

**CITY OF MADISON HEIGHTS
POLICEMEN AND FIREMEN RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT
JUNE 30, 2010**

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February 16, 2011

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-Fourth 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 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 may not be applicable for other purposes.

The valuation was based upon data, furnished by the City Treasurer, concerning financial records, and individual members, retirants and beneficiaries. Data was checked for year-to-year consistency, but was not otherwise audited.

The actuarial methods and assumptions used in the actuarial valuation are summarized in Section E of this report. The assumptions are established by the Board after consulting with the actuary.

The date of the valuation was June 30, 2010.

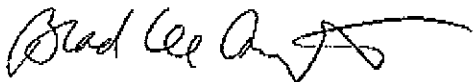
Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected 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.

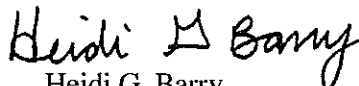
The Retirement Board
February 16, 2011
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The undersigned are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,



Brad Lee Armstrong,
ASA, EA, FCA, MAAA



Heidi G. Barry
ASA, MAAA

BLA:bd

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:

$$B = C + I - E$$

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

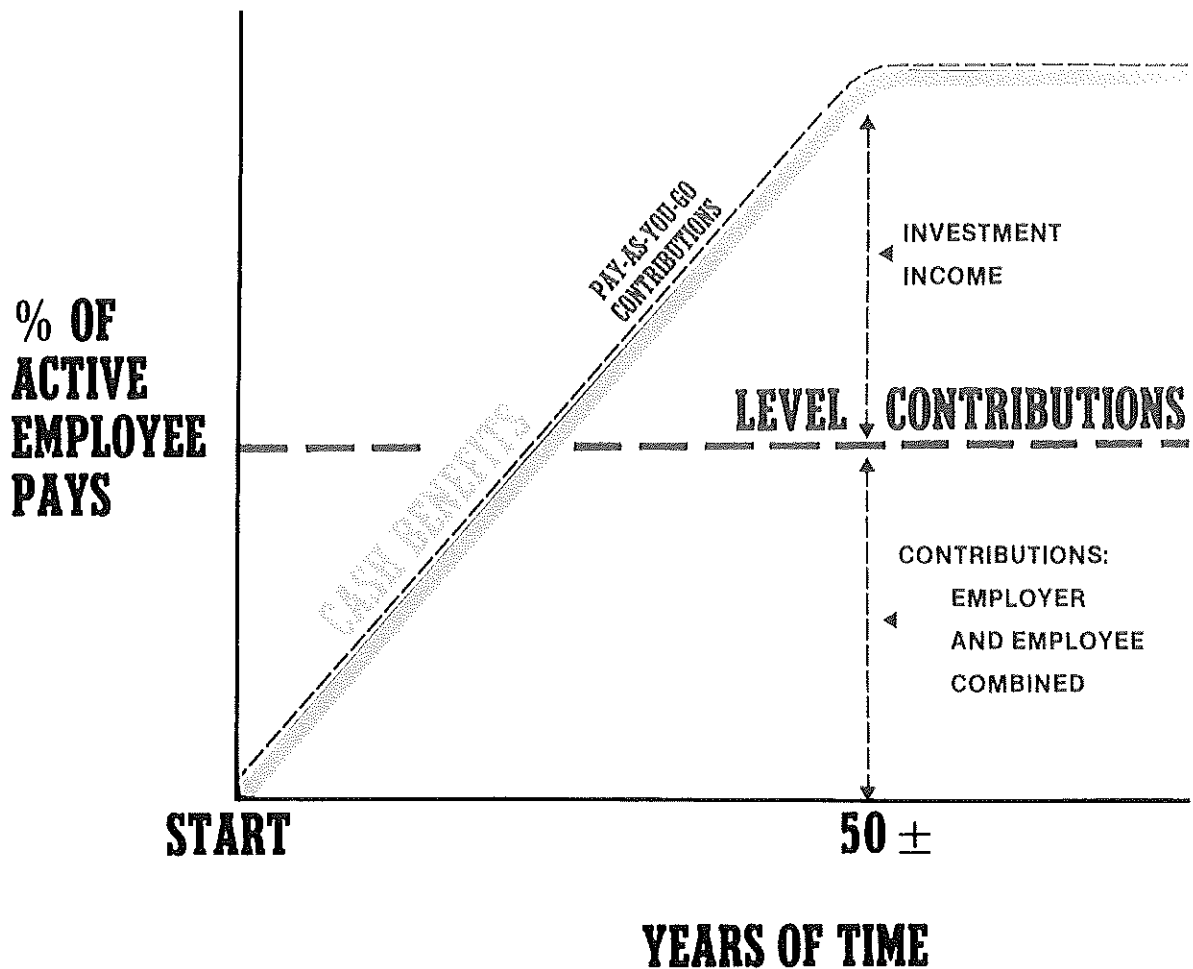
... minus ...

