



**The Employees' Retirement System  
for the City of Norfolk**

**Actuarial Valuation  
as of June 30, 2009**

**The Sixty-Sixth Actuarial Valuation**

**Produced by Cheiron**

**February 2010**

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February 3, 2010

Board of Trustees  
Employees' Retirement System  
City of Norfolk  
Norfolk, Virginia 23510

**Re: The Employees' Retirement System for the City of Norfolk  
Actuarial Valuation as of June 30, 2009**

Dear Members of the Board:

At your request, we have conducted an annual actuarial valuation of the Employees' Retirement System for the City of Norfolk as of June 30, 2009. The results of the valuation are contained in this report. The purpose of the valuation is discussed in the Foreword.

The actuarial assumptions used in performing this valuation have been recommended by the actuary and adopted by the Board of Trustees based on the actuary's most recent review of the System's experience completed in 2007. We believe the assumptions used, in the aggregate, reflect our best estimate of anticipated future experience of the Plan. The results of this report are only applicable to the contribution for Fiscal Year Ending 2011 and rely on future plan experience conforming to the underlying assumptions. To the extent that actual plan experience deviates from the underlying assumptions, the results would vary accordingly.

The assumptions and methods used in determining the assets, liabilities, and the annual required contributions of the employer as defined by the Governmental Accounting Standards Board (GASB) meet the parameters set by GASB Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*.

In preparing our report, we relied, without audit, on information supplied by the Retirement System. This information includes, but is not limited to, plan provisions, employee data, and financial information. We have reviewed the census data provided to us for reasonableness.

We hereby certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board, and that as Members of the American Academy of Actuaries, we meet the Qualification Standards to render the opinion contained in this report.

Sincerely,  
Cheiron



Fiona E. Liston, FSA, EA, MAAA  
Consulting Actuary



Kevin J. Woodrich, ASA, EA, MAAA  
Actuary



THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

**FOREWORD**

Cheiron has performed the actuarial valuation of the Employees' Retirement System for the City of Norfolk as of June 30, 2009. The purpose of this report is to:

- 1) **Measure and disclose**, as of the valuation date, the financial condition of the System;
- 2) **Indicate trends** in the financial progress of the System;
- 3) **Determine the contribution rate** to be paid by the City for Fiscal Year 2011; and
- 4) **Provide specific information** and documentation required by the Governmental Accounting Standards Board (GASB).

An actuarial valuation establishes and analyzes System assets and liabilities on a consistent basis, and traces the progress of both from one year to the next. It includes measurement of the System's investment performance as well as an analysis of actuarial liability gains and losses.

**Section I** presents a summary containing our findings and discloses important trends experienced by the System in recent years.

**Section II** contains details on various asset measures, together with pertinent performance measurements.

**Section III** shows similar information on System liabilities, measured for actuarial, accounting, and government reporting purposes.

**Section IV** develops the employer contribution rate to be paid by the City effective July 1, 2010.

**Section V** includes the required disclosures under GASB Statement number 25.

The appendices to this report contain a summary of the System's membership at the valuation date, a summary of the major provisions of the System, and the actuarial methods and assumptions used in the valuation.

In preparing our report, we relied without audit, on information (some oral and some written) supplied by the System's staff. This information includes, but is not limited to, the plan provisions, employee data, and financial information.

The actuarial assumptions reflect our understanding of the likely future experience of the System, and the assumptions as a whole represent our best estimate for the future experience of the System. The results of this report are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the System could vary from our results.

Finally, in preparing this report, we have conformed to generally accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

**SECTION I  
BOARD SUMMARY**

**General Comments**

In this section, we will first discuss the trends of the System over the past decade and then show projections of the contribution rate and funding status. Please remember that these projections make certain assumptions about future investment returns, future salary increases, future inflation, and future behavior of plan participants. We cannot know what will actually happen, but these projections should provide the Board with a better understanding of the sensitivity of the System's funding to future market performances.

The City Code states that each year the Board must certify to the City Manager the amount of appropriation required for the ensuing year to meet the normal and accrued liability contributions payable by the City. The results of this valuation determine the contribution rate for the fiscal year beginning July 1, 2010. The contribution rate for General employees is determined to be 15.47%. The contribution rate for Firefighters and Police is determined to be 28.15%. The composite rate is equal to 19.98% of annual payroll.

Forecasts show that, should all assumptions be realized, the System's funded status would decrease from 86% to 70% funded within two years. This is due to the unrealized investment losses being stored by the asset smoothing method. Please note that this projection does **not** recognize the City's tendency to offer ad hoc COLAs. If that were recognized, the funded ratio would decline more rapidly.

**Recent Experience**

The financial markets performed well below expectation during the fiscal year ending June 30, 2009. Likewise, the System experienced a loss on the actuarial value of assets. The actual return on a market value basis was approximately -15.3%. On an actuarial value basis, the assets returned -2.1% compared with an assumed rate of return of 7.5%. The loss recognized for funding purposes was \$87.4 million.

On the liability side, the System's experience resulted in an actuarial gain of \$14.9 million (roughly 1.5% of the liabilities). The liability gain was primarily due to actual salaries being less than anticipated.

The combination of liability and investment experience and assumption changes produced a decrease in the System's funding ratio (actuarial value of assets over actuarial accrued liability) from 92.9% at June 30, 2008 to 86.0% at June 30, 2009.

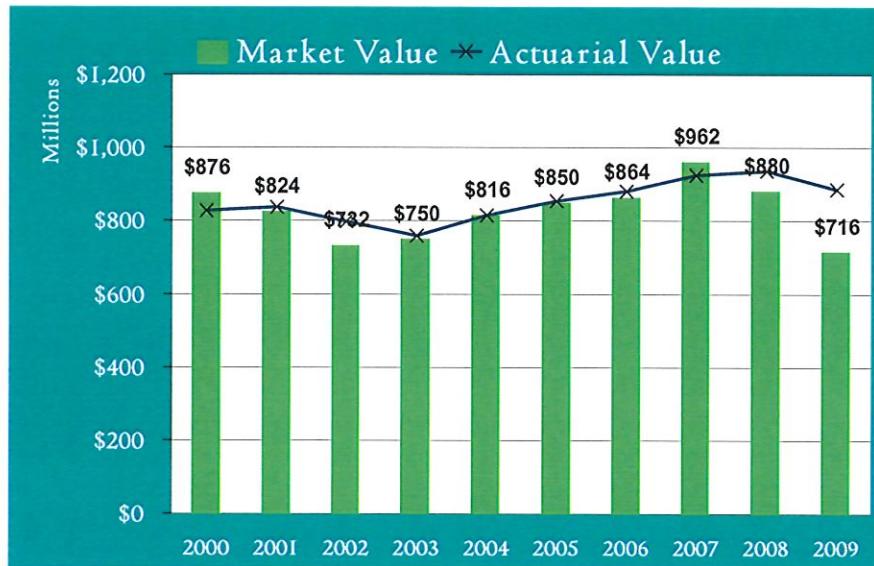
**Trends**

It is important to take a step back from the latest results and view them in the context of the System's recent history. On the next page we present a series of graphs which display key factors in the valuations over the last ten years. After the historical review we present a few projection graphs, showing the possible condition of the System over the next 15 years under various market return scenarios.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

SECTION I  
BOARD SUMMARY

Growth in Assets



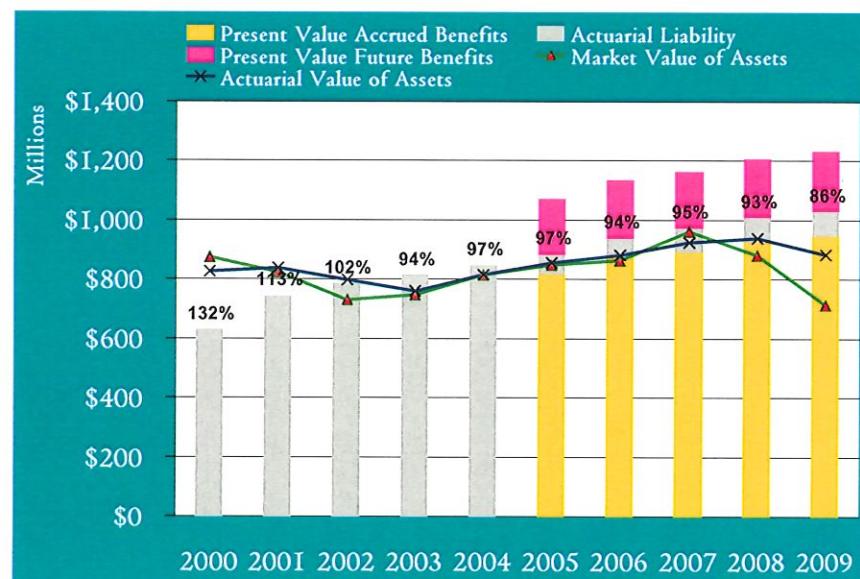
Market value of assets (MVA) experienced a return of -15.3% this year. Due to the asset smoothing method in place, the actuarial value of assets (AVA) decreased by less than the MVA. The return on the AVA was -2.1%.

Over the period July 1, 2000 to June 30, 2009 the System's assets returned approximately 1.0% per year measured at market value, compared to a valuation assumption of 7.5% per year.

Assets and Liabilities

The three colored bars represent the three different measures of liability mentioned in this report. For funding purposes, the target amount is represented by the top of the gray bar. We compare the actuarial value of assets to this measure of liability in developing the funded percent. These are the percentages shown in the graph labels.

