

The Employees' Retirement System for the City of Norfolk

**Actuarial Valuation Report
as of June 30, 2018
The Seventy-Fifth
Actuarial Valuation**

**Produced by Cheiron
October 2018**

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October 10, 2018

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, 2018***

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, 2018. 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 July 2017. We believe the assumptions used, in 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 June 30, 2020 and rely on future plan experience conforming to the underlying assumptions. Future valuation reports may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

The purpose of this report is to present the annual actuarial valuation of the Employees' Retirement System for the City of Norfolk. The report also provides information regarding employer contribution levels.

To the best of our knowledge, this report and its contents have 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. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This actuarial report was prepared exclusively for City of Norfolk for the purpose described herein. Other users of this valuation report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any such other users.

Sincerely,
Cheiron

A handwritten signature in blue ink that reads "Fiona E. Liston".

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

A handwritten signature in blue ink that reads "Kevin J. Woodrich".

Kevin J. Woodrich, FSA, FCA, EA, MAAA
Principal Consulting Actuary

cc: Justin Runkel, ASA, EA

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

FOREWORD

Cheiron has performed the actuarial valuation of the Employees' Retirement System for the City of Norfolk as of June 30, 2018. 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 June 30, 2020; and
- 4) **Provide specific information** used in preparing the System's financial statement. All other disclosure information required under Governmental Accounting Standards Board (GASB) Statements No. 67 and 68 will be sent under separate cover.

An actuarial valuation establishes and analyzes the System's 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 used to calculate the amount of the contribution to be paid by the City effective July 1, 2019.

Section V includes certain required disclosures for financial statements.

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

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. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23 Data Quality.

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. Future valuation reports may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

SECTION I – BOARD SUMMARY

General Comments

In this section, we will first discuss the trends of the System over the past ten years 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 to be used in calculating the City contribution amount to be paid for the fiscal year beginning July 1, 2019. The contribution rate for General Employees is determined to be 13.33%. The contribution rate for Firefighters and Police is determined to be 30.71%. The composite rate is equal to 19.50% of annual payroll. This is an increase from the composite rate of 18.98% determined in last year's valuation, which is applicable to the current fiscal year. As discussed below, the primary reason for this increase was the COLA awarded July 1, 2018.

Forecasts show that should all assumptions be realized, including the 7.0% assumed annual investment return, the System's funded status would increase from 78% to 92% over the next 15 years. Please note that this projection does **not** recognize the City's tendency to offer ad hoc COLAs. If the assumptions were changed to recognize future COLAs up front, the System's funded ratio would be significantly lower, but the System would no longer experience losses each time a COLA is granted.

Recent Experience

The financial markets performed about as expected during the fiscal year ending June 30, 2018. The actual return on a market value basis was approximately 7.02%. The System also experienced a gain on the actuarial value of assets. On an actuarial value basis, the assets returned 7.15% compared with an assumed rate of return of 7.0%. The gain recognized for funding purposes was \$1.5 million.

On the liability side, the System's experience resulted in an actuarial gain of \$1.6 million, which represents roughly 0.1% of the prior year's liabilities. This liability gain was due primarily to salaries not increasing as much as assumed. Effective July 1, 2018, the City awarded a 2% COLA on annual benefits up \$36,000 to participants who started receiving benefits prior to July 1, 2014. The increase in liabilities from this plan change was \$11.8 million.

The combination of these changes produced a slight decrease in the System's funding ratio (actuarial value of assets over actuarial liability) from 78.1% as of June 30, 2017 to 78.0% as of June 30, 2018.

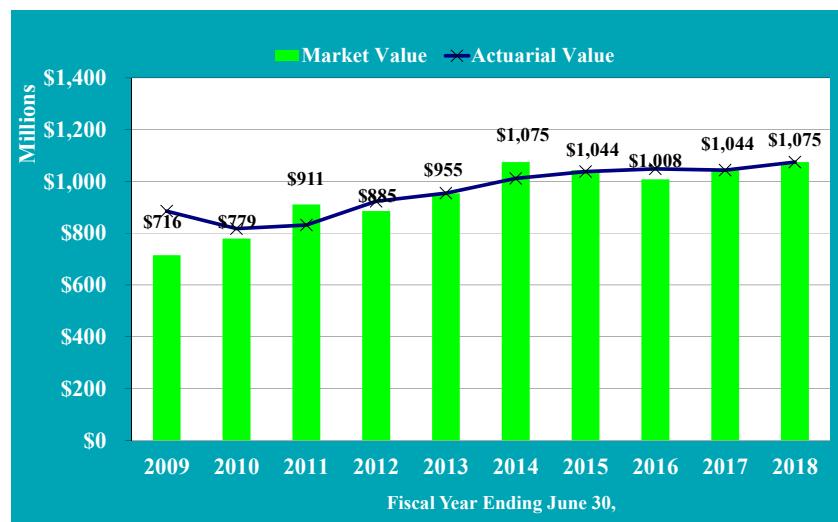
THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION I – BOARD SUMMARY

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. Here 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.

Growth in Assets



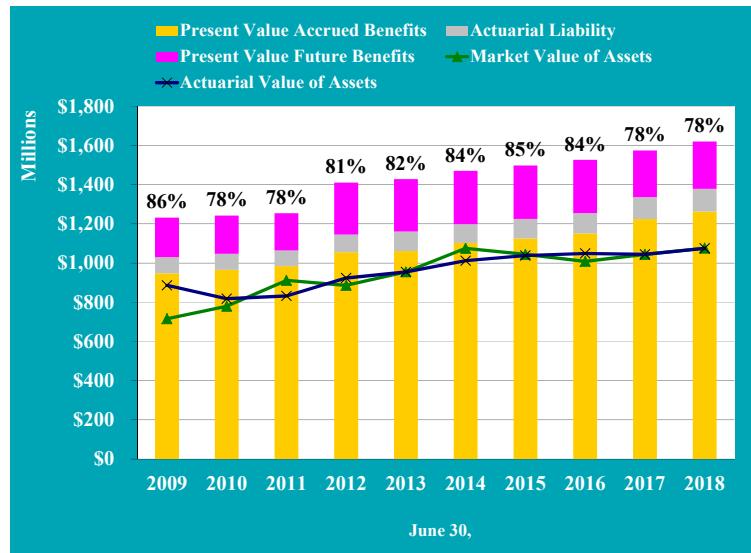
The market value of assets (MVA) experienced a return of 7.0% this year. Due to the asset smoothing method in place, the actuarial value of assets (AVA) increased as a result of recognizing historical gains that have been deferred. As a result, the return on the AVA was 7.1%. The numbers refer to the MVA as illustrated by the green bar.

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.

The amount represented by the top of the pink bars, the present value of future benefits, is the amount needed to provide all benefits for the current participants and their beneficiaries.

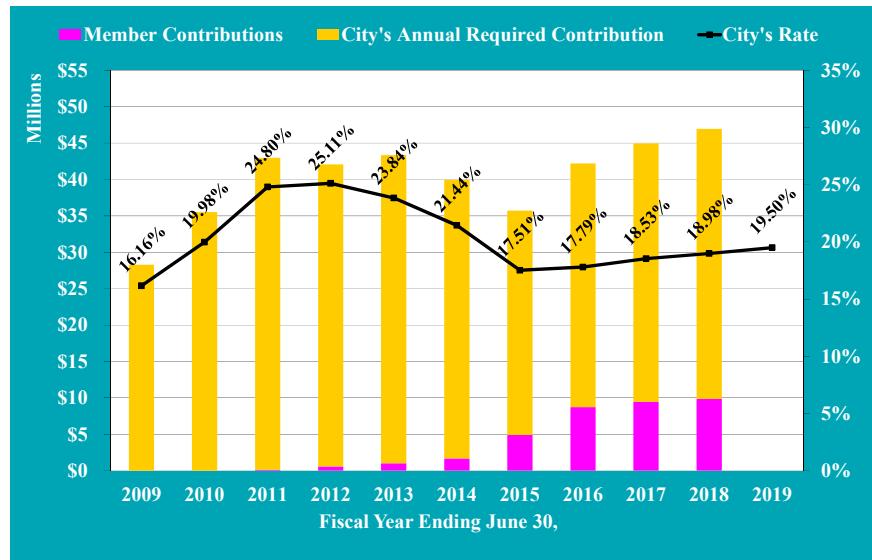
The top of the yellow bars measures the liability attributable to benefits accrued to date.



THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION I – BOARD SUMMARY

Contribution Rates

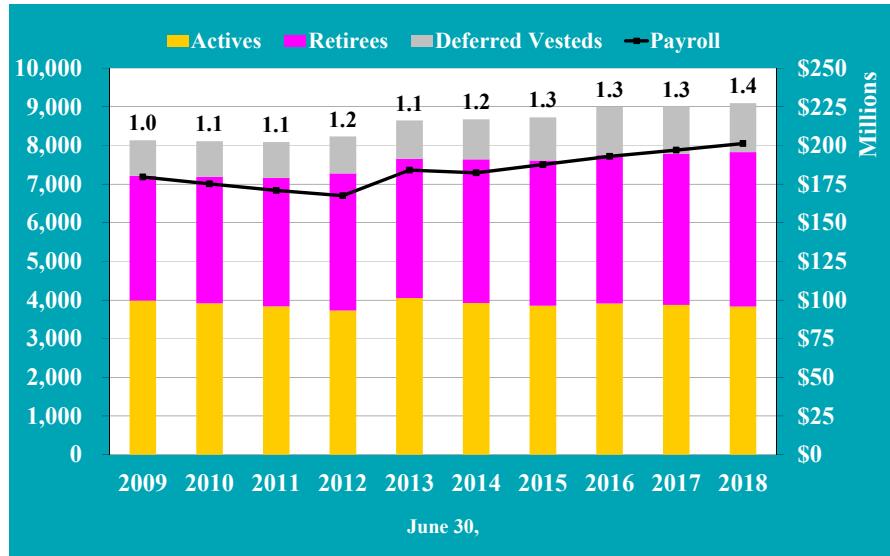


The yellow bars in this graph show the actual contribution amounts that have been booked by the City. The black line shows this contribution as a percent of payroll (right hand scale). The City contribution rate is set by the actuarial process. Please note there is a lag in the rate. For example, the June 30, 2017 valuation determined the annual required contribution for the period July 1, 2017 to June 30, 2018.