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

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100																																																																																																																																																																																												
Population (millions)	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	35.0	35.1

City's Computed Contributions for the Fiscal Year Beginning July 1, 2011

Contributions for	Contributions Expressed as Percents of Annual Pay						
	Department Heads	Police			Fire		Totals
		Command	Other	Command	Other	Other	
NORMAL COST							
Age and service pensions	22.21 %	19.82 %	19.59 %	18.37 %	17.86 %		19.22 %
Disability pensions	0.84	0.94	1.13	1.40	1.34		1.16
Death pensions	<u>1.01</u>	<u>0.79</u>	<u>0.83</u>	<u>0.99</u>	<u>1.06</u>		<u>0.90</u>
Totals	24.06	21.55	21.55	20.76	20.26		21.28
MEMBERS' CONTRIBUTIONS							
Gross contributions	9.41	8.00	6.67	6.40	6.40		6.99
Less prospective refunds	<u>0.52</u>	<u>0.65</u>	<u>0.54</u>	<u>0.38</u>	<u>0.37</u>		<u>0.50</u>
Available for pensions	8.89	7.35	6.13	6.02	6.03		6.49
CITY'S NORMAL COST	15.17	14.20	15.42	14.74	14.23		14.79
UNFUNDED ACTUARIAL ACCRUED LIABILITIES							
Retirants and beneficiaries							0.00
Active members*							<u>5.13</u>
Totals							5.13
CITY'S TOTAL CONTRIBUTION (PENSIONS)							19.92 %
Administrative & Investment Expenses							5.23 %

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, \$54,888,388 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.

<u>Market Value</u>	<u>Present Reserves Reported for</u>		
	<u>Member Actuarial Accrued Liabilities</u>	<u>Retired Life Actuarial Liabilities</u>	<u>Totals</u>
Employees' Contributions	\$ 8,002,852		\$ 8,002,852
Employer Contributions	7,462,120	\$ 10,665,223	18,127,343
Retired Benefit Payments		19,746,967	19,746,967
Deferred Retirement			
Totals *	\$ 15,464,972	\$ 30,412,190	\$ 45,877,162

* As reported.

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

	<u>Retired Lives</u>	<u>Active Members</u>	<u>Total</u>
Computed Actuarial Accrued Liabilities	\$ 30,412,190	\$ 32,749,308	\$ 63,161,498
Applied Assets (4 yr. smoothed market value)	<u>30,412,190</u>	<u>24,476,198</u>	<u>54,888,388</u>
Unfunded Actuarial Accrued Liabilities	\$ -	\$ 8,273,110	\$ 8,273,110

Derivation of Experience Gain (Loss) Year Ended June 30, 2010

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.

	<u>Total</u>
(1) UAAL* at start of year	\$ 7,018,302
(2) Employer normal cost from last valuation	1,012,341
(3) Actual employer contributions	1,589,770
(4) Interest accrual: $[(1) + 1/2 [(2) - (3)]] \times .075$	504,719
(5) Expected UAAL before changes: $(1) + (2) - (3) + (4)$	\$ 6,945,592
(6) Change from benefit provision amendments	-
(7) Change from revised actuarial assumptions	-
(8) Expected UAAL after changes: $(5) + (6) + (7)$	6,945,592
(9) Actual UAAL at end of year	8,273,110
(10) Gain (loss): $(8) - (9)$	(1,327,518)
(11) Actuarial accrued liability at start of the year	63,175,083
(12) Gain (loss) as percent of actuarial accrued liabilities at start of year	(2.1)%

