



HOOKER & HOLCOMBE, INC.
Benefit Consultants and Actuaries

65 LaSalle Road | West Hartford, CT 06107-2397 | *Founded in 1956*

Confidential

March 18, 2011

Mr. Adam Cloud, Secretary
City of Hartford Pension Commission
Office of the Treasurer
550 Main Street
Hartford, CT 06103

Re: 2010 MERF Actuarial Survey

Dear Adam:

We are pleased to present the Annual Valuation of the City of Hartford Municipal Employees' Retirement Fund for 2010. Eleven additional copies are included for distribution.

Recommended contribution rates are as follows:

	Recommended Fiscal Year 2011-2012 Contribution (2010 MERF Actuarial Survey)	Recommended Fiscal Year 2010-2011 Contribution (2009 MERF Actuarial Survey)
Police	17.91%	9.94%
Firefighters	11.30%	1.55%
Board of Education	14.42%	11.87%
Municipal Services	40.66%	30.74%
Library	24.03%	20.90%

Please see Section I of the attached report for analysis and discussion regarding the changes in the contribution requirements from last year to this year, as well as expectations for future increases.

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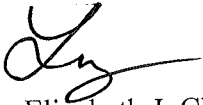
March 18, 2011

Mr. Adam Cloud, Secretary

Re: 2010 MERF Actuarial Survey

As always, I am available to answer any questions you or the Pension Commission may have.

Sincerely,



Elizabeth J. Churney

/aps

Enclosure

Copy with enclosure: Donna P. Parker

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**City of Hartford
Municipal
Employees'
Retirement Fund
(MERF)**

Actuarial Survey

July 1, 2010

Elizabeth J. Churney, F.S.A.,
MAAA
Consulting Actuary

Scott B. Moss, A.S.A.
Pension Analyst

March 18, 2011

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Section I

Valuation Report

A. Purpose of the Valuation

The purpose of the valuation is to determine the funded status of the plan as well as the recommended cash contribution for the plan year. The information found in Section II of the report has been developed for this purpose.

The ultimate cost of a pension plan is based primarily on the level of benefits promised by the plan. The pension fund's investment earnings serve to reduce the cost of plan benefits and expenses. Thus,

<i>City's ultimate cost</i>	=	<i>benefits paid</i>	+	<i>expenses incurred</i>	-	<i>investment return</i>	-	<i>employee contributions</i>
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B. Contribution for 2011-2012 Fiscal Year

The City's contribution rates for the 2011-2012 fiscal year, determined from the July 1, 2010 actuarial valuation, are shown below. Last year's results are shown for comparison purposes.

	Recommended 2011-2012 Fiscal Year Contribution (July 1, 2010 Valuation)	Recommended 2010-2011 Fiscal Year Contribution (July 1, 2009 Valuation)
Police	17.91%	9.94%
Firefighters	11.30%	1.55%
Board of Education	14.42%	11.87%
Municipal Services	40.66%	30.74%
Library	24.03%	20.90%

Please see Section II, Exhibit A for the development of these figures.

It is important to note that the recommended City contribution is expressed as a percentage of the payroll for each of the five groups of employees covered by the plan: Police, Firefighters, Board of Education, Municipal Services (general government employees), and Library. Each of those percentages is then applied against the *estimated* payroll for each group for the next fiscal year, to yield an *estimated* dollar amount of the cash contribution required. Importantly, while the percentages of payroll will not change because they are actuarially determined, the dollar amount of the City's *actual* required contribution will change -- upward or downward -- depending on whether *actual* payrolls in the fiscal year are more, or less, than currently estimated.

Section I

Valuation Report

(continued)

As can be seen, the percentages of payroll on which estimated contributions have been based have increased considerably from last year for all groups. Based on an estimated payroll of approximately \$145.2 million for fiscal year 2011-2012 (obtained by projecting the payroll provided with the July 1, 2010 actuarial valuation to fiscal year 2011-2012 using the valuation's assumed rate of salary increase), the estimated dollar amount of the City's contribution for such year is approximately \$28.5 million.

By comparison, using payroll estimates for fiscal year 2010-2011 of approximately \$143.1 million, the approximate dollar amount of the City's contribution for the 2010-2011 fiscal year is \$18.3 million. Thus, the 2011-2012 fiscal year contribution represents an estimated \$10.3 million increase from the previous year, or approximately 56%.

The primary reason for this increase in the recommended contribution requirement for fiscal year 2011-2012 is the continued recognition of the decline in the capital markets that occurred within the 2007-2008 and 2008-2009 fiscal years, with the resulting loss of market value of MERF assets during that period. The net impact of changes in the covered population also served to increase the contribution, although to a lesser extent.

The market value of assets increased from \$861.7 million to \$888.6 million, resulting in an asset return of approximately 11.1% over that period. In order to avoid dramatic fluctuations in contribution requirements with such large swings in the market, a "smoothed" or "actuarial" value of assets is used to perform the valuation. This smoothed value recognizes the difference between the expected return on the market value of assets and the actual return over a 5-year period at 20% per year.

As of July 1, 2010, the actuarial value of assets used in the development of the contribution requirement was approximately \$1,041.6 million, \$153.0 million higher than the market value of assets of \$888.6 million at such date. The return for the year on the actuarial value was 1.7% as opposed to the 11.1% return on the market value. Since this 1.7% is less than the MERF's 8% return assumption, asset losses were generated that increased the fiscal year 2011-2012 contribution requirement. Specifically, these losses represented approximately \$7.5 million of the \$10.3 million estimated increase and were therefore the primary driver of the increase in estimated contributions for fiscal year 2011-2012.

Section I
Valuation Report
(continued)

Future Contribution Requirements

The use of a smoothed (actuarial) value of assets is meant to produce a more level funding pattern, given asset volatility. With a drop in the market, asset losses are spread over a five-year period, leveling out the recommended funding rather than providing for a spike in contribution requirements in one year. As of July 1, 2010, there were approximately \$153.0 million in net unrecognized asset losses that eventually need to be recognized in future City contribution requirements because of the use of this smoothing method. Given this level of unrecognized losses, future contribution increases can be expected for the 2012-2013 fiscal year, absent other significant changes.

To provide a sense of the level of expected future contributions, an estimate for the 2012-2013 fiscal year has been calculated. Specifically, the City's estimated recommended contribution for such fiscal year is currently \$38.6 million. This figure is based on a projected market value of assets at July 1, 2011 of \$893.1 million, determined by projecting assets as of July 1, 2010 to June 30, 2011 assuming an 8% return. In addition, estimates of payroll for fiscal year 2012-2013 payroll of \$152.5 million were used. Projected plan liabilities inherent in this calculation were based on the results of the July 1, 2010 valuation, including the assumptions, methods, and census data as of such date. Further, this figure reflects an estimate of the cost of the early retirement incentive program of 2010 but not 2011.

The actual 2012-2013 contribution requirement will be based upon final liabilities and assets as of July 1, 2011, as well as actual payroll for the 2012-2013 fiscal year. To provide some sensitivity of the contribution to asset values, if the market value of assets as of July 1, 2010 is approximately \$100 million higher at \$993.1 million, the contribution estimate decreases by \$2.4 million to \$36.2 million.

Funding requirements for fiscal year 2013-2014 are expected to increase even further as asset losses are fully phased into the smoothed value of assets. The extent of the increase will depend upon market returns after July 1, 2010, among other factors.

C. Funded Status

The funded status of the plan as of July 1, 2010 is summarized below. The figures are prepared in accordance with the requirements of the Governmental Accounting Standards Board, or GASB, and are useful in accessing the health of the plan overall.

Section I

Valuation Report (continued)

Specifically, the funded status is based on the smoothed (actuarial) value of assets used in the valuation, as well as a measure of the plan's liability known as the Actuarial Accrued Liability. The Actuarial Accrued Liability is the liability for benefits expected to be paid from the plan for inactive participants, as well as the liability for future expected benefit payments for active participants. For actives, the liability measure includes the impact of assumed future salary increases on projected benefits, but includes only that portion of their overall liability attributable to services rendered as of the valuation date.

	July 1, 2010
Actuarial Accrued Liability	\$1,175,040,000
Actuarial Value of Assets	<u>1,041,572,000</u>
Unfunded Status	133,468,000
Funded Percentage	88.6%

During the 2009-2010 fiscal year, the plan's funded status dropped from 96.6% as of July 1, 2009 to 88.6% as of July 1, 2010, as detailed above. Despite the fact that the City fully funded the recommended contribution for the year, asset growth did not keep pace with liability growth, resulting in the decline in the funded status. This is primarily the result of the asset losses on the smoothed (actuarial) value of assets previously discussed.