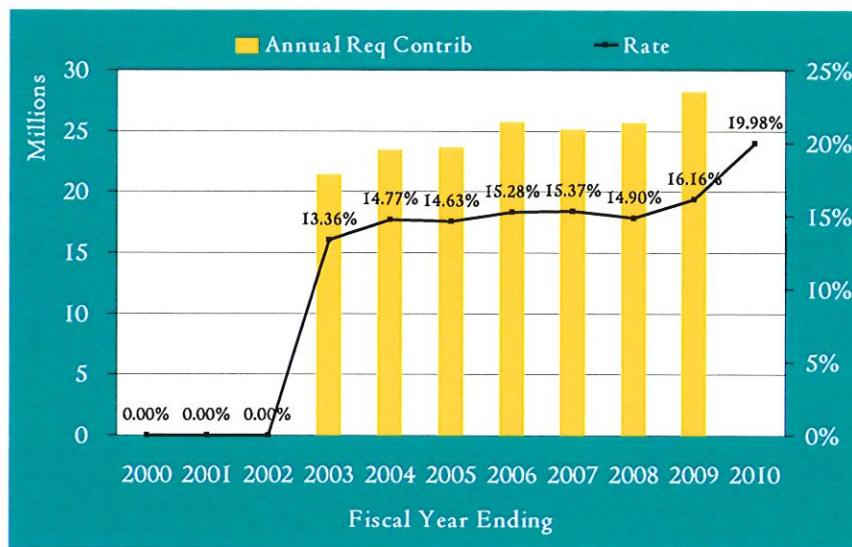
As you can see, the System had its highest funded percentage (132%) at June 30, 2000, before the market slide. The amount represented by the top of the pink bars, the present value of future benefits (PVFB), is the amount needed to provide all benefits for the current participants and their beneficiaries. The top of the yellow bars measures the benefits accrued to date.



THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

SECTION I  
BOARD SUMMARY

Contribution Rates

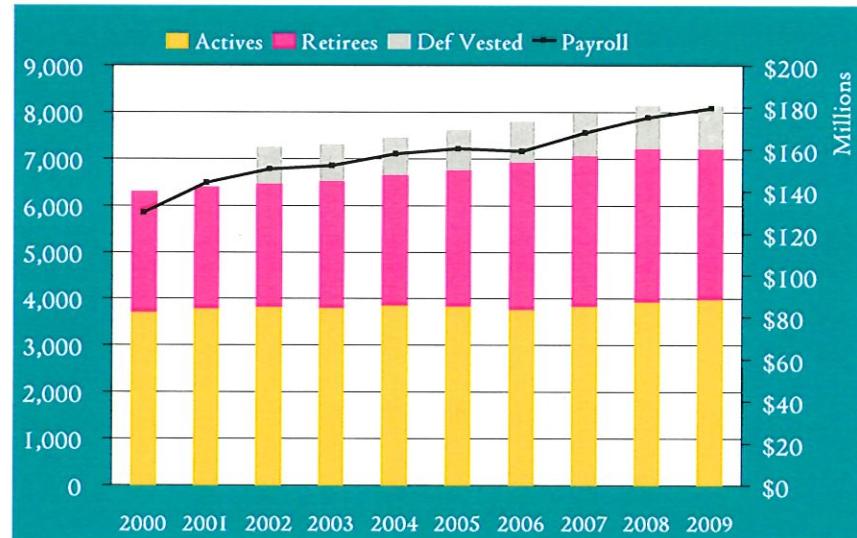


The yellow bars in this graph show the annual required contribution amounts that have been booked by the City. The black line shows this contribution as a percent of payroll (right hand scale). The City contribution rate is set by the actuarial process. Please note there is a lag in the rate. For example, the June 30, 2008 valuation determined the annual required contribution for the period July 1, 2008 to June 30, 2009. While this amount was booked in FY 2009, it is actually being contributed in FY 2010.

Participant Trends

As with many funds in this country, there has been a steady growth in the number of retired members as the System has matured. There was no information available concerning the number of terminated participants who are entitled to a vested benefit in the future prior to June 30, 2002.

The graph also shows that the number of actives covered by the System has remained fairly stable. The black line shows historic growth in the total covered payroll of the System.



THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

SECTION I  
BOARD SUMMARY

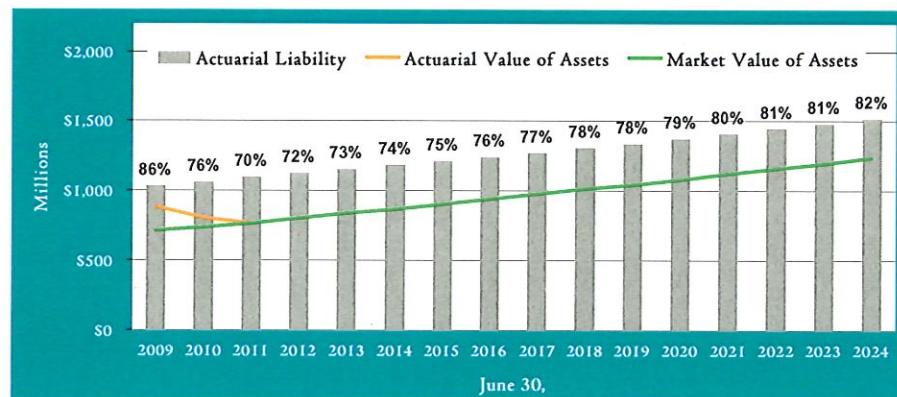
**Future Outlook**

Base Line Projections

The two graphs below show the expected progress of the Plan over the next 15 years assuming the System's assets earn 7.5% on their *market value*. The graph on the left of the page shows that the City contribution rate will increase over the next two years due to the further recognition of the recent investment losses. As you may recall, the actuarial value of assets smoothes investment experience over a three year period. After two years, the City contribution rate is projected to decline as payroll grows, if all actuarial assumptions are met, including the 7.5% interest rate. The projection also assumes that no future ad hoc COLAs will be granted.



The graph below shows the projected funding status over the next 15 years. As you can see, the System's funded status is projected to decrease to 70% as stored investment losses are recognized over the next two years and then increase to 82%, as the Public Safety Retirement Enhancement Program (PSREP) is paid off over the next 16 years.



THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
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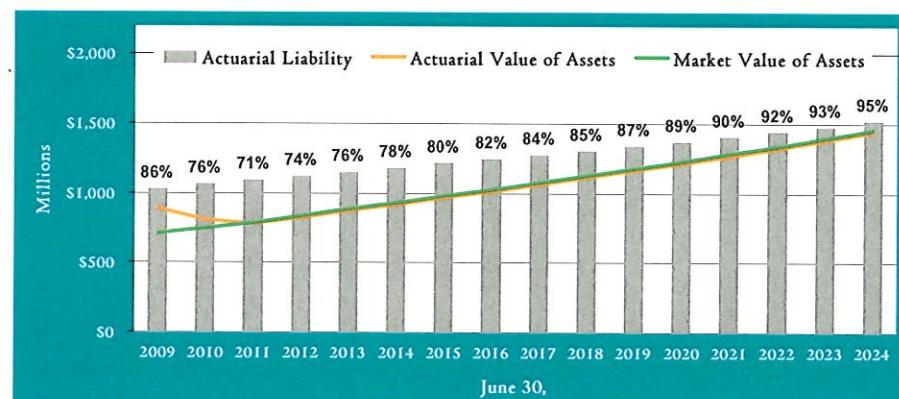
SECTION I  
BOARD SUMMARY

Projections With Asset Returns of 9.0%

The future funding status of this System will be largely driven by the investment earnings. Due to the size of assets, as compared to liabilities, the System is in a highly leveraged position. This means that relatively minor changes in the market returns can have significant effects on the System's status. The next two graphs show what the next 15 years would look like with a 9% annual return.



As you can see, the City's composite contribution rate would drop from its current level of 19.98% of payroll down to around 13.97% of payroll. The System would reach a fully funded position by 2016. Again, these projections are absent any additional ad hoc COLAs.



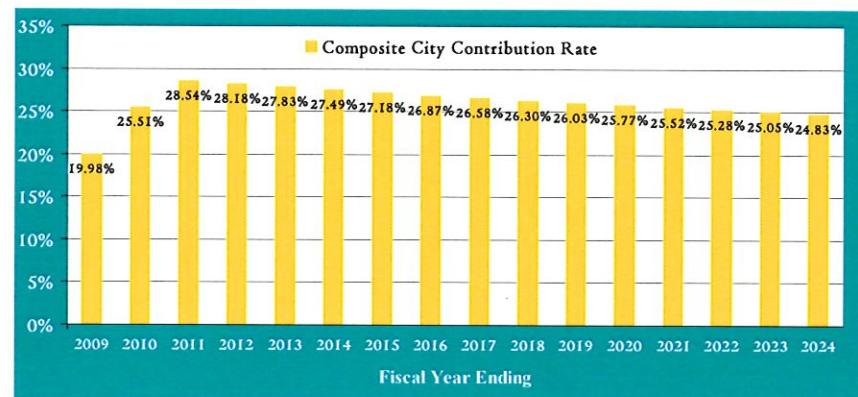
THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

SECTION I  
BOARD SUMMARY

Projections With Asset Returns of 6.0%

The next two graphs show what the next 15 years would look like with a 6% annual return.