June 30, 2018. This amount equaled \$37.1 million and was paid by the City in July 2018. Effective January 8, 2015, all members are required to contribute 5% of pay, with the exception of City Council members hired before October 5, 2010.

Participant Trends

This graph shows the number of actives, retirees and deferred vested members in the System as of each valuation date. The black line shows historic growth in the total covered payroll of the System (right-hand scale). As with any maturing pension plan, the number of retirees continues to increase over the period whereas the number of actives have remained relatively stable. The



numbers above the bars on the graph indicate the ratio of inactive participants to active participants. Over the past ten years, this ratio has increased as the System continues to mature. When higher contributions are required to meet funding shortfalls caused by poor investment performance, the leveraging impact of a higher ratio becomes significant. This is because, though investment shortfalls impact total assets (i.e., actives and inactives), contributions are only made on behalf of the System's active participants.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

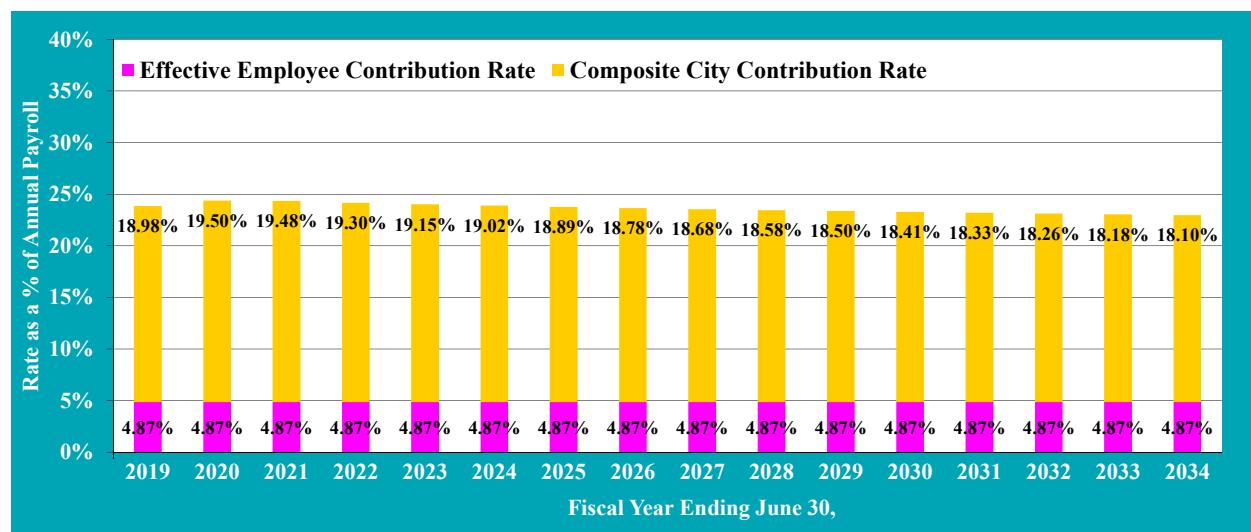
SECTION I – BOARD SUMMARY

Future Outlook

In May 2018, the City Code was amended to change the Normal Retirement Age and definition of Final Average Earnings for new employees hired after June 30, 2018. These plan changes were not reflected in calculating the funding liabilities as of June 30, 2018 since there are no participants as of the measurement date hired after June 30, 2018. However, we have estimated the impact that these plan changes for purposes of the projections below.

Baseline Projections

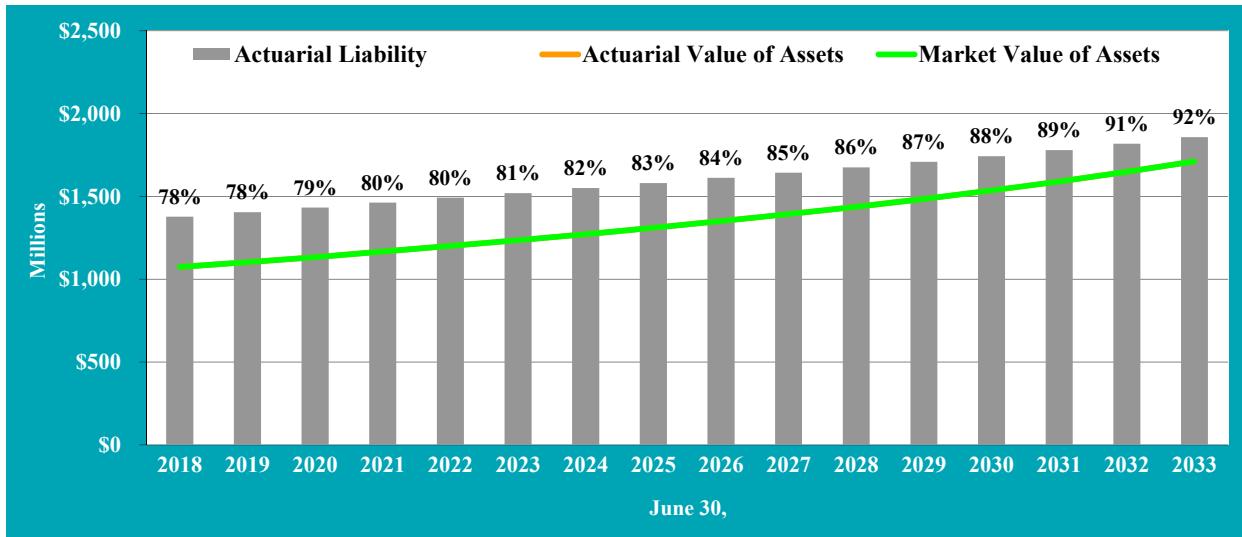
The two graphs below show the expected progress of the Plan over the next 15 years, assuming the System's assets earn 7.0% of their *market value*. The first graph shows that the City's contribution rate is projected to slowly decrease over time as a percentage of payroll if all actuarial assumptions are met, including the 7.0% interest rate. This slight decrease in the City's contribution rate occurs as new participants subject to the higher Normal Retirement Age become participants in the Plan. The higher Normal Retirement Age results in the City having a longer period to fund their benefit and thus the normal cost percentage will be less. The effective employee contribution rate is less than 5% due to both City Council members and those participants who have elected or expected to elect the Deferred Retirement Option Program (DROP), but have yet to receive a monthly payment. However, because the City contributes to the System for these participants, their pay is included.



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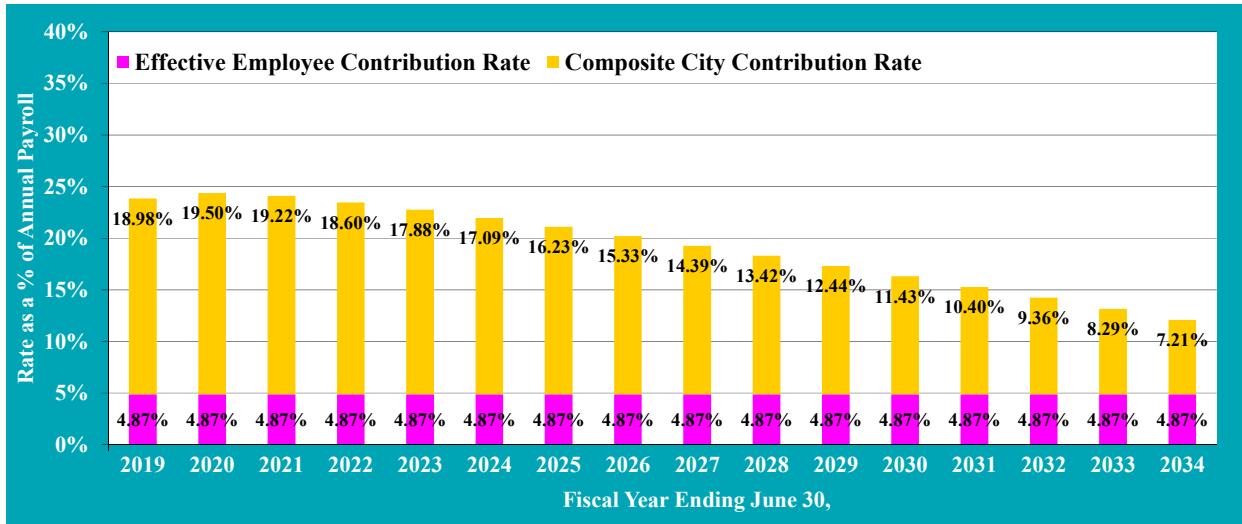
SECTION I – BOARD SUMMARY

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 improve to reach 92% by the end of the period shown as contributions pay down the existing unfunded liability. These projections do not include any assumption for future ad hoc COLAs.



