HOUSTON FIREFIGHTERS' RELIEF AND RETIREMENT FUND
FISCAL YEAR 2018 COMPREHENSIVE ANNUAL FINANCIAL REPORT

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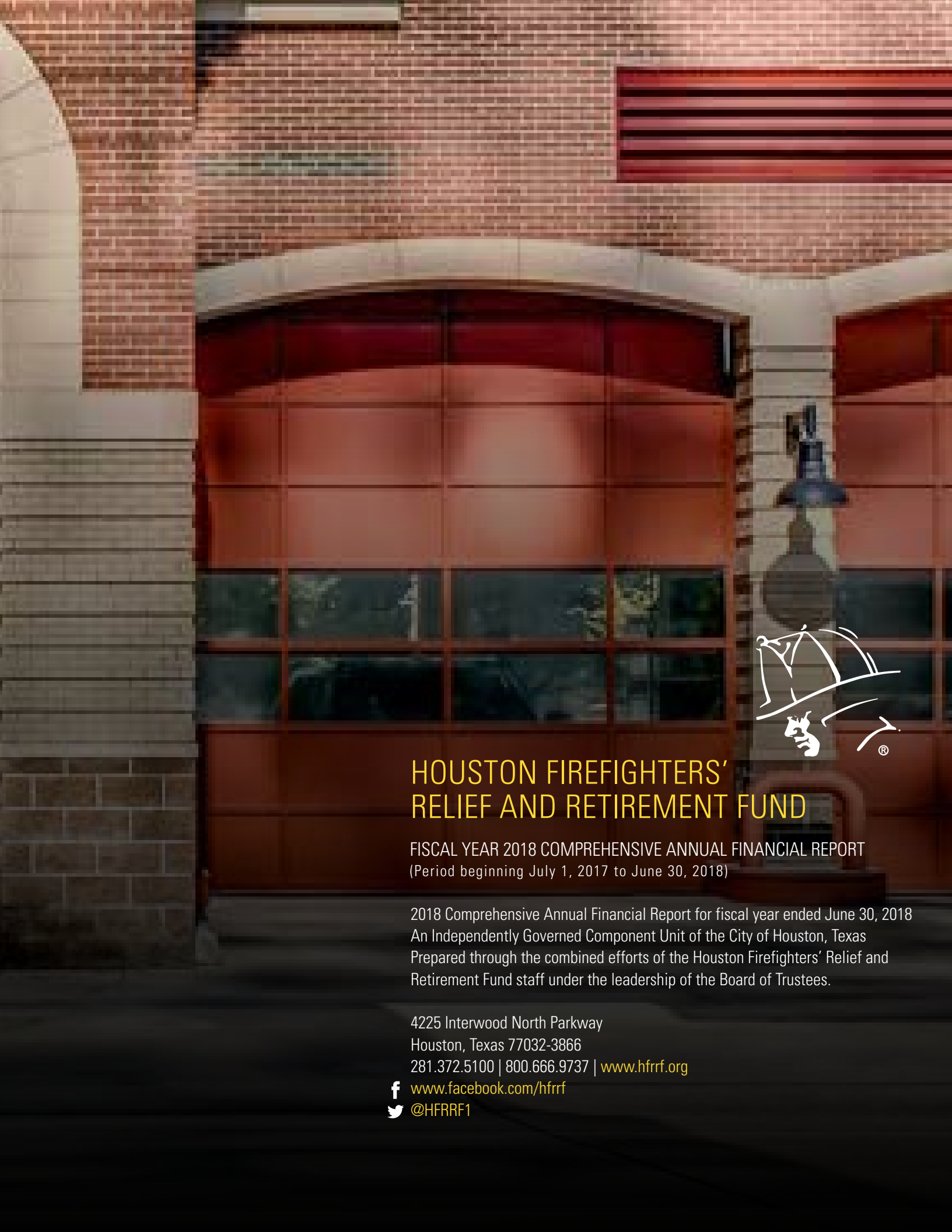
AN INDEPENDENTLY-GOVERNED COMPONENT UNIT OF THE CITY OF HOUSTON, TEXAS

PERIOD BEGINNING JULY 1, 2017 TO JUNE 30, 2018

FISCAL YEAR 2018
COMPREHENSIVE ANNUAL FINANCIAL REPORT



HOUSTON FIREFIGHTERS' RELIEF AND RETIREMENT FUND

FISCAL YEAR 2018 COMPREHENSIVE ANNUAL FINANCIAL REPORT

(Period beginning July 1, 2017 to June 30, 2018)

2018 Comprehensive Annual Financial Report for fiscal year ended June 30, 2018
An Independently Governed Component Unit of the City of Houston, Texas
Prepared through the combined efforts of the Houston Firefighters' Relief and Retirement Fund staff under the leadership of the Board of Trustees.

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(Period beginning July 1, 2017 to June 30, 2018)

SECTION 01

INTRODUCTION

LETTER OF TRANSMITTAL

Investing for Firefighters
and Their Families®

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December 20, 2018

City Treasurer Designee
City of Houston
P.O. Box 1562
Houston, Texas 77251-1562

Dear City Treasurer:

The Comprehensive Annual Financial Report (CAFR) of the Houston Firefighters' Relief and Retirement Fund (the Fund), an independently governed component of the City of Houston, for the fiscal year ended June 30, 2018, is submitted herewith.