As you can see, the City's composite contribution rate would increase sharply to 28.54% of payroll and then decline to around 25% of payroll.



The System's funded level would drop to around 69% in the next two years and then climb only to 71% funded. There would still be no danger of benefit commitments going unmet as the Fund would have over one billion dollars. Again, these projections are absent any additional ad hoc COLAs.



**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION I**  
**BOARD SUMMARY**

**Employees' Retirement System  
for the City of Norfolk  
Summary of Principal Plan Results  
Combined**

<b>Valuation as of:</b>	<b>6/30/2008</b>	<b>6/30/2009</b>	<b>% Change</b>
<b><u>Participant Counts</u></b>			
Actives	3,935	3,986	1.3%
Leave of Absence	37	38	2.7%
Terminated Vesteds	933	919	(1.5%)
In Pay Status	<u>3,279</u>	<u>3,230</u>	(1.5%)
Total	8,184	8,173	(0.1%)
Annual Salaries of Active Members	\$ 175,390,364	\$ 179,591,163	2.4%
Annual Retirement Allowances	\$ 59,853,704	\$ 61,172,089	2.2%
<b><u>Assets and Liabilities</u></b>			
Actuarial Accrued Liability	\$ 1,009,055,117	\$ 1,029,617,526	2.0%
Assets for Valuation Purposes	<u>\$ 937,766,796</u>	<u>\$ 885,609,003</u>	(5.6%)
Unfunded Actuarial Liability	\$ 71,288,321	\$ 144,008,523	
Funding Ratio	92.94%	86.01%	
Present Value of Accrued Benefits	\$ 928,300,809	\$ 947,353,382	2.1%
Market Value of Assets	<u>\$ 880,197,449</u>	<u>\$ 715,536,371</u>	(18.7%)
Unfunded FASB Accrued Liability	\$ 48,103,360	\$ 231,817,011	
Accrued Benefit Funding Ratio	94.82%	75.53%	
<b><u>Contributions as a % of Payroll</u></b>			
	<b>Fiscal Year 2009</b>	<b>Fiscal Year 2010</b>	
Normal Cost Contribution	12.24%	12.28%	
Unfunded Actuarial Liability Contribution	<u>3.92%</u>	<u>7.70%</u>	
Total Contribution	16.16%	19.98%	

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION I**  
**BOARD SUMMARY**

**Employees' Retirement System  
for the City of Norfolk  
Summary of Principal Plan Results  
General Employees**

<b>Valuation as of:</b>	<b>6/30/2008</b>	<b>6/30/2009</b>	<b>% Change</b>
<b><u>Participant Counts</u></b>			
Actives	2,731	2,737	0.2%
Leave of Absence	18	18	0.0%
Terminated Vesteds	772	764	(1.0%)
In Pay Status	<u>2,209</u>	<u>2,175</u>	(1.5%)
Total	5,730	5,694	(0.6%)
Annual Salaries of Active Members	\$ 114,324,832	\$ 115,782,546	1.3%
Annual Retirement Allowances	\$ 31,648,252	\$ 32,407,383	2.4%
<b><u>Assets and Liabilities</u></b>			
Actuarial Accrued Liability	\$ 546,653,973	\$ 557,006,644	1.9%
Assets for Valuation Purposes	<u>\$ 526,601,085</u>	<u>\$ 496,392,086</u>	(5.7%)
Unfunded Actuarial Liability	\$ 20,052,888	\$ 60,614,558	
Funding Ratio	96.33%	89.12%	
Present Value of Accrued Benefits	\$ 500,394,023	\$ 510,675,824	2.1%
Market Value of Assets	<u>\$ 494,273,132</u>	<u>\$ 401,064,793</u>	(18.9%)
Unfunded FASB Accrued Liability	\$ 6,120,891	\$ 109,611,031	
Accrued Benefit Funding Ratio	98.78%	78.54%	
<b><u>Contributions as a % of Payroll</u></b>			
	<b>Fiscal Year 2009</b>	<b>Fiscal Year 2010</b>	
Normal Cost Contribution	10.50%	10.50%	
Unfunded Actuarial Liability Contribution	<u>1.66%</u>	<u>4.97%</u>	
Total Contribution	12.16%	15.47%	

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION I**  
**BOARD SUMMARY**

**Employees' Retirement System  
for the City of Norfolk**  
**Summary of Principal Plan Results**  
**Firefighters and Police**

<b>Valuation as of:</b>	<b>6/30/2008</b>	<b>6/30/2009</b>	<b>% Change</b>
<b><u>Participant Counts</u></b>			
Actives	1,204	1,249	3.7%
Leave of Absence	19	20	5.3%
Terminated Vesteds	161	155	(3.7%)
In Pay Status	1,070	1,055	(1.4%)
Total	2,454	2,479	1.0%
Annual Salaries of Active Members	\$ 61,065,532	\$ 63,808,617	4.5%
Annual Retirement Allowances	\$ 28,205,452	\$ 28,764,706	2.0%
<b><u>Assets and Liabilities</u></b>			
Actuarial Accrued Liability	\$ 462,401,144	\$ 472,610,882	2.2%
Assets for Valuation Purposes	\$ 411,165,711	\$ 389,216,917	(5.3%)
Unfunded Actuarial Liability	\$ 51,235,433	\$ 83,393,965	
Funding Ratio	88.92%	82.35%	
Present Value of Accrued Benefits	\$ 427,906,786	\$ 436,677,558	2.0%
Market Value of Assets	\$ 385,924,317	\$ 314,471,578	(18.5%)
Unfunded FASB Accrued Liability	\$ 41,982,469	\$ 122,205,980	
Accrued Benefit Funding Ratio	90.19%	72.01%	
<b><u>Contributions as a % of Payroll</u></b>			
	<b>Fiscal Year 2009</b>	<b>Fiscal Year 2010</b>	
Normal Cost Contribution	15.50%	15.50%	
Unfunded Actuarial Liability Contribution	8.15%	12.65%	
Total Contribution	23.65%	28.15%	

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

SECTION II  
ASSETS

Pension plan assets play a key role in the financial operation of the System and in the decisions the Trustees may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact upon benefit levels, City Contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on System assets including:

- **Disclosure** of system assets at June 30, 2008 and June 30, 2009;
- Statement of the **changes** in market values during the year;
- Development of the **actuarial value of assets**;
- An assessment of **investment performance**; and
- A projection of the System's expected **cashflows** for the next ten years.

## Disclosure

The market value of assets represents "snap-shot" or "cash-out" values which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not suitable for long-range planning.

The actuarial value, or "carrying values," is market values which have been smoothed and are the actuary's best estimate of long-term asset values. They are used for evaluating the System's ongoing liability to meet its obligations.

Current methods employed by this System set the actuarial value equal to the market value of assets less 66  $\frac{2}{3}\%$  of the investment gain/(loss) during the preceding year, less 33  $\frac{1}{3}\%$  of the investment gain/(loss) during the second preceding year.

The actuarial value of assets is then allocated between the General Employees' portion of the System and that covering Firefighters and Police. The allocation is performed annually based on the actual contribution and benefit payments made on behalf of each type of employee. The investment returns for the year are allocated based on the starting balance and the cashflow of each portion of the Fund.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION II**  
**ASSETS**

<b>Statement of Assets at Market Value</b>		<b>June 30, 2008</b>	<b>June 30, 2009</b>
<b>Assets</b>			
Cash and short-term investments		\$ 47,950,535	\$ 12,085,854
Receivables			
Contributions from the City of Norfolk	\$ 25,667,556	\$ 28,278,984	
Accrued investment income	2,496,290	1,364,103	
Accounts Receivable	198	55,855	
Due from broker for securities sold	<u>28,144,138</u>	<u>30,589,851</u>	
Total	\$ 56,308,182	\$ 60,288,793	
Investments, at fair value			
United States government securities	\$ -	\$ 7,557,780	
Corporate bonds and debentures	340,821,012	249,299,088	
Common stock	79,512,677	-	
Domestic equity fund	172,259,882	-	
International equity funds	160,883,020	-	
Balanced Comingled Funds	95,672,865	495,645,001	
Other	<u>-</u>	<u>-</u>	
Total	<u>\$ 849,149,456</u>	<u>\$ 752,501,869</u>	
Total Assets	\$ 953,408,173	\$ 824,876,516	
<b>Liabilities</b>			
Accounts payable	\$ 1,024,195	\$ 351,055	
Due to broker for securities purchases	<u>72,186,529</u>	<u>108,989,090</u>	
Total Liabilities	<u>\$ 73,210,724</u>	<u>\$ 109,340,145</u>	
<b>Net Assets Available for Benefits</b>	<b>\$ 880,197,449</b>	<b>\$ 715,536,371</b>	

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION II**  
**ASSETS**

<b>Changes in Market Values</b>		
<b>Value of Assets - June 30, 2008</b>	<b>\$ 880,197,449</b>	
<b><u>Additions</u></b>		
Contributions	\$ 28,278,984	
Investment Income:		
Net Appreciation (Depreciation) in Fair Value of Investments	\$ (159,535,165)	
Interest	24,733,841	
Dividends	5,413,369	
Other	<u>7,703</u>	
Total Investment Income	\$ (129,380,252)	
Investment Expenses	\$ (1,804,735)	
Net Income from Investing Activities	\$ (131,184,987)	
Total Additions	\$ (102,906,003)	
<b><u>Deductions</u></b>		
Benefits Paid directly to Participants	\$ (57,657,236)	
Return of Contributions	(22,394)	
Beneficiary Payments	(3,367,661)	
Administrative Fees	<u>(707,784)</u>	
Total Deductions	\$ (61,755,075)	
<b>Total</b>		
Net Increase/(Decrease)	\$ (164,661,078)	
<b>Value of Assets - June 30, 2009</b>	<b>\$ 715,536,371</b>	

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

SECTION II  
ASSETS

## Actuarial Value of Assets

The actuarial value of assets represents a “smoothed” value developed by the actuary to reduce, or eliminate, erratic results which could develop from short-term fluctuations in the market value of assets. For this System, the actuarial value has been calculated by taking the market value of assets less 66 2/3% of the investment gain (loss) during the preceding year, less 33 1/3% of the investment gain (loss) during the second preceding year. The table below illustrates the calculation of actuarial value of assets for the June 30, 2009 valuation. The allocation of the actuarial value of assets to the two plans can be seen on the following page.