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 relatively well funded status of this Plan, the System is in a leveraged position. This means that 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 9.0% annual return in lieu of the assumed 7.0%.

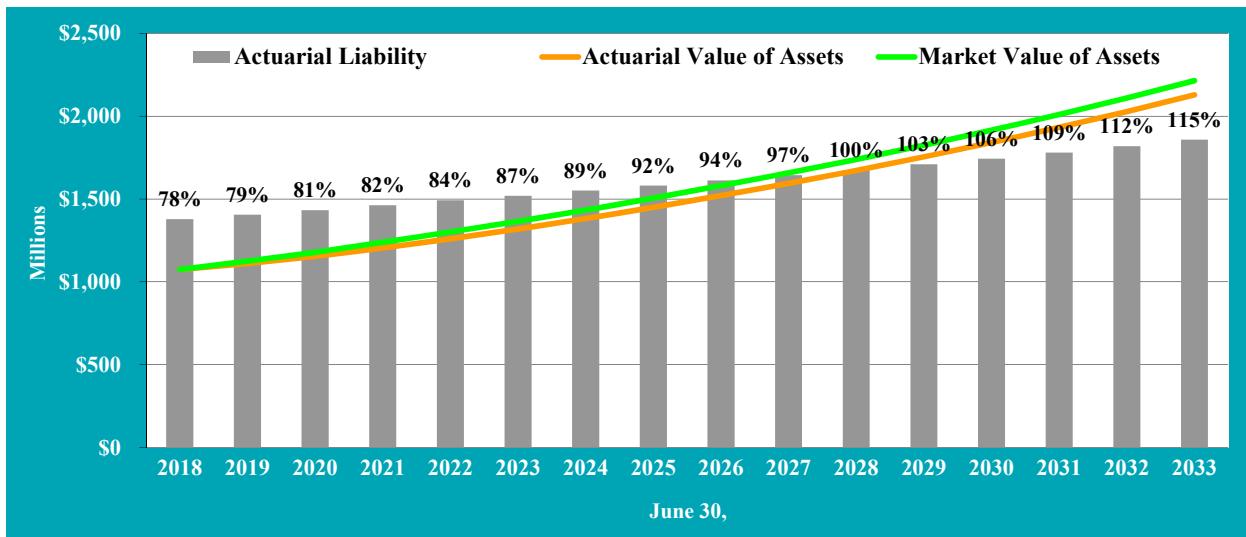


As you can see, the City's composite contribution rate would drop from its Fiscal Year 2020 level of 19.50% of payroll down to 7.21% of payroll by the end of the 15-year period.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION I – BOARD SUMMARY

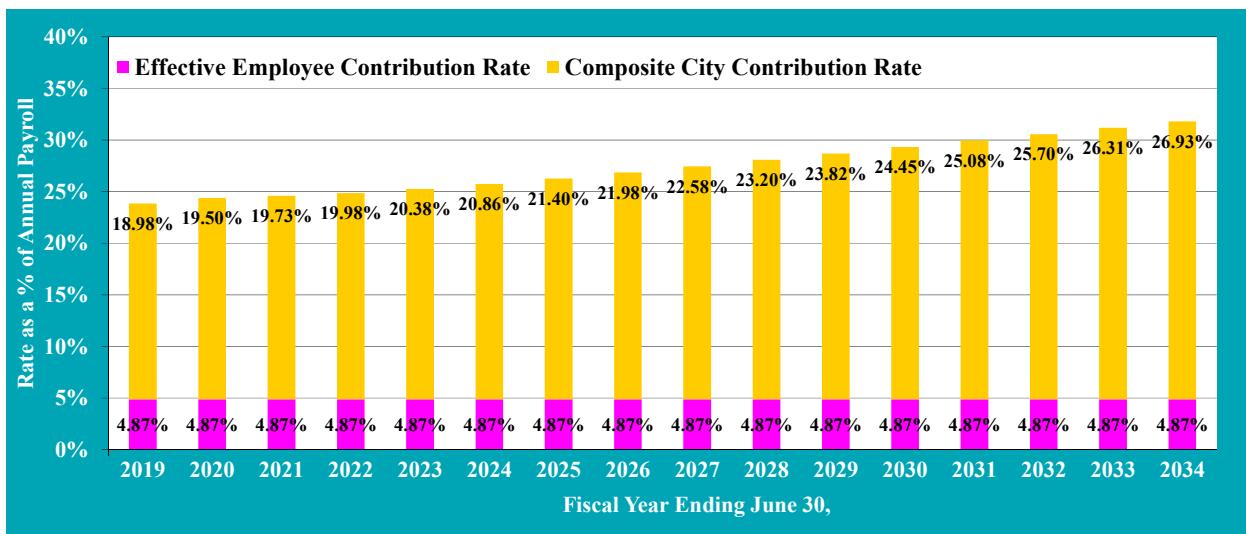
The System would reach a fully funded position by 2028. Again, these projections are absent any additional ad hoc COLAs.



Projections with Asset Returns of 5.0%

The next two graphs show what the next 15 years would look like with a 5% annual return.

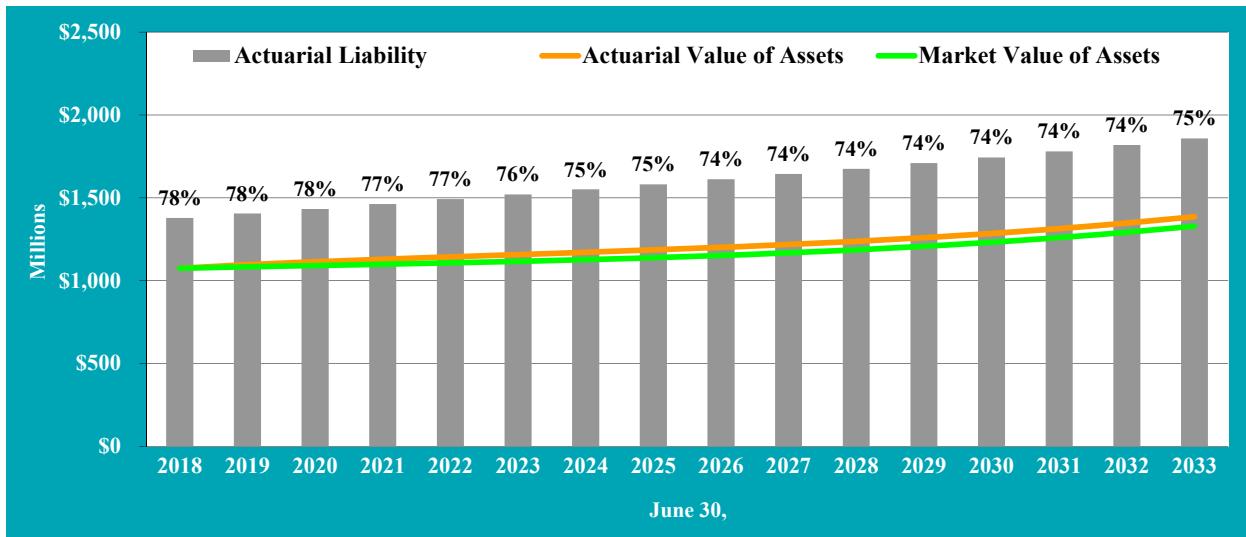
With assets projected to underperform, the City's composite contribution rate would increase steadily from now through the end of the 15-year period.



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

The System's funded level would ultimately decrease to 75%. There would still be little danger of benefit commitments going unmet over this period 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, 2018

SECTION I – BOARD SUMMARY

Table I-1
Summary of Principal Plan Results
Combined
(\$ in Thousands)

	June 30, 2017	June 30, 2018	% Change
<u>Participant Counts</u>			
Actives	3,876	3,836	(1.0%)
Leave of Absence ¹	30	25	(16.7%)
Terminated Vested	1,220	1,266	3.8%
Participants Due Account Balance	138	339	145.7%
In Pay Status	3,913	3,994	2.1%
DROP Participants	70	69	(1.4%)
Total	<u>9,247</u>	<u>9,529</u>	3.0%
Annual Salaries of Active Members ²	\$ 197,051	\$ 201,325	2.2%
Annual Retirement Allowances ³	\$ 85,192	\$ 88,513	3.9%
<u>Assets and Liabilities</u>			
Actuarial Liability (AL)	\$ 1,335,826	\$ 1,377,889	3.1%
Assets for Valuation Purposes (AVA)	<u>1,043,620</u>	<u>1,074,892</u>	3.0%
Unfunded Actuarial Liability	\$ 292,206	\$ 302,997	
Funding Ratio (AVA ÷ AL)	78.13%	78.01%	
Funding Ratio (MVA ÷ AL)	78.15%	78.04%	
Present Value of Accrued Benefits	\$ 1,223,823	\$ 1,262,585	3.2%
Market Value of Assets (MVA)	<u>1,044,012</u>	<u>1,075,330</u>	3.0%
Unfunded Accrued Benefit Liability	\$ 179,811	\$ 187,255	
Accrued Benefit Funding Ratio	85.31%	85.17%	
<u>City Contributions as a % of Payroll⁴</u>		Fiscal Year 2018	Fiscal Year 2019
Normal Cost Contribution		8.62%	8.65%
Unfunded Actuarial Liability Contribution		10.36%	10.85%
Total Contribution		18.98%	19.50%

¹ 23 and 19 participants on Leave of Absence as of June 30, 2017 and June 30, 2018 respectively are entitled to a vested benefit.

² Includes salaries for the DROP participants.