Even with a funded status of less than 100%, the plan is still in a healthy, well-funded position with the ability to pay benefits due at the current 88.6% level. It is not the intent of the plan's funding method to fully fund such shortfalls in just one year. Absent other significant changes, such underfunding will be eliminated over a period of years as it is spread into future contribution requirements.

D. Plan Experience During Period Under Review

As discussed earlier, the recommended City contribution rate for the 2011-2012 fiscal year has increased from last year for all groups. As a result, the dollar amount of the City's contribution is expected to increase by approximately \$10.3 million based on current estimates of payroll.

Also as previously discussed, the market value of assets returned 11.1% over the 2009-2010 fiscal year. The smoothed (actuarial) value of assets prior to the change in method earned a return of approximately 1.7 % during the same fiscal period. The resulting asset loss generated from a return less than the 8.0% expected accounted for approximately \$7.5 million of the estimated \$10.3 million increase in contribution.

Section I

Valuation Report

(continued)

Since there were no plan or assumption changes reflected with this actuarial valuation, all of the remaining \$2.8 million increase, is attributable to changes in the plan's population and the resulting impact on plan liabilities. Despite the decrease in active membership of the MERF (from 2,406 as of July 1, 2009 to 2,206 as of July 1, 2010) and the corresponding drop in total payroll, changes in the population increased costs. This was due to items such as salaries increasing by more than expected for continuing actives, and the net impact of retirements, terminations and deaths. Key drivers of this increase include the impact of participants living longer than expected on average (approximately \$1.2 of the increase) and new retirements during the year, including the 2009 Early Retirement Incentive (approximately \$1 million of the increase).

E. Changes Since The Last Valuation

There were no plan changes or assumption changes reflected with this valuation.

Section I
Valuation Report
(continued)

F. Certification

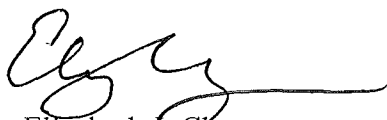
The results of this valuation are based on financial, personnel and payroll data furnished to us by the City and unaudited by us as of July 1, 2010.

In my opinion, and to the best of my knowledge, this Report presents fairly the financial and actuarial position of the City of Hartford Municipal Employees' Retirement Fund (MERF) as of July 1, 2010. The actuarial present values shown have been estimated on the basis of actuarial assumptions which, in my opinion, are appropriate for the purposes of the Report, are reasonable in the aggregate (taking into account the experience of the Plan and reasonable expectations), and, when applied in combination, represent my best estimate of the measure of anticipated experience under the Plan.

I believe that this Report meets the requirements of Public Act No. 77-468, An Act Requiring Periodic Actuarial Evaluation of Municipal Pension Plans.

I am a member of the American Academy of Actuaries and meet its Qualification Standards to render the actuarial opinion contained herein.

HOOKER & HOLCOMBE, INC.



Elizabeth J. Churney
Enrolled Actuary

March 18, 2011

Section II
Supporting Exhibits

A. Normal Cost

	July 1, 2010 Valuation					
	Police	Fire	Board of Ed.	Municipal Services	Library	Total Membership
Active Membership						
Number of Employees	465	359	895	456	71	2,246
Annual Payroll (000)	\$33,801	\$28,698	\$38,679	\$27,011	\$4,341	\$132,529
Normal Actuarial Costs						
A. Actuarial Present Value of Future Benefits (000)						
Active Members	\$135,019	\$143,511	\$117,059	\$110,159	\$14,787	\$520,534
Terminated Non-Vested Members	144	153	124	117	16	553
Terminated Vested Members	1,097	594	6,451	6,374	267	14,784
Retired Members	274,405	188,662	99,487	251,054	13,356	826,964
Old Plans COLA	<u>455</u>	<u>263</u>	<u>296</u>	<u>6</u>	<u>0</u>	<u>1,020</u>
Total	\$411,119	\$333,183	\$223,417	\$367,709	\$28,426	\$1,363,855
B. Actuarial Value of Assets (000)	\$324,114	\$288,248	\$150,007	\$261,816	\$17,386	\$1,041,572
C. Actuarial Present Value of Future Employee Contributions (000)	\$24,920	\$20,940	\$21,079	\$13,284	\$1,743	\$81,967
D. Actuarial Present Value of Future Normal Costs (A) - (B) - (C) (000)	\$62,085	\$23,994	\$52,330	\$92,610	\$9,297	\$240,316
E. Actuarial Present Value of Future Salaries (000)	\$391,876	\$257,279	\$389,293	\$241,515	\$40,570	\$1,320,533
F. Normal Actuarial Costs as Percentage of Payroll						
Pension Benefits (D)/(E)*	15.84%	9.33%	13.44%	38.35%	22.92%	18.20%
G. Expenses (other than Investment Expenses)	<u>2.07%</u>	<u>1.97%</u>	<u>0.98%</u>	<u>2.31%</u>	<u>1.11%</u>	<u>1.75%</u>
Total Normal Cost Percent Payable by City	17.91%	11.30%	14.42%	40.66%	24.03%	19.95%

* Based on \$2,319,000 estimate of expenses (other than investment expenses) allocated by present value of future benefits.

Section II
Supporting Exhibits
(continued)

B. Estimated Cash Contribution

*The cash contribution for fiscal year 2011-2012 detailed below is estimated based upon payroll data provided with the July 1, 2010 actuarial valuation projected to fiscal year 2011-2012 using the valuation's assumed rate of salary increase. **The actual contribution will be based upon actual payroll figures for fiscal year 2011-2012.** To illustrate the sensitivity of the cash contribution to changes in payroll, the second table below details the estimated fiscal year 2011-2012 contribution assuming payroll is either 5% higher or 5% lower than this estimate.*

	Estimated July 1, 2011 - June 30, 2012 Fiscal Year Contribution					
	Police	Fire	Board of Ed	Municipal Services	Library	Total
(1) Estimated Annual Adjusted Payroll for 2011-2012 Fiscal Year	\$37,173,655	\$31,198,596	\$42,124,354	\$29,919,958	\$4,814,104	\$145,230,667
(2) Total Normal Cost Percent Payable by City	17.91%	11.30%	14.42%	40.66%	24.03%	
(3) Gross City Contribution: (1) x (2)	6,657,802	3,525,441	6,074,332	12,165,455	1,156,829	29,579,859
(4) July 1, 2010 Payment for Local 566	0	0	303,918	0	0	303,918
(5) July 1, 2010 Payment for Local 1716	0	0	0	509,126	0	509,126
(6) Old Plans COLA Annual Payment	104,753	63,040	70,119	1,602	0	239,514
(7) Net City Contribution Estimate: (3)-(4)-(5)-(6)	\$6,553,049	\$3,462,401	\$5,700,295	\$11,654,727	\$1,156,829	\$28,527,301

	2011 - 2012 Contribution Sensitivity					
	Police	Fire	Board of Ed	Municipal Services	Library	Total
Estimated 2011-2012 Fiscal Year Payroll +5%	\$39,032,338	\$32,758,526	\$44,230,572	\$31,415,956	\$5,054,809	\$152,492,201
Net City Contribution Estimate for 2011-2012	6,885,939	3,638,673	6,004,012	12,263,000	1,214,670	30,006,294
Estimated 2011-2012 Fiscal Year Payroll -5%	35,314,972	29,638,666	40,018,136	28,423,960	4,573,399	137,969,133
Net City Contribution Estimate for 2011-2012	6,220,159	3,286,129	5,396,578	11,046,454	1,098,988	27,048,308

Section II

Supporting Exhibits (continued)

C. Actuarial Balance Sheet

	July 1, 2010	July 1, 2009
Actuarial Liabilities		
Present Value of Future Benefits for:		
Active Employees	\$ 520,534,299	\$ 528,188,244
Inactive Members		
• Regular Retirees	745,301,637	694,074,400
• Disability Retirees	54,836,908	54,882,411
• Survivors	26,825,376	28,804,110
• Terminated Non-Vesteds	553,450	553,450
• Terminated Vesteds	14,783,544	17,236,150
• Old Plans COLA	<u>1,019,671</u>	<u>1,217,781</u>
 TOTAL	 \$1,363,854,885	 \$1,324,956,546
 Source of Funds		
1. Actuarial Value of Assets	\$1,041,572,175	\$1,089,183,892
2. Present Value of Future Employee Contributions	81,966,582	82,534,553
3. Present Value of Future City Normal Cost Contributions	<u>240,316,128</u>	<u>153,238,101</u>
4. TOTAL = (1) + (2) + (3)	<u>\$1,363,854,885</u>	<u>\$1,324,956,546</u>

Section II

Supporting Exhibits

(continued)

D. Development of Asset Values

The Actuarial Value of assets is used in the determination of plan contributions. It phases in recognition of asset gains and losses. A method of smoothing is used because the Market Value can swing widely from one year to the next, resulting in undesirable fluctuations in pension contributions. The smoothing is accomplished by recognizing asset gains and losses over a five-year period at 20% per year.

