

WICHITA FALLS FIREMEN'S  
RELIEF AND RETIREMENT FUND

ACTUARIAL VALUATION  
AS OF JANUARY 1, 2017



July 14, 2017

Board of Trustees  
Wichita Falls Firemen's  
Relief and Retirement Fund  
624 Indiana Ave, Suite 305  
Wichita Falls, TX 76301

Re: Wichita Falls Firemen's Relief and Retirement Fund

Dear Board:

We are pleased to present to the Board this report of the actuarial valuation of the Wichita Falls Firemen's Relief and Retirement Fund. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year(s). Please note that this valuation may not be applicable for any other purposes.

The valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflects laws and regulations issued to date pursuant to the provisions of the Texas Local Fire Fighters' Retirement Act (TLFFRA) and Vernon's Texas Civil Statutes, as well as applicable federal laws and regulations. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations.

In conducting the valuation, we have relied on personnel, plan design, financial reports, and asset information supplied by the Fund staff, and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

The undersigned is familiar with the immediate and long-term aspects of pension valuations, and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

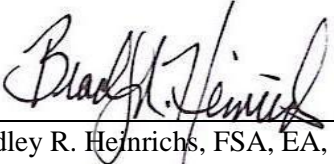
To our knowledge, no associate of Foster & Foster Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Wichita Falls, nor does anyone at Foster & Foster Inc. act as a member of the Board of Trustees of the Wichita Falls Firemen's Relief and Retirement Fund. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact me at 239-433-5500.

Respectfully submitted,

Foster & Foster Inc.

By:

  
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Bradley R. Heinrichs, FSA, EA, MAAA  
Enrolled Actuary #17-6901

BRH/lke

Enclosures

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## SUMMARY OF REPORT

The annual actuarial valuation of the Wichita Falls Firemen’s Relief and Retirement Fund, performed as of January 1, 2017, has been completed and the results are presented in this Report. The pension costs, compared with those developed in the January 1, 2016 actuarial valuation, are as follows:

<u>Valuation Date</u>	<u>1/1/2017</u>	<u>1/1/2016</u>
Current Normal Cost Rate % of Covered Annual Payroll	15.21%	15.27%
<hr/>		
Actuarial Accrued Liability (AAL)	\$79,707,755	\$75,480,701
Actuarial Value of Assets (AVA)	\$49,802,579	\$48,591,992
Unfunded Actuarial Accrued Liability (UAAL = AAL - AVA)	\$29,905,176	\$26,888,709
Funded Ratio (AVA / AAL)	62.5%	64.4%
Amortization Period	49.4 years	43.7 years
<hr/>		
Expected City Contribution Rate	12.00%	12.00%
Expected Member Contribution Rate	13.00%	13.00%
Total Expected Contribution Rate	25.00%	25.00%
<hr/>		
Total 20-Year Funding Cost <sup>1</sup>	32.90%	
Total 30-Year Funding Cost <sup>2</sup>	28.39%	
Total 40-Year Funding Cost <sup>1</sup>	26.21%	

Please note the amortization period shown above reflects that the City is scheduled to contribute 12.54% of payroll in 2017 and 12.83% of payroll in 2018.

<sup>1</sup> *The Texas Pension Review Board Guidelines for Actuarial Soundness state that funding should be adequate to amortize the UAAL over a period not to exceed 40 years, with 15-25 years being a more preferable target.*

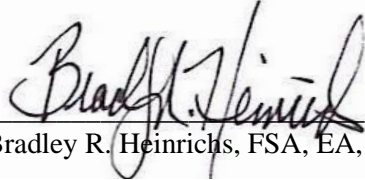
<sup>2</sup> *Per Section 802.101(a) of the Texas Government Code, the actuarial valuation must include a recommended contribution rate needed for the system to achieve and maintain an amortization period that does not exceed 30 years.*

During the past year, there was net unfavorable actuarial experience. The primary components of actuarial loss were attributable to a 6.47% investment return (Actuarial Asset Basis) which fell below the 8.00% assumption and average individual increases in pensionable earnings that exceeded the assumed rate.

The balance of this Report presents additional details of the actuarial valuation and the general operation of the Fund. The undersigned would be pleased to meet with the Board of Trustees in order to discuss the Report and answer any pending questions concerning its contents.

Respectfully submitted,

FOSTER & FOSTER INC.

By:   
Bradley R. Heinrichs, FSA, EA, MAAA

By:   
Drew D. Ballard, EA, MAAA

## CHANGES SINCE PRIOR VALUATION

### Benefit/Fund Changes

There have been no changes in plan benefits since the prior valuation.