³ Includes the monthly benefit amounts for the DROP participants. For those in the DROP period as of June 30, 2018, the amount shown is 70% of the full monthly benefit.

⁴ The Fiscal Year 2019 City contribution reflects a change in timing of the City's contribution. Please see the footnote in Table IV-4 for more details.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION I – BOARD SUMMARY

Table I-1
Summary of Principal Plan Results
General Employees
(\$ in Thousands)

	June 30, 2017	June 30, 2018	% Change
<u>Participant Counts</u>			
Actives	2,727	2,689	(1.4%)
Leave of Absence ¹	19	14	(26.3%)
Terminated Vested	945	978	3.5%
Participants Due Account Balance	117	288	146.2%
In Pay Status	<u>2,691</u>	<u>2,732</u>	1.5%
Total	6,499	6,701	3.1%
Annual Salaries of Active Members	\$ 128,708	\$ 129,910	0.9%
Annual Retirement Allowances	\$ 45,935	\$ 47,848	4.2%
<u>Assets and Liabilities</u>			
Actuarial Liability	\$ 712,703	\$ 729,215	2.3%
Assets for Valuation Purposes	<u>583,125</u>	<u>597,998</u>	2.6%
Unfunded Actuarial Liability	\$ 129,578	\$ 131,217	
Funding Ratio (AVA ÷ AL)	81.82%	82.01%	
Funding Ratio (MVA ÷ AL)	81.85%	82.04%	
Present Value of Accrued Benefits	\$ 655,398	\$ 671,347	2.4%
Market Value of Assets	<u>583,344</u>	<u>598,241</u>	2.6%
Unfunded Accrued Benefit Liability	\$ 72,054	\$ 73,105	
Accrued Benefit Funding Ratio	89.01%	89.11%	
<u>City Contributions as a % of Payroll²</u>		Fiscal Year 2018	Fiscal Year 2019
Normal Cost Contribution		6.13%	6.06%
Unfunded Actuarial Liability Contribution		<u>7.00%</u>	<u>7.27%</u>
Total Contribution		13.13%	13.33%

¹ 12 and 10 participants on Leave of Absence as of June 30, 2017 and June 30, 2018 respectively are entitled to a vested benefit.

² The Fiscal Year 2019 City contribution reflects a change in timing of the City's contribution. Please see the footnote in Table IV-4 for more details.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION I – BOARD SUMMARY

Table I-1
Summary of Principal Plan Results
Firefighters and Police
(\$ in Thousands)

	June 30, 2017	June 30, 2018	% Change
<u>Participant Counts</u>			
Actives	1,149	1,147	(0.2%)
Leave of Absence ¹	11	11	0.0%
Terminated Vested	275	288	4.7%
Participants Due Account Balance	21	51	142.9%
In Pay Status	1,222	1,262	3.3%
DROP Participants	70	69	(1.4%)
Total	2,748	2,828	2.9%
Annual Salaries of Active Members ²	\$ 68,343	\$ 71,415	4.5%
Annual Retirement Allowances ³	\$ 39,256	\$ 40,666	3.6%
<u>Assets and Liabilities</u>			
Actuarial Liability	\$ 623,123	\$ 648,674	4.1%
Assets for Valuation Purposes	<u>460,495</u>	<u>476,893</u>	3.6%
Unfunded Actuarial Liability	\$ 162,628	\$ 171,781	
Funding Ratio (AVA ÷ AL)	73.90%	73.52%	
Funding Ratio (MVA ÷ AL)	73.93%	73.55%	
Present Value of Accrued Benefits	\$ 568,426	\$ 591,238	4.0%
Market Value of Assets	<u>460,668</u>	<u>477,089</u>	3.6%
Unfunded Accrued Benefit Liability	\$ 107,758	\$ 114,149	
Accrued Benefit Funding Ratio	81.04%	80.69%	
<u>City Contributions as a % of Payroll</u>		Fiscal Year 2018	Fiscal Year 2019
Normal Cost Contribution		13.32%	13.35%
Unfunded Actuarial Liability Contribution		<u>16.69%</u>	<u>17.36%</u>
Total Contribution		30.01%	30.71%

¹ 11 and 9 participants on Leave of Absence as of June 30, 2017 and June 30, 2018 respectively are entitled to a vested benefit.

² Includes salaries for the DROP participants.

³ Includes the monthly benefit amounts for the DROP participants. For those in the DROP period, the amount shown is 70% of the full monthly benefit.

⁴ The Fiscal Year 2019 City contribution reflects a change in timing of the City's contribution. Please see the footnote in Table IV-4 for more details.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

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, 2017 and June 30, 2018;
- 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 **cash flows** 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 value," is market value which has been smoothed based on actuarial methods used to estimate the long-term asset value. They are used for evaluating the System's ongoing liability to meet its obligations.

Current methods employed by this System determine the actuarial value of assets by first calculating the expected actuarial value of assets based on last year's valuation interest rate, last year's actuarial value of assets, and the net cash flow (contributions less benefit payments) of the System over the year prior to the valuation. One-third of the difference between market value of assets and the expected actuarial value of assets is then added to the expected actuarial value of assets to determine the valuation assets.

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 cash flow of each portion of the Fund.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION II – ASSETS

Table II-1
Statement of Assets at Market Value
(\$ in Thousands)

	June 30, 2017	June 30, 2018
Assets		
Cash and Short-Term Investments	\$ 8,974	\$ 24,102
Receivables		
Contributions from the City of Norfolk ¹	\$ 0	\$ 0
Accrued Investment Income	1,073	945
Accounts Receivable	32	14
Due from Broker for Securities Sold	<u>126,629</u>	<u>47,444</u>
Total	<u>\$ 127,734</u>	<u>\$ 48,403</u>
Investments, at Fair Value		
United States Treasury Securities	\$ 86,542	\$ 63,427
Fixed Income Securities	108,594	113,319
Derivative Securities	1,111	3,562
Equity Securities	74,711	78,069
Balanced Comingled Funds	<u>847,185</u>	<u>855,392</u>
Total	<u>\$ 1,118,143</u>	<u>\$ 1,113,769</u>
Total Assets	\$ 1,254,851	\$ 1,186,274
Liabilities		
Accounts Payable	\$ 1,399	\$ 2,255
Due to Broker for Securities Purchased	<u>209,440</u>	<u>108,689</u>
Total Liabilities	<u>\$ 210,839</u>	<u>\$ 110,944</u>
Net Assets Available for Benefits	\$ 1,044,012	\$ 1,075,330

¹ *Receivable City contributions are excluded for purposes of reporting beginning June 30, 2017 and for GASB Statement No. 67.*

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION II – ASSETS

Table II-2
Changes in Market Value of Assets
(\$ in Thousands)

Value of Assets – June 30, 2017	\$	1,044,012
<u>Additions</u>		
Contributions		
Employer Contributions	\$	35,494
Employee Contributions		9,859
Total	\$	45,353
Investment Income:		
Net Appreciation (Depreciation)	\$	65,418
Interest		4,103
Dividends		6,286
Other		(693)
Total Investment Income	\$	75,114
Investment Expenses		(2,254)
Net Income from Investing Activities	\$	72,860
Total Additions	\$	118,213
<u>Deductions</u>		
Benefits Paid directly to Participants	\$	(79,390)
Return of Contributions		(1,229)
Beneficiary Payments		(5,314)
Administrative Fees		(962)
Total Deductions	\$	(86,895)
<u>Total</u>		
Net Increase/(Decrease)	\$	31,318
Value of Assets – June 30, 2018	\$	1,075,330

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

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 first calculating the expected actuarial value of assets based on last year’s valuation interest rate, last year’s actuarial value of assets, and the net cash flow (contributions less benefit payments) of the System over the year prior to the valuation. One-third of the market value of assets less the expected actuarial value of assets is then added to the expected actuarial value of assets to determine the valuation assets.

Table II-3
Development of the Actuarial Value of Assets
(**\$ in Thousands**)

1. Actuarial Value of Assets - June 30, 2017	\$ 1,043,620
Employer Contributions	35,494
Employee Contributions	9,859
Benefit Payments	(85,933)
Expected Return at 7.0%	<u>71,633</u>
2. Expected Value at June 30, 2018 (EV)	\$ 1,074,673
3. Actual Market Value at June 30, 2018 (AV)	1,075,330
4. One-Third of AV less EV	<u>219</u>
5. Actuarial Value of Assets - June 30, 2018 [2. + 4.]	\$ 1,074,892

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION II – ASSETS

Table II-4
Allocation of Actuarial Value of Assets as of June 30, 2018
(\$ in Thousands)

	General Employees	Firefighters and Police	Total
1. Actuarial Value of Assets at June 30, 2017	\$ 583,125	\$ 460,495	\$ 1,043,620
2. Contributions			
a. City Contributions	\$ 16,713	18,781	\$ 35,494
b. Member Contributions	<u>6,023</u>	<u>3,836</u>	<u>9,859</u>
c. Total Contributions	\$ 22,735	\$ 22,618	\$ 45,353
3. Benefit Payments ¹	(48,010)	(37,923)	(85,933)
4. Investment Earnings, based on 7.15% return	<u>40,148</u>	<u>31,704</u>	<u>71,852</u>
5. Actuarial Value of Assets at June 30, 2018	\$ 597,998	\$ 476,894	\$ 1,074,892
6. Market Value of Assets at June 30, 2018 ²	\$ 598,241	\$ 477,089	\$ 1,075,330

¹ *Projected Benefit Payments are allocated on the basis of FY 2018 expected payments.*

² *The allocation of Market Value of Assets is used only for comparison to the Present Value of Accrued Benefits.*

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

SECTION II – ASSETS

Investment Performance

The market value of assets (MVA) returned 7.02% during fiscal year ending June 30, 2018, which is more than the expected 7.00% return (assumption in prior year's valuation) by 0.02%.

