

Oklahoma Firefighters Pension and Retirement System

Actuarial Valuation Report
as of July 1, 2017

October 2017

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Purpose

This report has been prepared by Conduent HR Consulting, LLC (f/k/a Buck Consultants, LLC) for the Oklahoma Firefighters Retirement Board to:

- Present the results of a valuation of the Oklahoma Firefighters Pension and Retirement System as of July 1, 2017;
- Review experience under the Plan for the year ended June 30, 2017; and
- Provide reporting and disclosure information for auditors' reports, governmental agencies and other interested parties.

The main financial highlights are:

- The funded status of the Plan has decreased since the prior valuation as indicated by the table below:

Funded Status (\$000,000)	July 1, 2017	July 1, 2016
Accrued Liability	\$ 3,767.2	\$ 3,477.5
Actuarial Value of Assets	\$ 2,464.6	\$ 2,292.7
Unfunded Accrued Liability	\$ 1,302.6	\$ 1,184.8
Funded Ratio	65.4%	65.9%

- The funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities. Additionally, the measurement of a Funded Ratio using the Market Value of Assets would be 66.6%
- The total required contribution for the System increased by 9.2% and the required State contribution increased by 12.0%.

Contribution Summary (\$000,000)	July 1, 2017	July 1, 2016
Total Required Contribution	\$ 180.8	\$ 165.6
Expected Employee Contributions	(25.2)	(24.1)
Expected Municipality Contributions	(40.1)	(38.4)
Required State Contribution	\$ 115.5	\$ 103.1
--As a Percentage of Total Active Payroll	41.2%	38.6%

Summary of Principal Valuation Results

A summary of principal results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or Plan provisions between the two valuations are described in the section titled Effects of Changes.

	Actuarial Valuation as of	
	July 1, 2017	July 1, 2016
Summary of Costs		
Total Contribution Requirement ⁽¹⁾	\$ 180,775,321	\$ 165,586,069
Total Contributions Received in Prior Year ⁽²⁾	\$ 153,695,636	\$ 156,035,902

Funded Status		
Actuarial Accrued Liability	\$3,767,195,100	\$3,477,473,104
Actuarial Value of Assets	\$2,464,615,244	\$2,292,698,277
Unfunded Actuarial Accrued Liability	\$1,302,579,856	\$1,184,774,827

Market Value of Assets and Additional Liabilities		
Market Value of Assets	\$2,509,471,449	\$2,255,758,597
Present Value of Projected Plan Benefits	\$4,437,959,406	\$4,151,759,464

Summary of Data		
Number of Vested Members in Valuation		
Active Paid Members	2,588	2,229
Active Volunteer Members	3,296	2,831
Deferred Option Plan Members	57	89
Members with Deferred Benefits	1,506	1,467
Members Receiving Benefits	6,751	6,605
Beneficiaries	2,253	2,175
Disabled Members	2,039	1,984
Total Vested Members	18,490	17,380
Number of Non-Vested Members in Valuation		
Active Paid Members	1,595	1,883
Active Volunteer Members	4,899	5,422
Total Non-Vested Members	6,494	7,305
Total Members	24,984	24,685

⁽¹⁾ Excluding Deferred Option Plan Contributions.

⁽²⁾ For the fiscal year beginning November 1, 2013, the System is scheduled to receive 36% of collected state-wide insurance premium taxes.

Summary of Principal Valuation Results (continued)

Active Member Statistics	July 1, 2017	July 1, 2016
Total Annual Compensation (Paid Members) ⁽¹⁾	\$ 280,310,219	\$ 267,512,159
Average Compensation (Paid Members) ⁽¹⁾	\$ 67,012	\$ 65,056
Average Age	38.5	38.5
Average Service ⁽²⁾	10.4	9.3

⁽¹⁾ Compensation is projected one year based on the salary increase assumptions

⁽²⁾ Improved system data provided for the valuation, resulting in a one-time increase in service for impacted active participants, has been reflected and will generate more accurate results by capturing complete employment history.

Effects of Changes

Changes in Actuarial Assumptions

There were no changes in actuarial assumptions since the prior valuation. The economic assumptions with respect to investment yield, salary increase and inflation have been based upon a review of the existing portfolio structure as well as recent and anticipated experience. The demographic assumptions are developed through periodic experience studies. The actuarial assumptions are selected by the Board with the recommendation of the actuary. The most recent experience study considered actual System experience for the period July 1, 2007 through June 30, 2012. See Section 3.2 for a comprehensive description of the assumptions and methods used for the July 1, 2017 valuation.

Changes in Actuarial Funding Methods

There were no changes in actuarial funding methods from the previous valuation.

Changes in System Benefits

There have been no changes in plan provisions or system benefits with an actuarial impact from those reflected in the previous valuation. See Section 3.3 for a description of the plan provisions used for the July 1, 2017 valuation.

Actuarial experience during the plan year

The actuarial gain/(loss) is shown in the table below:

	Total (000s)
Liability Gain/(Loss)	\$(170,533)
Asset Gain/(Loss)	50,705
Net Actuarial Gain/(Loss)	\$ (119,828)

Effects of Changes (continued)

Deferred Option Plan

The Oklahoma Firefighters Deferred Option Plan (DROP) allows members eligible for a Normal Retirement Benefit to defer the receipt of retirement benefits while continuing employment. Participation in the Deferred Option Plan is limited to five years. During this time, the members' contributions stop, but the employer contributes half of the regular contribution on base salary to the Firefighters Pension and Retirement System and the other half to the members' accounts in the Deferred Option Plan equal to the retirement benefit accrued under the Plan. After the period of active participation, members must separate from active service as a firefighter and retire. After retirement, however, members may remain as inactive members in this plan and defer receipt of the account balance until payments are required under the minimum distribution rules. The DROP was modified effective July 1, 2003, to allow eligible members to retroactively elect to enter DROP as of a back-drop-date upon termination. The monthly retirement benefits and member contributions that would have been payable had the member elected to enter DROP are credited to the employee's account in the DROP.

For members hired before November 1, 2013, the Deferred Option Plan accounts are credited with interest at a rate of 2.0% less than the total fund growth, with a guaranteed minimum interest rate equal to the valuation interest rate of 7.5%. For members hired on or after November 1, 2013, the Deferred Option Plan accounts are credited with the same rate as above while in active DROP and 1.0% less than the total fund growth after they leave active DROP. The actual rate credited for the fiscal year ended June 30, 2017 was 12.38%.

Statistics regarding the number of Deferred Option Plan members and total account balances are shown in the table below:

DROP Statistics	July 1, 2017	July 1, 2016
Number of Members		
Active	57	89
Inactive	2,548	2,296
Total	2,605	2,385
Account Balances	\$ 749,510,185	\$ 670,212,319
Annual Retirement Benefits of Active Members	\$ 2,119,834	\$ 3,046,404

GASB 67

Information calculated in accordance with GASB Statement 67 will be provided separately for this plan in a supplement to this report.