Relationship of Actuarial Value to Market Value		
1. Market value 7/1/2010	\$	888,582,990
2. Gain / (loss) not recognized in actuarial value 7/1/2010		(152,989,185)
3. Preliminary actuarial value 7/1/2010: (1)-(2)		1,041,572,175
4. Preliminary actuarial value as a percentage of market value: (3)÷(1)		117.2%
5. Gain / (loss) recognized for corridor min/max		N/A
6. Actuarial value 7/1/2010 after corridor min/max: (3)+(5)		1,041,572,175
7. Actuarial value as a percentage of market value: (6)÷(1)		117.2%

Development of Asset Gain / (Loss) for 2009-2010 Plan Year		
1. Market value 7/1/2009	\$	861,706,321
2. Contributions		22,465,391
3. Benefit payments		85,543,296
4. Administrative expenses		2,455,416
5. Expected return at 8.00%		66,387,138
6. Expected value 7/1/2010: (1)+(2)-(3)-(4)+(5)		862,560,138
7. Market value 7/1/2010		888,582,990
8. Asset gain / (loss) for -1 Plan Year: (7)-(6)		26,022,852

Recognition of Gain / (Loss) in Actuarial Value					
	(a)	(b)	(c)	(d)	(e)
Year	Gain / (loss)	Recognized as of 7/1/2009	Recognized in current year: 20% of (a)	Total recognized as of 7/1/2010: (b)+(c)	Not recognized as of 7/1/2010: (a)-(d)
2005-2006	\$ 6,782,904	\$ 5,426,324	\$ 1,356,580	\$ 6,782,904	\$ 0
2006-2007	77,566,647	46,539,987	15,513,329	62,053,316	15,513,331
2007-2008	(111,496,189)	(44,598,476)	(22,299,238)	(66,897,714)	(44,598,475)
2008-2009	(241,203,873)	(48,240,775)	(48,240,775)	(96,481,550)	(144,722,323)
2009-2010	26,022,852	0	<u>5,204,570</u>	5,204,570	<u>20,818,282</u>
Total			(48,465,534)		(152,989,185)

Section II

Supporting Exhibits

(continued)

D. Development of Asset Values

Summary of Fund Activity		
	Market Value	Actuarial Value
1. Beginning value 7/1/2009		
a. Trust assets	\$ 861,706,321	\$ 1,089,183,892
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Administrative expenses payable	0	0
e. Net: (a)+(b)-(c)-(d)	861,706,321	1,089,183,892
2. Contributions		
a. Contributions during year	22,465,391	22,465,391
b. Change in accrued contribution	0	0
c. Total for plan year	22,465,391	22,465,391
3. Disbursements		
a. Benefit payments during year	85,543,296	85,543,296
b. Administrative expenses during year	2,455,416	2,455,416
c. Change in benefits payable	0	0
d. Change in administrative expenses payable	0	0
e. Total for plan year	87,998,712	87,998,712
4. Net investment return		
a. Interest and dividends	16,158,319	N/A
b. Change in accrued income	0	N/A
c. Realized gain (loss)	25,358,777	N/A
d. Unrealized gain (loss)	54,338,758	N/A
e. Expected return	N/A	66,387,138
f. Recognized gain (loss)	N/A	(48,465,534)
g. Required adjustment due to corridor	N/A	0
h. Reversal of prior year required adjustment	N/A	0
i. Investment-related expenses	(3,445,864)	N/A
j. Total	92,409,990	17,921,604
5. Ending value 7/1/2010		
a. Trust assets: (1a)+(2a)-(3a)-(3b)+(4j)	888,582,990	1,041,572,175
b. Accrued contribution	0	0
c. Benefits payable	0	0
d. Administrative expenses payable	0	0
e. Net: (a)+(b)-(c)-(d)	888,582,990	1,041,572,175
6. Approximate rate of return 2009-2010	11.1%	1.7%
7. Rate of return for Form 5500, Schedule B: $2x(4j) \div [(1e) + (5e) - (4j)]$	N/A	1.7%

Section II

Supporting Exhibits (continued)

D. Development of Asset Values

Rate of Return on Market Value of Assets				
Period Ending June 30	Average Annual Effective Rate of Return			
	1 Year	3 Years	5 Years	10 Years
2001	-2.1%	5.6%	10.9%	N/A
2002	-3.1%	1.1%	6.1%	N/A
2003	4.6%	-0.3%	3.6%	8.7%
2004	14.6%	5.1%	4.3%	9.9%
2005	9.1%	9.4%	4.4%	9.3%
2006	8.7%	10.8%	6.6%	8.7%
2007	15.6%	11.1%	10.4%	8.3%
2008	-1.9%	7.2%	9.0%	6.3%
2009	-15.0%	-1.2%	2.7%	3.5%
2010	11.1%	-2.5%	3.1%	3.7%

Section II

Supporting Exhibits (continued)

E. Accounting Information

GASB Statements No. 25 and 27

The following information is based on the Governmental Accounting Standards Board (GASB) Statement No. 25 on "Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans" and Statement No. 27 on "Accounting for Pensions by State and Local Governmental Employers". It represents a summary of information detailed further within the MERF's annual GASB report. The exhibits are provided for information purposes only here.

In reviewing the following exhibit regarding employer contributions, it is important to note that for the fiscal years ending 2007 through 2010, the City contributed more than the recommended Annual Required Contribution (ARC). This is due to a catch up period in which the City has been making contributions for prior fiscal years in which there was a shortfall in the amount contributed. The footnotes below provide further detail.

Schedule of Employer Contributions

Year Ended June 30	Annual Required Contribution	Percentage Contributed	Actual Contribution Received by MERF	Miscellaneous *	Net Percentage Contributed
2005**	9,336,898	99%	9,000,000	206,742	96%
2006**	17,033,102	70%	11,765,350	183,037	69%
2007	14,328,866	115%	16,317,266***	163,749	114%
2008	13,252,745	125%	16,454,745	129,258	124%
2009	11,797,419	109%	12,713,915****	115,067	108%
2010	9,601,580	113%	10,727,385	112,662	112%

* Funds transferred from State of Connecticut's Connecticut Municipal Employees' Retirement System (CMERS) and Aetna annuity payments.

** Revised.

*** 2006-2007 fiscal year contribution includes contributions paid for prior fiscal years during the 2006-2007 fiscal year as follows: FY 00-01 \$117,500, FY 02-03 \$2,198, FY 03-04 \$180,876, FY 04-05 \$130,156, FY 05-06 \$5,084,715. After the June 30, 2006 GASB reporting period closed, two contributions of \$1,572,500 and \$1,490,242 were made to the Plan for the 2006-2007 fiscal year. These amounts are not included in the \$16,317,266 fiscal year 2006-2007 contribution listed above. They will be included in the 2007-2008 fiscal year contributions listed in the June 30, 2008 GASB report.

**** Contribution includes \$1,031,484 in contributions paid for the prior fiscal year (2007/2008) after the 06/30/2008 reporting period closed.

Section II

Supporting Exhibits (continued)

E. Accounting Information

As detailed below, the plan's funded status dropped from 96.6% as of July 1, 2009 to 88.6% as of July 1, 2010. Despite the fact that the City fully funded the recommended contribution for the year, asset growth did not keep pace with liability growth, resulting in the decline in the funded status. This is primarily the result of the asset losses on the Actuarial Value of Assets during the year previously discussed.

Even with a funded status of less than 100%, the plan is still in a healthy, well-funded position at the current 88.6% level with the ability to pay benefits due.

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets * (a)	Actuarial Accrued Liability (AAL) ** (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a÷b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)÷c)
7/1/2005	986,405,000	970,286,000	(16,119,000)	101.7%	117,261,000	-13.7%
7/1/2006	1,021,491,000***	1,002,848,000	(18,643,000)	101.9%	124,837,000	-14.9%
7/1/2007	1,092,128,000***	1,090,715,000	(1,413,000)	100.1%	133,280,000	-1.1%
7/1/2008	1,123,379,000	1,099,441,000	(23,938,000)	102.2%	139,243,000	-17.2%
7/1/2009	1,089,184,000	1,126,965,000	37,781,000	96.6%	134,143,000	28.2%
7/1/2010	1,041,572,000	1,175,040,000	133,468,000	88.6%	132,529,000	100.7%

* Excludes receivable from CMERS (applicable for 7/1/2005 only; no longer applicable 7/1/2006+).

** Liability shown determined using the projected unit credit cost method 7/1/2005-7/1/2006 and the entry age normal cost method as of 7/1/2007.