A return of 7.15% 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.

**Table II-5
Annual Rates of Return**

Year Ending June 30,	Market Value	Actuarial Value
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%
2009	(15.3%)	(2.1%)
2010	13.1%	(4.6%)
2011	20.2%	4.6%
2012	0.4%	11.2%
2013	11.8%	7.0%
2014	17.1%	10.5%
2015	1.2%	7.3%
2016	0.3%	5.0%
2017	11.4%	7.0%
2018	7.0%	7.1%

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION II – ASSETS

Table II-6
Projection of System's Benefit Payments and Contributions
(\$ in Thousands)

Fiscal Year Ending	Expected Benefit Payments	Expected City Contributions*	Expected Employee Contributions*
2019	\$ 93,360	\$ 37,079	\$ 9,800
2020	96,701	39,550	10,095
2021	96,983	40,694	10,398
2022	99,564	41,528	10,710
2023	103,038	42,441	11,031
2024	104,169	43,418	11,362
2025	106,155	44,415	11,703
2026	108,339	45,481	12,054
2027	111,759	46,596	12,415
2028	113,521	47,737	12,787

* Assumes City contributions are made on July 1 and employee contributions are made uniformly throughout the year.

Expected benefit payments are projected for the closed group valued at June 30, 2018. Projecting any further than ten years using a closed-group would not yield reliable predictions due to the omission of new hires. These projections do not include additional ad hoc COLAs, which may be granted by the City Council in future years.

Expected City contributions are shown on a cash basis. Employer contributions were assumed to be made in accordance with the contribution policy adopted by the Board at the July 12, 2017 meeting. That policy includes contributions equal to the employer portion of the Entry Age normal cost for members as of the valuation date (projected based on a current employer normal cost rate of 8.65% with a gradual decrease for the plan changes applicable to new hires after June 30, 2018) plus an amortization of the unfunded actuarial liability (UAL). The UAL is based on an actuarial value of assets that smooths investment gains and losses over three years and a measurement of the actuarial liability. The UAL is adjusted for one year, by increasing it at the assumed interest rate and reducing it by the portion of the City's scheduled contribution not attributable to the value of additional benefits earned (i.e. normal cost.) The resulting projected UAL is then amortized over a 20-year period and turned into a rate by using the anticipated payroll for the plan year commencing one year after the valuation date. The initial UAL, set up concurrent with the June 30, 2017 valuation, is being amortized over a closed 20-year period. Future annual changes to the UAL due to plan changes, assumption changes, gains and losses, including those that arose as a result of this valuation, will be amortized over their own closed 20-year period. All rates are developed using a level percent of pay amortization method with a 3% per year increase. The FY 2020 contribution to be paid July 1, 2019 should be based on the 2018 valuation rate of 19.50%.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

SECTION III – LIABILITIES

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

- **Disclosure** of System liabilities at June 30, 2017 and June 30, 2018; and
- Statement of **changes** in these liabilities during the year.

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 Future Benefits:** Used for analyzing the financial outlook of the System, this represents the amount of money needed today to fund all future benefits and expenses of the System, assuming participants continue to accrue benefits.
- **Actuarial Liability:** Used for funding calculations, 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 reflects the total amount of money needed today to fully fund the current accrued obligations of the System, assuming no future accruals of benefits, assets continue to earn 7% per year and no ad hoc COLAs are awarded. These liabilities are also used to assess whether the Plan can meet its current benefit commitments.

None of the liabilities disclosed in this report is appropriate for use in settling the liabilities of the System.

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, 2018

SECTION III – LIABILITIES

Table III-1
Liabilities/Net (Surplus)/Unfunded
Combined
(\$ in Thousands)

	June 30, 2017	June 30, 2018
Present Value of Future Benefits		
Active Participant Benefits	\$ 652,637	\$ 668,709
Retiree Benefits	828,803	851,958
DROP Participants	37,789	39,773
Terminated Vested and Inactive Members	<u>54,493</u>	<u>58,759</u>
Present Value of Future Benefits (PVFB)	\$ 1,573,722	\$ 1,619,199
 Market Value of Assets (MVA)	 \$ 1,044,012	 \$ 1,075,330
Future Member Contributions	84,366	85,524
Future City Contributions	<u>445,344</u>	<u>458,345</u>
Total Resources	\$ 1,573,722	\$ 1,619,199
 Employer Normal Cost ¹	 \$ 16,993	 \$ 17,407
 Actuarial Liability		
Active Participant Benefits	\$ 414,741	\$ 427,399
Retiree Benefits	828,803	851,958
DROP Participants	37,789	39,773
Terminated Vested and Inactive Members	<u>54,493</u>	<u>58,759</u>
Actuarial Liability (AL)	\$ 1,335,826	\$ 1,377,889
Actuarial Value of Assets (AVA)	1,043,620	1,074,892
Net (Surplus)/Unfunded (AL – AVA)	\$ 292,206	\$ 302,997
 Present Value of Accrued Benefits		
Present Value of Accrued Benefits (PVAB)	\$ 1,223,823	\$ 1,262,585
Market Value of Assets (MVA)	<u>1,044,012</u>	<u>1,075,330</u>
Net (Surplus)/Unfunded (PVAB – MVA)	\$ 179,811	\$ 187,255

¹ Net of employee contributions

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION III – LIABILITIES

Table III-1
Liabilities/Net (Surplus)/Unfunded
General Employees
(\$ in Thousands)

	June 30, 2017	June 30, 2018
Present Value of Future Benefits		
Active Participant Benefits	\$ 338,635	\$ 337,242
Retiree Benefits	442,460	456,517
Terminated Vested and Inactive Members	<u>37,224</u>	<u>40,347</u>
Present Value of Future Benefits (PVFB)	\$ 818,319	\$ 834,106
 Employer Normal Cost ¹	 \$ 7,890	 \$ 7,873
 Actuarial Liability		
Active Participant Benefits	\$ 233,019	\$ 232,351
Retiree Benefits	442,460	456,517
Terminated Vested and Inactive Members	<u>37,224</u>	<u>40,347</u>
Actuarial Liability (AAL)	\$ 712,703	\$ 729,215
Actuarial Value of Assets (AVA)	<u>583,125</u>	<u>597,998</u>
Net (Surplus)/Unfunded (AAL – AVA)	\$ 129,578	\$ 131,217
 Present Value of Accrued Benefits		
Present Value of Accrued Benefits (PVAB)	\$ 655,398	\$ 671,347

¹ Net of employee contributions

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION III – LIABILITIES

Table III-1
Liabilities/Net (Surplus)/Unfunded
Firefighters and Police
(\$ in Thousands)

	June 30, 2017	June 30, 2018
Present Value of Future Benefits		
Active Participant Benefits	\$ 314,002	\$ 331,467
Retiree Benefits	386,343	395,441
DROP Participants	37,789	39,773
Terminated Vested and Inactive Members	<u>17,269</u>	<u>18,412</u>
Present Value of Future Benefits (PVFB)	\$ 755,403	\$ 785,093
 Employer Normal Cost ¹	 \$ 9,103	 9,534
 Actuarial Liability		
Active Participant Benefits	\$ 181,722	\$ 195,048
Retiree Benefits	386,343	395,441
DROP Participants	37,789	39,773
Terminated Vested and Inactive Members	<u>17,269</u>	<u>18,412</u>
Actuarial Liability (AAL)	\$ 623,123	\$ 648,674
Actuarial Value of Assets (AVA)	<u>460,495</u>	<u>476,893</u>
Net (Surplus)/Unfunded (AAL – AVA)	\$ 162,628	\$ 171,780
 Present Value of Accrued Benefits		
Present Value of Accrued Benefits (PVAB)	\$ 568,426	\$ 591,238

¹ Net of employee contributions

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

SECTION III – LIABILITIES

Changes in Liabilities

Each of the liabilities disclosed in the prior tables 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.

**Table III-2
Changes in Liabilities
(\$ in Thousands)**

	Present Value of Benefits	Actuarial Liability	Present Value of Accrued Benefits
Liabilities as of June 30, 2017	\$ 1,573,722	\$ 1,335,826	\$ 1,223,823
Liabilities as of June 30, 2018	\$ 1,619,199	\$ 1,377,889	\$ 1,262,585
Liability Increase/(Decrease)	\$ 45,477	\$ 42,063	\$ 38,762
Change Due to:			
Plan Amendments	\$ 11,758	\$ 11,758	\$ 11,758
Assumption and Method Change	0	0	0
Actuarial (Gain)/Loss	NC	(1,594)	NC
Benefits Accumulated and Other Sources	33,719	31,899	27,004

NC = not calculated

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

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 this 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 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. The UAL is adjusted for one year, by increasing it at the assumed interest rate and reducing it by the portion of the City's scheduled contribution not attributable to the value of additional benefits earned (i.e. normal cost.) The resulting projected UAL is then amortized over a 20-year period and turned into a rate by using the anticipated payroll for the plan year commencing one year after the valuation date. The initial UAL established concurrent with the June 30, 2017 valuation is being amortized over a closed 20-year period. Future annual changes to the UAL due to plan changes, assumption changes, gains and losses, including those established as a result of this valuation, will be amortized over their own closed 20-year period. All rates are developed using a level percent of pay amortization method with a 3% per year increase. Please see Table IV-3 for details.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

SECTION IV – CONTRIBUTIONS

Actuarially Determined Rate

The employer's normal cost rate is 6.06% for General Employees and 13.35% for Firefighters and Police for the fiscal year beginning July 1, 2018. 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, will be sufficient to amortize the various layers of unfunded actuarial liability over their respective 20-year periods.