Actuarial Certification

This valuation is based on employee and financial data which were provided by the Oklahoma Firefighters Pension and Retirement System and the independent auditor, respectively, and which are summarized in this report.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of such future differences is beyond the scope of this report.

Use of this report for any other purposes or by anyone other than the Oklahoma Firefighters Pension and Retirement System and its auditors may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. This report should not be provided except in its entirety. Because of the risk of misinterpretation of actuarial results, you should ask Conduent to review any statement you wish to make on the results contained in this report. Conduent will not accept any liability for any such statement made without review by Conduent.

I am a Member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions about it.



Michael A. Ribble, FSA, EA, MAAA
Principal, Wealth

1. Funding Results

Section 1.1 Calculation of Contribution Requirement

Section 1.2 Liability Detail

Section 1.3 Unfunded Actuarial Accrued Liability

Section 1.4 Actuarial Gain/(Loss)

Section 1.5 Contributions

Section 1.6 Ten-Year Projected Cash Flow

1.1 Calculation of Contribution Requirement

Summary of Contribution Requirements	Actuarial Valuation as of			
	July 1, 2017		July 1, 2016	
	Amount	% of Active Covered Comp.	Amount	% of Active Covered Comp.
1. Annual Compensation				
a. Members included in Valuation (Covered Compensation)	\$ 280,310,219		\$ 267,512,159	
b. Deferred Option Plan Members	4,763,034		6,108,967	
c. Total Compensation	285,073,253		273,621,126	
2. Total Normal Cost Mid-year	\$ 67,018,724	23.9%	\$ 63,753,357	23.8%
3. Unfunded Actuarial Accrued Liability	\$ 1,302,579,856		\$1,184,774,827	
4. Amortization of Unfunded Actuarial Accrued Liability over 30 years from July 1, 2014 Mid-year ⁽¹⁾	\$ 109,804,890	39.2%	\$ 98,735,075	36.9%
5. Budgeted Expenses	\$ 3,951,707	1.4%	\$ 3,097,637	1.2%
6. Total Required Contribution (2 + 4 + 5)	\$ 180,775,321	64.5%	\$ 165,586,069	61.9%
7. Estimated Member Contribution	\$ 25,227,920	9.0%	\$ 24,076,094	9.0%
8. Estimated Employer Contribution				
a. Active Members – Paid	\$ 39,243,431	14.0%	\$ 37,451,702	14.0%
b. Deferred Option Plan Members – Paid	333,412	7.0% ⁽²⁾	427,628	7.0% ⁽²⁾
c. Active Members - Volunteer	491,700		495,180	
d. Deferred Option Plan Members – Volunteer	150		540	
e. Total	\$ 40,068,693	14.1% ⁽³⁾	\$ 38,375,050	14.0% ⁽³⁾
9. Required State Contribution to amortize Unfunded Actuarial Accrued Liability over 30 years from July 1, 2014 at Mid-year (6 - 7 - 8e)	\$ 115,478,708	41.2%	\$ 103,134,925	38.6%
10. Previous year's actual State Contribution ⁽⁴⁾	\$ 88,133,633	31.4%	\$ 92,330,270	34.5%

⁽¹⁾ Funding Policy adopted by Board. The policy is to amortize the Unfunded Actuarial Accrued Liability over 30 years from July 1, 2014.

⁽²⁾ Percentage of Deferred Option Plan Compensation.

⁽³⁾ Percent of Total Compensation.

⁽⁴⁾ The System is scheduled to receive 36% of collected state-wide insurance premium taxes.

1.1 Calculation of Contribution Requirement (continued)

Allocation of contribution requirements	July 1, 2017		
	Paid	Volunteer	Total
1. Total normal cost mid-year	\$ 64,758,257	\$ 2,260,467	\$ 67,018,724
2. Unfunded actuarial accrued liability ⁽¹⁾	\$ 1,235,149,555	\$ 67,430,301	\$ 1,302,579,856
3. Amortization of unfunded actuarial accrued liability over 30 years from July 1, 2014 mid-year ⁽²⁾	\$ 104,120,650	\$ 5,684,240	\$ 109,804,890
4. Budgeted expenses ⁽³⁾	\$ 3,747,140	\$ 204,567	\$ 3,951,707
5. Total required contribution (1 + 3 + 4)	\$ 172,626,047	\$ 8,149,274	\$ 180,775,321
6. Estimated member contribution	\$ 25,227,920	\$ 0	\$ 25,227,920
7. Estimated employer contribution	\$ 39,576,843	\$ 491,850	\$ 40,068,693
8. Required state contribution to amortize unfunded actuarial accrued liability over 30 years from July 1, 2014 at mid-year (5 – 6 - 7)	\$ 107,821,284	\$ 7,657,424	\$ 115,478,708

⁽¹⁾ See Section 1.3 for allocation.

⁽²⁾ Funding Policy Adopted by Board.

⁽³⁾ Allocation based on total Actuarial Accrued Liability.

1.2 Liability Detail

Total	
Present Value of Benefits	\$ 4,437,959,406
Present Value of Future Normal Costs	\$ 670,764,306
Accrued Liability	\$ 3,767,195,100
Normal Cost Mid-Year	\$ 67,018,724

Active Accrued Liability	
a. Retirement	\$ 1,182,119,850
b. Withdrawal	5,939,407
c. Disability	(1,287,398)
d. Death	12,503,747
e. Total	\$ 1,199,275,606
Inactive Accrued Liability	
1. Members eligible for automatic COLA	
A. Disabled members	\$ 38,057,551
B. Beneficiaries	87,715,661
C. Retired members	63,540,224
D. Total	\$ 189,313,436
2. Members not eligible for automatic COLA	
A. Terminated vested members	32,891,424
B. Disabled members	574,849,643
C. Beneficiaries	141,848,840
D. Retired members	752,797,374
E. Deferred option plan members - annuity	27,043,499
F. Deferred option plan members - account balances	849,175,278
G. Total	\$ 2,378,606,058
3. Total inactive ($1d + 2g$)	\$ 2,567,919,494
Accrued Liability (Active + Inactive)	\$ 3,767,195,100

1.3 Unfunded Actuarial Accrued Liability

The actuarial accrued liability is the present value of projected Plan Benefits allocated to past service by the actuarial funding method being used.