### Actuarial Assumption/Method Changes

There has been no change in assumptions or methods since the prior valuation.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	<u>1/1/2017</u>	<u>1/1/2016</u>
A. Participant Data		
Actives	157	157
Service Retirees + DROP	97	93
Beneficiaries + Alternate Payees	25	25
Disability Retirees	2	2
Terminated Vested	2	3
	<hr/>	<hr/>
Total	283	280
Covered Annual Payroll	11,279,619	10,660,025
Annual Rate of Payments to:		
Service Retirees + DROP	3,769,473	3,465,517
Beneficiaries + Alternate Payees	310,933	310,933
Disability Retirees	37,495	37,495
Terminated Vested	48,704	0
B. Assets		
Actuarial Value	49,802,579	48,591,992
Market Value	46,915,744	46,577,636
C. Liabilities		
Present Value of Benefits		
Active Members		
Retirement Benefits	48,146,265	46,810,112
Vested Benefits	608,618	565,381
Death Benefits	1,004,881	954,843
Disability Benefits	4,548,867	4,367,320
Refund of Contributions	992,687	928,703
Service Retirees + DROP	38,302,080	35,081,780
Beneficiaries + Alternate Payees	2,148,253	2,216,855
Disability Retirees	416,897	421,333
Terminated Vested	566,677	25,923
	<hr/>	<hr/>
Total	96,735,225	91,372,250



	<u>1/1/2017</u>	<u>1/1/2016</u>
C. Liabilities - (Continued)		
Present Value of Future Salaries	120,893,782	113,141,227
Normal Cost (Entry Age Normal)		
Retirement Benefits	1,282,271	1,217,168
Vested Benefits	24,621	23,363
Death Benefits	46,440	43,489
Disability Benefits	184,991	174,845
Refund of Contributions	111,811	106,795
Total Normal Cost	<u>1,650,134</u>	<u>1,565,660</u>
Present Value of Future Normal Costs	17,027,470	15,891,549
Actuarial Accrued Liability		
Retirement Benefits	34,672,426	34,218,907
Vested Benefits	357,386	324,538
Death Benefits	531,291	522,179
Disability Benefits	2,634,860	2,605,300
Refund of Contributions	77,885	63,886
Inactives	41,433,907	37,745,891
Total Actuarial Accrued Liability	<u>79,707,755</u>	<u>75,480,701</u>
Unfunded Actuarial Accrued Liability (UAAL)	29,905,176	26,888,709
Funded Ratio (AVA / AL)	62.5%	64.4%
D. Actuarial Present Value of Accrued Benefits		
Inactives	41,433,907	37,745,891
Actives	25,467,112	25,044,704
Total Present Value Accrued Benefits	<u>66,901,019</u>	<u>62,790,595</u>
Funded Ratio (MVA / PVAB)	70.1%	74.2%

## GAIN/LOSS ANALYSIS

### a. Total Gain/(Loss)

1. Unfunded Actuarial Accrued Liability as of January 1, 2016	26,888,709
2. Normal Cost applicable for 2016	1,565,660
3. Interest on (1) and (2)	2,276,350
4. Contributions made during 2016	2,672,680
5. Interest on (4)	106,907
6. Expected UAAL as of January 1, 2017: (1)+(2)+(3)-(4)-(5)	27,951,132
7. Actual UAAL as of January 1, 2017	29,905,176
Total Actuarial Gain/(Loss)	(1,954,044)

### b. Gain/(Loss) on Assets

1. Actuarial Value of Assets as of January 1, 2016	48,591,992
2. Contributions Less Benefit Payments	(1,870,484)
3. Expected Investment Earnings	3,812,540
4. Expected AVA as of January 1, 2017: (1)+(2)+(3)	50,534,048
5. Actual Actuarial Value of Assets as of January 1, 2017	49,802,579
Gain/(Loss) on Assets	(731,469)

### c. Gain/(Loss) on Liabilities

1. Expected Actuarial Accrued Liability: a(6)+b(4)	78,485,180
2. Actual Actuarial Accrued Liability	79,707,755
Gain/(Loss) on Liabilities	(1,222,575)

ACTUARIAL ASSUMPTIONS AND METHODS

**Assumption Rationale**

**The assumptions and methods stated below were utilized by the prior actuary. Since this is our second actuarial valuation, we not do have adequate historical Fund experience to incorporate a sufficient rationale for all of the actuarial assumptions stated below at this time.**

Mortality Rates

RP-2000 projected to 2024 using Scale AA -- Sex Distinct. We feel this sufficiently accommodates expected mortality improvements.

Retirement Age

		Service																	
		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37+
Age	50	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
	51	0.21	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	52	0.22	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	53	0.32	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	54	0.42	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	55	0.55	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
	56	0.68	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
	57	0.79	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	58	0.86	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
	59	0.91	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	60	0.95	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	61	0.98	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	62	1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	63+	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

The assumed rates of retirement were amended by the prior actuary in conjunction with the January 1, 2015 actuarial valuation

Termination Rates

Table T-1 from the Actuary's Pension Handbook. Sample rates are displayed below.