***Excludes estimated City contribution receivable of \$5,463,745 as of July 1, 2007 and \$7,022,224 as of July 1, 2006. These receivable amounts were fully paid by the City as of July 1, 2008.

Section II

Supporting Exhibits (continued)

F. Membership Data

Summary – Active Members as of July 1, 2010

	Number	Payroll*	Average Annual Pay*
Police	465	\$ 33,800,796	\$72,690
Firefighters	359	28,697,917	79,938
Board of Education	895	38,678,961	43,217
Municipal Services	456	27,011,021	59,235
Library	71	4,340,771	61,138
Total	2,246	\$132,529,466	\$59,007

*Basic salary, plus overtime, plus Fire private duty pay.

Summary – Pensioners as of July 1, 2010

	Service Pensions*		Disability Pensions		Survivor Benefits*		Total	
	Count	Total Monthly Annuities	Count	Total Monthly Annuities	Count	Total Monthly Annuities	Count	Total Monthly Annuities
Police	496	\$1,978,739	58	\$138,395	72	\$80,029	626	\$2,197,163
Firefighters	331	1,262,817	115	309,871	99	106,889	545	1,679,577
Board of Ed.	636	891,317	20	12,321	59	25,147	715	928,785
Municipal Svcs.	759	2,085,017	14	12,357	90	66,820	863	2,164,194
Library	58	123,585	0	0	1	185	59	123,770
Vested Deferred	189	219,898	--	--	--	--	189	219,898
TOTAL**	2,469	\$6,561,373	207	\$472,944	321	\$279,070	2,997	\$7,313,387

* Seven pensioners receiving benefits as retirees and as survivors are included in both groups.

** Additional monthly benefits for the July 1, 1987, July 1, 1990, July 1, 1997, July 1, 1999, July 1, 2001, July 1, 2005, and July 1, 2007 COLA's for the unfunded plans (PBF, FRF, and RAF) are also included in the total liabilities for MERF. Such participants are not included in the counts shown here.

Section II

Supporting Exhibits (continued)

F. Membership Data

Data Reconciliation – Police

Participant Data				
	Active	Terminated Vested	Pensioners*	Total
Total Participants 7/1/2009	463	9	587	1,059
Adjustments	0	0	0	0
Retirements	-25	-5	+30	0
Disabilities	0	0	0	0
Terminations				
Vested	0	0	N/A	0
Non-vested	-4	N/A	N/A	-4
Deaths	-2	0	-15	-17
New beneficiaries	N/A	0	+24	+24
Transfer group	0	0	0	0
Rehires	0	0	0	0
New entrants	<u>+33</u>	<u>N/A</u>	<u>N/A</u>	<u>+33</u>
Total Participants 7/1/2010	465	4	626	1,095
Average Age				
7/1/2009	37.3			
7/1/2010	37.3			
Average Service				
7/1/2009	9.3			
7/1/2010	9.0			
Payroll**				
7/1/2009	\$34,361,016			
7/1/2010	33,800,796			
Total monthly benefits*				
7/1/2009		\$26,716	\$2,019,046	
7/1/2010		9,291	2,197,163	

* Excludes old plan COLA participants.

** Basic salary plus overtime and private duty pay.

Section II

Supporting Exhibits (continued)

F. Membership Data

Data Reconciliation – Firefighters

Participant Data				
	Active	Terminated Vested	Pensioners*	Total
Total Participants 7/1/2009	371	2	542	915
Adjustments	-1	0	0	-1
Retirements	-10	-1	+11	0
Disabilities	0	0	0	0
Terminations				
Vested	-2	+2	N/A	0
Non-vested	0	N/A	N/A	0
Deaths	-1	0	-21	-22
New beneficiaries	N/A	0	+13	+13
Transfer group	0	0	0	0
Rehires	0	0	0	0
New entrants	<u>+2</u>	<u>N/A</u>	<u>N/A</u>	<u>+2</u>
Total Participants 7/1/2010	359	3	545	907
Average Age				
7/1/2009	41.2			
7/1/2010	41.8			
Average Service				
7/1/2009	14.1			
7/1/2010	14.6			
Payroll**				
7/1/2009	\$27,716,992			
7/1/2010	28,697,917			
Total monthly benefits*				
7/1/2009		\$ 1,614	\$1,649,066	
7/1/2010		7,589	1,679,577	

* Excludes old plan COLA participants.

** Basic salary plus overtime and private duty pay.

Section II

Supporting Exhibits (continued)

F. Membership Data

Data Reconciliation – Board of Education

Participant Data				
	Active	Terminated Vested	Pensioners*	Total
Total Participants 7/1/2009	1,019	85	697	1,801
Adjustments	0	0	0	0
Retirements	-9	-13	+22	0
Disabilities	0	0	0	0
Terminations				
Vested	-42	+42	N/A	0
Non-vested	-97	N/A	N/A	-97
Deaths	-1	-2	-28	-31
New beneficiaries	N/A	0	+24	+24
Transfer group	0	0	0	0
Rehires	0	0	0	0
New entrants	<u>+25</u>	<u>N/A</u>	<u>N/A</u>	<u>+25</u>
Total Participants 7/1/2010	895	112	715	1,722
Average Age				
7/1/2009	45.7			
7/1/2010	47.0			
Average Service				
7/1/2009	9.7			
7/1/2010	11.1			
Payroll**				
7/1/2009	\$39,925,732			
7/1/2010	38,678,961			
Total monthly benefits*				
7/1/2009		\$94,512	\$889,938	
7/1/2010		107,838	928,785	

* Excludes old plan COLA participants.

** Basic salary plus overtime and private duty pay.

Section II

Supporting Exhibits (continued)

F. Membership Data

Data Reconciliation – Municipal Services

Participant Data				
	Active	Terminated Vested	Pensioners*	Total
Total Participants 7/1/2009	479	65	847	1,391
Adjustments	0	0	0	0
Retirements	-34	-15	+49	0
Disabilities	0	0	0	0
Terminations				
Vested	-16	+16	N/A	0
Non-vested	-20	N/A	N/A	-20
Deaths	0	0	-47	-47
New beneficiaries	N/A	0	+16	+16
Transfer group	0	0	0	0
Rehires	+2	0	-2	0
New entrants	<u>+45</u>	<u>N/A</u>	<u>N/A</u>	<u>+45</u>
Total Participants 7/1/2010	456	66	863	1,385
Average Age				
7/1/2009	49.0			
7/1/2010	49.1			
Average Service				
7/1/2009	11.8			
7/1/2010	11.5			
Payroll**				
7/1/2009	\$27,884,353			
7/1/2010	27,011,021			
Total monthly benefits*				
7/1/2009		\$75,178	\$2,065,351	
7/1/2010		92,100	2,164,194	

* Excludes old plan COLA participants.

** Basic salary plus overtime and private duty pay.

Section II

Supporting Exhibits (continued)

F. Membership Data

Data Reconciliation – Library

Participant Data				
	Active	Terminated Vested	Pensioners*	Total
Total Participants 7/1/2009	74	3	58	135
Adjustments	0	0	0	0
Retirements	-1	0	+1	0
Disabilities	0	0	0	0
Terminations				
Vested	-1	+1	N/A	0
Non-vested	-4	N/A	N/A	-4
Deaths	0	0	-2	-2
New beneficiaries	N/A	0	+2	+2
Transfer group	0	0	0	0
Rehires	0	0	0	0
New entrants	<u>+3</u>	<u>N/A</u>	<u>N/A</u>	<u>+3</u>
Total Participants 7/1/2010	71	4	59	134
Average Age				
7/1/2009	45.7			
7/1/2010	46.9			
Average Service				
7/1/2009	11.9			
7/1/2010	12.8			
Payroll**				
7/1/2009	\$4,254,409			
7/1/2010	4,340,770			
Total monthly benefits*				
7/1/2009		\$1,855	\$122,885	
7/1/2010		3,080	123,770	

*Excludes old Plan COLA participants.

**Basic salary plus overtime and private duty pay.

Section II

Supporting Exhibits (continued)

F. Membership Data

Data Reconciliation – Total

Participant Data				
	Active	Terminated Vested	Pensioners*	Total
Total Participants 7/1/2009	2,406	164	2,731	5,301
Adjustments	-1	0	0	-1
Retirements	-79	-34	+113	0
Disabilities	0	0	0	0
Terminations				
Vested	-61	+61	N/A	0
Non-vested	-125	N/A	N/A	-125
Deaths	-4	-2	-113	-119
New beneficiaries	N/A	0	+79	+79
Transfer group	0	0	0	0
Rehires	+2	0	-2	0
New entrants	<u>+108</u>	<u>N/A</u>	<u>N/A</u>	<u>+108</u>
Total Participants 7/1/2010	2,246	189	2,808	5,243
Payroll**				
7/1/2009	\$134,142,502			
7/1/2010	132,529,465			
Total monthly benefits				
7/1/2009		\$ 199,875	\$6,746,286	
7/1/2010		219,898	7,093,489	

*Excludes old Plan COLA participants.