	Total Plan	
	July 1, 2017	July 1, 2016
1. Actuarial Present Value Of Benefits		
a. Active Members	\$ 1,870,039,912	\$ 1,707,077,740
b. Members With Deferred Benefits	32,891,424	39,162,579
c. Members Receiving Benefits Who Are Eligible For Automatic Cola	189,313,436	203,934,805
d. Members Receiving Benefits Who Are Not Eligible For Automatic Cola	1,469,495,857	1,403,647,210
e. Deferred Option Plan Members ⁽¹⁾	876,218,777	797,937,130
f. Total	4,437,959,406	4,151,759,464
2. Actuarial Present Value Of Future Normal Costs	\$ 670,764,306	\$ 674,286,360
3. Total Actuarial Accrued Liability (1f - 2)	\$ 3,767,195,100	\$ 3,477,473,104
4. Actuarial Value of Assets	\$ 2,464,615,244	\$ 2,292,698,277
5. Unfunded Actuarial Accrued Liability (3 - 4, Not Less Than \$0)	\$ 1,302,579,856	\$ 1,184,774,827

Allocation of current year between paid and volunteer:

	Total Plan		
	Paid	Volunteer	Total
1. Actuarial present value of benefits			
a. Active members	\$1,799,762,824	\$ 70,277,088	\$ 1,870,039,912
b. Members with deferred benefits	9,859,173	23,032,251	32,891,424
c. Members receiving benefits who are eligible for automatic cola	189,313,436	0	189,313,436
d. Members receiving benefits who are not eligible for automatic cola	1,354,458,518	115,037,339	1,469,495,857
e. Deferred option plan members ⁽¹⁾	876,101,623	117,154	876,218,777
f. Total	\$4,229,495,574	\$ 208,463,832	\$ 4,437,959,406
2. Actuarial present value of future normal costs	\$ 657,315,850	\$ 13,448,456	\$ 670,764,306
3. Total actuarial accrued liability (1f - 2)	\$3,572,179,724	\$ 195,015,376	\$ 3,767,195,100
4. Actuarial value of assets ⁽²⁾	\$2,337,030,169	\$ 127,585,075	\$ 2,464,615,244
5. Unfunded actuarial accrued liability (3 - 4, not less than \$0)	\$1,235,149,555	\$ 67,430,301	\$ 1,302,579,856

⁽¹⁾ Effective July 1, 1997, deferred option account balances are included as liability and assets and effective July 1, 2013, the guarantee for the interest rate credited to the account balances is included in the liability. The total account balance on July 1, 2017, is \$749,510,185 and the balance used on July 1, 2016, is \$670,212,319.

⁽²⁾ Allocated based on total actuarial accrued liability (item 3).

1.4 Actuarial Gain/(Loss)

The actuarial gain/(loss) is comprised of both the liability gain/(loss) and the actuarial asset gain/(loss). Each of these represents the difference between the expected and actual values as of July 1, 2017.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at July 1, 2016	\$ 3,477,473,104
b. Normal cost at July 1, 2016	61,489,198
c. Reserve for drop interest rate guarantee and drop contribution at mid-year	0
d. Benefit payments for plan year ending June 30, 2017	200,214,567
e. Interest on a + b + c - d to end of year	257,914,126
f. Impact of assumption change	0
g. Plan changes	0
h. Expected actuarial accrued liability at July 1, 2017 (a + b + c - d + e + f + g)	3,596,661,861
2. Actuarial accrued liability at July 1, 2017	3,767,195,100
3. Actuarial liability gain/(loss) (1h - 2)	(170,533,239)
4. Expected actuarial value of assets	
a. Actuarial value of assets at July 1, 2016	2,292,698,277
b. Contributions made for plan year ending June 30, 2017	153,695,636
c. Benefit payments and expenses for plan year ending June 30, 2017	202,602,341
d. Interest on a + b - c to end of year	170,118,369
e. Expected actuarial value of assets at July 1, 2017 (a + b - c + d)	2,413,909,941
5. Actuarial value of assets as of July 1, 2017	\$ 2,464,615,244
6. Actuarial asset gain/(loss) (5-4e)	\$ 50,705,303
7. Actuarial gain/(loss) (3+6)	\$ (119,827,936)

1.5 Contributions

Contributions to the Retirement System are made by the Members, municipalities, fire districts, and the State of Oklahoma.

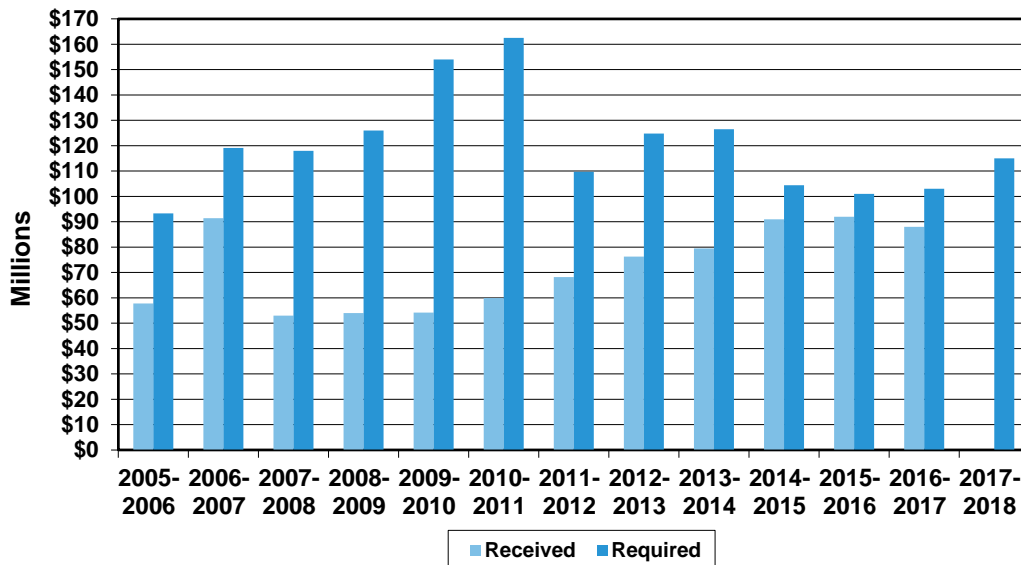
Historically, paid firefighters have contributed 8% of gross salary. Beginning November 1, 2013, the contribution rate for paid firefighters increased to 9%. Historically, municipalities and fire districts have contributed 13% of gross salary. Beginning November 1, 2013, the contribution rate for municipalities and fire districts increased to 14%.

For the fiscal year ending June 30, 2017, the fund received a contribution of \$88,133,633 from the State. The Retirement System received 34% of collected statewide insurance premium taxes until November 1, 2013. Beginning November 1, 2013, the System began receiving 36% of collected statewide insurance premium taxes

Volunteer firefighters do not contribute to the fund. Municipalities and fire districts that are not exempt contribute \$60 per year per active volunteer.

The Deferred Option Plan Members do not make employee contributions to the Fund. However, municipalities continue contributing for them, with 50% of the contribution going to the Retirement System fund and 50% going into the Deferred Option account. Contributions for members who retroactively elect to enter the Deferred Option Plan as of a back-drop-date are also deposited into the Deferred Option account.

