. Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.

Decrement Timing. Decrements of all types are assumed to occur at the middle of the year.

Eligibility Testing. Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

Benefit Service. Exact fractional service is used to determine the amount of benefit payable.

Decrement Relativity. Decrement rates are used directly from tabular rates, without adjustment for multiple decrement table effects.

Decrement Operation. Disability and mortality decrements do not operate during the first 5 years of service. Disability and separation do not operate during retirement eligibility.

Normal Form of Benefit. The assumed normal form of benefit is straight life for single members and joint and 60% survivor for married members.

Loads. Normal Retirement Present Values were loaded by 5% of age and service actuarial liabilities for Police and Fire hired before July 1, 2009 and 20% of age and service actuarial liabilities for Department Heads hired before July 1, 2009 for lump sums payable at retirement.

Incidence of Contributions. Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.

Glossary

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method".

Actuarial Equivalent. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Funding Value of Assets. Also referred to as actuarial value of assets, smoothed market value of assets, or valuation assets.

Valuation assets recognize assumed investment return fully each year. Differences between actual and assumed investment return are phased in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, valuation assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, valuation assets will tend to be greater than market value. If assumed rates are exactly realized for 3 consecutive years, valuation assets will become equal to market value.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost". Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Plan Termination Liability. The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for the future service and salary. The termination liability will generally be less than the liabilities computed on a "going concern" basis and is not normally determined in a routine actuarial valuation.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and the funding value of assets. Sometimes referred to as "unfunded accrued liability".

Most retirement systems have unfunded actuarial accrued liability. An amount arises each time new benefits are added and each time an experience loss occurs.

The existence of unfunded actuarial accrued liability is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liability does not represent a debt that is payable today. What is important is the ability to control the amount of unfunded actuarial accrued liability and the trend in the amount (after due allowance for devaluation of the dollar).

SECTION E

DISCLOSURES REQUIRED BY THE GOVERNMENTAL ACCOUNTING STANDARDS BOARD

This information is presented in draft form for review by the System's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the System's financial statements.

Statement of Plan Net Assets
as of June 30, 2013

	2013	2012
Cash and short-term investments	$ 1,191,850	$ 2,168,868
Receivables		
Contributions	435,716	558,523
Accrued interest and dividends	190,379	141,506
Total receivables	626,095	700,029
Investments, at fair value		
U.S. Government bonds	9,109,726	8,898,152
Corporate bonds	6,597,108	9,225,021
Stocks	9,909,691	8,675,514
Stock mutual funds	18,016,541	16,027,054
Total investments	43,633,066	42,825,741
Total assets	$45,451,011	$45,694,638

Statement of Changes in Plan Net Assets
Fiscal Year Ended
June 30, 2013

	2013		
	Pension	Administration Expenses	Total
Additions:			
Contributions			
Employer	$ 1,757,601	N/A	$ 1,757,601
Plan Members	534,290		534,290
Total	$ 2,291,891	$ -	2,291,891
Investment Income #			2,379,142
Total Additions			$ 4,671,033
Deductions:			
Benefits Paid	$ 4,153,843		$ 4,153,843
Refund of Contributions	365,515		365,515
Health Premiums			0
Total Deductions	$ 4,519,358		$ 4,519,358
Net Increase			$ 151,675
Net Assets Held in Trust Fund at Fair Value:			
Beginning of Year			$ 45,299,336
End of Year			$ 45,451,011

 # Net of expenses.

Plan Contributions
Pension Only

Plan Description. The City of Madison Heights Policemen and Firemen Retirement System is a single-employer Act 345 defined benefit pension plan that covers Public Safety Officers of Madison Heights, Michigan.

The plan provides retirement, disability, and death benefits to plan members and their beneficiaries.

Contributions. Plan members contribute 8.90% of pay for Firefighters; 8.90% for Fire Command; 9.17% for Police Command; 9.17% of pay for Police and 11.91% of pay for Department Heads.