Market Value Gain/(Loss)		
Value of Assets - June 30, 2008	\$ 880,197,449	
Employer Contributions	28,278,984	
Benefit Payments	(61,047,291)	
Expected Return at 7.5%	63,725,535	
Expected Value at June 30, 2009	911,154,677	
Actual Value at June 30, 2009	715,536,371	
Investment Gain/(Loss)	(195,618,306)	

Develop Excluded Gain/(Loss)		
Exclude 66-2/3% of 2008 Gain/(Loss)	Total Gain/(Loss)	Excluded Portion
	\$ (195,618,306)	\$ (130,412,204)
Exclude 33-1/3% of 2007 Gain/(Loss)	\$ (118,981,285)	\$ (39,660,428)
Total Excluded Gain/(Loss) for AVA Calculation		\$ (170,072,632)

Actuarial Value of Assets		
Market Value of Assets - June 30, 2009	\$ 715,536,371	
Total Gain/(Loss) excluded	\$ (170,072,632)	
Actuarial Value of Assets - June 30, 2009	\$ 885,609,003	

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

SECTION II  
ASSETS

Allocation of Actuarial Value of Assets  
as of June 30, 2009

	General	Firefighters and Police	Total
1. Actuarial Value of Assets at June 30, 2008	\$ 526,601,085	\$ 411,165,711	\$ 937,766,796
2. Contributions (per financial statements)	12,979,891	15,299,093	28,278,984
3. Benefit Payments (allocated on the basis of FY 09 expected payments)	(32,279,373)	(28,767,918)	(61,047,291)
4. Investment Earnings (based on -2.1% return)	<u>(10,909,517)</u>	<u>(8,479,969)</u>	<u>(19,389,486)</u>
5. Actuarial Value of Assets at June 30, 2009	\$ 496,392,086	\$ 389,216,917	\$ 885,609,003
6. Market Value of Assets at June 30, 2009 (used only for disclosure purposes)	\$ 401,064,793	\$ 314,471,578	\$ 715,536,371

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

**SECTION II**  
**ASSETS**

## **Investment Performance**

The market value of assets (MVA) returned -15.3% during fiscal year 2009, which is less than the 7.5% return by 22.8%.

A return of -2.1% on the actuarial value of assets (AVA) is primarily the result of the asset smoothing method being utilized for the calculation of the actuarial value of assets. Since only a portion of the gain or loss from the performance of the System is recognized in a given year, in periods of very good performance, the AVA can lag significantly behind the MVA. In a period of negative returns, the AVA does not decline as rapidly as the MVA.

<b>Annual Rates of Return</b>		
<b>Year Ending June 30,</b>	<b>Market Value</b>	<b>Actuarial Value</b>
1999	9.9%	14.7%
2000	8.8%	11.9%
2001	-2.3%	5.4%
2002	-7.6%	-0.9%
2003	5.4%	-2.5%
2004	11.1%	9.5%
2005	6.7%	7.2%
2006	4.7%	6.2%
2007	15.1%	8.7%
2008	-5.2%	4.9%

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

SECTION II  
ASSETS

Projection of System's Benefit Payments and City Contributions

Fiscal Year Ending	Expected Benefit Payments	Expected City Contributions*
2010	\$ 65,946,000	\$ 28,279,000
2011	69,860,000	36,505,000
2012	73,434,000	47,918,000
2013	77,011,000	54,841,000
2014	80,362,000	55,038,000
2015	83,481,000	55,266,000
2016	86,409,000	55,530,000
2017	89,155,000	55,856,000
2018	91,618,000	56,207,000
2019	93,885,000	56,635,000

\*Assumes payments are made uniformly throughout the year

Expected benefit payments are projected for the closed group valued at June 30, 2009. Projecting any farther than 10 years using a closed-group would not yield reliable predictions due to the omission of new hires.

Expected City Contributions are shown on a cash basis. That is, while the FY 2010 contribution amount was already booked for accounting purposes in FY 2009, it is being contributed in FY 2010. The FY 2011 contribution is based on a 2009 valuation rate of 19.98%. Expected contributions for FY 2011 and beyond are projected based on an assumed normal cost of 12.28%, a 20-year amortization of the unfunded, a closed 16-year amortization of the PSREP, and a 3.5% annual increase in the total covered payroll. These projections do not include additional ad hoc COLAs which may be granted by the City Council in future years. The projections do reflect the recognition of asset losses which had occurred through the June 30, 2009 valuation date, but not losses which may have subsequently occurred.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

**SECTION III  
LIABILITIES**

In this section, we present detailed information on System liabilities including:

- **Disclosure** of System liabilities at June 30, 2008 and June 30, 2009;
- Statement of **changes** in these liabilities during the year; and
- A **projection** of future liabilities.

**Disclosure**

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them.

- **Present Value of Benefits:** Used for analyzing the financial outlook of the System, this represents the amount of money needed today to fully pay off all future benefits and expenses of the System, assuming participants continue to accrue benefits.
- **Actuarial Accrued Liability:** Used for funding calculations and GASB disclosures, this liability is calculated taking the Present Value of Benefits above and subtracting the present value of future Employer Normal Costs under an acceptable actuarial funding method. This method is referred to as the **Entry Age Normal** funding method.
- **Present Value of Accrued Benefits:** Used for communicating the current level of liabilities, this liability represents the total amount of money needed today to fully pay off the current accrued obligations of the System, assuming no future accruals of benefits. These liabilities are also required for accounting purposes (FAS 35) and used to assess whether the Plan can meet its current benefit commitments.

The following table discloses each of these liabilities for the current and prior valuations. With respect to each disclosure, a subtraction of the appropriate value of System assets yields, for each respective type, a **net surplus** or an **unfunded liability**.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION III**  
**LIABILITIES**

<b>Liabilities/Net (Surplus)/Unfunded Combined</b>	<b>June 30, 2008</b>	<b>June 30, 2009</b>
<b>Present Value of Benefits</b>		
Active Participant Benefits	\$ 599,752,319	\$ 613,468,950
Retiree Benefits	573,379,031	585,473,797
Terminated Vested and Inactive Members	<u>32,188,001</u>	<u>32,339,463</u>
<b>Present Value of Benefits (PVB)</b>	<b>\$ 1,205,319,351</b>	<b>\$ 1,231,282,210</b>
 Market Value of Assets (MVA)	880,197,449	715,536,371
Future City Contributions	<u>325,121,902</u>	<u>515,745,839</u>
<b>Total Resources</b>	<b>\$ 1,205,319,351</b>	<b>\$ 1,231,282,210</b>
 Normal Cost	\$ 21,469,264	\$ 22,047,503
 Actuarial Accrued Liability		
Active Participant Benefits	\$ 403,488,085	\$ 411,804,266
Retiree Benefits	573,379,031	585,473,797
Terminated Vested and Inactive Members	<u>32,188,001</u>	<u>32,339,463</u>
<b>Actuarial Accrued Liability (AAL)</b>	<b>\$ 1,009,055,117</b>	<b>\$ 1,029,617,526</b>
Actuarial Value of Assets (AVA)	937,766,796	885,609,003
<b>Net (Surplus)/Unfunded (AAL – AVA)</b>	<b>\$ 71,288,321</b>	<b>\$ 144,008,523</b>
 51%		
 Present Value of Accrued Benefits		
<b>Present Value of Accrued Benefits (PVAB)</b>	<b>\$ 928,300,809</b>	<b>\$ 947,353,382</b>
Market Value of Assets (MVA)	<u>880,197,449</u>	<u>715,536,371</u>
<b>Net (Surplus)/Unfunded</b>	<b>\$ 48,103,360</b>	<b>\$ 231,817,011</b>