**State contributions received versus
Contributions required by 30-year
Funding Policy ⁽¹⁾**



⁽¹⁾ 30-year amortization period was reset for plan year ending June 30, 2015 (SB 2424) to start at July 1, 2014. Prior to that time, the amortization period was 30 years from July 1, 2003.

1.6 Ten-Year Projected Cash Flow

(Retirement Benefit Payments)

Plan Year Ending	Actives	Retirees ⁽¹⁾	Total
6/30/2018	5,313,603	240,439,050	245,752,653
6/30/2019	12,864,688	246,968,556	259,833,244
6/30/2020	21,130,273	254,428,892	275,559,165
6/30/2021	30,285,879	262,576,836	292,862,715
6/30/2022	39,691,790	271,501,753	311,193,543
6/30/2023	49,234,507	281,432,517	330,667,024
6/30/2024	59,476,908	292,363,416	351,840,324
6/30/2025	70,690,033	304,469,947	375,159,980
6/30/2026	82,288,634	317,908,823	400,197,457
6/30/2027	94,625,879	332,903,531	427,529,410

⁽¹⁾ Includes Deferred Option Plan Members, Disabled Members, Beneficiaries and Terminated Vested Members and current Deferred Option Plan Accounts.

2. Plan Assets

Section 2.1 Summary of Assets

Section 2.2 Reconciliation of Assets

Section 2.3 Actuarial Value of Assets

Section 2.4 Average Annual Rates of Investment Return

2.1 Summary of Assets⁽¹⁾

Asset Category	Market Value as of June 30, 2017	Market Value as of June 30, 2016
	Amount	Amount
1. Cash and short-term investments	\$ 57,633,745	\$ 50,922,383
2. Receivables	\$ 24,801,415	\$ 59,758,484
3. Investments at fair value		
a. U.S. government securities	35,750,067	26,881,777
b. Domestic bonds	184,517,076	184,998,307
c. International corporate bonds	95,569,404	99,923,747
d. Domestic equities	1,187,590,210	999,313,973
e. International equities	311,103,879	272,986,701
f. Private equity	201,512,739	167,989,459
g. Low volatility hedge funds	11,523,012	36,693,223
h. Long/short hedge funds	77,280,333	70,927,782
i. Real estate	329,877,649	287,298,794
j. Securities lending	76,510,460	81,195,350
k. Total	\$2,511,234,829	\$ 2,228,209,113
4. Assets used in plan operations	\$ 1,068,567	\$ 956,581
5. Total assets	\$ 2,594,738,556	\$ 2,339,846,561
6. Liabilities	\$ (85,267,107)	\$ (84,087,964)
7. Net assets for pension benefits	\$ 2,509,471,449	\$ 2,255,758,597

(1) Deferred option plan assets are included in the valuation assets. The value of these assets on July 1, 2016, was \$670,212,319 and the value on July 1, 2017, was \$ 749,510,185.

2.2 Reconciliation of Assets

Transactions	June 30, 2017	June 30, 2016
Additions		
1. Contributions		
a. Contributions from employers	\$ 40,325,760	\$ 39,173,661
b. Contributions from plan members	25,236,243	24,531,971
c. Insurance premium tax	88,133,633	92,330,270
d. Legislative appropriation	0	0
e. Total	\$ 153,695,636	\$ 156,035,902
2. Net investment income	\$ 302,619,557	\$ 14,238,895
3. Total additions	\$ 456,315,193	\$ 170,274,797
Deductions		
4. Benefit payments	\$ (200,214,567)	\$ (196,088,281)
5. Administrative expenses	(2,387,774)	(1,994,301)
6. Adjustment	0	0
7. Total deductions	\$ (202,602,341)	\$ (198,082,582)
8. Net increase / (decrease)	\$ 253,712,852	\$ (27,807,785)
9. Net assets held in trust for pension benefits		
a. Beginning of year	\$ 2,255,758,597	\$ 2,283,566,382
b. End of year	\$ 2,509,471,449	\$ 2,255,758,597
10. Drop assets (included in 9 above)		
a. Beginning of year	\$ 670,212,319	\$ 622,154,847
b. End of year	\$ 749,510,185	\$ 670,212,319

2.3 Actuarial Value of Assets

Schedule of Assets Gains/(Losses)				
Year	Original Amount	Recognized in Prior Years	Recognized This Year	Recognized in Future Years
2012/2013	\$ 99,636,055	\$ 79,708,844	\$ 19,927,211	\$ 0
2013/2014	201,138,206	120,682,923	40,227,641	40,227,642
2014/2015	(32,384,859)	(12,953,944)	(6,476,972)	(12,953,943)
2015/2016	(147,364,074)	(29,472,815)	(29,472,815)	(88,418,444)
2016/2017	132,501,188	0	26,500,238	106,000,950
Total	\$ 253,526,516	\$ 157,965,008	\$ 50,705,303	\$ 44,856,205

Development of Actuarial Value of Assets	
1. Actuarial value as of July 1, 2016 (pre-corridor)	\$ 2,292,698,277
2. Contributions	
a. Employer	\$ 40,325,760
b. Member	25,236,243
c. Insurance tax	88,133,633
d. Legislative appropriation	0
e. Total	\$ 153,695,636
3. Decreases during the year	
a. Benefit payments	\$ 200,214,567
b. Noninvestment expenses	2,387,774
c. Total	\$ 202,602,341
4. Expected return at 7.50% on:	
a. Item 1	\$ 171,952,371
b. Item 2	5,763,586
c. Item 3	7,597,588
d. Total (a + b - c)	\$ 170,118,369
5. Expected actuarial value of assets June 30, 2017 (1 + 2 - 3 + 4)	\$ 2,413,909,941
6. Unrecognized asset gain/(loss) as of June 30, 2016	\$ (36,939,680)
7. Expected actuarial value June 30, 2017 plus previous year's unrecognized asset gain/(loss) (5 + 6)	\$ 2,376,970,261
8. Market value June 30, 2017	\$ 2,509,471,449
9. 2016/2017 asset gain/(loss) (8 - 7)	\$ 132,501,188
10. Asset gain/(loss) to be recognized as of June 30, 2017	\$ 50,705,303
11. Initial actuarial value July 1, 2017 (5 + 10)	\$ 2,464,615,244
12. Constraining values:	
a. 80% of market value (8 x 0.8)	\$ 2,007,577,159
b. 120% of market value (8 x 1.2)	3,011,365,739
13. Actuarial value July 1, 2017 (11), but no less than (12a), nor greater than (12b)	\$ 2,464,615,244