The employer's funding policy provides for periodic employer contributions based upon a ***fundamental financial objective of having rates of contribution which remain relatively level from generation to generation of Madison Heights citizens.*** To determine the employer contribution rates and to assess the extent to which the fundamental financial objective is being achieved, the System has actuarial valuations prepared annually. In preparing those valuations, the individual entry-age actuarial cost method is used to determine normal cost and actuarial accrued liabilities.

Unfunded actuarial accrued liabilities (full funding credit) are amortized by level percent-of-payroll contributions over an open period of 30 future years.

On the basis of the June 30, 2013 and 2012 actuarial valuations, the employer rates were determined to be as follows:

Contributions for Fiscal Year Ending June 30,	Percents of Total Active Member Payroll (Weighted Average)	
	2015	2014
Normal Cost	10.76 %	12.69 %
Unfunded Actuarial Accrued Liabilities	14.23	15.13
Retiree Health Care	N/A	N/A
Expenses	7.15	7.57
Total Employer Rate excluding Retiree Health Care	32.14 %	35.39 %

Required Supplementary Information

Schedule of Funding Progress
Pension Only
(Dollar amounts in millions)

Actuarial Valuation Date		Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b)-(a)	Funded Ratio (a)/(b)	Covered Payroll (c)	UAAL as a Percent of Covered Payroll (b) - (a) / (c)
6/30/2000		$47.69	$46.24	(1.45) %	103.1 %	$5.59	(25.8) %
6/30/2001		49.00	48.14	(0.86)	101.8	5.80	(14.8)
6/30/2002	*	49.20	50.63	1.43	97.2	6.44	22.2
6/30/2003	*	48.92	51.67	2.75	94.7	6.31	43.5
6/30/2004	*	48.98	56.13	7.16	87.2	6.99	102.4
6/30/2005		49.89	57.73	7.85	86.4	7.12	110.3
6/30/2006		51.53	59.88	8.35	86.1	7.06	118.2
6/30/2007		55.00	61.96	6.96	88.8	7.22	96.3
6/30/2008	*	57.13	61.19	4.06	93.4	7.60	53.4
6/30/2009	*	56.16	63.18	7.02	88.9	7.50	93.6
6/30/2010		54.89	63.16	8.27	86.9	6.84	120.9
6/30/2011	*	51.37	65.47	14.09	78.5	6.01	234.5
6/30/2012		47.69	67.93	20.24	70.2	5.68	356.5
6/30/2013	#	48.07	67.75	19.68	71.0	5.87	335.4

 # Changes in the application of the benefit provisions.

** After changes in benefit provisions and/or assumptions/methods.*

Schedule of Employer Contributions
Pension Only

Year Ended June 30,	Annual Required Contributions	Actual Employer Contributions#	Percentage Contributed
2000	$ 909,016	$ 909,016	100 %
2001	850,457	850,457	100
2002	845,881	845,881	100
2003	951,923	951,923	100
2004	1,221,459	1,221,459	100
2005	1,513,225	1,513,225	100
2006	1,656,681	1,656,681	100
2007	1,794,618	1,794,618	100
2008	1,745,795	1,745,795	100
2009	1,625,338	1,625,338	100
2010	1,589,770	1,589,770	100
2011	1,391,859	1,391,859	100
2012	1,240,859	1,240,859	100
2013	1,757,601	1,757,601	100

 # Excludes contributions made for expenses and retiree health care.

Summary of Actuarial Methods and Assumptions

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	June 30, 2013
Actuarial cost method	Individual entry-age actuarial cost method
Amortization method	Level percent-of-payroll
Amortization period	30 Years open
Asset valuation method	4-Year Smoothed Market
Actuarial assumptions:	
Investment rate of return	7.50%
Projected salary increases	5.5% - 8.5%
Assumed rate of payroll growth	5.50%
Assumed rate of membership growth	0%
Cost-of-living adjustments	None