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION III**  
**LIABILITIES**

<b>Liabilities/Net (Surplus)/Unfunded General</b>		<b>June 30, 2008</b>	<b>June 30, 2009</b>
Present Value of Benefits			
Active Participant Benefits	\$ 333,256,143	\$ 337,153,239	
Retiree Benefits	291,828,518	298,666,280	
Terminated Vested and Inactive Members	<u>25,511,201</u>	<u>25,960,813</u>	
<b>Present Value of Benefits (PVB)</b>	<b>\$ 650,595,862</b>	<b>\$ 661,780,332</b>	
Normal Cost	\$ 12,004,107	\$ 12,157,167	
Actuarial Accrued Liability			
Active Participant Benefits	\$ 229,314,254	\$ 232,379,551	
Retiree Benefits	291,828,518	298,666,280	
Terminated Vested and Inactive Members	<u>25,511,201</u>	<u>25,960,813</u>	
<b>Actuarial Accrued Liability (AAL)</b>	<b>\$ 546,653,973</b>	<b>\$ 557,006,644</b>	
Actuarial Value of Assets (AVA)	<u>526,601,085</u>	<u>496,392,086</u>	
<b>Net (Surplus)/Unfunded (AAL – AVA)</b>	<b>\$ 20,052,888</b>	<b>\$ 60,614,558</b>	
Present Value of Accrued Benefits			
<b>Present Value of Accrued Benefits (PVAB)</b>	<b>\$ 500,394,023</b>	<b>\$ 510,675,824</b>	

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION III**  
**LIABILITIES**

<b>Liabilities/Net (Surplus)/Unfunded Firefighters and Police</b>		<b>June 30, 2008</b>	<b>June 30, 2009</b>
Present Value of Benefits			
Active Participant Benefits	\$ 266,496,176	\$ 276,315,711	
Retiree Benefits	281,550,513	286,807,517	
Terminated Vested and Inactive Members	<u>6,676,800</u>	<u>6,378,650</u>	
<b>Present Value of Benefits (PVB)</b>	<b>\$ 554,723,489</b>	<b>\$ 569,501,878</b>	
Normal Cost	\$ 9,465,157	\$ 9,890,336	
Actuarial Accrued Liability			
Active Participant Benefits	\$ 174,173,831	\$ 179,424,715	
Retiree Benefits	281,550,513	286,807,517	
Terminated Vested and Inactive Members	<u>6,676,800</u>	<u>6,378,650</u>	
<b>Actuarial Accrued Liability (AAL)</b>	<b>\$ 462,401,144</b>	<b>\$ 472,610,882</b>	
Actuarial Value of Assets (AVA)	411,165,711	389,216,917	
<b>Net (Surplus)/Unfunded (AAL – AVA)</b>	<b>\$ 51,235,433</b>	<b>\$ 83,393,965</b>	
Present Value of Accrued Benefits			
<b>Present Value of Accrued Benefits (PVAB)</b>	<b>\$ 427,906,786</b>	<b>\$ 436,677,558</b>	

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

**SECTION III  
LIABILITIES**

**Changes in Liabilities**

Each of the liabilities disclosed in the prior table are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Plan amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in System assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

In each valuation, we report on those elements of change which are of particular significance, potentially affecting the long-term financial outlook of the System. Below we present key changes in liabilities since the last valuation.

	<b>Present Value of Benefits</b>	<b>Actuarial Accrued Liability</b>	<b>Present Value of Accrued Benefits</b>
Liabilities 6/30/2008	\$ 1,205,319,351	\$ 1,009,055,117	\$ 928,300,809
Liabilities 6/30/2009	\$ 1,231,282,210	\$ 1,029,617,526	\$ 947,353,382
Liability Increase/(Decrease)	\$ 25,962,859	\$ 20,562,409	\$ 19,052,573
Change Due to:			
Plan Amendment and Ad Hoc COLAs	\$ -	\$ -	\$ -
Assumption Change	-	-	-
Actuarial (Gain)/Loss	NC*	\$ (14,859,619)	NC*
Benefits Accumulated and Other Sources	25,962,859	35,422,028	19,052,573

\* NC = not calculated.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

**SECTION IV  
CONTRIBUTIONS**

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the System. Typically, the actuarial process will use a funding scheme that will result in a pattern of contributions that are both stable and predictable.

For this System, the funding scheme employed is the **Entry Age Actuarial Cost Method**. Under the method, there are two components to the total contribution: the **normal cost rate** and the **unfunded actuarial liability rate** (UAL rate). The normal cost rate is determined as follows. First, for a typical new entrant an individual normal cost rate is determined by taking the value, as of entry age into the Plan, of each member's projected future benefits. This value is then divided by the value, also at entry age, of the member's expected future salary.

The second part is an amortization payment to pay off the unfunded actuarial liability (UAL). The unfunded actuarial liability is the difference between the actuarial assets of the System at the valuation date and the assets the System should hold as determined by the actuarial cost method. This also includes the fixed 20-year amortization of the PSREP beginning June 30, 2005.

**Actuarially Determined Rate (for GASB Disclosure)**

The normal cost rate for General employees is 10.50%, and is 15.50% for Firefighters and Police. The composite rate is shown in the table below.

The UAL rate is the level percent of member payroll which, when applied to each year's payroll is sufficient to amortize the unfunded actuarial liability net of the PSREP over 20 years.

The table below presents and compares the actuarially determined contributions for the System for this valuation and the prior one.

<b>Actuarially Determined Rate (For GASB Disclosure)</b>		
	<b>June 30, 2008</b>	<b>June 30, 2009</b>
Normal Cost Rate	12.24%	12.28%
UAL Rate	<u>3.92%</u>	<u>7.70%</u>
Total City Rate	16.16%	19.98%

The net increase in the contribution rate was due to the following:

Rolling 20 and Payroll Growth	(0.02%)
Investment returns less than assumed 7.5%	4.62%
Actuarial liability gains or losses	<u>(0.78%)</u>
Total City Rate	3.82%

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION IV**  
**CONTRIBUTIONS**

**Employees' Retirement System  
for the City of Norfolk**

**Development of Actuarially Determined Contribution Rate  
Composite Rate**

	<b>June 30, 2008</b> <b>(expensed FY 2009)</b> <b>(paid FY 2010)</b>	<b>June 30, 2009</b> <b>(expensed FY 2010)</b> <b>(paid FY 2011)</b>
<b>1. Actuarial Accrued Liability</b>		
a. Active Employees	\$ 403,488,085	\$ 411,804,266
b. Retired Members	573,379,031	585,473,797
c. Vested Terminated Members	<u>32,188,001</u>	<u>32,339,463</u>
d. Total Present Value	<u>\$ 1,009,055,117</u>	<u>\$ 1,029,617,526</u>
<b>2. Actuarial Value of Assets</b>	\$ 937,766,796	\$ 885,609,003
<b>3. Unfunded Actuarial Liability (UAL) (1) – (2)</b>	\$ 71,288,321	\$ 144,008,523
<b>4. Remaining UAL for PSREP</b>	\$ 15,446,336	\$ 14,967,499
<b>5. Remaining UAL for rolling amortization (3) – (4)</b>	\$ 55,841,985	\$ 129,041,024
<b>6. Active Member Payroll</b>	\$ 175,390,364	\$ 179,591,163
<b>7. Unfunded Liability Amortization Factor</b>	10.5404	10.5404
<b>8. Rolling component of UAL amortization (5) / (7) / (6)</b>	3.02%	6.82%
<b>9. Additional amortization for PSREP</b>	0.90%	0.88%
<b>10. Employer Contribution Results (GASB)</b>		
a. Normal Cost Rate	12.24%	12.28%
b. Amortization of UAL	<u>3.92%</u>	<u>7.70%</u>
c. Total Employer Contribution Rate June 30	<u>16.16%</u>	<u>19.98%</u>

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION IV**  
**CONTRIBUTIONS**

**Employees' Retirement System  
for the City of Norfolk**

**Development of Actuarially Determined Contribution Rate  
General Employees**

	June 30, 2008 (expensed FY 2009) (paid FY 2010)	June 30, 2009 (expensed FY 2010) (paid FY 2011)
<b>1. Actuarial Accrued Liability</b>		
a. Active Employees	\$ 229,314,254	\$ 232,379,551
b. Retired Members	291,828,518	298,666,280
c. Vested Terminated Members	<u>25,511,201</u>	<u>25,960,813</u>
d. Total Present Value	<u>\$ 546,653,973</u>	<u>\$ 557,006,644</u>
<b>2. Actuarial Value of Assets</b>	\$ 526,601,085	\$ 496,392,086
<b>3. Unfunded Actuarial Liability (UAL) (1) – (2)</b>	\$ 20,052,888	\$ 60,614,558
<b>4. Remaining UAL for PSREP</b>	NA	NA
<b>5. Remaining UAL for rolling amortization (3) – (4)</b>	\$ 20,052,888	\$ 60,614,558
<b>6. Active Member Payroll</b>	\$ 114,324,832	\$ 115,782,546
<b>7. Unfunded Liability Amortization Factor</b>	10.5404	10.5404
<b>8. Rolling component of UAL amortization (5) / (7) / (6)</b>	1.66%	4.97%
<b>9. Additional amortization for PSREP</b>	NA	NA
<b>10. Employer Contribution Results (GASB)</b>		
a. Normal Cost Rate	10.50%	10.50%
b. Amortization of UAL	<u>1.66%</u>	<u>4.97%</u>
c. Total Employer Contribution Rate June 30	<u>12.16%</u>	<u>15.47%</u>

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION IV**  
**CONTRIBUTIONS**