2.4 Average Annual Rates of Investment Return

Year Ending June 30	Actuarial Value		Market Value	
	Annual	Cumulative	Annual	Cumulative
1991	7.46%	7.46%	7.77%	7.77%
1992	8.35%	7.90%	13.74%	10.71%
1993	9.42%	8.41%	13.70%	11.70%
1994	8.34%	8.39%	1.75%	9.13%
1995	9.56%	8.62%	15.06%	10.29%
1996	11.30%	9.06%	15.22%	11.09%
1997	25.01%	11.21%	18.24%	12.09%
1998	11.34%	11.23%	18.77%	12.90%
1999	10.32%	11.13%	6.59%	12.18%
2000	10.98%	11.11%	11.08%	12.07%
2001	7.14%	10.74%	(7.88%)	10.09%
2002	1.94%	9.98%	(7.20%)	8.54%
2003	3.56%	9.47%	3.73%	8.16%
2004	2.75%	8.98%	13.32%	8.52%
2005	1.75%	8.48%	9.29%	8.57%
2006	5.39%	8.29%	10.23%	8.67%
2007	10.42%	8.41%	15.93%	9.09%
2008	7.85%	8.38%	(3.80%)	8.33%
2009	(5.87%)	7.58%	(18.07%)	6.75%
2010	3.32%	7.36%	9.58%	6.89%
2011	7.21%	7.35%	21.10%	7.52%
2012	2.41%	7.12%	0.33%	7.19%
2013	5.33%	7.05%	13.62%	7.46%
2014	12.70%	7.28%	17.85%	7.87%
2015	10.27%	7.39%	5.34%	7.77%
2016	7.38%	7.39%	0.63%	7.49%
2017	9.74%	7.48%	13.56%	7.71%

Annual Returns include Deferred Option Plan Assets.

3. Basis of Valuation

This section presents and describes the basis of the valuation. This section presents and describes the basis of the valuation. The census of Members, actuarial basis and provisions of the Plan are the foundation of the valuation, since these are the present facts on which the projection of benefit payments will depend. The valuation is based on the premise that the Plan will continue in existence

Section 3.1	Plan Members
Section 3.2	Actuarial Basis
Section 3.3	Summary of Plan Provisions

3.1 Plan Members

A. Count of Paid Active Members

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 20	2	0	0	0	0	0	0	0	0	2
20-24	177	13	0	0	0	0	0	0	0	190
25-29	289	228	13	1	0	0	0	0	0	531
30-34	179	314	215	7	0	0	0	0	0	715
35-39	85	168	283	164	8	0	0	0	0	708
40-44	31	69	176	291	139	9	0	0	0	715
45-49	9	24	86	157	256	97	6	0	0	635
50-54	0	7	23	71	133	132	43	2	0	411
55-59	0	0	3	28	57	68	56	16	0	228
60-64	0	0	1	2	5	14	21	3	1	47
65-69	0	0	0	0	0	1	0	0	0	1
70-74	0	0	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0	0	0
Total	772	823	800	721	598	321	126	21	1	4,183

B. Average Compensation of Paid Active Members

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 20										
20-24	38,347									39,185
25-29	42,145	52,359								46,514
30-34	43,839	58,344	65,087							56,818
35-39	44,773	61,056	70,467	71,339						65,485
40-44	40,455	58,532	73,878	78,440	81,705					74,335
45-49		54,133	67,741	78,613	85,059	91,743				80,169
50-54			70,350	80,399	83,030	84,994	97,263			83,685
55-59				75,605	81,211	86,981	88,383			84,340
60-64							71,600			71,800
65-69										
70-74										
75+										
Total	41,835	57,036	69,071	76,693	83,222	86,595	87,691	87,323		67,012

Average compensation not shown for groupings of less than twenty members

3.1 Plan Members (continued)

C. Count of Volunteer Active Members

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 20	108	1	0	0	0	0	0	0	0	109
20-24	740	74	1	0	0	0	0	0	0	815
25-29	620	400	48	0	0	0	0	0	0	1,068
30-34	540	443	277	31	0	0	0	0	0	1,291
35-39	465	397	352	197	11	0	0	0	0	1,422
40-44	280	291	292	178	101	5	1	0	0	1,148
45-49	153	245	269	187	125	38	1	0	0	1,018
50-54	10	119	194	191	106	42	11	1	1	675
55-59	1	11	94	152	88	42	22	2	1	413
60-64	1	0	4	71	63	32	12	5	0	188
65-69	0	0	1	2	11	8	3	1	3	29
70-74	0	0	0	1	4	4	0	1	1	11
75+	0	0	0	0	6	1	0	1	0	8
Total	2,918	1,981	1,532	1,010	515	172	50	11	6	8,195

3.1 Plan Members (continued)

D. Inactive Members Statistics

Paid		
Inactive members as of July 1, 2017	Number	Amount of Annual Benefit
Members receiving benefits		
a. Retired	2,182	\$ 66,373,263
b. Beneficiaries	947	26,527,927
c. Disabled	1,682	54,611,550
d. Deferred option	52	2,110,784
Total	4,863	\$ 149,623,524
Members with deferred benefits		
a. Terminated vested	39	\$ 954,540
Total	39	\$ 954,540

Volunteer		
Inactive members as of July 1, 2017	Number	Amount of Annual Benefit
Members receiving benefits		
a. Retired	4,569	\$ 7,820,742
b. Beneficiaries	1,306	2,300,175
c. Disabled	357	458,828
d. Deferred option	5	9,050
Total	6,237	\$ 10,588,795
Members with deferred benefits		
a. Terminated vested	1,467	\$ 2,310,074
Total	1,467	\$ 2,310,074

3.1 Plan Members (continued)

E. Member in Pay Status - Annual Benefits

Paid								
Attained age	Retired members		Beneficiaries		Disabled Members		Current Payment Total	
	No.	Benefit	No.	Benefit	No.	Benefit	No.	Benefit
Under 50	45	1,330,084	34	844,511	138	3,631,053	217	5,805,648
50-54	178	6,131,150	29	724,208	151	5,298,291	358	12,153,649
55-59	360	11,721,426	46	1,269,992	300	10,970,916	706	23,962,334
60-64	425	13,553,702	76	1,924,396	315	10,652,002	816	26,130,100
65-69	372	10,759,978	107	2,814,428	292	9,266,204	771	22,840,610
70-74	292	7,950,325	144	3,863,995	225	6,711,150	661	18,525,470
75-79	245	6,536,069	164	4,602,821	165	5,016,687	574	16,155,577
80-84	145	4,572,057	143	4,441,498	60	1,846,034	348	10,859,589
85-89	76	2,635,951	116	3,502,059	23	910,209	215	7,048,219
90 and over	44	1,182,521	88	2,540,019	13	309,004	145	4,031,544
Total	2,182	66,373,263	947	26,527,927	1,682	54,611,550	4,811	147,512,740