<u>Age</u>	<u>Termination Rate</u>
25	4.97%
35	2.49%
45	0.62%
55	0.00%

Disability Rates

Sample rates are displayed below.

<u>Age</u>	<u>Rate</u>
25	0.111%
35	0.152%
45	0.335%
55	0.858%

The assumed rates of disablement were amended by the prior actuary in conjunction with the January 1, 2015 actuarial valuation.

Interest Rate

8.00% per year, compounded annually, net of expenses. This is supported by the asset allocation of the trust and the long-term expected return by asset class.

Salary Increases

<u>Service</u>	<u>Increase</u>
0-4	8.0%
5-14	5.6%
15-19	5.5%
20-24	4.1%
25+	3.7%

The assumed rates of salary increase were amended by the prior actuary in conjunction with the January 1, 2015 actuarial valuation.

Payroll Growth

4.50% per year for amortization of the Unfunded Actuarial Accrued Liability. The assumed payroll growth rate was amended by the prior actuary in conjunction with the January 1, 2015 actuarial valuation.

Funding Method

Entry Age Normal Actuarial Cost Method

Marital Status

100% of actives are assumed to be married at time of benefit commencement. Males are assumed to be two years older than their spouses.

Dependent Children

Each member is assumed to have two children. The first child is assumed to have been born when the member was age 25. The second child is assumed to be two years younger. It is also assumed that benefits will be paid until each child reaches the age of 20.

Contribution Rates

Members – 13.00%  
City – 12.00% (12.54% in 2017, 12.83% in 2018)

Retirement Election

Members eligible for the DROP are assumed to elect either straight service retirement benefits or the DROP, whichever is more valuable. Other members are assumed to receive straight service retirement benefits.

Actuarial Asset Method

All assets are valued at market value with an adjustment made to uniformly spread actuarial investment gains and losses (as measured by actual market value investment return against expected market value investment return) over a five-year period.

## VALUATION NOTES

Covered Annual Payroll is the projected annual rate of pay for the year beginning on the valuation date of all active participants

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Entry Age Normal Cost Method - Under this method, the normal cost is the sum of the individual normal costs for all active participants. For an active participant, the normal cost is the participant's normal cost accrual rate, multiplied by the participant's current compensation. The funding span utilized in determination of the normal cost rate for each benefit is to the last age at which that benefit is payable.

(a) The normal cost accrual rate equals:

(i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by

(ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age .

(b) In calculating the present value of future compensation, the salary scale is applied both retrospectively and prospectively to estimate compensation in years prior to and subsequent to the valuation year based on the compensation used for the valuation.

(c) The accrued liability is the sum of the individual accrued liabilities for all participants and beneficiaries. A participant's accrued liability equals the present value, at the participant's attained age, of future benefits less the present value at the participant's attained age of the individual normal costs payable in the future. A beneficiary's accrued liability equals the present value, at the beneficiary's attained age, of future benefits. The unfunded accrued liability equals the total accrued liability less the actuarial value of assets.

(d) Under this method, the entry age used for each active participant is the participant's age at the time he or she would have commenced participation if the plan had always been in existence under current terms, or the age as of which he or she first earns service credits for purposes of benefit accrual under the current terms of the plan.

## STATEMENT BY ENROLLED ACTUARY

This actuarial valuation was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of the Texas Local Fire Fighters' Retirement Act (TLFFRA), and adhere to the Actuarial Standards of Practice. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation.



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Bradley R. Heinrichs, FSA, EA, MAAA  
Enrolled Actuary #17-6901

STATEMENT OF FIDUCIARY NET POSITION  
DECEMBER 31, 2016

<u>ASSETS</u>	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Money Market	117,545.57	117,545.57
Cash	2,111.30	2,111.30
Total Cash and Equivalents	119,656.87	119,656.87
Receivables:		
Investment Income	54,997.29	54,997.29
Total Receivable	54,997.29	54,997.29
Investments:		
U. S. Bonds and Bills	3,608,078.32	3,596,883.41
Federal Agency Guaranteed Securities	987,977.57	991,148.50
Corporate Bonds	1,128,575.17	1,152,092.79
Stocks	2,979,694.42	2,876,288.67
Mutual Funds:		
Fixed Income	8,360,113.78	7,985,722.61
Equity	11,061,085.58	10,118,375.67
Pooled/Common/Commingled Funds:		
Fixed Income	1,344,141.51	1,307,480.60
Equity	11,289,973.73	16,509,504.54
Real Estate	2,092,671.49	2,233,185.88
Total Investments	42,852,311.57	46,770,682.67
Total Assets	43,026,965.73	46,945,336.83
 <u>LIABILITIES</u>		
Payables:		
Investment Expenses	29,592.95	29,592.95
Total Liabilities	29,592.95	29,592.95
NET POSITION RESTRICTED FOR PENSIONS	42,997,372.78	46,915,743.88



STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED DECEMBER 31, 2016  
Market Value Basis

ADDITIONS

Contributions:		
Member		1,370,151.49
City		1,302,528.41
Total Contributions		2,672,679.90
Investment Income:		
Net Realized Gain (Loss)	305,076.07	
Unrealized Gain (Loss)	1,035,457.54	
Net Increase in Fair Value of Investments		1,340,533.61
Interest & Dividends		1,184,763.46
Less Investment Expense <sup>1</sup>		(200,859.50)
Net Investment Income		2,324,437.57
Total Additions		4,997,117.47

DEDUCTIONS

Distributions to Members:		
Benefit Payments		3,983,668.75
Lump Sum DROP Distributions		507,951.20
Refunds of Member Contributions		51,543.74
Total Distributions		4,543,163.69
Administrative Expense		115,845.76
Total Deductions		4,659,009.45
Net Increase in Net Position		338,108.02
NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		46,577,635.86
End of the Year		46,915,743.88

<sup>1</sup>Investment related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION  
December 31, 2016

Actuarial Assets for funding purposes are developed by recognizing the total actuarial investment gain or loss for each Plan Year over a five year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80%, and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return. Actuarial Assets shall not be less than 80% nor greater than 120% of Market Value of Assets.

Plan Year Ending	Gain/(Loss)	<u>Gains/(Losses) Not Yet Recognized</u>				
		Amounts Not Yet Recognized by Valuation Year				
		2017	2018	2019	2020	2021
12/31/2012	480,493	0	0	0	0	0
12/31/2013	1,695,791	339,159	0	0	0	0
12/31/2014	(396,499)	(158,600)	(79,299)	0	0	0
12/31/2015	(3,188,589)	(1,913,153)	(1,275,436)	(637,717)	0	0
12/31/2016	(1,442,800)	(1,154,241)	(865,680)	(577,120)	(288,560)	0
Total		(2,886,835)	(2,220,415)	(1,214,837)	(288,560)	0

<u>Development of Investment Gain/(Loss)</u>	
Market Value of Assets, 12/31/2015	46,577,636
Contributions Less Benefit Payments	(1,870,484)
Expected Investment Earnings*	3,651,392
Actual Net Investment Earnings	2,208,592
2016 Actuarial Investment Gain/(Loss)	<u>(1,442,800)</u>

\*Expected Investment Earnings = 0.08 \* [46,577,636 + 0.5 \* (1,870,484)]

<u>Development of Actuarial Value of Assets</u>	
(1) Market Value of Assets, 12/31/2016	46,915,744
(2) Gains/(Losses) Not Yet Recognized	(2,886,835)
(3) Actuarial Value of Assets, 12/31/2016, (1) - (2)	<u>49,802,579</u>
(A) 12/31/2015 Actuarial Assets:	48,591,992
(I) Net Investment Income:	
1. Interest, Dividends and Misc Income	1,184,763
2. Realized Gains (Losses)	305,076
3. Change in Actuarial Value	1,907,937
4. Investment & Administrative Expenses	(316,705)
Total	<u>3,081,071</u>
(B) 12/31/2016 Actuarial Assets:	49,802,579
Actuarial Asset Rate of Return = 2I/(A+B-I):	6.47%
Market Value of Assets Rate of Return:	4.84%
12/31/2016 Limited Actuarial Assets:	49,802,579
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)	(731,469)

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS  
 DECEMBER 31, 2016  
 Actuarial Asset Basis

REVENUES

Contributions:		
Member	1,370,151.49	
City	1,302,528.41	
<b>Total Contributions</b>		<b>2,672,679.90</b>
Earnings from Investments:		
Interest & Dividends	1,184,763.46	
Net Realized Gain (Loss)	305,076.07	
Change in Actuarial Value	1,907,936.54	
<b>Total Earnings and Investment Gains</b>		<b>3,397,776.07</b>

EXPENDITURES

Distributions to Members:		
Benefit Payments	3,983,668.75	
Lump Sum DROP Distributions	507,951.20	
Refunds of Member Contributions	51,543.74	
<b>Total Distributions</b>		<b>4,543,163.69</b>
Expenses:		
Investment related <sup>1</sup>	200,859.50	
Administrative	115,845.76	
<b>Total Expenses</b>		<b>316,705.26</b>
<b>Change in Net Assets for the Year</b>		<b>1,210,587.02</b>
<b>Net Assets Beginning of the Year</b>		<b>48,591,991.86</b>
<b>Net Assets End of the Year<sup>2</sup></b>		<b>49,802,578.88</b>

<sup>1</sup>Investment related expenses include investment advisory, custodial and performance monitoring fees.

<sup>2</sup>Net Assets may be limited for actuarial consideration.