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

Table IV-1 Actuarially Determined Rate		
	June 30, 2017	June 30, 2018
Normal Cost Rate	8.62%	8.65%
UAL Rate	<u>10.36%</u>	<u>10.85%</u>
Total City Rate	18.98%	19.50%

The net increase in the contribution rate was due primarily to the COLA that was awarded (0.43%). The remaining 0.09% of the increase was attributable to various sources including an increase in the normal cost rate and payroll erosion which was mitigated by the favorable investment and demographic experience.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION IV – CONTRIBUTIONS

Table IV – 2
Development of UAL Amortization Layer as of June 30, 2018
(\$ in Thousands)

	General	Firefighters & Police	Total
a. June 30, 2018 Unfunded Actuarial Liability (UAL)	\$ 131,217	\$ 171,781	\$ 302,998
b. Expected Employer Contribution on July 1, 2018	\$ 16,714	\$ 20,365	\$ 37,079
c. Employer Normal Cost Payments	7,873	9,534	17,407
d. Interest on b. and c. to June 30, 2019	458	559	1,017
e. Net Contribution to apply to UAL (b. – c. + d.)	\$ 9,299	\$ 11,390	\$ 20,689
f. Interest on UAL to June 30, 2019	\$ 9,185	\$ 12,024	\$ 21,209
g. June 30, 2019 Expected Unfunded Actuarial Liability (a. – e. + f.)	\$ 131,103	\$ 172,415	\$ 303,518
h. Outstanding Balances for Other Amortization Bases as of June 30, 2019			
i. 2017 Initial Unfunded Base	\$ 129,291	\$ 163,646	\$ 292,937
ii. 2018 Plan Change	7,000	5,581	12,581
iii. Total	\$ 136,291	\$ 169,227	305,518
i. June 30, 2019 Experience UAL Layer [g. – h.(iii)]	\$ (5,188)	\$ 3,188	\$ (2,000)
j. June 30, 2019 Layer Amortized Over 20 Years	\$ (364)	\$ 223	\$ (141)

Since contributions are payable a year after they are developed, the UAL is amortized over 20 years on July 1, 2019.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION IV – CONTRIBUTIONS

Table IV-3
Schedule of Amortization Bases

Type of Base	Date Established	June 30, 2018 Outstanding Amount	FY 2019 Amortization Payment	June 30, 2019 Outstanding Balance	Amortization Years	July 1, 2019 Amortization Payment
GENERAL EMPLOYEES						
1. 2017 Initial Unfunded Base	7/1/2017	\$ 129,578	\$ 129,578	\$ 129,291	19	\$ 9,382 *
2. 2018 Plan Change	7/1/2018	6,542	N/A	7,000	20	491
3. 2018 Experience Base	7/1/2018	(4,903)	N/A	(5,188)	20	(364)
General Employees Total		\$ 131,217	\$ 131,217	\$ 131,103		\$ 9,509
FIREFIGHTERS AND POLICE						
1. 2017 Initial Unfunded Base	7/1/2017	\$ 162,628	\$ 11,876	\$ 163,646	19	\$ 11,876 *
2. 2018 Plan Change	7/1/2018	5,216	N/A	5,581	20	391
3. 2018 Experience Base	7/1/2018	3,936	N/A	3,187	20	223
Firefighters and Police Total		\$ 171,780	\$ 171,780	\$ 172,414		\$ 12,490
Combined Total				\$ 303,517		\$ 21,999

* Amortization payments will generally increase by 3% per year. However, with the City changing from making payments throughout the year to making payments at the beginning of the year, the amortization payments developed in 2017 actually went down. These payment amounts are equal to those shown last year, increased by 3% and then decreased with a half year's interest.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION IV – CONTRIBUTIONS

Table IV-4
Development of Actuarially Determined Contribution Rate
Composite Rate
(\$ in Thousands)

	June 30, 2017 (expensed FY 2018) (paid FY 2019)	June 30, 2018 (expensed FY 2019) (paid FY 2020)
1. Actuarial Liability		
a. Active Employees	\$ 414,741	\$ 427,399
b. Retired Members	828,803	851,958
c. DROP Participants	37,789	39,773
d. Vested Terminated Members	<u>54,493</u>	<u>58,759</u>
e. Total Actuarial Liability	\$ 1,335,826	\$ 1,377,889
2. Actuarial Value of Assets	<u>1,043,620</u>	<u>1,074,892</u>
3. Unfunded Actuarial Liability (UAL) (1) – (2)	\$ 292,206	\$ 302,997
4. UAL Amortization Payments	\$ 21,349	\$ 21,999
5. Active Member Payroll for UAL Amortization¹	\$ 205,985	\$ 202,818
6. Employer Contribution Results		
a. Employer Normal Cost Rate	8.62%	8.65%
b. Amortization of UAL (4) ÷ (5)	<u>10.36%</u>	<u>10.85%</u>
c. Total Employer Contribution Rate June 30	18.98%	19.50%

¹ The June 30, 2017 column used payroll which was adjusted to approximate FY 2019 average payroll. The June 30, 2018 column reflects the change to having the City make the Fiscal Year 2020 contribution on July 1, 2019, using actual City payroll as measured for October 2018. Thus, we have used a payroll figure which adjusts payroll for only 3 months, rather than the 18 months used previously.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION IV – CONTRIBUTIONS

Table IV-4
Development of Actuarially Determined Contribution Rate
General Employees
(\$ in Thousands)

	June 30, 2017 (expensed FY 2018) (paid FY 2019)	June 30, 2018 (expensed FY 2019) (paid FY 2020)
1. Actuarial Liability		
a. Active Employees	\$ 233,019	\$ 232,351
b. Retired Members	442,460	456,517
c. Vested Terminated Members	<u>37,224</u>	<u>40,347</u>
d. Total Actuarial Liability	<u>\$ 712,703</u>	<u>\$ 729,215</u>
2. Actuarial Value of Assets	<u>583,125</u>	<u>597,998</u>
3. Unfunded Actuarial Liability (UAL) (1) – (2)	\$ 129,578	\$ 131,217
4. UAL Amortization Payments	\$ 9,423	\$ 9,509
5. Active Member Payroll for UAL Amortization¹	\$ 134,544	\$ 130,874
6. Employer Contribution Results		
a. Employer Normal Cost Rate	6.13%	6.06%
b. Amortization of UAL (4) ÷ (5)	<u>7.00%</u>	<u>7.27%</u>
c. Total Employer Contribution Rate June 30	<u>13.13%</u>	<u>13.33%</u>

¹ The June 30, 2017 column used payroll which was adjusted to approximate FY 2019 average payroll. The June 30, 2018 column reflects the change to having the City make the Fiscal Year 2020 contribution on July 1, 2019, using actual City payroll as measured for October 2018. Thus, we have used a payroll figure which adjusts payroll for only 3 months, rather than the 18 months used previously.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION IV – CONTRIBUTIONS

Table IV-4
Development of Actuarially Determined Contribution Rate
Firefighters and Police
(\$ in Thousands)

	June 30, 2017 (expensed FY 2018)	June 30, 2018 (expensed FY 2019)
	(paid FY 2019)	(paid FY 2020)
1. Actuarial Liability		
a. Active Employees	\$ 181,722	\$ 195,048
b. Retired Members	386,343	395,441
c. DROP Participants	37,789	39,773
c. Vested Terminated Members	<u>17,269</u>	<u>18,412</u>
d. Total Actuarial Liability	\$ 623,123	\$ 648,674
2. Actuarial Value of Assets	<u>460,495</u>	<u>476,893</u>
3. Unfunded Actuarial Liability (UAL) (1) – (2)	\$ 162,628	\$ 171,781
4. UAL Amortization Payments	\$ 11,926	\$ 12,490
5. Active Member Payroll for UAL Amortization¹	\$ 71,441	\$ 71,944
6. Employer Contribution Results		
a. Employer Normal Cost Rate	13.32%	13.35%
b. Amortization of UAL (4) ÷ (5)	<u>16.69%</u>	<u>17.36%</u>
c. Total Employer Contribution Rate June 30	30.01%	30.71%

¹ The June 30, 2017 column used payroll which was adjusted to approximate FY 2019 average payroll. The June 30, 2018 column reflects the change to having the City make the Fiscal Year 2020 contribution on July 1, 2019, using actual City payroll as measured for October 2018. Thus, we have used a payroll figure which adjusts payroll for only 3 months, rather than the 18 months used previously.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

SECTION V – FINANCIAL STATEMENT INFORMATION

Accounting Standard Codification Topic No. 960 of the Financial Accounting Standards Board specifies certain information for a plan to disclose regarding its funded status. FASB ASC Topic No. 960 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 present value of accrued benefits (FASB ASC Topic No. 960) is determined assuming that the System is on-going and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.0% per annum.

FASB ASC Topic No. 960 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. Table V-1 shows the FASB liabilities as of June 30, 2017 and June 30, 2018. Table V-2 then reconciles the FASB ASC Topic No. 960 liabilities determined as of the prior valuation, June 30, 2017, to the liabilities as of June 30, 2018.