Volunteer								
Attained age	Retired members		Beneficiaries		Disabled Members		Current payment total	
	No.	Benefit	No.	Benefit	No.	Benefit	No.	Benefit
Under 50	206	391,599	50	52,951	27	29,156	283	473,706
50-54	392	680,964	40	51,840	35	49,372	467	782,176
55-59	757	1,261,494	51	76,032	47	65,080	855	1,402,606
60-64	862	1,489,262	98	211,352	49	66,234	1,009	1,766,848
65-69	723	1,276,484	135	289,502	48	65,511	906	1,631,497
70-74	624	1,111,335	187	381,076	64	91,625	875	1,584,036
75-79	413	746,112	212	369,343	35	47,936	660	1,163,391
80-84	266	479,439	202	358,177	27	35,240	495	872,856
85-89	148	263,332	174	298,006	7	6,867	329	568,205
90 and over	178	120,721	157	211,896	18	1,807	353	334,424
Total	4,569	7,820,742	1,306	2,300,175	357	458,828	6,232	10,579,745

3.1 Plan Members (continued)

F. Terminated Vested and Deferred Option Plan Members - Annual Benefits

Paid				
Attained age	Terminated vested members		Deferred option plan members	
	No.	Benefit	No.	Benefit
Under 40	4	\$ 59,409	0	\$ 0
40-44	8	151,356	3	127,931
45-49	11	169,526	14	657,793
50-54	6	157,040	16	630,239
55-59	7	289,901	13	476,237
60-64	2	73,260	6	218,584
65-69	1	54,048	0	0
70 and over	0	0	0	0
Total	39	\$ 954,540	52	\$ 2,110,784

Volunteer				
Attained age	Terminated vested members		Deferred option plan members	
	No.	Benefit	No.	Benefit
Under 40	135	\$ 144,372	0	\$ 0
40-44	151	179,520	0	0
45-49	258	327,864	1	1,812
50-54	240	330,432	0	0
55-59	219	336,643	4	7,238
60-64	188	342,007	0	0
65-69	92	202,272	0	0
70 and over	184	446,964	0	0
Total	1,467	\$ 2,310,074	5	\$ 9,050

3.1 Plan Members (continued)

G. Member Data Reconciliation

	Paid members						Total
	Active members		Inactive members				
	Regular	Deferred option plan	Deferred vested members	Retired members	Disabled members	Bene-ficiaries	
As of July 1, 2016	4,112	71	49	2,163	1,619	906	8,920
Deferred option plan retirees	(19)	19					
Service retirements	(39)	(19)	(9)	67			
Disability retirements	(57)	(19)	(10)	(10)	96		
Deaths without beneficiaries			(2)	(21)	(7)	(33)	(63)
Deaths with beneficiaries	(2)			(36)	(28)	66	
Nonvested terminations	(46)						(46)
Vested terminations	(11)		11				
Rehires	1				(1)		
Cashouts of member contributions							
Expiration of benefits							
Data corrections				19	3	8	30
Transfers to volunteer	(9)						(9)
Transfers from volunteer	62						62
Net change	(120)	(19)	(10)	19	63	41	(26)
New entrants during the year	191						191
Net change	71	(19)	(10)	19	63	41	165
As of July 1, 2017	4,183	52	39	2,182	1,682	947	9,085

3.1 Plan Members (continued)

G. Member Data Reconciliation (continued)

	Volunteer members						Total
	Active members		Inactive members				
	Regular	Deferred option plan	Deferred vested members	Retired members	Disabled members	Bene-ficiaries	
As of July 1, 2016	8,253	18	1,418	4,442	365	1,269	15,765
Deferred option plan retirees	(2)	2					
Service retirements	(155)	(14)	(63)	232			
Disability retirements	(6)		(1)		7		
Deaths without beneficiaries		(1)	(4)	(43)	(8)	(64)	(120)
Deaths with beneficiaries	(3)		(4)	(73)	(7)	87	
Nonvested terminations	(690)						(690)
Vested terminations	(132)		132				
Rehires	12		(12)				
Cashouts of member contributions							
Expiration of benefits							
Data corrections			1	11		14	26
Transfers to paid	(62)						(62)
Transfers from paid	9						9
Net change	(1,029)	(13)	49	127	(8)	37	(837)
New entrants during the year	971						971
Net change	(58)	(13)	49	127	(8)	37	134
As of July 1, 2017	8,195	5	1,467	4,569	357	1,306	15,899

3.2 Actuarial Basis

A. Entry Age Actuarial Cost Method

Liabilities and contributions shown in this report are computed using the Individual Entry Age method of funding.

Sometimes called “funding method”, an actuarial cost method is a particular technique used by actuaries for establishing the amount and incidence of the annual actuarial cost of Plan Benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the annual contribution to the plan is comprised of (1) the normal cost and (2) an amortization payment on the unfunded actuarial accrued liability.

Under the Entry Age Actuarial Cost Method, the Normal Cost is computed as the level percentage of pay which, if paid from the earliest time each Member would have been eligible to join the plan if it then existed (thus, entry age) until his retirement or termination, would accumulate with interest at the rate assumed in the valuation to a fund sufficient to pay all benefits under the plan.

The Actuarial Accrued Liability under this method at any point in time is the theoretical amount of the fund that would have accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date.) The Unfunded Actuarial Accrued Liability is the excess of the actuarial accrued liability over the actuarial value of plan assets actually on hand on the valuation date.

Under this method experience gains or losses, i.e. decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

Actuarial Present Value

The current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future. The actuarial present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

B. Asset Valuation Method

The actuarial value of assets is based on a five-year moving average of expected and market values determined as follows:

- at the beginning of each plan year, a preliminary expected actuarial asset value is calculated as the sum of the previous year’s actuarial value increased with a year’s interest at the System valuation rate plus net cash flow adjusted for interest (at the same rate) to the end of the previous plan year;
- the expected actuarial asset value is set equal to the preliminary expected actuarial value plus the unrecognized investment gains and losses as of the beginning of the previous plan year;
- the difference between the expected actuarial asset value and the market value is the investment gain or loss for the previous plan year;
- the (final) actuarial asset value is the preliminary value plus 20% of the investment gains and losses for each of the five previous plan years, but in no case more than 120% of the market value or less than 80% of the market value.

3.2 Actuarial Basis (continued)

C. Valuation Procedures

No actuarial accrued liability is held for nonvested, inactive Members who have a break in service, or for nonvested Members who have quit or been terminated, even if a break in service had not occurred as of the valuation date.

The wages used in the projection of benefits and liabilities were considered earnings for the year ending June 30, 2017, increased by the salary scale to develop expected earnings for the current valuation year. Earnings were annualized for Members with less than twelve months of reported earnings.

The impact from the dollar limitation required by the Internal Revenue Code Section 415 for governmental plans was not considered in this valuation and was determined not to be significant on a projected basis.

The compensation limitation under IRC Section 401(a)(17) was not considered in this valuation. On a projected basis, the impact of this limitation is insignificant.

The estimated employee, employer and state contributions have been determined based on total compensation.

When the data is edited, members reported as non-vested terminations are verified to have less than ten years of service at date of termination. Members with more than ten years of service are included in the valuation (with estimated benefits if necessary).