## STATISTICAL DATA

	<u>1/1/2015</u>	<u>1/1/2016</u>	<u>1/1/2017</u>
Actives	156	157	157
Average Current Age	39.4	39.8	39.6
Average Age at Employment	25.3	25.4	25.6
Average Past Service	14.1	14.4	14.0
Average Annual Salary	\$61,726	\$67,898	\$71,845

## AGE AND SERVICE DISTRIBUTION

### PAST SERVICE

AGE	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+	Total
15 - 19	0	0	0	0	0	0	0	0	0	0	0	0
20 - 24	0	2	5	1	0	0	0	0	0	0	0	8
25 - 29	7	1	3	4	3	10	0	0	0	0	0	28
30 - 34	2	1	4	1	0	14	1	0	0	0	0	23
35 - 39	0	0	3	1	0	6	11	3	0	0	0	24
40 - 44	0	0	0	0	0	2	6	8	3	0	0	19
45 - 49	0	0	0	0	0	0	5	7	6	2	0	20
50 - 54	0	0	0	0	0	0	0	3	7	3	10	23
55 - 59	0	0	0	0	0	0	0	0	3	1	6	10
60 - 64	0	0	0	0	0	0	0	0	0	1	0	1
65+	0	0	0	0	0	0	0	0	0	0	1	1
Total	9	4	15	7	3	32	23	21	19	7	17	157

## VALUATION PARTICIPANT RECONCILIATION

### 1. Active lives

a. Number in prior valuation 1/1/2016	157
b. Terminations	
i. Vested with deferred benefits	1
ii. Non-vested or full lump sum distribution received	2
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired or Entered DROP	6
f. Continuing participants	148
g. New entrants	9
h. Total active life participants in valuation	157

### 2. Non-Active lives (including beneficiaries receiving benefits)

	Service Retirees, DROP Receiving <u>Benefits</u>	Receiving Death / QDRO <u>Benefits</u>	Receiving Disability <u>Benefits</u>	Vested Deferred *	<u>Total</u>
a. Number prior valuation	93	25	2	3	123
b. In	6	0	0	1	7
c. Out	2	0	0	2	4
d. Number current valuation	97	25	2	2	126

## SUMMARY OF BENEFIT PROVISIONS

<u>Credited Service</u>	Period of continuous employment covered by the Fund during which a member pays into, and keeps on deposit in the Fund, the contributions required by the Fund. Credited Service will be calculated in completed months.
<u>Compensation</u>	Total bi-weekly pay, including regular, longevity and overtime pay, and pay received during a period of sick leave or vacation, but excluding lump sum distributions for unused sick leave and/or unused vacation time and pay classified by the City or Department as “merit” pay.
<u>Average Salary</u>	<i>Hired prior to April 21, 2016:</i> Average Compensation over the 78 consecutive pay periods of service which produces the highest average, multiplied by 2.167.  <i>Hired after April 20, 2016:</i> Average Compensation over the 130 consecutive pay periods of service which produces the highest average, multiplied by 2.167.
<u>Member Contributions</u>	12.00% of Compensation. Effective April 20, 2016, 13.00% of Compensation.
<u>Service Retirement</u>	
Date	<i>Hired prior to April 21, 2016:</i> Attainment of age 50 and 20 years of Credited Service.  <i>Hired after April 20, 2016:</i> Attainment of age 55 and 20 years of Credited Service.
Benefit	<i>Hired prior to April 21, 2016:</i> 2.55% of Average Salary for each year of Credited Service.  <i>Hired after April 20, 2016:</i> 2.50% of Average Salary for each year of Credited Service.
Form of Benefit	Life Annuity with two-thirds (2/3) continued to Surviving Spouse.

Disability

Prior to Attainment of Age 50

*Hired prior to January 1, 2004:* 50.0% of Average Salary, payable until attainment of age 50.

*Hired After December 31, 2003:*

Service related – 50.0% of Average Salary, payable until attainment of age 50.

Non-service related – Average Salary multiplied by a factor based on below table, payable until attainment of age 50.

<u>Service</u>	<u>Factor</u>
0-1	5%
2	10
3	15
4	20
5	25
6	30
7	35
8	40
9	45
10+	50

Attainment of Age 50 Following Disability

2.55% multiplied by Average Salary at time of disability for each year of service assuming the member continued employment to age 50 (maximum = 20 years of service).

Attainment of Age 50 Prior to Disability

2.55% multiplied by Average Salary at time of disability for each year of service.

Death Benefits

Surviving Spouse of Member:

Prior to Normal Retirement Eligibility

Two-thirds (2/3) multiplied by Average Salary at time of death multiplied by 2.55% for each year of service assuming the member continued employment to age 50.



Following Normal Retirement Eligibility

Two-thirds (2/3) of the member's accrued benefit, as described under the Service Retirement benefit provision.

Dependent Children of Member:

Each child is entitled to \$230 per month, payable until age 18 or until age 23 as long as the child remains a full-time student.