* *Unfunded actuarial accrued liabilities.*

Valuation Date	Experience Gain (Loss) As % of Beginning Accrued Liability
	<u>Total</u>
June 30, 2000	1.1 %
June 30, 2001	(1.5)
June 30, 2002	(4.8)
June 30, 2003	(2.3)
June 30, 2004	(7.1)
June 30, 2005	(0.9)
June 30, 2006	(0.7)
June 30, 2007	2.3
June 30, 2008	(1.2)
June 30, 2009	(5.2)
June 30, 2010	(2.1)

Summary Statement of System Resources and Obligations

PRESENT RESOURCES AND EXPECTED FUTURE RESOURCES

A. Present valuation assets:		
1. Net assets from System financial statements		\$ 45,877,162
2. Market value adjustment		9,011,226
3. Valuation assets		<u>54,888,388</u>
B. Actuarial present value of expected future employer contributions:		
1. For normal costs		9,305,966
2. For unfunded actuarial accrued liability*	Police Command	25,913,751
	Police Other	(13,290,287)
	Fire Command	(6,701,187)
	Fire Other	(16,675,012)
	Department Heads	<u>19,025,845</u>
3. Total of (1) + (2)		<u>17,579,076</u>
C. Actuarial present value of expected future member contributions		4,308,926
D. Total Present and Expected Future Resources		<u><u>\$ 76,776,390</u></u>

ACTUARIAL PRESENT VALUE OF EXPECTED FUTURE BENEFIT PAYMENTS

A. To retirants and beneficiaries	\$ 30,412,190
B. To vested terminated members	609,934
C. To present active members:	
1. Allocated to service rendered prior to valuation date - actuarial accrued liability	32,139,374
2. Allocated to service likely to be rendered after valuation date	<u>13,614,892</u>
3. Total	<u>45,754,266</u>
D. Total Actuarial Present Value of Expected Future Benefit Payments	<u><u>\$ 76,776,390</u></u>

* Allocated based on reported reserves.

Comments, Recommendation and Conclusion

COMMENT A: The overall actuarial experience was less favorable than anticipated as shown on page B-3 primarily due to recognized investment return of -0.3% vs. 7.5% assumed and recognition of prior investment losses, offset by lower average salary increases than assumed. Market performance from 2007 to 2010 was smoothed over 4 years by the Board's use of an asset smoothing technique. In the absence of near term experience gains, unrecognized losses in investment return will put upward pressure on the City's contribution rate for the next 3 years. As an indication of the magnitude, the contribution rate in this valuation would be approximately 25.5% 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: 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, 2010, the System's funded ratio was 86.9% compared to 88.9% as of June 30, 2009. On a market value basis the funded ratio is 72.6% compared to 68.7% as of June 30, 2009.

COMMENT D: The ratio of the Funding Value of Assets to the Market Value of Assets is 119.6%. Over time, this ratio is expected to stay near 100%. However, highly volatile markets can create distortions in this ratio like this year. The system may wish to establish a "corridor" around the market value of assets such as 80% to 120%.

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, 2011, have been computed to be 19.92% of active member payroll for pensions with an additional 5.23% 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.

RECOMMENDATION: Given the recent market fluctuations, the Board may wish to have an updated estimate or projection before next year's valuation. We could provide an estimate based on updated financial information. If the Board would be interested in such study, please let us know.

Comparative Statement

Valuation Date June 30	Fiscal Year	Actuarial Accrued Liabilities & Reserves	Actuarial Accrued Assets	Unfunded Actuarial Accrued Liabilities & Reserves				City's Contribution Rate			
				Funded Ratio	Dollars	Amortiz. Period	% of Payroll	Percent	Recommended	Dollars	Actual
1985 #	86-87	\$ 15,407,587	\$ 13,578,839	88.1 %	\$ 1,828,748	30	62.0 %	22.01 %	\$ 703,634	\$	720,481
1986	87-88	16,948,006	15,386,652	90.8	1,561,354	29	50.7	21.77	727,286		765,123
1987	88-89	18,255,381	17,269,859	94.6	985,522	28	30.4	20.89	734,063		803,193
1988	89-90	19,880,608	18,915,843	95.1	964,765	27	29.0	20.89	753,801		909,004
1989	90-91	21,962,365	20,632,438	93.9	1,329,927	26	37.0	21.33	830,925		924,860
1990	91-92	24,063,238	22,554,262	93.7	1,508,976	25	36.3	21.23	955,402		980,857
1991	92-93	25,410,380	24,940,138	98.1	470,242	24	11.1	19.97	915,795		939,560
1992	93-94	26,712,575	27,284,993	102.1	(572,418)	23	-	18.65	889,231		935,866
1993	94-95	28,292,727	29,939,740	105.8	(1,647,013)	22	-	17.11	856,919		905,153
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		
2010	11-12	63,161,498	54,888,388	86.9	8,273,110	30	120.9	19.92	1,363,478		

* Revised actuarial assumptions.