The Deferred Option Plan members are valued in a manner similar to retired Members. The main difference is the continuation of 50% of the employer contributions to the Firefighters Pension and Retirement System based on the compensation rate of the Deferred Option Plan members.

For members hired before November 1, 2013, Deferred Option Plan account balances are assumed to grow at 10.45% and be paid out over ten years, for the account balances of current DROP members; and over twenty years, for future DROP members. Discounting the expected DROP benefit payments at the assumed rate of return will result in a larger valuation liability than the actual DROP account balances. This difference represents the liability associated with the interest rate guarantee on the DROP accounts.

For members hired on or after November 1, 2013, Deferred Option Plan account balances are assumed to be paid as a lump sum upon termination.

The contribution requirements are based on total annual compensation rather than total covered compensation. This is a better reflection of the overall expectations for the Plan.

The calculations for the required state contribution are determined as of mid-year. This is a reasonable assumption since the employer contributions, employee contributions and State insurance premium tax allocations are made on a monthly basis throughout the year, and mid-year represents an average weighting of the contributions.

3.2 Actuarial Basis (continued)

D. Actuarial Assumptions

Paid Firefighters

Economic Assumptions

1. Investment Return 7.5%, net of investment expenses, per annum, compound annually.

2. Earnings Progression Sample rates below:

Years of Service	Inflation %	Merit %	Increase %
0	3.0	6.00	9.00
1	3.0	5.50	8.50
2	3.0	5.00	8.00
3	3.0	4.90	7.90
4	3.0	4.75	7.75
5	3.0	4.50	7.50
10	3.0	3.55	6.55
15	3.0	1.65	4.65
20	3.0	1.20	4.20
25	3.0	1.00	4.00
30+	3.0	0.50	3.50

3. Reserve for Guaranteed Interest Rate for DROP Account Balances

For members hired before November 1, 2013, DROP account balances are assumed to earn 2.95% more than the assumed investment return. The accounts are assumed to grow at 10.45%, and be paid out over ten years, for the account balances of current DROP members; and over twenty years, for future DROP members.

For members hired on or after November 1, 2013, DROP account balances are assumed to be paid as a lump sum upon termination.

3.2 Actuarial Basis (continued)

Demographic Assumptions

1. Retirement Rates

See table below:

Attained Service	Annual Rates of Retirement Per 100 Eligible Members
20*	10
21*	5
22	5
23	5
24	10
25-29	15
30-33	20
34	25
35+	100

*Not applicable for members hired on or after November 1 2013.

2. Mortality Rates

(a) Active employees (pre-retirement)

RP-2000 Blue Collar Healthy Combined with generational mortality improvement using Scale AA.

(b) Active employees (post-retirement) and nondisabled pensioners

RP-2000 Blue Collar Healthy Combined with generational mortality improvement using Scale AA

(c) Disabled pensioners

RP-2000 Blue Collar Healthy Combined

3. Disability Rates

Graduated rates. See table below:

Age Range	Annual Rate
20-24	.0005
25-29	.0010
30-34	.0035
35-39	.0035
40-44	.0045
45-49	.0070
50-54	.0200
55-59	.0400
60-64	.0900

20% of disabilities are assumed to be Non-Duty related and 80% are assumed to be Duty related

3.2 Actuarial Basis (continued)

Demographic Assumptions (continued)

4. Withdrawal Rates

Graduated rates. See table below:

Attained Service	Rate
0	.0300
1	.0350
2	.0300
3	.0200
4	.0200
5-9	.0100
10-14	.0080
15+	.0040

5. Marital Status

(a) Percentage married:

Males: 85%; Females: 85%

(b) Age difference:

Males are assumed to be three years older than females.

Other Assumptions

1. Assumed Age of Commencement for Deferred Benefits:

Later of Age 50 and 20 Years of Service for members hired before November 1, 2013 and Age 50 with 22 Years of Service for members hired on or after November 1, 2013.

2. Provision for Expenses

Administrative Expenses, as budgeted by the Oklahoma Firefighters Pension and Retirement System.

3. Cost-of-Living Allowance Assumption for retirees with 20 years of service as of May 26, 1983

Half of the dollar amount of a 3% assumed increase in base pay.

4. Cost-of-Living Increase Assumption

Members are assumed to receive no annual increase in benefits during retirement, except for those in Item 3 above.

5. Deferred Option Plan

The retirement rates reflect both regular retirement and entry into the DROP. 100% of member retirements with at least 25 years of service are assumed to retroactively elect to enter DROP.

3.2 Actuarial Basis (continued)

Volunteer Firefighters

Economic assumptions

1. Investment return 7.50%, net of investment expenses, per annum, compound annually.
2. Benefit level increases No increases.

Demographic assumptions

1. Retirement rates Sample rates below:

Attained service	Annual Rates of Retirement Per 100 Eligible Members
20*	30
21*	15
22	15
23	15
24	25
25	25
26-28	15
29-34	20
35+	100

*Not applicable for members hired on or after November 1, 2013

2. Mortality Rates
 - (a) Active employees (pre-retirement) RP-2000 Blue Collar Healthy Combined with generational mortality improvement using Scale AA.
 - (b) Active employees (post-retirement) and nondisabled pensioners RP-2000 Blue Collar Healthy Combined with generational mortality improvement using Scale AA
 - (c) Disabled pensioners RP-2000 Blue Collar Healthy Combined

3. Disability Rates Graduated rates. See table below:

Age Range	Annual Rate
20-24	.0005
25-29	.0005
30-34	.0005
35-39	.0005
40-44	.0010
45-49	.0030
50-54	.0030
55-59	.0060
60-64	.0200

3.2 Actuarial Basis (continued)

Demographic assumptions (continued)

33% of disabilities are assumed to be Non-Duty related and 67% are assumed to be Duty related.

4. Withdrawal Rates

Graduated rates. See table below:

Attained Service	Rate
0	.1500
1	.1600
2	.1400
3	.1300
4	.1100
5-9	.0080
10-14	.0550
15+	.0350

5. Marital Status

(a) Percentage married:

Males: 85%; Females: 85%

(b) Age difference:

Males are assumed to be three years older than females.

Other Assumptions

1. Assumed Age of Commencement for Deferred Benefits:

Later of Age 50 and 20 Years of Service for members hired before November 1, 2013 and Age 50 with 22 Years of Service for members hired on or after November 1, 2013.

2. Provision for Expenses

Administrative Expenses, as budgeted by the Oklahoma Firefighters Pension and Retirement System.

3. Cost-of-Living Allowance Assumption for retirees with 20 years of service as of May 26, 1983

Members are assumed to receive no annual increase in benefits during retirement.

4. Deferred Option Plan

The retirement rates reflect both regular retirement and entry into the DROP.