**Employees' Retirement System  
for the City of Norfolk**

**Development of Actuarially Determined Contribution Rate  
Firefighters and Police**

	June 30, 2008 (expensed FY 2009) (paid FY 2010)	June 30, 2009 (expensed FY 2010) (paid FY 2011)
<b>1. Actuarial Accrued Liability</b>		
a. Active Employees	\$ 174,173,831	\$ 179,424,715
b. Retired Members	281,550,513	286,807,517
c. Vested Terminated Members	6,676,800	6,378,650
d. Total Present Value	<u>\$ 462,401,144</u>	<u>\$ 472,610,882</u>
<b>2. Actuarial Value of Assets</b>	\$ 411,165,711	\$ 389,216,917
<b>3. Unfunded Actuarial Liability (UAL) (1) – (2)</b>	\$ 51,235,433	\$ 83,393,965
<b>4. Remaining UAL for PSREP</b>	\$ 15,446,336	\$ 14,967,499
<b>5. Remaining UAL for rolling amortization (3) – (4)</b>	\$ 35,789,097	\$ 68,426,466
<b>6. Active Member Payroll</b>	\$ 61,065,532	\$ 63,808,617
<b>7. Unfunded Liability Amortization Factor</b>	10.5404	10.5404
<b>8. Rolling component of UAL amortization (5) / (7) / (6)</b>	5.56%	10.17%
<b>9. Additional amortization for PSREP</b>	2.59%	2.48%
<b>10. Employer Contribution Results (GASB)</b>		
a. Normal Cost Rate	15.50%	15.50%
b. Amortization of UAL	8.15%	12.65%
c. Total Employer Contribution Rate June 30	<u>23.65%</u>	<u>28.15%</u>

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION V  
ACCOUNTING STATEMENT INFORMATION**

Statement No. 35 of the Financial Accounting Standards Board requires the System to disclose certain information regarding its funded status. Statement No. 25 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The FASB-35 disclosures provide a quasi "snap shot" view of how the Plan's assets compare to its liabilities if contributions stopped and accrued benefit claims had to be satisfied. However, due to potential legal requirements and the possibility that alternative interest rates would have to be used to determine the liabilities, these values may not be a good indication of the amount of money it would take to buy the benefits for all members if the Plan were to terminate.

The GASB-25 actuarial accrued liability is the same as the actuarial liability amount calculated for funding purposes.

Both the present value of accrued benefits (FASB-35) and the actuarial accrued liability (GASB-25) are determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.5% per annum.

FASB Statement No. 35 specifies that a comparison of the present value of accrued (accumulated) benefits with the market value of the assets as of the valuation date must be provided. GASB Statement No. 25 requires the actuarial accrued liability be compared with the actuarial value of assets for funding purposes. The relevant amounts as of June 30, 2008 are exhibited in Table V-1. Finally, Table V-2 reconciles the FASB-35 liabilities determined as of the prior valuation, June 30, 2008, to the liabilities as of June 30, 2009.

Tables V-3 through V-5 are exhibits to be used with the City CAFR report. Table V-3 are the Notes to Required Supplementary Information, Table V-4 is a history of gains and losses in Accrued Liability, and Table V-5 is the Solvency Test which shows the portion of Accrued Liability covered by Assets.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

**Table V-1**  
**Accounting Statement Information**  
**Employees' Retirement System**  
**for the City of Norfolk**

	<b>June 30, 2008</b>	<b>June 30, 2009</b>
<b>A. FASB No. 35 Basis</b>		
1. Present Value of Benefits Accrued and Vested to Date		
a. Members Currently Receiving Payments	\$ 573,379,031	\$ 585,473,797
b. Vested Terminated Members	32,188,001	32,339,463
c. Active Members	<u>302,892,012</u>	<u>310,195,980</u>
d. Total PVVB	<u>\$ 908,459,044</u>	<u>\$ 928,009,240</u>
2. Present Value of Non-Vested Accrued Benefits for Active Members	<u>19,841,765</u>	<u>19,344,142</u>
3. Total Present Value of Accrued Benefits	\$ 928,300,809	\$ 947,353,382
4. Assets at Market Value	<u>880,197,449</u>	<u>715,536,371</u>
5. Unfunded Present Value of Accrued Benefits, But Not Less Than Zero	\$ 48,103,360	\$ 231,817,011
6. Ratio of Assets to Value of Benefits (4) / (3)	94.8%	75.5%
<b>B. GASB No. 25 Basis</b>		
1. Actuarial Liabilities		
a. Members Currently Receiving Payments	\$ 573,379,031	\$ 585,473,797
b. Vested Deferred Members	32,188,001	32,339,463
c. Active Members	<u>403,488.085</u>	<u>411,804,266</u>
d. Total	<u>\$ 1,009,055,117</u>	<u>\$ 1,029,617,526</u>
2. Actuarial Value of Assets	937,766,796	885,609,003
3. Unfunded Actuarial Liability	\$ 71,288,321	\$ 144,008,523
4. Ratio of Actuarial Value of Assets to Actuarial Liability	92.9%	86.0%

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

SECTION V  
ACCOUNTING STATEMENT INFORMATION

Table V-2  
Statement of Changes in Total Actuarial  
Present Value of All Accrued Benefits

	Accumulated Benefit Obligation (FASB 35)
Actuarial Present Value of Accrued Benefits as of June 30, 2008	\$ 928,300,809
Increase/(Decrease) During Years Attributable to:	
Passage of Time	67,333,287
Benefit Paid – FY 2009	(61,047,291)
Plan Amendment (Including Ad-Hoc COLA)	0
Benefits Accrued, Other Gains/Losses	<u>12,766,577</u>
Net Increase/(Decrease)	19,052,573
Actuarial Present Value of Accrued Benefits as of June 30, 2009	\$ 947,353,382

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

SECTION V  
ACCOUNTING STATEMENT INFORMATION

Table V-3  
NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

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

Valuation date	June 30, 2009
Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level Dollar Open, except for PSREP which is amortized over a closed 20-year period Commencing July 1, 2005
Amortization period	19.5 Years
Asset valuation method	3-Year Smoothed Market
Actuarial assumptions:	
Investment rate of return*	7.5%
Projected salary increases*	Average salary increases of 5.24% for general employees and 5.67% for public safety employees. Based on rates which vary by year-of-service and are compounded annually.
*Includes inflation at	3.5%

The actuarial assumptions used have been recommended by the actuary and adopted by the System's Board of Trustees based on the most recent review of the System's experience, completed in 2007.

The rate of City contributions to the System is composed of the normal cost and amortization of the unfunded actuarial accrued liability. The normal cost is a level percent of payroll cost which will pay for projected benefits at retirement for the average plan participant. The actuarial accrued liability is that portion of the present value of projected benefits that will not be paid for by future employer normal costs. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial accrued liability.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

**Table V-4**  
**ANALYSIS OF FINANCIAL EXPERIENCE**

**Gain and Losses in Accrued Liability During Years Ended June 30**  
**Resulting from Differences Between Assumed Experience and Actual Experience**

<b>Type of Activity</b>	<i>Gain (or Loss) for Year ending June 30,</i>					
	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Investment Income	\$ (38,521,813)	\$ (1,846,575)	\$ (9,559,180)	\$ 11,169,481	\$ (22,682,482)	\$ (87,432,722)
Combined Liability Experience	<u>12,992,366</u>	<u>5,806,560</u>	<u>7,185,050</u>	<u>2,559,923</u>	<u>8,284,079</u>	<u>14,859,619</u>
Gain (or Loss) During Year from Financial Experience	\$ (25,529,447)	\$ 3,959,985	\$ (2,414,130)	\$ 13,729,404	\$ (14,398,403)	\$ (72,573,103)
Non-Recurring Items	<u>49,371,898</u>	<u>(3,953,506)</u>	<u>(27,774,121)</u>	<u>(1,450,971)</u>	<u>(10,545,384)</u>	<u>0</u>
Composite Gain (or Loss) During Year	<b>\$ 23,842,451</b>	<b>\$ 6,479</b>	<b>\$ (30,188,251)</b>	<b>\$ 12,278,433</b>	<b>\$ (24,943,787)</b>	<b>\$ (72,573,103)</b>

**Table V-5**  
**SOLVENCY TEST**  
**Aggregate Accrued Liabilities For**

<b>Valuation Date</b> July 1,	<b>(1)</b> Active Member Contributions	<b>(2)</b> Retirees Vested Terms, Beneficiaries	<b>(3)</b> Active Members (Employer Financed Portion)	<b>Reported Assets</b>	<b>Portion of Accrued Liabilities Covered by Reported Assets</b>		
					<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
2000	\$ N/A	\$ 317,658,619	\$ 310,593,786	\$ 826,438,858	100%	100%	100%
2001	N/A	351,458,128	391,145,346	838,073,790	100%	100%	100%
2002	N/A	372,747,805	411,904,507	798,070,877	100%	100%	100%
2003	N/A	397,310,521	415,925,946	760,502,908	100%	100%	94%
2004	215,208	421,470,962	423,984,074	816,120,329	100%	100%	93%
2005	198,018	469,436,407	414,295,992	854,146,038	100%	100%	93%
2006	84,360	566,232,610	372,779,959	881,035,790	100%	100%	84%
2007	83,376	585,584,308	386,563,802	925,821,257	100%	100%	88%
2008	78,685	605,567,032	403,409,400	937,766,796	100%	100%	82%
2009	72,008	617,813,260	411,732,258	885,609,003	100%	100%	65%

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

APPENDIX A  
MEMBERSHIP INFORMATION

Summary of Membership Data as of June 30, 2009

Plan	Active Members (excluding those on Leave of Absence)			
	Count	Average Age	Average Service	Average Salary
General	2,737	47.0	11.7	\$ 42,303
Firefighters and Police	1,249	39.3	11.6	51,088
<b>Total System</b>	<b>3,986</b>	<b>44.6</b>	<b>11.7</b>	<b>\$45,055</b>