**Basic salary plus overtime and private duty pay.

City of Hartford MERF - Police

Number of Persons/Average Salary of Persons in Processing Group by Age and Years of Service

July 1, 2010

Attained Age	Completed Years of Credited Service																					
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 and over		All years	
	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.
Under 25	6	46,796	9	55,441	2	62,468															17	53,216
25 to 29	12	46,769	50	58,126	25	75,097															87	61,437
30 to 34	6	46,748	30	62,946	38	79,178	10	80,877													84	71,267
35 to 39	5	45,830	13	60,071	34	77,275	29	82,635	15	91,379	2	95,757									98	77,511
40 to 44	2	45,486	8	56,470	27	78,744	36	82,358	30	93,713	10	91,555									113	82,838
45 to 49	1	45,472	8	53,143	6	74,048	8	80,936	10	86,689	7	97,334	1	103,387							41	78,390
50 to 54					4	71,517	1	72,132	4	71,179	7	73,827									16	72,482
55 to 59							3	84,516					3	75,010							6	79,763
60 to 64							1	36,492							1	69,897					2	53,195
65 to 69													1	86,182							1	86,182
70 & over																						
All ages	32	46,503	118	58,911	136	77,169	88	81,588	59	90,401	26	88,661	5	82,920	1	69,897					465	

City of Hartford MERF - Firefighters

Number of Persons/Average Salary of Persons in Processing Group by Age and Years of Service

July 1, 2010

Attained Age	Completed Years of Credited Service																						
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 and over		All years		
	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	
Under 25			18	55,822																		18	55,822
25 to 29			18	55,022	4	77,722																22	59,149
30 to 34			20	54,403	15	73,376	9	72,648	3	70,995												47	65,011
35 to 39			11	54,096	10	73,363	19	72,386	16	78,681												56	70,766
40 to 44			3	59,374	9	75,452	16	75,628	23	79,486	12	79,029	1	73,741								64	76,836
45 to 49			1	53,416	4	73,961	12	74,725	16	81,800	34	83,110	17	81,341	1	77,362						85	80,478
50 to 54			1	78,421	1	71,338	5	73,610	8	78,208	15	80,717	19	80,787	5	84,542				1	74,818	55	79,758
55 to 59							1	71,338	1	75,816	4	82,453	2	94,971	2	76,566				1	90,130	11	82,743
60 to 64													1	77,362								1	77,362
65 to 69																							
70 & over																							
All ages			72	55,392	43	74,219	62	73,795	67	79,259	65	81,764	40	81,470	8	81,650				2	82,474	359	

City of Hartford MERF - Board of Education

Number of Persons/Average Salary of Persons in Processing Group by Age and Years of Service

July 1, 2010

Attained Age	Completed Years of Credited Service																					
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 and over		All years	
	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.
Under 25	1	42,066	1	49,539																	2	45,802
25 to 29	2	42,446	34	37,835	10	47,180	1	25,377													47	39,754
30 to 34	3	42,086	44	46,348	28	44,676	15	36,351													90	44,020
35 to 39	3	36,555	29	53,131	29	47,960	34	45,258	14	43,742			1	65,444							110	47,799
40 to 44	4	42,482	32	45,020	23	45,239	49	52,314	18	47,016	9	42,841			1	59,291					136	47,835
45 to 49	1	96,436	37	48,051	20	46,239	54	38,307	15	44,439	16	43,672	1	82,829							144	43,860
50 to 54	1	57,621	25	38,946	24	46,224	33	38,563	24	40,656	14	46,527	9	55,960	2	57,437			1	63,087	133	43,022
55 to 59			13	45,657	22	45,262	35	40,630	22	43,957	17	40,098	7	51,313	4	52,611	2	37,375	1	47,625	123	43,513
60 to 64	1	43,086	9	46,361	16	54,898	16	45,719	13	46,403	10	48,866	9	50,609	6	50,069	3	59,219			83	49,345
65 to 69			3	72,774	7	42,858	3	57,016	4	41,833	3	49,001	1	33,643	1	32,935					22	48,649
70 & over					4	35,523							1	34,297							5	35,278
All ages	16	45,622	227	45,539	183	46,472	240	43,077	110	43,987	69	44,247	29	52,915	14	51,282	5	50,481	2	55,356	895	

City of Hartford MERF - Municipal Services

Number of Persons/Average Salary of Persons in Processing Group by Age and Years of Service

July 1, 2010

Attained Age	Completed Years of Credited Service																					
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 and over		All years	
	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.
Under 25	6	34,103	4	25,526																	10	30,672
25 to 29	3	61,451	10	43,995	3	47,732															16	47,969
30 to 34	4	70,102	11	48,599	8	55,179	2	62,440	2	52,037											27	55,014
35 to 39	3	72,044	15	65,613	8	54,842	2	94,406	3	98,947											31	68,540
40 to 44	4	63,799	20	69,307	16	52,965	8	51,331	4	100,519	16	75,391	1	55,850	2	61,187	2	51,390			73	65,599
45 to 49	2	57,902	18	63,704	22	64,370	12	28,546	3	28,687	11	54,988	4	80,158	2	61,811	5	63,034	2	60,260	81	56,692
50 to 54	3	65,950	15	72,113	23	60,060	9	62,606	10	73,944	7	57,194	5	76,054	3	119,254					75	68,030
55 to 59	2	83,261	14	68,383	20	60,597	9	56,404	13	60,539	6	43,254	3	66,873			1	67,173	3	55,167	71	60,891
60 to 64			7	75,483	11	56,404	6	91,649	7	82,108	3	52,268	4	70,761	3	66,807	2	27,172			43	69,025
65 to 69			2	76,212	6	68,210	5	32,660	1	10,415	2	69,768	1	103,165							17	57,535
70 & over					3	10,400	3	10,415	1	10,415	3	10,423	1	83,005			1	10,415			12	16,463
All ages	27	60,033	116	63,048	120	57,843	56	51,472	44	68,434	48	58,304	19	75,084	10	80,418	11	49,989	5	57,204	456	

City of Hartford MERF - Library

Number of Persons/Average Salary of Persons in Processing Group by Age and Years of Service

July 1, 2010

Attained Age	Completed Years of Credited Service																					
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 and over		All years	
	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.
Under 25	1	41,717																			1	41,717
25 to 29			2	48,442	2	50,833	1	48,869													5	49,484
30 to 34					1	52,125	2	50,599													3	51,108
35 to 39					5	50,862	2	47,298	1	47,622	1	62,190									9	50,969
40 to 44			1	56,283	3	60,366	1	94,071	3	49,683	3	49,683	1	56,068							12	57,135
45 to 49	1	111,641	2	64,837	4	57,381	2	92,682			2	48,973	3	64,253							14	67,636
50 to 54			3	83,132	2	71,552	1	51,745	1	47,382	1	48,839									8	67,558
55 to 59	1	59,357	1	158,769	4	82,917	2	77,739			2	78,844	2	49,344							12	80,137
60 to 64					2	47,975			1	98,774	2	109,226			1	81,072					6	82,375
65 to 69													1	47,114							1	47,114
70 & over																						
All ages	3	70,905	9	76,779	23	60,411	11	66,484	6	57,138	11	66,742	7	56,376	1	81,072					71	

City of Hartford MERF - All Groups

Number of Persons/Average Salary of Persons in Processing Group by Age and Years of Service

July 1, 2010

Attained Age	Completed Years of Credited Service																					
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 and over		All years	
	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.
Under 25	14	40,655	32	51,732	2	62,468															48	48,948
25 to 29	17	48,851	114	50,175	44	66,022	2	37,123													177	53,840
30 to 34	13	52,858	105	52,860	90	65,043	38	58,788	5	63,412											251	58,336
35 to 39	11	50,450	68	57,367	86	63,313	86	65,046	49	73,192	3	84,568	1	65,444							304	63,817
40 to 44	10	51,610	64	54,890	78	62,490	110	65,846	78	77,397	50	72,096	3	61,886	3	60,555	2	51,390			398	65,975
45 to 49	5	73,871	66	53,527	56	59,117	88	47,053	44	66,553	70	70,123	26	80,092	3	66,995	5	63,034	2	60,260	365	60,026
50 to 54	4	63,868	44	54,163	54	55,394	49	47,509	47	56,871	44	64,276	33	73,299	10	89,534			2	68,953	287	58,923
55 to 59	3	75,293	28	61,060	46	55,204	50	48,201	36	50,830	29	49,265	17	63,145	6	60,596	3	47,308	5	60,651	223	53,927
60 to 64	1	43,086	16	59,102	29	54,992	23	57,299	21	60,798	15	57,594	14	58,278	11	59,255	5	46,401			135	57,346
65 to 69			5	74,149	13	54,559	8	41,793	5	35,550	5	57,308	4	67,526	1	32,935					41	53,212
70 & over					7	24,756	3	10,415	1	10,415	3	10,423	2	58,651			1	10,415			17	21,996
All ages	78	51,944	542	54,025	505	60,439	457	56,252	286	65,862	219	64,866	100	70,291	34	68,421	16	50,143	9	62,409	2,246	

Section II
Supporting Exhibits
(continued)

G. IRC Section 415(m) Valuation

The IRC Section 415(m) Fund* is an unfunded "excess benefit plan" to provide that portion of certain retirees' pension benefits that exceed the limits permitted under Section 415 of the Federal Internal Revenue Code (IRC).