3.3 Summary of System Provisions

Effective Date and Plan Year:	The plan became effective May 14, 1908 and is regularly amended during legislative session. The plan year is July 1 to June 30.
Administration:	The plan is administered the Oklahoma Firefighters Pension and Retirement System Board consisting of 13 members. The Board acts as the fiduciary for investment and administration of the Plan.
Members Included:	All paid and volunteer firefighters of participating municipalities and fire protection districts.
Member Contributions:	Paid firefighters contributed 8% of gross salary prior to November 1, 2013. Effective November 1, 2013, paid firefighters contribute 9% of gross salary. No employee contributions are required of volunteer firefighters.
Employer Contributions:	Participating municipalities and fire protection districts contributed 13% of gross salary for each paid firefighter and \$60.00 per year for each volunteer firefighter prior to November 1, 2013. Effective November 1, 2013, participating municipalities and fire protection districts will contribute 14% of gross salary for each paid firefighter. Municipalities with revenues under \$25,000 make no contribution for volunteers.
State Contributions:	Insurance Premium Tax allocation. The fund received 34% of these collected taxes prior to November 1, 2013. Effective November 1, 2013, the fund is scheduled to receive 36% of these collected taxes.
Service Considered:	<p>The period of membership in the Pension System or a predecessor municipal system. Service for members of a fire protection district does not accrue before July 1, 1982.</p> <p>Military service is credited for one term (unless the member is required by law to re-enlist) if the city continues to make contributions on the member's behalf as though he were in actual service, provided that he returns to actual service within the fire department within ninety (90) days of honorable discharge. War veterans shall receive up to five years of credit for active military service.</p> <p>A member who has withdrawn his contributions and later returns to membership may repay the amount withdrawn plus interest as determined by the Board to reinstate participating service which was canceled by his withdrawal.</p>

3.3 Summary of System Provisions (continued)

A member may receive credit for up to five years of credited service accumulated by the member while a member of the Oklahoma Police Pension and Retirement System, the Oklahoma Law Enforcement Retirement System, the Teachers' Retirement System of Oklahoma, or the Oklahoma Public Employees Retirement System, if the member is not receiving or eligible to receive retirement credit or benefits from said service in any other public retirement system. The cost of buy-back service is determined as the actuarial present value of the benefits attributable to this service, effective January 1, 1991.

Considered Compensation:	The member's gross salary excluding overtime, payment for accumulated sick or annual leave upon termination, any uniform allowances or reimbursement of out-of-pocket expenses, but excluding any salary reductions pursuant to Section 457 or Section 414(b) of the Internal Revenue Code. Only salary on which the required contributions have been made may be considered.
Final Average Compensation:	The monthly average of the highest thirty (30) consecutive months of the last sixty (60) months of participating service.
Normal Retirement Date:	For member hired before November 1, 2013, the first day following the day the member completes twenty (20) years of service, regardless of age. For member hired on or after November 1, 2013, the first day following the day the member completes twenty (20) years of service and is 50 years old.
Normal Retirement Benefit:	
Paid firefighters	A monthly benefit equal to 50% of final average compensation.
Volunteer firefighters	\$150.60 per month, effective July 1, 2008.
Late Retirement Benefit:	Benefits continue to accrue for service up to thirty (30) years at the following rates:
Paid firefighters	2.5% of final average compensation per year of service.
Volunteer firefighters	\$7.53 per month per year of service, effective July 1, 2008.
Early Retirement Benefit:	None.

3.3 Summary of System Provisions (continued)

Disability or Death Benefit:	All firefighters are eligible for immediate disability or death benefits. Disabilities due to heart disease, injury to the respiratory system, or cancer are considered in the line of duty. If there is no eligible surviving spouse, the death benefit is divided between the children under age 18 or age 22 if children are enrolled as full-time students.
Paid firefighters	2.5% of final average monthly compensation per year of service, with a minimum service credit of 20 years and maximum of 30 years. For disabilities not in the line of duty, final average monthly compensation is based on 60 months instead of 30 months.
Volunteer firefighters	\$7.53 per month per year of service, with a maximum of 30 years. For disabilities or deaths in the line of duty, there is a minimum service credit of 20 years.
Vested Severance Benefit:	<p>For members hired before November 1, 2013:</p> <p>A member who terminates after ten years of credited service is eligible for a vested severance benefit determined by the normal retirement formula, based on service and salary history to date of termination.</p> <p>The benefit is payable at age 50 or when the member would have completed twenty years of service, whichever is later, provided the member's contribution accumulation is not withdrawn.</p> <p>Members terminating with less than ten years of credited service receive a refund of their contribution accumulation without interest.</p> <p>For members hired on or after November 1, 2013:</p> <p>A member who terminates after 11 years of credited service is eligible for a vested severance benefit determined by the normal retirement formula, based on service and salary history to date of termination.</p> <p>The benefit is payable at age 50 and 22 years of service provided the member's contribution accumulation is not withdrawn.</p> <p>Members terminating with less than 11 years of credited service receive a refund of their contribution accumulation without interest.</p>
Lump Sum Death Benefit:	Upon the death of an active or retired member on or after July 1, 1999, a \$5,000 lump sum death benefit will be paid to the member's beneficiary, or estate if no beneficiary. The \$5,000 death benefit does not apply to members electing vested benefit.

3.3 Summary of System Provisions (continued)

Form of Payments: The normal form of benefit is a Joint and 100% Survivor Annuity if the firefighter was married 30 months prior to death.

Post-Retirement Adjustments: Firefighters with 20 years of service as of May 26, 1983, are entitled to post-retirement adjustments equal to one-half the increase or decrease for top step firefighters. Pensions will not be adjusted below the level at which the firefighter retired.

Deferred Option Plan: A Member who is eligible to receive a Normal Retirement Benefit and continues employment may elect to participate in the Deferred Option Plan (DROP). Participation in the DROP shall not exceed five years. The employees' contributions cease upon entering the Plan, but the employer contributions are divided equally between the Retirement System and DROP. The monthly retirement benefits that the employee is eligible to receive are paid into the DROP account.

A member is also allowed to retroactively elect to join the DROP as of a back-drop-date which is no earlier than the member's Normal Retirement Date or five years before his termination date. The monthly retirement benefits and employee contributions that would have been payable had the member elected to join the DROP are credited to the member's DROP account with interest.

The retirement benefits are not recalculated for service and salary past the election date to join the DROP. However, the benefits may be increased by any applicable cost-of-living increases.

When the Member actually terminates employment, the DROP account balance may be paid in a lump sum or to an annuity provider. Monthly retirement benefits are then paid directly to the retired Member.

For members hired before November 1, 2013, the DROP account is guaranteed a minimum of the valuation interest rate for investment return, or 2% less than the fund rate of return, if greater.

For members hired on or after November 1, 2013, the DROP account is guaranteed a minimum of the valuation interest rate for investment return, or 2% less than the fund rate of return, if greater, while in active DROP. The DROP account is credited with 1% less than the fund rate of return once the member leaves active DROP.