Retirement System was amended.

@ Amortization period was changed.

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

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122	124	126	128	130	132	134	136	138	140	142	144	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194	196	198	200
3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78	81	84	87	90	93	96	99	102	105	108	111	114	117	120	123	126	129	132	135	138	141	144	147	150	153	156	159	162	165	168	171	174	177	180	183	186	189	192	195	198	201	204	207	210	213	216	219	222	225	228	231	234	237	240	243	246	249	252	255	258	261	264	267	270	273	276	279	282	285	288	291	294	297	300
4	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84	88	92	96	100	104	108	112	116	120	124	128	132	136	140	144	148	152	156	160	164	168	172	176	180	184	188	192	196	200	204	208	212	216	220	224	228	232	236	240	244	248	252	256	260	264	268	272	276	280	284	288	292	296	300	304	308	312	316	320	324	328	332	336	340	344	348	352	356	360	364	368	372	376	380	384	388	392	396	400
5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	23																																																						

Brief Summary of Act 345 Benefit Provisions (June 30, 2010)

Eligibility	Amount
SERVICE RETIREMENT	
<p><u>Police Officers hired after 7/1/2009</u> Age 55 with 25 or more years of service or age 60 regardless of service.</p>	<p>Straight life pension equals 2.5% of 3 year average final compensation (AFC) times years of service. AFC is calculated based on base wage.</p>
<p><u>Others</u> 25 or more years of service regardless of age or age 60 regardless of service.</p>	<p>Straight life pension equals 2.8% of 3 year average final compensation (AFC) times first 25 years of service plus 1% of AFC times years of service in excess of 25 years.</p>
DEFERRED RETIREMENT	
<p>10 or more years of service.</p>	<p>Computed as service retirement but based upon service, AFC and benefit in effect at termination. Benefit begins at date retirement would have occurred had member remained in employment.</p>
DEATH AFTER RETIREMENT SURVIVOR'S PENSION	
<p>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.</p>	<p>Spouse's pension equals 60% of the straight life pension the deceased retirant was receiving.</p>
NON-DUTY DEATH-IN-SERVICE SURVIVOR'S PENSION	
<p>Payable to a surviving spouse, if any, upon the death of a member with 20 or more years of service.</p>	<p>Accrued straight life pension actuarially reduced in accordance with an Option I election.</p>
DUTY DEATH-IN-SERVICE SURVIVOR'S PENSION	
<p>Payable upon the expiration of workers' compensation to the survivors of a member who died in the line of duty.</p>	<p>Same amount that was paid by workers' compensation.</p>

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 the 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

6.4% of pay for Firefighters

6.4% of pay for Fire Command

6.67% for Police

8.0% for Police Command

9.41% for Department Heads

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

Retirants 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		Average Pension	Present Value of Pensions
	Annual		Annual		No.	Active Per Retired	Annual Pensions Dollars	Annual Pensions % of Pay	Annual Pensions -%			
	No.	Pensions	No.	Pensions								
1970	1	\$ 4,446		\$	7	11.1		\$ 13,390	1.6 %	- %	\$ 1,913	\$ 212,407
1975	6	4,061	1	312	16	6.3		53,636	3.2	7.5	3,352	612,696
1980			1 *	3,900	15	6.6		110,855	4.8	(3.4)	7,390	1,338,987
1985	2	33,329	1	14,639	24	3.8		307,225	10.4	6.4	12,801	3,489,771
1990	1	6,633	0		46	2.1		781,846	18.8	0.9	16,997	8,697,006
1991	6	128,425	0		52	1.9		910,272	21.5	16.4	17,505	10,134,507
1992	6	155,203	3	42,477	55	1.8		1,022,998	23.3	12.4	18,600	11,410,103
1993	4	108,848	1	22,203	58	1.8		1,109,643	24.0	8.5	19,132	12,310,747
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

* Conversion of disability benefits.