Retroactive Deferred Retirement Option Program

Eligibility

*Hired prior to April 21, 2016:* Attainment of age 55 and 25 years of Credited Service.

*Hired after April 20, 2016:* Attainment of age 57 and 25 years of Credited Service.

Participation Period

*Hired prior to April 21, 2016:* Not to exceed 24 months retroactively (53/23).

*Hired after April 20, 2016:* Not to exceed 24 months retroactively (55/23).

Accumulation

Sum of the monthly Service Retirement benefit the member would have received if had retired on the Retroactive DROP election date.

STATEMENT OF FIDUCIARY NET POSITION  
DECEMBER 31, 2016

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Cash Equivalents	112,215
Cash	5,329
Total Cash and Equivalents	117,544
Receivables:	
Distribution Receivable	52,646
Investment Income	36,621
Total Receivable	89,267
Investments:	
Investments in Partnership	2,103,406
Mutual Funds	38,799,483
U.S. Treasury and Agency Securities	4,588,032
Corporate Bonds	1,152,093
Real Estate Investment Trusts	31,864
Total Investments	46,674,878
Total Assets	46,881,689
<u>LIABILITIES</u>	
Payables:	
Investment Expenses	29,593
Total Liabilities	29,593
NET POSITION RESTRICTED FOR PENSIONS	46,852,096

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED DECEMBER 31, 2016  
Market Value Basis

ADDITIONS

## Contributions:

Member	1,350,904	
City	1,283,410	
Total Contributions		2,634,314
Investment Income:		
Net Increase in Fair Value of Investments	1,335,937	
Interest & Dividends	1,370,971	
Less Investment Expense <sup>1</sup>	(227,282)	
Net Investment Income		2,479,626
Other		250
Total Additions		5,114,190

DEDUCTIONS

## Distributions to Members:

Benefits paid to participants	3,983,671	
Lump Sum DROP Distributions	507,951	
Refunds and drop payments	51,544	
Total Distributions		4,543,166
Administrative Expense		115,843
Total Deductions		4,659,009
Net Increase in Net Position		455,181
NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		46,396,915
End of the Year		46,852,096

<sup>1</sup>Investment related expenses include investment advisory, custodial and performance monitoring fees.

NOTES TO THE FINANCIAL STATEMENTS  
(For the Year Ended December 31, 2016)

Plan Description

*Plan Administration*

The Wichita Falls Firemen's Relief and Retirement Fund is a single-employer defined benefit plan, established under the authority of the Texas Local Fire Fighter's Retirement Act (TLFFRA). The fund is administered by a Board of Trustees. The Board is made up of three members elected from and by the fund members, two representatives of the City of Wichita Falls, Texas, and two citizen members.

*Plan Membership as of January 1, 2016:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	120
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	3
Active Plan Members	157
	280

*Benefits Provided*

The Plan provides retirement, termination, disability and death benefits.

Service Retirement:

*Date Hired prior to April 21, 2016:*

Attainment of age 50 and 20 years of Credited Service.

*Date Hired after April 20, 2016:*

Attainment of age 55 and 20 years of Credited Service.

*Benefit Hired prior to April 21, 2016:*

2.55% of Average Salary for each year of Credited Service.

*Benefit Hired after April 20, 2016:*

2.50% of Average Salary for each year of Credited Service.

Disability:

Prior to Attainment of Age 50:

*Hired prior to January 1, 2004:*

50.0% of Average Salary, payable until attainment of age 50.

*Hired After December 31, 2003:*

Service related – 50.0% of Average Salary, payable until attainment of age 50.

Non-service related – Average Salary multiplied by a factor based on below table, payable until attainment of age 50.

<u>Service</u>	<u>Factor</u>
0-1	5%
2	10%
3	15%
4	20%
5	25%
6	30%
7	35%
8	40%
9	45%
10+	50%

Attainment of Age 50 Following Disability:

2.55% multiplied by Average Salary at time of disability for each year of service assuming the member continued employment to age 50 (maximum = 20 years of service).

Attainment of Age 50 Prior to Disability:

2.55% multiplied by Average Salary at time of disability for each year of service.

Death Benefits:

Surviving Spouse of Member Prior to Normal Retirement Eligibility:

Two-thirds (2/3) multiplied by Average Salary at time of death multiplied by 2.55% for each year of service assuming the member continued employment to age 50.

Surviving Spouse of Member Following Normal Retirement Eligibility:

Two-thirds (2/3) of the member's accrued benefit, as described under the Service Retirement benefit provision.

Dependent Children of Member:

Each child is entitled to \$230 per month, payable until age 18 or until age 23 as long as the child remains a full-time student.

*Contributions*

Member contributions: 12.00% of Compensation. Effective April 20, 2016, 13.00% of Compensation.

City contribution rate decreased from 12.52% to 12.00%, effective January 1, 2016.