	Inactive Members			Average Annual Benefit
	Count	Annual Benefit		
Service Retirements	1,626	\$ 27,437,199		\$ 16,874
General	755	24,319,745		32,212
Firefighters and Police	2,381	\$ 51,756,944		\$ 21,737
Total				
Contingent Annuitants	336	\$ 2,252,182		\$ 6,703
General	159	1,530,588		9,626
Firefighters and Police	495	\$ 3,782,769		\$ 7,642
Total				
Disableds	213	\$ 2,718,003		\$ 12,761
General	141	2,914,373		20,669
Firefighters and Police	354	\$ 5,632,376		\$ 15,911
Total				
Vested Former Members	764	\$ 4,247,817		\$ 5,560
General	155	1,224,362		7,899
Firefighters and Police	919	\$ 5,472,179		\$ 5,954
Total				

1 Benefits are payable at age 60 for General employees and age 55 for Firefighters and Police.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**APPENDIX A**  
**MEMBERSHIP INFORMATION**

**The Employees' Retirement System for the City of Norfolk**  
**Distribution of Active Participants - General**

**COUNTS BY AGE/SERVICE**

Age	Service										Total
	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 & up	
Under 25	17	63	1	0	0	0	0	0	0	0	81
25 to 29	37	113	20	0	0	0	0	0	0	0	170
30 to 34	36	115	55	9	0	0	0	0	0	0	215
35 to 39	22	115	89	38	16	0	0	0	0	0	280
41 to 44	20	90	92	51	26	24	2	0	0	0	305
45 to 49	25	109	102	77	43	79	39	3	0	0	477
50 to 54	9	89	81	83	40	62	77	39	7	0	487
55 to 59	7	66	52	57	36	50	63	64	39	1	435
60 to 64	0	25	22	31	21	35	30	19	24	8	215
65 to 69	0	5	12	7	4	9	13	4	6	1	61
70 & up	0	1	1	3	2	2	1	0	0	1	11
Total	173	791	527	356	188	261	225	129	76	11	2,737

**TOTAL SALARY BY AGE/SERVICE**

Age	Service										Total
	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 & up	
Under 25	473,244	1,602,377	31,340	0	0	0	0	0	0	0	2,106,961
25 to 29	1,193,972	3,689,967	598,864	0	0	0	0	0	0	0	5,482,803
30 to 34	1,268,674	4,060,414	1,966,745	334,973	0	0	0	0	0	0	7,630,806
35 to 39	658,244	4,120,222	3,798,073	1,687,360	636,889	0	0	0	0	0	10,900,788
41 to 44	712,340	3,387,534	3,534,767	2,174,945	1,175,521	1,040,354	90,483	0	0	0	12,115,944
45 to 49	920,354	3,983,527	3,981,618	3,472,493	1,886,760	3,705,540	1,878,893	206,990	0	0	20,036,175
50 to 54	523,315	3,352,388	3,199,867	3,548,913	1,914,228	3,032,783	3,929,552	1,908,186	357,309	0	21,766,541
55 to 59	353,571	2,323,261	2,400,604	2,834,608	1,660,661	2,588,663	3,582,241	3,563,443	2,109,259	57,931	21,474,242
60 to 64	0	989,139	1,003,935	1,713,610	1,138,548	1,795,647	1,424,750	989,431	1,436,481	429,684	10,921,225
65 to 69	0	253,155	590,447	300,356	234,033	442,376	599,618	240,154	279,423	44,282	2,983,844
70 & up	0	17,412	26,766	76,763	77,463	78,963	37,931	0	0	47,919	363,217
Total	6,103,714	27,779,396	21,133,026	16,144,021	8,724,103	12,684,326	11,543,468	6,908,204	4,182,472	579,816	115,782,546

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**APPENDIX A**  
**MEMBERSHIP INFORMATION**

**The Employees' Retirement System for the City of Norfolk**  
**Distribution of Active Participants - Firefighters & Police**

**COUNTS BY AGE/SERVICE**

Age	Service										Total
	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 & up	
Under 25	32	52	1	0	0	0	0	0	0	0	85
25 to 29	32	118	33	0	0	0	0	0	0	0	183
30 to 34	14	71	70	24	0	0	0	0	0	0	179
35 to 39	14	34	71	70	14	0	0	0	0	0	203
41 to 44	4	33	36	70	40	41	0	0	0	0	224
45 to 49	1	4	14	23	32	74	41	2	0	0	191
50 to 54	0	2	3	6	11	32	43	21	0	0	118
55 to 59	0	0	1	4	3	8	10	15	10	0	51
60 to 64	0	1	1	0	2	1	0	3	4	2	14
65 to 69	0	0	1	0	0	0	0	0	0	0	1
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	97	315	231	197	102	156	94	41	14	2	1,249

**TOTAL SALARY BY AGE/SERVICE**

Age	Service										Total
	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 & up	
Under 25	1,217,602	2,116,404	41,679	0	0	0	0	0	0	0	3,375,685
25 to 29	1,201,826	4,883,085	1,511,667	0	0	0	0	0	0	0	7,596,578
30 to 34	567,757	2,972,278	3,337,396	1,218,314	0	0	0	0	0	0	8,095,746
35 to 39	538,343	1,433,749	3,381,381	3,724,707	848,584	0	0	0	0	0	9,926,763
41 to 44	147,020	1,347,854	1,652,835	3,595,627	2,379,364	2,601,742	0	0	0	0	11,724,443
45 to 49	35,195	168,524	642,965	1,139,583	1,813,123	4,701,821	2,747,907	138,996	0	0	11,388,115
50 to 54	0	82,080	142,815	265,116	648,627	1,952,676	2,665,231	1,545,309	0	0	7,301,855
55 to 59	0	0	155,706	212,176	155,811	409,121	648,391	1,193,567	786,821	0	3,561,595
60 to 64	0	25,000	25,000	0	50,000	64,970	0	223,062	273,929	150,876	812,838
65 to 69	0	0	25,000	0	0	0	0	0	0	0	25,000
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	3,707,744	13,028,975	10,916,445	10,155,524	5,895,510	9,730,329	6,061,529	3,100,935	1,060,750	150,876	63,808,617

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS

**A. Actuarial Assumptions**

**Interest Rate**

7-1/2% per annum, compounded annually.

**Mortality**

*Pre-Retirement*      RP-2000 Employee Mortality  
*Health Annuitants:*      RP-2000 Healthy Annuitant Mortality  
*Disableds:*      RP-2000 Disability Mortality

**Salary Increase**

Representative values are as follows:

Service	Annual Rate of Salary Increase	
	General	Firefighters and Police
0	7.25 %	12.50 %
1	7.00	10.00
2	6.75	7.50
3	6.50	7.00
4	6.25	6.50
5	6.20	6.45
10	5.88	6.12
15	5.29	5.46
20	4.69	4.81
25	4.10	4.15
30	3.50	3.50

**Withdrawal**

Service	Firefighters and Police	
	General	Firefighters and Police
0	15.00 %	8.25 %
1	13.00	7.75
2	11.00	7.00
3	9.00	6.00
4	7.00	5.00
5	5.00	4.25
10	3.00	2.80
15	2.00	1.00
20	1.70	1.00
25	1.00	1.00
30	1.00	1.00

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK**  
**ACTUARIAL VALUATION AS OF JUNE 30, 2009**

**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

**Disability**

Age	General*		Firefighters and Police	
	Male	Female	Accidental	Ordinary
20	0.13%	0.09%	0.03%	0.04%
25	0.15	0.11	0.05	0.06
30	0.18	0.12	0.07	0.09
35	0.29	0.20	0.10	0.12
40	0.44	0.30	0.25	0.18
45	0.68	0.47	0.47	0.32
50	1.01	0.69	0.79	0.55
54	1.32	0.90	1.06	0.74
55	1.41	0.96	1.13	0.79
59	2.05	1.40	1.49	1.03

\* 7.5% of disabilities are assumed to be accidental

**Retirement**

*General:*

Age	Early Retirement	Normal Service
		Retirement
45	7.50 %	15.00 %
50	7.50	15.00
51	7.50	15.00
52	5.00	15.00
53	5.00	15.00
54	5.00	15.00
55	5.00	15.00
56	5.00	15.00
57	5.00	15.00
58	5.00	15.00
59	5.00	15.00
60		25.00
61		25.00
62		25.00
63		25.00
64		25.00
65		25.00
66		25.00
67		25.00
68		25.00
69		25.00
70		100.00

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

*Firefighters and Police:*

Age	Early Retirement	Normal Service Retirement
35	5.00 %	0.00 %
40	5.00	20.00
45	5.00	20.00
50	3.00	20.00
51		20.00
52		20.00
53		20.00
54		20.00
55		25.00
56		25.00
57		25.00
58		25.00
59		25.00
60		25.00
61		25.00
62		100.00

NOTE: Rates apply to each member based on eligibility requirements as defined in the Summary of Benefit and Contribution Provisions.

### **Future Expenses**

The assumed interest rate is net of the anticipated future administrative expenses of the Fund.

### **Loading or Contingency Reserves**

A load of 0.90% for General employees and 1.10% for Firefighters and Police is applied to retirement benefits for active employees to account for unused sick leave balances at time of retirement.

### **Marital Status**

65% of the general employees and 80% of the firefighters and police are assumed to be married, with males three years older than females.