Retirants and Beneficiaries as of June 30, 2010
Tabulated by Type of Pensions Being Paid

<u>Type of Pensions Being Paid</u>	<u>Number</u>	<u>Annual Pensions</u>
Age and Service Pensions		
Regular pensions - benefit terminating at death of retirant	8	\$ 237,055
Regular pensions - automatic 60% to spouse	55	2,191,708
Regular pension - survivor	25	413,110
Option 1 pension	1	37,589
Option 2 pension - modified joint and survivor benefit	<u>0</u>	<u>0</u>
Total age and service pensions	89	\$ 2,879,462
Casualty Pensions		
Duty disability pensions	4	\$ 61,883
Non-duty disability pensions	3	67,227
Duty disability pension - survivor	4	39,072
Non-duty disability pension - survivor	0	0
Duty death pension - survivor	2	18,384
Non-duty death pensions - survivor	<u>3</u>	<u>49,708</u>
Total casualty pensions	<u>16</u>	<u>236,274</u>
Total Pensions Being Paid	105	\$ 3,115,736

Retirants and Beneficiaries as of June 30, 2010
Tabulated by Attained Ages

<u>Attained Ages</u>	<u>No.</u>	<u>Annual Pensions</u>
29	1	\$ 14,484
46	1	12,350
47	2	46,792
48	1	58,968
53	1	22,668
54	2	20,619
55	5	214,404
56	7	286,672
57	1	46,462
58	2	104,430
59	1	44,864
60	4	159,381
61	6	227,934
62	3	160,624
63	2	60,041
64	4	172,939
65	3	79,520
67	7	159,279
68	10	296,601
69	3	103,183
70	5	93,156
71	3	84,539
72	5	163,021
73	6	162,715
74	2	46,433
75	2	42,659
76	2	20,567
77	3	47,508
78	1	18,941
79	4	64,572
80	1	24,456
81	1	8,783
84	1	13,205
86	1	9,458
87	1	2,514
89	1	20,994
Totals	105	\$ 3,115,736

Vested Terminated Members as of June 30, 2010*
Tabulated by Attained Age

<u>Attained Ages</u>	<u>No.</u>	<u>Estimated</u>
		<u>Annual Pensions</u>
25	1	\$ 6,500
38	1	24,000
40	1	30,500
45	1	58,500
47	1	24,000
52	1	45,500
Totals	6	\$ 189,000

* Members currently on Leave of absence from service.

Active Members Included in Valuation by Division

Division	No.	Valuation Payroll	Average Pay
Police - Command	16	\$ 1,472,269	\$ 92,017
- Other	35	2,664,082	76,117
Fire - Command	9	817,388	90,821
- Other	19	1,559,895	82,100
Department Heads	3	331,133	110,378
Totals	82	\$6,844,767	\$ 83,473

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	
1991	5	5	4	2.0	1	0.2	0	0.4	0	0	0	2.4	98
1992	7	4	4	3.1	0	0.2	0	0.3	0	0	0	2.1	101
1993	7	4	3	3.0	0	0.2	0	0.4	0	1	1	2.4	104
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	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
5 Yr. Totals	2	16	6	2.5	1	1.6	1	0.6	0	8	8	6.4	
Expected for 2011				2.1		0.3		0.2				0.8	

A = actual
E = expected

Active Members in Valuation Comparative Schedule

Valuation Date June 30	No.	Valuation Payroll	Average Pay	% Incr.	Age	Service
1973	81	\$ 1,109,723	\$ 13,700	3.1 %	36.9 yrs.	10.1 yrs.
1974	87	1,249,807	14,366	4.9	37.0	10.3
1975	101	1,666,989	16,505	14.9	36.4	9.5
1976	101	1,751,164	17,338	5.0	36.9	10.4
1977	102	1,897,905	18,607	7.3	37.7	11.2
1978	100	2,011,987	20,120	8.1	37.5	11.2
1979	100	2,196,170	21,962	9.2	38.3	11.8
1980	99	2,313,556	23,369	6.4	39.1	12.9
1981	96	2,512,377	26,171	12.0	39.7	13.6
1982	94	2,841,654	30,230	15.5	40.0	13.9
1983	93	2,646,074	28,452	(5.9)	41.2	15.1
1984	91	2,859,691	31,425	10.0	41.4	15.3
1985	90	2,949,752	32,775	4.3	42.0	16.0
1986	91	3,082,880	33,878	3.4	40.5	14.5
1987	93	3,243,017	34,871	2.9	40.0	14.0
1988	93	3,330,683	35,814	2.7	39.3	13.3
1989	91	3,594,365	39,499	10.3	39.8	13.8
1990	98	4,153,328	42,381	7.3	39.8	13.7
1991	98	4,236,468	43,229	2.0	39.5	13.4
1992	101	4,398,860	43,553	0.7	39.2	13.0
1993	104	4,628,163	44,502	2.2	39.2	12.8
1994	102	4,879,150	47,835	7.5	39.9	13.6
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