Tables V-3 can be used with the City’s CAFR. Table V-3 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, 2018

SECTION V – FINANCIAL STATEMENT INFORMATION

Table V-1
Accounting Statement Information
(*\$* in Thousands)

	June 30, 2017	June 30, 2018
FASB ASC Topic No. 960		
1. Present Value of Benefits Accrued and Vested to Date		
a. Members Currently Receiving Payments	\$ 828,803	\$ 851,958
b. Vested Terminated Members	92,282	98,531
c. Active Members	<u>292,178</u>	<u>301,697</u>
d. Total PVVB	<u>\$ 1,213,263</u>	<u>\$ 1,252,186</u>
2. Present Value of Non-Vested Accrued Benefits for Active Members	<u>10,560</u>	<u>10,399</u>
3. Total Present Value of Accrued Benefits	<u>\$ 1,223,823</u>	<u>\$ 1,262,585</u>
4. Assets at Market Value	<u>1,044,012</u>	<u>1,075,330</u>
5. Unfunded Present Value of Accrued Benefits, But Not Less Than Zero	<u>\$ 179,811</u>	<u>\$ 187,255</u>
6. Ratio of Assets to Value of Benefits (4) / (3)	85.3%	85.2%

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION V – FINANCIAL STATEMENT INFORMATION

Table V-2
Statement of Changes in Total Actuarial
Present Value of All Accrued Benefits
(\$ in Thousands)

	Accumulated Benefit Obligation (FASB ASC Topic No. 960)
Actuarial Present Value of Accrued Benefits as of June 30, 2017	\$ 1,223,823
Increase/(Decrease) During Years Attributable to:	
Passage of Time	\$ 82,660
Benefits Paid – FY 2017-2018	(85,933)
Change in Assumptions	0
Plan Changes	11,758
Benefits Accrued, Other Gains/Losses	<u>30,276</u>
Net Increase/(Decrease)	\$ 38,761
Actuarial Present Value of Accrued Benefits as of June 30, 2018	\$ 1,262,585

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

SECTION V – FINANCIAL STATEMENT INFORMATION

Table V-3
Solvency Test
Aggregate Accrued Liabilities
(\$ in Thousands)

Valuation Date	Active Member Contributions	Retirees Vested Terms, Beneficiaries	(3) Active Members		Portion of Accrued Liabilities Covered by Reported Assets		
			(Employer Financed Portion)	Reported Assets ¹	(1)	(2)	(3)
July 1, 2002	N/A	\$ 372,748	\$ 411,905	\$ 798,071	100%	100%	100%
2003	N/A	397,311	415,926	760,503	100%	100%	94%
2004	\$ 215	421,471	423,984	816,120	100%	100%	93%
2005	198	469,436	414,296	854,146	100%	100%	93%
2006	84	566,233	372,780	881,036	100%	100%	84%
2007	83	585,584	386,564	925,821	100%	100%	88%
2008	79	605,567	403,409	937,767	100%	100%	82%
2009	72	617,813	411,732	885,609	100%	100%	65%
2010	55	637,489	409,218	817,698	100%	100%	44%
2011	197	658,832	404,945	831,975	100%	100%	43%
2012	770	768,508	375,129	923,199	100%	100%	41%
2013	1,780	782,860	375,074	954,499	100%	100%	45%
2014	3,451	816,288	377,728	1,011,523	100%	100%	51%
2015	8,425	850,742	365,456	1,038,059	100%	100%	49%
2016	15,493	877,143	361,774	1,048,346	100%	100%	43%
2017	21,937	921,086	392,802	1,043,620	100%	100%	26%
2018	29,427	950,490	397,973	1,074,892	100%	100%	24%

¹ Reported assets are actuarial value of assets. If assets were market value of assets, results would differ.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

APPENDIX A – MEMBERSHIP INFORMATION

Table A-1
Summary of Active Membership as of June 30, 2018¹

Plan	Count	Average Age	Average Service	Average Salary
General	2,689	47.5	10.2	\$48,312
Firefighters and Police	<u>1,147</u>	<u>39.4</u>	<u>11.6</u>	\$57,701
Total System	3,836	45.1	10.6	\$ 51,119

¹ Excludes those on Leave of Absence

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

APPENDIX A – MEMBERSHIP INFORMATION

Table A-2
Summary of Inactive Membership as of June 30, 2018
(\$ in Thousands)

	Count	Annual Benefit	Average Annual Benefit	
Service Retirements				
General	2,210	\$ 42,210	\$	19.1
Firefighters and Police	<u>915</u>	<u>32,359</u>		35.4
Total	3,125	\$ 74,569		23.9
DROP Participants ¹				
General	0	\$ 0	\$	0.0
Firefighters and Police	<u>69</u>	<u>2,130</u>		30.9
Total	69	\$ 2,130		30.9
Contingent Annuitants				
General	341	\$ 3,006	\$	8.8
Firefighters and Police	<u>208</u>	<u>2,636</u>		12.7
Total	549	\$ 5,642		10.3
Disableds				
General	181	\$ 2,632	\$	14.5
Firefighters and Police	<u>139</u>	<u>3,540</u>		25.5
Total	320	\$ 6,172		19.3
Vested Former Members ²				
General	988	\$ 5,711	\$	5.8
Firefighters and Police	<u>297</u>	<u>4,873</u>		16.4
Total	1,285	\$ 10,585		8.2

¹ For those in the DROP period as of June 30, 2018, the amount shown is 70% of the full monthly benefit.

² Benefits are payable at age 60 for General Employees and age 55 for Firefighters and Police. Includes 19 participants on leave of absence (10 General employees and 9 Firefighters and Police) that are currently vested.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

APPENDIX A – MEMBERSHIP INFORMATION

Table A-3

Data Reconciliation (Excludes those Participants Due Account Balance and Non-Vested Participants on Leave of Absence)

	Actives	Vested Former Members¹	Service Retirements	DROP Participants	Contingent Annuitants	Disableds	Total
Count as of June 30, 2017	3,876	1,243	3,089	70	502	322	9,102
New Entrants	412	1	1	0	47	0	461
Terminations/Retirements							
- Vested	(211)	104	97	10	0	0	0
- Non-Vested	(244)	0	0	0	0	0	(244)
Disablements	(7)	(4)	0	0	0	11	0
Vested							
- that Retired	N/A	(34)	34	0	0	0	0
- that Returned to Work	10	(10)	0	0	0	0	0
DROP Retirements	0	0	11	(11)	0	0	0
Deaths							
- With a Beneficiary	0	0	(34)	0	37	(3)	0
- Without a Beneficiary	NC	(15)	(73)	0	(37)	(10)	(135)
Count as of June 30, 2018	3,836	1,285	3,125	69	549	320	9,184

¹ 23 and 19 participants on Leave of Absence as of June 30, 2017 and June 30, 2018 respectively are entitled to a vested benefit and thus included as Vested Former Members.

NC = Not Calculated. Any participants who died during the plan year are included in the non-vested terminations.

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

APPENDIX A – MEMBERSHIP INFORMATION

Table A-4
Distribution of Active Participants - General Employees
(*\$ in Thousands*)

Age	Counts by Age/Service										Total
	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 & up		
Under 25	28	15	1	0	0	0	0	0	0	0	44
25 to 29	79	101	27	2	0	0	0	0	0	0	209
30 to 34	45	146	56	34	0	0	0	0	0	0	281
35 to 39	42	140	63	51	12	0	0	0	0	0	308
40 to 44	42	78	52	56	34	3	1	0	0	0	266
45 to 49	31	99	57	65	53	28	13	0	0	0	346
50 to 54	24	89	66	66	47	38	28	14	1	0	373
55 to 59	15	55	48	72	63	47	39	42	10	1	392
60 to 64	12	33	42	53	47	43	23	35	25	13	326
65 to 69	6	9	23	20	9	9	4	10	11	14	115
70 & up	0	3	5	4	2	5	4	3	2	1	29
Total	324	768	440	423	267	173	112	104	49	29	2,689

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	883	468	36	0	0	0	0	0	0	0	1,387
25 to 29	2,622	3,750	1,057	99	0	0	0	0	0	0	7,528
30 to 34	1,617	5,978	2,331	1,296	0	0	0	0	0	0	11,223
35 to 39	1,696	6,094	2,789	2,488	541	0	0	0	0	0	13,607
40 to 44	1,644	3,812	2,776	2,592	1,620	214	39	0	0	0	12,698
45 to 49	1,131	4,312	3,218	3,299	2,946	1,697	742	0	0	0	17,344
50 to 54	1,193	4,360	3,121	3,182	2,115	2,073	1,598	817	58	0	18,516
55 to 59	896	2,750	2,567	3,447	3,172	2,629	2,173	2,485	559	57	20,736
60 to 64	649	1,636	2,702	2,560	2,353	2,375	1,439	2,088	1,446	818	18,067
65 to 69	358	737	1,386	976	442	436	199	657	958	1,063	7,213
70 & up	0	107	246	157	120	316	262	187	140	56	1,591
Total	12,688	34,005	22,230	20,095	13,310	9,740	6,452	6,235	3,161	1,995	129,910

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

APPENDIX A – MEMBERSHIP INFORMATION

Table A-4
Distribution of Active Participants (including DROP) - Firefighters & Police
(\$ in Thousands)