### **Changes in Assumptions**

None.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

**B. Actuarial Methods**

**Actuarial Cost Method**

Entry Age Normal Cost Method. The unfunded actuarial liability (UAL) that arose from the offering of the Public Safety Retirement Enhancement Program is being amortized over a closed 20-year period commencing as of July 1, 2005. The remaining UAL is being amortized over an open period of 20 years. Both rates are developed using a level dollar amortization method.

**Asset Valuation Method**

The valuation assets are determined as the market value less (1) 66-2/3% of investment gain/(loss) during the preceding year, less (2) 33-1/3% of investment gain/(loss) during the second preceding year. For the purpose of this calculation, the gain/(loss) is defined as the difference between the actual and the expected return (based on the valuation interest rate) on the market value of assets during the year. This method was adopted as of June 30, 2004. To transition into this method, the valuation assets as of June 30, 2004 were set equal to the market value. The valuation assets on June 30, 2005 reflected the market value on that date less 66-2/3% of investment gain/(loss) during the preceding 12 months. The transition was complete as of June 30, 2006, when the valuation assets were equal to the market value on that date less 66-2/3% of investment gain/(loss) during the preceding year, less 33-1/3% of investment gain/(loss) during the second preceding year.

**Changes in Actuarial Methods**

None.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**

The following is intended to summarize the key benefits valued in this valuation. Members of the System and other parties should not rely on this summary as a substitute for or interpretation of the laws and ordinances of the Norfolk City Code covering this retirement plan.

**1. Membership**

Any permanent regular full-time employee entering the service of the City is required to become a member of the Retirement System. Upon entering the System, members are classified according to their occupational group, either as general employees, firefighters, police officers or paramedic employees.

Paramedic employees, formerly members of the General Employees Group, were reclassified as members of Firefighters and Police effective June 9, 1992. City Council members on or after July 1, 2001 are classified as members of Firefighters and Police.

For each full calendar year beginning on or after January 1, 1997, any permanent part-time employees shall be members of and entitled to benefits in proportion to which their annual hours bear to that of full-time employees.

**2. Normal Service Retirement**

**Eligibility**

The earlier of age 60 or 30 years of creditable service for general employees. The earlier of age 55 or 25 years of creditable service for firefighters, police officers and paramedics. Mandatory retirement is age 62 for firefighters and police officers.

**Amount**

**Employees Hired Before July 1, 1980**

1/50 of average final compensation for each year of creditable service.

Effective January 1, 1997 for general employees, the maximum number of years of creditable service is the greater of 35 years or the number of years of service as of December 31, 1996.

For firefighters, police officers and paramedics, the pension earned is 2.5% of average final compensation for each year of creditable service up to a maximum of 65% of average final compensation.

**Employees Hired on or After July 1, 1980**

1.75% of average final compensation for each year of creditable service up to a maximum of 35 years for general employees.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
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**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**

For firefighters, police officers and paramedics, the pension earned is 2.5% of average final compensation for each year of creditable service up to a maximum of 65% of average final compensation.

“Average final compensation” means the average annual earnable compensation for the three years of creditable service which produces the highest average. Creditable service consists of membership service plus 100% of accumulated unused sick leave for all employees except firefighters. For firefighters, 46% of unused sick leave accumulated prior to July 1, 1985 and 100% of unused sick leave accumulated on and after July 1, 1985 is included.

**3. Early Service Retirement Allowance:**

**Eligibility**

Within five years of eligibility for normal service retirement.

**Amount**

Accrued service retirement allowance deferred to normal service retirement age. A member may elect to receive an immediate benefit equal to the accrued service retirement allowance reduced by 1/4 of 1% for each month commencement date precedes the normal retirement date for general employees and 1/2 of 1% for each month commencement date precedes the normal retirement date for firefighters, police officers and paramedics.

**4. Vested Allowance:**

**Eligibility**

Five years of creditable service.

**Amount**

Accrued service retirement allowance deferred to normal retirement age. If not eligible for retirement, a member may elect to leave his contributions made prior to July 1, 1972 with interest, if any, in the System until normal service retirement date.

**5. Ordinary Disability Retirement Allowance:**

**Eligibility**

Five years of creditable service and total and permanent disability not due to an accident in the performance of duty.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**

**Amount**

Accrued service retirement allowance with a minimum of 25% of average final compensation. The minimum cannot exceed the normal service retirement allowance based on average final compensation and creditable service projected to normal service retirement date.

**6. Accidental Disability Retirement Allowance:**

**Eligibility**

Total and permanent disability as a result of an accident in the performance of duty, regardless of length of service. Applications must be filed within six years from date of accident.

The disability of a firefighter, police officer, sheriff or deputy sheriff caused by hypertension, heart disease or respiratory disease is presumed to have been suffered in the line of duty unless the contrary is shown by medical evidence.

**Amount**

66-2/3% of average final compensation.

**7. Ordinary Death Benefit:**

**Eligibility**

Death in active service due to causes not the result of an accident in the performance of duty. Benefits are paid to a designated beneficiary or estate.

**Amount**

All contributions, if any, made by the member with not less than one-half of the interest credited are paid. In addition, if the member had one year of creditable service if he became a member prior to July 1, 1979 and five years of creditable service if he became a member on or after July 1, 1979, an additional lump sum benefit equal to 50% of his earnable compensation during the year immediately preceding his death is payable. If a member dies in service after the earlier of completion of ten years of service or early service retirement eligibility and if the designated beneficiary for the lump sum death benefit is the spouse, the spouse may elect to receive, in lieu of the lump sum death benefit, a monthly pension payable until death or remarriage. If the member was eligible for early or normal service retirement, the spouse's benefit is equal to one-half of the retirement allowance that would have been payable to the member had the member retired and immediately commenced payment. If the member was not eligible for early or normal service retirement, the spouse's benefit is equal to one-half of the normal service retirement allowance which would have been payable to the member if he or she had been vested, such benefit to commence at the same time as the vested benefit would have been paid to the member. If the spouse dies or remarries before the youngest unmarried child attains age 18, the pension shall continue to the date that all the children have died,

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

**APPENDIX C  
SUMMARY OF PLAN PROVISIONS**

married, or attained age 18, whichever occurs first. If the spouse was receiving benefits on or before June 30, 1978, payments shall continue after remarriage with no further payments after death.

**8. Accidental Death Benefit:**

**Eligibility**

Death in active service resulting from an accident in the performance of duty within six years from the date of the accident. The death of a firefighter, police officer, sheriff or deputy sheriff caused by hypertension, heart disease or respiratory disease in the case of firefighters is presumed to have been suffered in the line of duty, unless the contrary is shown by medical evidence.

**Amount**

50% of average final compensation is payable to spouse until death or remarriage. If there is no spouse or if spouse dies or remarries, benefit is payable to children under age 18 or dependent parents. In addition, all contributions, if any, made by the member with not less than one-half of the interest credited are paid to his designated recipient or estate. If there is not a spouse, a lump sum benefit equal to 50% of his earnable compensation during the year immediately preceding his death is payable.

**Offset on Account of Workers' Compensation**

All benefits paid under the provisions of any workers' compensation act or any similar law to any member or beneficiary, or to the dependents of any member or beneficiary on account of any disability or death are in such manner as the Board determines, offset against any benefits provided from City contributions to the System.

**9. Death Benefit After Retirement:**

**Eligibility**

Death of a retired member receiving retirement allowance payments and who completed five years of creditable service if he became a member after July 1, 1979 or of a spouse receiving an accidental death benefit.

**Amount**

Lump sum equal to one-half of the average final compensation on which the retirement allowance of the deceased retired member or spouse was based. The lump sum is payable to the surviving spouse, to unmarried children under age 18, or unmarried children over age 18 who are physically or mentally unable to make a living.

In the case of a retired member who dies and leaves a surviving spouse, the spouse may elect to receive, in lieu of the lump sum death benefit, a monthly benefit payable until death or remarriage which is equal to one-half of the retirement allowance which the deceased member was receiving at

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK  
ACTUARIAL VALUATION AS OF JUNE 30, 2009

**APPENDIX C  
SUMMARY OF PLAN PROVISIONS**

the time of his death, provided the member had not made an optional election. If the spouse dies or remarries before the youngest unmarried child attains age 18, the pension will continue to the date that all the children have died, married or attained age 18, whichever occurs first. If the spouse was receiving payments on or before June 30, 1978, payments shall continue after remarriage with no further payments after death.

**10. Return of Contributions:**

**Eligibility**

Termination of membership prior to death.

**Amount**

If not eligible for a retirement allowance, all contributions with not less than one-half of interest credited. If eligible for normal or early service, ordinary disability, accidental disability or vested retirement allowance, his contributions, if any, with not less than one-half of the interest credited. The member may elect, prior to the commencement of his or her retirement allowance, to receive an annuity which is the actuarial equivalent of his or her accumulated contributions.

**11. Normal and Optional Forms of Benefits**

**Normal Life**

**Life Annuity**

Option A

A reduced pension with the provision that at death the reduced pension will be continued throughout the life of the designated beneficiary.

Option B

A reduced pension with the provision that at death, one-half of the reduced pension will be continued throughout the life of the designated beneficiary.

Option C

A reduced pension with the provision that at death some other benefit approved by the Board will be payable.

**12. Contributions**

By Members

No contributions required.

By City

Annual contributions actuarially computed to be required to cover the cost of benefits of the System.

**13. Changes in Plan Provisions**

None.