	<u>July 1, 2010</u>	<u>July 1, 2009</u>
1. Number of retirees and beneficiaries receiving benefits	6	4
2. Annual benefits payable	\$ 56,000	\$ 44,000
3. Present value of benefits	\$180,000	\$143,000

The "actives" are funded through MERF. The City provides contributions for the retirees' benefits payable each year, as determined by the Pension Commission.

Actuarial Assumptions

The actuarial assumptions used in the 2009 Section 415(m) Fund valuation are as follows:

Mortality Basis:	RP-2000 Healthy Annuitants Table projected by Scale AA to year of valuation plus 8 years (2018 for July 1, 2010 valuation), with no adjustment and separate male and female rates.
Termination:	N/A.
Salary Scale:	N/A.
Investment Return:	8.00% per year, net of investment expenses.
Assumed Retirement age:	Immediate as all are retired.
Increases in dollar limit on benefits under IRC Section 415:	3% per year.

Benefits

Retiree pension amounts in excess of IRC Section 415 limits. Benefits which do not exceed such amounts are payable from the City's MERF Plan. IRC Section 415 limits are assumed to increase annually and thus decrease the benefits payable from this Plan and increase the portion of the benefits payable from the City's MERF Plan.

**Section 415(m) Fund adopted by the Court of Common Council on March 24, 1997.*

Section III

Actuarial Cost Methods and Assumptions

A. Actuarial Cost Methods

Asset Valuation Method – Actuarial Value of Assets

In order to smooth the year-to-year fluctuations in asset values, the asset values are adjusted by phasing in recognition of gains and losses over a five-year period. (Phase-in started July 1, 2003). Gains and losses are defined as the difference between the actual and the expected return on assets.

The July 1, 2009 valuation reflected a change in the asset valuation method from the use of a four-year smoothing period for gains and losses to the use of a five-year period. In the year of implementation of the change, the five-year smoothing methodology was retroactively applied to the gains and losses for previous years.

The assets held by the insurance companies include the funds on deposit for future purchase of annuities, as well as the reserves and contingency reserves for annuities already purchased which are subject to experience rating.

Actuarial Funding Method

The "Aggregate Actuarial Cost Method" (first adopted for the 1969 valuation) is used for determining the future rates of contributions needed for funding service retirements. This method is designed to produce stable "percentage-of-payroll" Normal Actuarial Costs over a period of years. This aim will be achieved so long as the emerging experience conforms with the actuarial assumptions.

Using this method, an actuarial valuation was made of the actuarial present value of all future pension benefits for active members (including survivor benefits, disability benefits, and refunds of employee contributions). The actuarial present value needed for future payments to present pensioners and deferred vested pensioners and survivors was subtracted from the Actuarial Value of Assets to determine the current Actuarial Value of Assets available for future benefits for active members. The latter figure was subtracted from the actuarial present value of future benefits for active members in order to determine the remaining actuarial present value to be funded by future contributions. Finally, the net remainder was divided by the actuarial present value of all future salaries, and the total Normal Actuarial Costs for future contributions was determined as a level percentage of future annual payrolls.

Since the MERF fund includes several classifications of members who have different provisions for benefits and contributions, it was necessary to apply this method by separate actuarial valuations for Police, Firefighters, Board of Education, Municipal Services, and Library participants.

Section III

Actuarial Cost Methods and Assumptions (continued)

B. Actuarial Assumptions

The actuarial assumptions used in the 2010 MERF valuation are as follows:

Mortality Basis:

For Police, Fire, Board of Education Corridor Supervisors and Building and Grounds Supervisors:

- Pre-retirement: RP2000 Employees Table – male and female rates, projected by Scale AA to valuation date plus 17 years with occupational (i.e., non-office worker, blue collar) adjustment.
- Post-retirement: RP2000 Healthy Annuitants Table – male and female rates, projected by Scale AA to valuation date plus 8 years with occupational (i.e., non-office worker, blue collar) adjustment. No adjustment reflected for assumed future beneficiaries.
- Disability: RP2000 Disabled Table – male and female rates.

For All Other Groups:

- Pre-retirement: RP2000 Employees Table – male and female rates, projected by Scale AA to valuation date plus 17 years with no adjustment.
- Post-retirement: RP2000 Healthy Annuitants Table – male and female rates, projected by Scale AA to valuation date plus 8 years with no adjustment.
- Disability: RP2000 Disabled Table – male and female rates.

Section III

Actuarial Cost Methods and Assumptions

(continued)

Termination:

Yearly Rates of Employee Termination

<u>Age</u>	<u>Non-Uniformed</u>	<u>Uniformed</u>
20	10.0%	5.0%
25	7.0%	2.0%
30	5.0%	2.0%
35	4.0%	2.0%
40+	0.0%	0.0%

Salary Scale:

3% for inflationary salary increases plus a percentage for promotion or merit increases. For Police under age 45, overtime limited to less than or equal to 20% of base pay.

Yearly Rates of Increases for Promotion or Merit

<u>Age</u>	<u>Police</u>	<u>Fire</u>	<u>Bd of Ed</u>	<u>Munic. Svc. & Lib.</u>
25	4.0%	2.5%	4.0%	6.0%
30	3.5%	2.5%	4.0%	4.7%
35	2.2%	1.6%	2.1%	3.1%
40	1.2%	1.1%	1.0%	2.0%
Over 40	1.0%	1.0%	1.0%	2.0%

Salaries are adjusted for groups in negotiations by 3% per year for the period of each open contract, and non-bargaining groups by 3% per year for one full fiscal year from the measurement date. Any wage increases negotiated beyond the valuation date have been reflected in our projections.*

* *The following groups have future salary increases that have been negotiated and are reflected in this valuation:*

- Firefighters
- HMEA
- CHPEA
- MLA
- Non-union
- School Crossing Guards

Investment Return:

8.00% per year, net of investment expenses.

Section III

Actuarial Cost Methods and Assumptions (continued)

Assumed Retirement Age:

Retirement Rates:

<u>Service</u>	<u>Police</u>	<u>Fire</u>	<u>Mun. Svc. & Lib.</u>
20	20%	5%	10%
21	15%	1%	5%
22	5%	1%	5%
23	5%	1%	10%
24	20%	10%	15%
25	30%	30%	15%
26-27	5%	5%	10%
28	10%	5%	15%
29	25%	20%	15%
30	100%	20%	100%
31-34	n/a	5%	n/a
35	n/a	100%	n/a

(maximum of age 65)

<u>Age</u>	<u>Bd of Ed</u>
55	15%
56	10%
57-59	5%
60	30%
61	5%
62	20%
63-64	10%
65	100%

For both Uniformed and Non-Uniformed who have reached Assumed Retirement Age, retirement after one year.

Social Security:

Future tax wage bases are developed by projecting the 2010 base of \$106,800 forward at 4% per year.

Section III

Actuarial Cost Methods and Assumptions

(continued)

Marital Status at Retirement:

Non-Uniformed:

Males - 80% married, spouse 3 years younger.

Females - 60% married, spouse same age.

Uniformed:

All - 80% married, spouse 2 years younger.

Disability:

Disability benefits were explicitly valued using the DP85 Class 1 Male and Female Disability Incidence Rate Table increased three times for the Police and Firefighter groups, two times for the Board of Education groups and with no increase for the Municipal Services and Library groups.

*DP85 Class 1 Disability Incidence Table:
Sample male and female rates*

<u>Age</u>	<u>Male</u>	<u>Female</u>
15	0.021%	0.023%
20	0.029%	0.030%
25	0.038%	0.047%
30	0.048%	0.080%
35	0.069%	0.136%
40	0.117%	0.211%
45	0.202%	0.323%
50	0.358%	0.533%
55	0.722%	0.952%
60	1.256%	1.159%
65	1.753%	1.358%

Expenses other than

Investment Expenses:

An explicit dollar amount was included in the development of the normal cost percentage equal to an estimate of expenses (other than investment expenses) for the upcoming year. The estimate was developed based on an average of actual expenses over the last four years. For the 2010 valuation, \$2,318,859 was used. Estimated expenses were then allocated to the various groups by the present value of future benefits and expressed as a percentage of payroll.