Active Members as of June 30, 2010
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
25-29		2						2	\$ 178,994
30-34		3	2					5	381,386
35-39		2	14					16	1,227,812
40-44		2	8	5	1			16	1,344,892
45-49		1	3	8	14			26	2,196,867
50-54				1	7	2		10	921,073
55-59				3	3	1		7	593,743
Totals		10	27	17	25	3		82	\$ 6,844,767

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

Age: 44.1 years.

Service: 16.8 years.

Annual Pay: \$ 83,473

Summary of Current Asset Information Furnished for Valuation

BALANCE SHEET

Current Assets (Market Value)		Reserve for	
Accrued Interest & Dividends	\$ 139,731	Employees' Contributions	\$ 8,002,852
Contributions Receivable	321,816	Employers' Contributions	18,127,343
Stocks	6,442,079	Retired Benefit Payments	19,746,967
Stock Mutual Funds	19,430,270		
U.S. Government Bonds	8,510,928		
Corporate Bonds	9,420,116		
Cash and Short Term Investments	1,621,222		
Total Current Assets	<u>\$ 45,886,162</u>	Total Reserves *	<u>\$ 45,877,162</u>

* As reported.

RECEIPTS AND DISBURSEMENTS

	2009-10	2008-09
Balance - July 1,	\$ 43,405,784	\$ 53,950,610
Receipts:		
Employees' contributions	501,783	517,117
Employer contributions - for pensions	1,589,770	1,625,338
- for retiree health insurance	1,315,126	1,267,682
- for admin. & inv. expenses	358,170	415,190
Investment income	3,583,276	(9,643,077)
Disbursements:		
Benefit payments	3,094,334	3,044,204
Refund of member contributions	109,117	0
Retiree health insurance	1,315,126	1,267,682
Administrative & investment expenses	358,170	415,190
Audit Adjustment	0	0
Balance June 30,	<u>\$ 45,877,162</u>	<u>\$ 43,405,784</u>
Gross rate of investment return	8.4%	(18.0)%

Development of Funding Value of Retirement System Assets

Year Ended June 30:	2008	2009	2010	2011	2012	2013
(A) Funding Value Beginning of Year	\$55,004,366	\$57,130,630	\$56,156,781			
(B) Market Value End of Year	53,950,610	43,405,784	45,877,162			
(C) Market Value Beginning of Year	57,316,536	53,950,610	43,405,784			
(D) Non Investment Net Cash Flow (EE+ER cont.)-(Ret. Ben.+Refunds+Expenses +Health Ret. Ben.)	(958,861)	(901,749)	(1,111,898)			
(E) Investment Income:						
(E1) Market Total: B-C-D	(2,407,065)	(9,643,077)	3,583,276			
(E2) Assumed Rate	7.50%	7.50%	7.50%			
(E3) Amount for Immediate Recognition E2 * (A + D/2)	4,089,370	4,250,982	4,170,062			
(E4) Amount for Phased-In Recogn: E1-E3	(6,496,435)	(13,894,059)	(586,786)			
(F) Phased-In Recognition Investment Income:						
(F1) From Current Year = .25 x (E3)	(1,624,109)	(3,473,515)	(146,697)			
(F2) First Year Prior	917,764	(1,624,109)	(3,473,515)	\$ (146,697)		
(F3) Second Year Prior	(143,221)	917,764	(1,624,109)	(3,473,515)	\$ (146,697)	
(F4) Third Year Prior	(154,679)	(143,222)	917,764	(1,624,108)	(3,473,514)	\$ (146,695)
(F5) Total Recognized Investment Gain	(1,004,245)	(4,323,082)	(4,326,557)	(5,244,320)	(3,620,211)	(146,695)
(G) Funding Value End of Year = (A) + (D) + (E3) + (F5)	\$57,130,630	\$56,156,781	\$54,888,388			
(H) Difference between Market & Funding Value	(3,180,020)	(12,750,997)	(9,011,226)			
(I) Recognized Rate of Return	5.7%	-0.1%	-0.3%			
(J) Ratio of Funding Value of Assets to Market Value	105.9%	129.4%	119.6%			