Investments

*Investment Policy:*

The following was the Board's adopted asset allocation policy as of December 31, 2016:

<u>Asset Class</u>	<u>Target Allocation</u>
Domestic Equity	35%
International Equity	15%
Domestic Fixed Income	25%
Global Fixed Income	5%
Real Estate	10%
Alternative	10%
<b>Total</b>	<b>100%</b>

*Concentrations:*

The Plan did not hold investments in any one organization that represent 5 percent or more of the Pension Plan's Fiduciary Net Position.

*Rate of Return:*

For the year ended December 31, 2016, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 5.10 percent.

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Retroactive Deferred Retirement Option Program

*Eligibility Hired prior to April 21, 2016:*

Attainment of age 55 and 25 years of Credited Service.

*Eligibility Hired after April 20, 2016:*

Attainment of age 57 and 25 years of Credited Service.

*Participation Period Hired prior to April 21, 2016:*

Not to exceed 24 months retroactively (53/23).

*Participation Period Hired after April 20, 2016:*

Not to exceed 24 months retroactively (55/23).

The DROP balance as December 31, 2016 is \$0.

## NET PENSION LIABILITY OF THE SPONSOR

The components of the Net Pension Liability of the Sponsor on December 31, 2016 were as follows:

Total Pension Liability	\$ 93,357,432
Plan Fiduciary Net Position	\$ (46,852,096)
Sponsor's Net Pension Liability	<u>\$ 46,505,336</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	50.19%

*Actuarial Assumptions:*

The Total Pension Liability was determined by an actuarial valuation as of January 1, 2016 using the following actuarial assumptions:

Inflation	3.00%
Salary Increases	Service based
Discount Rate	6.31%
Investment Rate of Return	8.00%

Mortality Rates: RP-2000 projected to 2024 using Scale AA - Sex Distinct. We feel this sufficiently accommodates expected mortality improvements.

The date of the most recent experience study for which significant assumptions are based upon is not available.

The Long-Term Expected Rate of Return on Pension Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2016, the inflation rate assumption of the investment advisor was 2.50%.

These ranges are combined to produce the Long-Term Expected Rate of Return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Best estimates of arithmetic real rates of return for each major asset class included in the Pension Plan's target asset allocation as of December 31, 2016 are summarized in the following table:

Asset Class	Long Term Expected Real Rate of Return
Domestic Equity	7.50%
International Equity	8.50%
Domestic Fixed Income	2.50%
Global Fixed Income	3.50%
Real Estate	4.50%
Alternative	5.00%

**Discount Rate:**

The projection of cash flows used to determine the Discount Rate assumed that current Plan Member and Sponsor contributions will be made at the current contribution rate. Future Member's contributions in excess of their normal cost were also included. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to provide future benefit payments for 38 years. These payments were discounted using a discount rate of 8.00%. Future benefits payments beyond 38 years were discounted using a high quality municipal bond rate of 3.78%. The high quality municipal bond rate was based on the week closest to, but not later than, the measurement date of the Bond Buyer 20-Bond Index as published by the Bond Buyer. The single equivalent discount rate was 6.31%.

	Current Discount		
	1% Decrease	Rate	1% Increase
	5.31%	6.31%	7.31%
Sponsor's Net Pension Liability	\$ 59,298,639	\$ 46,505,336	\$ 35,874,235

**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS**  
Last 10 Years

	12/31/2016	12/31/2015	12/31/2014 <sup>1</sup>
Total Pension Liability			
Service Cost	1,613,166	1,514,459	1,447,068
Interest	5,740,141	5,743,802	5,537,931
Changes of benefit terms	-	6,752	-
Differences between Expected and Actual Experience	1,231,956	(3,155,703)	(320,862)
Changes of assumptions	16,905,161	-	(423,984)
Benefit Payments, including Refunds of Employee Contributions	(4,543,166)	(3,950,906)	(3,616,549)
Net Change in Total Pension Liability	20,947,258	158,404	2,623,604
Total Pension Liability - Beginning	72,410,174	72,251,770	69,628,166
Total Pension Liability - Ending (a)	<u>\$ 93,357,432</u>	<u>\$ 72,410,174</u>	<u>\$ 72,251,770</u>
Plan Fiduciary Net Position			
Contributions - Employer	1,283,410	1,273,913	1,232,957
Contributions - Employee	1,350,904	1,221,926	1,144,644
Net Investment Income	2,479,626	421,270	3,284,243
Benefit Payments, including Refunds of Employee Contributions	(4,543,166)	(3,950,906)	(3,616,549)
Administrative Expense	(115,843)	(87,245)	(85,636)
Other	250	-	-
Net Change in Plan Fiduciary Net Position	455,181	(1,121,042)	1,959,659
Plan Fiduciary Net Position - Beginning	46,396,915	47,517,957	45,558,298
Plan Fiduciary Net Position - Ending (b)	<u>\$ 46,852,096</u>	<u>\$ 46,396,915</u>	<u>\$ 47,517,957</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 46,505,336</u>	<u>\$ 26,013,259</u>	<u>\$ 24,733,813</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	50.19%	64.08%	65.77%
Covered Employee Payroll	\$ 10,391,569	\$ 10,182,717	\$ 9,520,903
Net Pension Liability as a percentage of Covered Employee Payroll	447.53%	255.46%	259.78%

**Notes to Schedule:**

<sup>1</sup> The 2014 results were provided by the prior actuary, John M. Crider, Jr.