Section III

Actuarial Cost Methods and Assumptions

(continued)

Sick Exchange: Four years are exchanged by all actives if provision available. For Firefighters hired prior to July 1, 2003, six years are exchanged.

Military and Prior Service Buy-backs: When a decision to buy-back service occurs, date of hire is adjusted accordingly.

Additional Liabilities: **COLAs:**
Included in this valuation is the liability for the Cost of Living Adjustments (COLAs) effective July 1, 1987, July 1, 1990, July 1, 1997, July 1, 1999, July 1, 2001, July 1, 2005, and July 1, 2007 for both the MERF and the unfunded "Old Plans" (PBF, FRF, and RAF).

Local 1716:

Included in this valuation is the obligation for Local 1716 members who transferred to State MERF B on July 1, 1987.

29-year amortization payments (split between the City administration and the pension fund) commenced July 1, 1987 for this obligation. As of July 1, 2010, the City payment will be \$509,126 (\$2,542,000 on a present value basis) and the pension fund payment will be \$462,336 (\$2,308,000 on a present value basis).

Local 566:

Included in this valuation is the obligation for Local 566 (included merged Local 1303) members who transferred to State MERF B on August 1, 1988.

30-year amortization payments (split between the City administration and the pension fund) commenced August 1, 1988 for this obligation. As of July 1, 2010, the City payment will be \$303,918 (\$2,050,000 on a present value basis) and the pension fund payment will be \$276,288 (\$1,864,000 on a present value basis).

Section IV

Hartford MERF - Summary of Principal Provisions of Pension Plan July 1, 2010

PROVISIONS FOR:

Retirement Pensions:

POLICE OFFICERS AND FIREFIGHTERS

Firefighters hired before July 1, 2003: 2.80% of Final Average Pay (rate of weekly pay immediately preceding retirement times 52, plus for firefighters who work a 42 hour week, holiday pay) multiplied by years of service up to 25 plus 2.0% for years over 25.

Firefighters hired after June 30, 2003: 2.5% of Final Average Pay (rate of weekly pay immediately preceding retirement times 52, plus for firefighters who work a 42 hour week, holiday pay) multiplied by years of service up to 20 plus 2% of Final Average Pay for years of service over 20.

Sworn Police Officers hired before July 1, 1999: 2.65% of Final Average Pay for highest 3 of last 5 years multiplied by years of service up to 20 plus 3% for year 21 plus a decreasing percentage for years over 21. Final Average Pay includes a provision for over-time and private duty pay.

Sworn Police Officers hired after June 30, 1999: 2.5% of Final Average Pay for highest 3 of last 5 years times years of service up to 20 plus 2% for years of service- over 20.

BOARD OF EDUCATION MEMBERS

2% (2.5% for HFSHP, HSSSA and HESP) of Final Average Pay for highest 5 of last 10 years times years of service, with maximum benefit of 70% of Final Average Pay. Final Average Pay for HFSHP, HESP, HSSSA, and Local 2221, Hartford Federation of Paraprofessionals are based on highest 3 out of last 5 years. Benefit for Local 2221 is 2.5% of Final Average Pay multiplied by years of service up to 20 plus 2% of Final Average Pay for years of service over 20 (maximum of 10 years).

Effective July 1, 2008 for Local 818, employees hired prior to March 1, 2007 will get 2.5% of Final Average Pay (for each year of service) and employees hired after March 1, 2007 will get 2.0%. Final Average Pay is the highest 3 of the 7 years. Maximum benefit is 70% of pay.

MUNICIPAL SERVICES & LIBRARY MEMBERS

For Library and MLA hired on or after July 1, 2006, HMEA hired after July 1, 2003, CHPEA hired after June 23, 2003, 2% of Final Average Pay for highest 2 of last 5 years times years of service with a maximum benefit of 70% of Final Average Pay. For Library with 5-year option, Final Average Pay is highest 5 of last 10 years.

For CHPEA hired on or before June 23, 2003, MLA hired before July 1, 2006, and Nonbargaining, 2.5% of Final Average Pay for highest 2 of last 5 years times years of service. Maximum benefit of 70% of Final Average Pay for CHPEA, 80% for Nonbargaining and MLA. For Nonbargaining with 5-year option, Final Average Pay is highest 5 of last 10 years.

For HMEA hired before July 1, 2003, 2.75% of Final Average Pay for highest 2 of last 5 years times years of service with a maximum benefit of 75% (was 70%) of Final Average Pay.

For SCGA, 2% of Final Average Pay for highest 5 of last 10 years reduced by 1% of average Social Security covered earnings for all years included in computation of Social Security primary benefits. Maximum benefit of 100% of Final Average Pay.

PROVISIONS FOR:

POLICE OFFICERS AND FIREFIGHTERS

BOARD OF EDUCATION MEMBERS

MUNICIPAL SERVICES & LIBRARY MEMBERS

Retirement Pensions:

Non-Sworn Police Officers: 2.5% of Final Average Pay for highest 3 of last 5 years times years of service, with maximum benefit of 80% of Final Average Pay.

Sworn Police Officers have a maximum benefit of 70% of Final Average Pay. For Sworn Police Officers hired before July 1, 1999 increase maximum benefit to 80% of Final Average Pay with sick exchange provision. Firefighters have a maximum benefit of 80% of Final Average Pay (85% with sick exchange if hired prior to July 1, 2003).

Assistant Police Chief, Police Chief, Assistant Fire Chief and Fire Chief: Same as Non-Bargaining.

Normal Form of Benefit:

For unmarried members: life annuity.
For married members: surviving spouse benefit of 25% of member's final year's earnings, if non-service connected death, and 50% of member's final year's earnings, if service connected death. Minimum of 50% of pension benefit for firefighters for non-service connected death.

For married Non-Sworn Police Officers: life annuity with 50% to survivor.

For unmarried members: life annuity.
For married members: life annuity with 50% to survivor.

For unmarried members: life annuity.
For married members: life annuity with 50% to survivor.

PROVISIONS FOR:

Normal Retirement Age and Service Requirement:

POLICE OFFICERS AND FIREFIGHTERS

Firefighters and Sworn Police Officers hired before July 1, 1999: Full benefits after 20 years of continuous service.

Sworn Police Officers hired after June 30, 1999: Full benefits after 25 years of continuous service.

Non-Sworn Police Officers: Full benefits after 20 years of service, or age 60 plus 5 years of continuous service, or after 15 years of service, if contributions are left in the MERF until would have had 20 years of service.

BOARD OF EDUCATION MEMBERS

Age 60 plus 10 (5 for non-bargaining – was 10) years of service (continuous service for Local 2221). Members are also eligible at age 55 with 25 years of service. Local 818 employees hired prior to March 1, 2007 may retire after 20 years of service, regardless of age. For HSSSA, age 55 and 5 (was 10) years of service.

MUNICIPAL SERVICES & LIBRARY MEMBERS

For SCGA and MLA hired on or after July 1, 2006, earlier of (1) age 60 plus 5 years of continuous service or (2) age 55 with 25 years of continuous service.

For Nonbargaining and MLA hired prior to July 1, 2006, earlier of (1) age 60 plus 5 years of continuous service or (2) 20 years of service, or (3) after 20 years of service if participant leaves after 15 years of service and contributions are left in the MERF until would have had 20 years of service.

For CHPEA, earlier of (1) age 60 plus 5 years of continuous service or (2) 20 years of aggregate service if hired on or before June 23, 2003, age 55 with 25 years of aggregate service if hired after June 23, 2003.

For HMEA earlier of (1) age 60 plus 5 years of continuous service or (2) 20 years of continuous service if hired before July 1, 2003, age 55 with 25 years of continuous service if hired after July 1, 2003.

For Library non union, earlier of (1) age 60 plus 5 years of continuous service or (2) 25 years of continuous service.

For Library union, (1) age 60 plus 10 years of continuous service or (2) 25 years of continuous service.