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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	12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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, retirants 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 Average
	2010	2009	2008	2007	2006	
1) Recognized rate*	(0.3) %	(0.1) %	5.7 %	8.3 %	5.8 %	3.9 %
2) Increase in CPI	1.1	(1.4)	5.0	2.7	4.3	2.3
3) Average salary increase	(0.3)	1.0	4.9	4.9	2.3	2.6
4) Real return						
- investment purposes	(1.4)	1.3	0.7	5.6	1.5	1.5
- funding purposes	0.0	(1.1)	0.8	3.4	3.5	1.3

* 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. 25% of pre-retirement deaths were assumed to be duty related.

Sample Ages	Single Life Retirement Values			
	Present Value of \$1 Monthly for Life		Future Life Expectancy (Years)	
	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

Probabilities of retirement for members eligible to retire were:

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

A member was assumed to be eligible for retirement after attaining age 45 with 25 years of service or after attaining age 60 regardless of years of service.

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, 2010

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 and 20% of age and service actuarial liabilities for Department Heads 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
(Includes Retiree Health)
as of June 30, 2010**

	<u>2010</u>	<u>2009</u>
Assets:		
Cash and short-term investments	\$ 1,621,222	\$ 17,761,733
Receivables		
Contributions	321,816	671,158
Accrued interest and dividends	<u>139,731</u>	<u>83,441</u>
Total receivables	461,547	754,599
Investments, at fair value		
U.S. Government bonds	8,510,928	2,175,268
Corporate bonds	9,420,116	3,241,121
Stocks	6,442,079	3,439,468
Stock mutual funds	19,430,270	14,078,605
Mortgage backed securities	0	1,954,990
Interest in pooled investments - MERS		
Total investments	<u>43,803,393</u>	<u>24,889,452</u>
Total assets	<u><u>\$45,886,162</u></u>	<u><u>\$43,405,784</u></u>

**Statement of Changes in Plan Net Assets
For The Fiscal Year Ended
June 30, 2010**

	2010			
	Pension	Administration Expenses	Retiree Health	Total
Additions:				
Contributions				
Employer	\$ 1,589,770	\$ 358,170	\$ 1,315,126	\$ 3,263,066
Plan members	501,783			501,783
Total	\$ 2,091,553	\$ 358,170	\$ 1,315,126	3,764,849
Investment Income #				3,225,106
Total Additions				\$ 6,989,955
Deductions:				
Benefits Paid	\$ 3,094,334			\$ 3,094,334
Refund of Contributions	109,117			109,117
Health Premiums			\$ 1,315,126	1,315,126
Total Deductions	\$ 3,203,451		\$ 1,315,126	\$ 4,518,577
Net Increase				\$ 2,471,378
Net assets held in Trust Fund at Fair Value:				
Beginning of Year				\$ 43,405,784
End of Year				<u>\$ 45,877,162</u>

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 6.40% of pay for Firefighters; 6.40% for Fire Command; 8.00% for Police Command; 6.67% of pay for Police and 9.41% 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, 2010 and 2009 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)	
	2012	2011
Normal Cost	14.79 %	14.85 %
Unfunded Actuarial Accrued Liabilities	5.13	3.97
Retiree Health Care	N/A	N/A
Expenses	<u>5.23</u>	<u>5.54</u>
Total Employer Rate excluding Retiree Health Care	25.15 %	24.36 %

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)
6/30/1999 *	\$45.29	\$44.42	(0.87) %	102.0 %	\$5.80	(15.0) %
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

Prior to the June 30, 1996 valuation, assets are reported on a cost basis. June 30, 1996 is market value. After June 30, 1996 valuation, four year smoothed market value.

^ Prior to the June 30, 1999 valuation, projected unit credit.

* 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
1999	\$ 988,090	\$ 988,090	100
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

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, 2010
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