Age	Counts by Age/Service										Total
	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 & up		
Under 25	29	44	0	0	0	0	0	0	0	0	73
25 to 29	17	113	50	0	0	0	0	0	0	0	180
30 to 34	15	29	96	42	0	0	0	0	0	0	182
35 to 39	3	17	41	86	24	0	0	0	0	0	171
40 to 44	2	8	16	55	59	21	0	0	0	0	161
45 to 49	0	1	22	36	55	66	11	0	0	0	191
50 to 54	2	1	4	25	17	40	38	5	1	0	133
55 to 59	0	1	0	6	9	18	17	19	12	1	83
60 to 64	0	0	0	0	2	5	7	14	9	4	41
65 to 69	0	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	1	0	0	0	1
Total	68	214	229	250	166	150	74	38	22	5	1,216
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	1,169	1,961	0	0	0	0	0	0	0	0	3,130
25 to 29	691	5,189	2,564	0	0	0	0	0	0	0	8,443
30 to 34	612	1,336	4,940	2,385	0	0	0	0	0	0	9,274
35 to 39	124	796	2,128	5,051	1,563	0	0	0	0	0	9,662
40 to 44	80	373	848	3,251	3,964	1,458	0	0	0	0	9,974
45 to 49	0	44	1,096	2,062	3,628	4,703	826	0	0	0	12,359
50 to 54	86	25	199	1,414	1,113	2,742	3,094	491	92	0	9,256
55 to 59	0	45	0	339	564	1,141	1,243	1,573	1,049	80	6,035
60 to 64	0	0	0	0	142	334	475	1,061	849	395	3,256
65 to 69	0	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	25	0	0	0	25
Total	2,761	9,770	11,775	14,502	10,974	10,379	5,663	3,125	1,990	476	71,415

* Tables above include 69 participants in DROP

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

Interest Rate

7.0% per annum, compounded annually (originally adopted as of June 30, 2012).

Mortality

Pre-Retirement: 108% of RP-2014 adjusted back to 2006 using MP-2014 and brought forward to 2016 using MP-2016 and generational improvements of 0.75% per year (ages < 86) thereafter*

Healthy Annuitants: 108% of RP-2014 adjusted back to 2006 using MP-2014 and brought forward to 2016 using MP-2016 and generational improvements of 0.75% per year (ages < 86) thereafter

Disableds: 100% of RP-2014 Disability Mortality adjusted back to 2006 using MP-2014 and brought forward to 2016 using MP-2016 and generational improvements of 0.75% per year (ages < 86) thereafter

* 5% of deaths are assumed to be accidental for general employees;
60% of deaths are assumed to be accidental for firefighters and police.

Salary Increase

Representative values are as follows:

Annual Rate of Salary Increase		
Service	General	Firefighters and Police
0	6.60 %	9.69 %
1	6.45	6.60
2	6.30	6.60
3	6.14	6.60
4	5.99	6.60
5	5.83	6.60
10	5.34	6.60
15	5.18	6.60
20	4.74	5.68
25	4.23	5.06
30	3.71	5.06

The table above includes an annual inflation rate of 3.00%.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Withdrawal

Service	General	Firefighters and Police
0	19.00 %	10.00 %
1	17.00	9.00
2	15.00	8.00
3	13.00	7.00
4	11.00	6.00
5	9.50	5.00
10	4.70	2.80
15	3.00	1.00
20	2.50	1.00
25	1.00	1.00
30	1.00	1.00

Disability

Age	General*			Firefighters and Police**
	Male	Female	Unisex	
20	0.06%	0.05%	0.04%	
25	0.07	0.05	0.06	
30	0.08	0.06	0.08	
35	0.13	0.10	0.11	
40	0.20	0.15	0.22	
45	0.31	0.23	0.40	
50	0.46	0.35	0.67	
54	0.59	0.45	0.90	
55	0.63	0.48	0.96	
59	0.92	0.70	1.26	

* 25% of General disabilities are assumed to be accidental

**70% of Police & Fire disabilities are assumed to be accidental

THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Retirement

General:

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

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Firefighters and Police:

For those eligible for the Deferred Retirement Option Program (DROP):

Service	Rate of Retirement*
20	2.50%
21	3.00
22	3.50
23	4.00
24	15.00
25	30.00
26	30.00
27 and up	30.00

For those not eligible for the Deferred Retirement Option Program (DROP):

Service	Rate of Retirement*
20	2.50%
21	3.00
22	3.50
23	4.00
24	15.00
25	20.00
26	20.00
27 and up	20.00

* In lieu of the rates above, any active participant at least age 65 is assumed to retire immediately.

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 investment and future administrative expenses of the Employees' Retirement System.

Loading or Contingency Reserves

A load of 1.00% for General Employees and 1.15% for Firefighters and Police is applied to retirement benefits for active employees to account for unused sick leave balances at time of retirement.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Marital Status

65% of the General Employees and 75% of the Firefighters and Police are assumed to be married, with males three years older than females.

DROP Election

All Firefighters and Police who are eligible to elect DROP are assumed to do so in lieu of retirement.

Rationale for Economic and Demographic Assumptions

Assumptions were set by the Board of Trustees on the basis of recommendations made by Cheiron as a result of an experience study covering the period from July 1, 2011 through June 30, 2016.

Changes in Assumptions

None.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Methods

Actuarial Cost Method:

Entry Age Normal Cost Method. The unfunded actuarial liability (UAL) as of June 30, 2018 was projected to June 30, 2019 based on interest and the portion of the City contribution being paid during the fiscal year ending June 30, 2019 not attributable to additional benefits being earned. Future annual changes in the UAL due to Plan changes and gains and losses will be amortized over their own closed 20-year periods. All rates are developed using a level-percent of pay amortization method with a 3% per annum increase in the payments.

City contributions assumed to occur on the July 1 following the valuation date to be made on the basis of the rates developed in this valuation applied to actual covered payroll (including DROP payroll) of the City during the previous October.

Asset Valuation Method:

The actuarial value of assets is determined by first calculating the expected actuarial value of assets based on last year's valuation interest rate, last year's actuarial value of assets, and the net cash flow (contributions less benefit payments) of the System over the year prior to the valuation. One-third of the market value of assets less the expected actuarial value of assets is then added to the expected actuarial value of assets to determine the valuation assets.

Changes in Actuarial Methods

The City adopted a change from making contributions throughout the year to making the entire contribution on the first day of the fiscal year following the year in which the contribution is booked.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

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. This does not include a description of the changes made for participants hired after June 30, 2018. Those changes will be first reflected in next year's valuation.

1. Membership

Any permanent regular full-time employee entering the service of the City of Norfolk 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 Paramedics.

Paramedics, 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.

A member, who was a Norfolk Community Services Board employee on June 30, 2012, who became a City employee on July 1, 2012 began participating in this retirement plan on such date. Prior service for these employees was credited towards benefit eligibility only. Lastly, these employees were exempt from the member's mandatory contributions applicable to anyone hired on or after October 5, 2010 until January 8, 2015.

2. Normal Service Retirement Allowance

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 65 for Firefighters and Police Officers.

Amount

Employees Hired Before July 1, 1980

For General Employees, the pension earned is 2% 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.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

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.

Employees Hired on or After July 1, 1980

For General Employees, the pension earned is 1.75% of average final compensation for each year of creditable service up to a maximum of 35 years.

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 $\frac{1}{4}$ of 1% for each month commencement date precedes the normal retirement date for General Employees, and $\frac{1}{2}$ 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 their contributions made prior to July 1, 1972 with interest, if any, in the System until normal service retirement date.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

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.

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

The amount payable is 66 $\frac{2}{3}$ % 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 their earnable compensation during the year immediately preceding their death is payable. If a member dies in service after the earlier of completion of 10 years of service or early service

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

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, 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

Fifty percent 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 interest credited are paid to their designated recipient or estate. If there is no spouse, a lump-sum benefit equal to 50% of their earnable compensation during the year immediately preceding their 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 Employees' Retirement System.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

9. Death Benefit After Retirement

Eligibility

Death of a retired member receiving retirement allowance payments and who completed five years of creditable service, if they 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 time of their 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 interest credited. If eligible for normal or early service, ordinary disability, accidental disability, or vested retirement allowance, their contributions, if any, is not less than the interest credited. The member may elect, prior to the commencement of their retirement allowance, to receive an annuity which is the actuarial equivalent of their accumulated contributions.

**THE EMPLOYEES' RETIREMENT SYSTEM FOR THE CITY OF NORFOLK
ACTUARIAL VALUATION AS OF JUNE 30, 2018**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

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 of Trustees will be payable.

12. Contributions

By Members	5% of pay for anyone hired on or after October 5, 2010. Effective January 8, 2015, all members (except City Council members hired before October 5, 2010) will be required to contribute 5% of pay.
By City	Annual contributions actuarially computed to be required to cover the cost of benefits of the System.

Only City contributions will continue to be made throughout the DROP period for any eligible participant who has elected to participate in DROP.

13. Deferred Retirement Option Program (DROP)

Eligibility

Any police officer or fireman member in service who attains his or her Normal Retirement Age may elect to participate.

Amount

The DROP period may be elected by the police officer or fireman member but shall not exceed four years. During the DROP period, 70% of the participant's monthly retirement allowance shall be paid to the DROP account. No interest shall accrue on this account during the DROP period. At the end of the DROP period, the participant will receive a lump sum of the DROP account and shall begin receiving his or her full monthly benefit payment as a retired member.

Only City contributions will continue to be made throughout the DROP period.

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

14. Changes in Plan Provisions

Effective July 1, 2018, the City awarded a 2% COLA on annual benefits up to \$36,000 to participants who started receiving benefits prior to July 1, 2014.