<u>PROVISIONS FOR:</u>	<u>POLICE OFFICERS AND FIREFIGHTERS</u>	<u>BOARD OF EDUCATION MEMBERS</u>	<u>MUNICIPAL SERVICES & LIBRARY MEMBERS</u>
<u>Optional Early Retirement:</u>	Sworn Police Officers: Age 50 with 10 years of continuous service, actuarially reduced for years prior to Normal Retirement Age. Non-Sworn Police Officers: Age 55 with 5 years of continuous service, reduced at 4% per whole year prior to age 60. Firefighters: Age 50 with 5 years of continuous service, actuarially reduced or reduced at 2% per year (prorated for fractional years) prior to Normal Retirement Age.	At age 55 with 10 years (5 years for HESP) of service (continuous service for Local 2221), reduced at 4% per whole year prior to age 60. For Local 818, reduction is adjusted for partial years.	For Library union, age 55 with 10 years of continuous service. For all others, age 55 with 5 years of continuous service. Benefit reduced at 4% per whole year prior to age 60 (prorate for partial years for HMEA and CHPEA). For SCG members, reduction is 2% per whole year and fraction of a year prior to age 60.
<u>Vesting of Earned Deferred Pension:</u>	Sworn Police Officers: After 10 years of continuous service. Firefighters and Non-Sworn Police Officers: After 5 years of continuous service.	After 10 years (5 years for HESP, HSSSA and non-bargaining) of continuous service. Payments begin no earlier than age 55. (Was 10 years for HSSSA and non-bargaining).	For Library union, 10 years of continuous service. For all others, 5 years of continuous service. Payments begin no earlier than age 55.
<u>Benefits to Survivors: (Death of Active Member Prior to Retirement)</u>	Surviving Spouse: 25% of final year's earnings (50% if service connected death), payable until death or remarriage. Minimum of 50% of pension benefit for Firefighters for non-service connected death. Surviving Child: \$100 per month for first child, \$50 for each additional child (10% of final year's earnings if service connected death, or 15% if no surviving spouse). Total benefit, including Worker's Compensation, cannot exceed 100% of current pay rate for Member's rank. Non-Sworn Police Officers: Same as General Government members.	Member must meet qualifications for vesting. Surviving Spouse: 50% of pension which Member is receiving or would be entitled to when retired, payments beginning no earlier than date of Member's 55th birthday. Surviving Spouse benefits are payable until death or remarriage.	Surviving Spouse: 50% of pension which Member is receiving or would be entitled to when retired, payments beginning no earlier than date of Member's 55th birthday. Surviving Spouse benefits are payable until death or remarriage.

MUNICIPAL SERVICES & LIBRARY MEMBERS

PROVISIONS FOR:

POLICE OFFICERS AND FIREFIGHTERS

BOARD OF EDUCATION MEMBERS

Refund of Contributions upon Discontinuance of Employment or at Death (Non-Vested Members):
(May be taken in lieu of earned deferred pension by vested members)

Refund of total contributions, without interest.

Termination: Refund of total contributions, with 3% interest compounded annually.
Death: Refund of total contributions with interest preretirement and without interest postretirement.

Pensions for Permanent, Total Disability - Service Requirements:

5 years of continuous service, but no requirement if disability is service connected as defined in Worker's Compensation Act.

10 years of continuous service, except no requirement if disability is service connected as defined in Worker's Compensation Act.

Non-Sworn Police Officers: Same as General Government members.

Amount of Total Disability Pension:
(Payable so long as total disability continues.)

Retirement Pension with minimum of 25% of "final average pay." If disability is service connected, the pension equals 100% of the Member's final annual pay less Worker's Compensation benefits.

Retirement Pension using Final Average Pay for last 10 years. If disability is service connected, amount not less than 50% of Member's final annual pay at time of disability. Maximum benefit of 2/3 of 10-year Final Average Pay less Social Security benefit. Minimum benefit of \$30 per month. All service connected disability benefits are offset by benefits payable by Worker's Compensation (exception: no offset for \$30 minimum).

Non-Sworn Police Officers: Same as General Government members.

If non service connected, same as above, but no 50% Final Average Pay minimum and minimum benefit equals \$10 per month instead of \$30 per month.

**Pensions for Permanent
Partial Disability:**
(Where earnings capacity
is reduced by at least
10%.)

Ten years of continuous service, but no service requirement if disability is service connected. Same as retirement pension with reduction for less than 15 years of service. If non-service connected, retirement pension, subject to a minimum equal to 25% of Final Average Pay. This minimum is reduced by earnings if less than 15 years of service at time of disability. If service connected, pension equals 50% of final annual pay (regular 20 year pension for Firefighters) if 15 years of service, with reductions for earnings if less than 15 years of service. If at least 20 years of service, pension equals retirement pension.

Non-Sworn Police Officers: Same as General Government members.

10 years of continuous service, except no requirement if disability is service connected as defined in Worker's Compensation Act. Retirement Pension using Final Average Pay for last 10 years (with offset for Worker's Compensation benefits if service-related disability), subject to a minimum pension of \$10 monthly (non-service connected), or \$30 (service connected). If the disability is service connected, benefit not less than 50% of the reduction in earnings with offset for Worker's Compensation benefits. For service connected disability, the maximum benefit is 2/3 of 10 year final average pay less Worker's Compensation and Social Security benefits. For non-service connected disability, the maximum is 2/3 of 10 year final average pay less Social Security benefits, or 1-2/3% of the reduction in income times years of service.

PROVISIONS FOR:

Member's Contribution Rate of Total Earnings:
(City pays full balance of costs to fund MERF benefits; also Members and City pay taxes for those covered by Social Security.)

POLICE OFFICERS AND FIREFIGHTERS

Firefighters and Sworn Police Officers hired before July 1, 1999: 8%.
Sworn Police Officers hired after June 30, 1999: 6.5%.
Non-Sworn Police Officers: 4% on earnings taxed for Social Security and 7% on excess.
Assistant Police Chief, Police Chief, Assistant Fire Chief and Fire Chief: Same as Non-Bargaining.

BOARD OF EDUCATION MEMBERS

4% on earnings taxed for Social Security and 7% on excess. For HESP, 9% and 12%, respectively. For HSSSA, 9.25% and 12.25%, respectively (was 8.75%/11.75%). For HFSHP 10.14% and 13.14%, respectively. For Non-bargaining 4.5% and 7.5%, respectively (was 4%/7%).
For Local 818, 5.2% up to Social Security Wage Base and 8.2% of the excess. If hired on or after March 1, 2007, 7.1% and 10.1%, respectively.

MUNICIPAL SERVICES & LIBRARY MEMBERS

For Nonbargaining, 5% on earnings taxed by Social Security and 8% on excess if 5 year Final Average Pay option elected (was 4%/7%). With 2 year option, 6% and 9%, respectively (was 5%/8).
For Library, 4% on earnings taxed by Social Security and 7% on excess if 5 year Final Average Pay option elected. With 2 year option, 5% and 8%, respectively.
For MLA, HMEA hired after July 1, 2003, and CHPEA hired after June 30, 2003, 5% on earnings taxed by Social Security and 8% on excess. For CHPEA hired on or before June 30, 2003, 6.5% and 9.5%, respectively. For HMEA hired before July 1, 2003, 7.8% on all earnings.
For SCGA, 4% on earnings taxed by Social Security and 7% on excess (was 3%/6%).

Note 1 Any Member (other than a Police Officer or Firefighter) who was a Member before January 1, 1958 is guaranteed a minimum total benefit, including Social Security based on earnings from the City, equal to the pension the Member would have received under the terms of the MERF plan in existence prior to the enactment of the 1957 Special Act No. 347. Also, several active Members who transferred to MERF on or after July 1, 1968 from the City's Retirement Allowance Fund are entitled to a pension determined by the RAF provisions if it is greater than that based on the MERF provisions.

Note 2 Section 2-166 of the Municipal Code provides a minimum benefit of \$155 monthly for all pensions granted by reason of service or for service-connected disability, and for joint annuitants under elected options, except members for whom Social Security taxes have been paid and anyone for whom more than half of the total pension is paid by the Metropolitan District.

Note 3 All members (other than SCG) may purchase up to 4 years of pension credit for military service. Pension credit is at the following rates of Final Average Pay per year purchased:

HMEA members hired before July 1, 2003	2.75%
Sworn Police Officers, Firefighters, CHPEA members hired on or before June 23, 2003, HFSHP, Local 818 hired prior to March 1, 2007, HSSSA, HESP, Non-bargaining (including Assistant Police Chief, Police Chief, Assistant Fire Chief, and Fire Chief), Non-Sworn Police Officers, and MLA hired prior to July 1, 2006	2.50%
Other (including CHPEA members hired after June 23, 2003, HMEA members hired prior to July 1, 2003, MLA hired on or after July 1, 2006, and Local 818 hired on or after March 1, 2007)	2.00%

Note 4 All members (other than Sworn Police Officers hired after July 1, 1999, all Board of Education members, CHPEA hired after June 23, 2003, HMEA hired on or after July 1, 2003, Library, SCG and MLA hired on or after July 1, 2006) may exchange accumulated sick leave upon retirement for up to 4 years (6 years for Firefighters hired prior to July 1, 2003) of pension service time. Additional pension service time may be purchased from accumulated sick leave at the rate of twenty days of accumulated sick leave for each year of pension service time.

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