*Changes of benefit terms:*

For the 2015 year, amounts reported as changes of benefits resulted from:

- The member contribution rate was increased from 12.0% to 13.0% of Salary for all members.
- All future new entrants will accrue benefits under a "Tier 2" benefit structure.

*Changes of assumptions:*

For purposes of determining the GASB discount rate at the 12/31/2016 measurement date, a depletion date projection as of that date have been performed. The results of this projection showed a single discount rate of 6.31%. The discount rate was decreased from 8.00% to 6.31%.

**SCHEDULE OF CONTRIBUTIONS**  
Last 10 Years

	12/31/2016	12/31/2015	12/31/2014 <sup>1</sup>
Contractually Required Contribution Contributions in relation to the Contractually Required Contributions	1,283,410	1,273,913	1,232,957
Contribution Deficiency (Excess)	\$ -	\$ -	\$ -
Covered Employee Payroll	\$ 10,391,569	\$ 10,182,717	\$ 9,520,903
Contributions as a percentage of Covered Employee Payroll	12.35%	12.51%	12.95%

<sup>1</sup> The 2014 results were provided by the prior actuary, John M. Crider, Jr.

Notes to Schedule

Valuation Date: 01/01/2016  
Actuarially Determined contribution rates are calculated as of January 1 of the year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Funding Method: Entry Age Normal Actuarial Cost Method.  
Amortization Method: Level Percent of Compensation.  
Remaining Amortization Period: 43.7 years ( as of 01.01.2016 Valuation).  
Mortality Rate: RP-2000 projected to 2024 using Scale AA - Sex Distinct. We feel this sufficiently accommodates expected mortality improvements.

Retirement Age:

Age	Service																	
	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37+
50	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
51	0.21	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
52	0.22	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
53	0.32	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
54	0.42	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
55	0.55	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
56	0.68	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
57	0.79	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
58	0.86	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
59	0.91	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
60	0.95	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
61	0.98	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
62	1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
63+	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

The assumed rates of retirement were amended by the prior actuary in conjunction with the January 1, 2015 actuarial valuation.

Termination Rate: Table T-1 from the Actuary's Pension Handbook. Sample rates are displayed below.

Age	Termination Rate
25	4.97%
35	2.49%
45	0.62%
55	0.00%



Disability Rates:

Sample rates are displayed below:

<u>Age</u>	<u>Disability Rate</u>
25	0.111%
35	0.152%
45	0.335%
55	0.858%

The assumed rates of disablement were amended by the prior actuary in conjunction with the January 1, 2015.

Interest Rate:

8.00% per year, compounded annually, net of expenses. This is supported by the asset allocation of the trust and the long-term expected return by asset class.

Salary Increases:

<u>Service</u>	<u>Increase</u>
0-4	8.0%
5-14	5.6%
15-19	5.5%
20-24	4.1%
25+	3.7%

The assumed rates of salary increase were amended by the prior actuary in conjunction with the January 1, 2015 actuarial valuation.

Payroll Growth:

4.50% per year for amortization of the Unfunded Actuarial Accrued Liability. The assumed payroll growth rate was amended by the prior actuary in conjunction with the January 1, 2015 actuarial valuation.

Marital Status:

100% of actives are assumed to be married at time of benefit commencement. Males are assumed to be two years older than their spouses.

Dependent Children:

Each member is assumed to have two children. The first child is assumed to have been born when the member was age 25. The second child is assumed to be two years younger. It is also assumed that benefits will be paid until each child reaches the age of 20.

Contribution Rates:

Members - 13.00%.  
City - 12.00%.

Retirement Election:

Members eligible for the DROP are assumed to elect either straight service retirement benefits or the DROP, whichever is more valuable. Other members are assumed to receive straight service retirement benefits.

Actuarial Asset Method:

All assets are valued at market value with an adjustment made to uniformly spread actuarial investment gains and losses (as measured by actual market value investment return against expected market value investment return) over a five-year period

SCHEDULE OF INVESTMENT RETURNS  
Last 10 Years

	<u>12/31/2016</u>	<u>12/31/2015</u>	<u>12/31/2014<sup>1</sup></u>
Annual Money-Weighted Rate of Return			
Net of Investment Expense	5.10%	0.45%	7.32%

<sup>1</sup> The 2014 results were provided by the prior actuary, John M. Crider, Jr.