The Houston Firefighters' Relief and Retirement Fund was created in 1937 with the passage of a state law that provided benefits for firefighters in certain cities in Texas. In 1975, Article 6243e.2 was passed in the Texas legislature to create a fund for firefighters in cities with a population not less than 1.2 million. This statute was amended in 1997 into Article 6243e.2(1). Since that time, and effective July 1, 2017, SB2190 revised the Fund's statute (Vernon's Civil Statutes, Title 109, section 6243e.2(1)).

Article 6243e.2(1) states that a fund shall be created to provide retirement, disability and death benefits for firefighters and their beneficiaries, and that it shall be governed by a Board of Trustees, which has sole responsibility for its maintenance. In earlier years, the City of Houston provided staff and financing for the daily administration of the Fund. Effective July 1, 1988, the Board of Trustees assumed full responsibility for its administration. Administration of the Fund includes accurately computing and disbursing retirement benefits, receiving and depositing contributions in a timely manner, accounting for investment activity, monitoring the activity of all external investment managers, auditing all financial activities of the Fund on an ongoing basis, and meeting reporting requirements in a timely manner.

Responsibility for the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with the Board of Trustees. To the best of the Board's knowledge and belief, the enclosed information is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of Fund operations. All disclosures necessary to enable the reader to gain an understanding of the financial activities of the Fund have been included.

THE HOUSTON FIREFIGHTERS' RELIEF AND RETIREMENT FUND

Established in 1937 by state statute, the Fund is the retirement system for Houston's firefighters. Day-to-day operations were largely performed by City of Houston employees until 1988, when the Board of Trustees started hiring its own staff and exerting more autonomy as permitted by statute. The pension fund is a defined benefit plan and is funded through a combination of employee and employer contributions and investment earnings. The Fund's membership consists of more than 7,000 active and retired firefighters and survivors of firefighters. Firefighters do not participate in the U.S. Social Security system.

State law gives the Board of Trustees responsibility for conducting all Fund business. The 10-member board consists of five active firefighters, one retired firefighter (elected by other retirees), the City Treasurer or individual performing those functions, the Mayor or an appointed representative of the Mayor and two citizen members elected by the firefighter trustees.

For the 35th year in a row, our Finance and Operations team has received the Government Finance Officers Association (GFOA) Certificate of Achievement for Excellence in Financial Reporting.

The Board of Trustees is proud to present to you the Comprehensive Annual Financial Report for the fiscal year ended 2018 (for the period beginning July 1, 2017 to June 30, 2018).

ADMINISTRATION, STAFF AND PROFESSIONAL SERVICES

At fiscal year-end, the Fund staff was made up of 30 full-time and 3 part-time employees. The following professionals were employed by the Board of Trustees ended June 30, 2018, to provide specialty services:

- Bank of New York Mellon is the custodian bank.
- McConnell & Jones, LLP, serves as the auditor.
- Buck Global LLC (formerly known as Conduent, LLC) is the actuary.

Most of the professional consultants appointed by the Board are listed on page 9 of this report. Other professionals employed by the Board are listed on page 48.

ACCOUNTING SYSTEMS AND REPORTS

As plan administrator of the Fund, the Board of Trustees maintains the following various internal controls to ensure material accuracy of all data:

- Bi-weekly control reports are generated by the Fund staff to ensure the accuracy of employee and employer contributions received from the City of Houston. Monthly reconciliations are performed on benefit payment information to confirm payment instructions to the custodian bank.
- Monthly reviews are performed on all investment transactions to ensure that dividends and interest on the investments of the Fund are properly credited, all assets are accounted for properly, all market valuations are appropriate, and each investment manager is in compliance with established guidelines.
- The checking account of the Fund, from which administrative payments are made, is reconciled monthly by the staff, and wire transfers from the custodian bank are reconciled monthly to the in-house cash account.
- The Budget and Audit Committee of the Board of Trustees, which sets general parameters for spending, meets at least quarterly to review administrative expenditures.
- The Personnel and Procedures Committee, a committee of the whole, formulates and reviews administrative procedures of the Fund.

The financial statements included in this report, along with all the information provided, are the responsibility of the management of the Fund. This system includes the appropriate segregation of duties and responsibilities, sound practices in the performance of those duties, capable personnel, and the organizational structure itself. The Fund believes that the internal controls in effect adequately safeguarded assets and provided reasonable, rather than absolute, assurance that the financials are free of any material misstatements. The concept of reasonable assurance recognizes that: (1) the cost of a control should not exceed the benefits likely to be derived; and (2) the evaluation of costs and benefits requires estimates and judgments by management.

The financial statements have been prepared in accordance with generally accepted accounting principles (GAAP) and the principles of governmental accounting and reporting pronounced by the Governmental Accounting Standards Board (GASB). The accrual basis of accounting is used to record assets, liabilities, revenues and expenses.

Revenues for the Fund are taken into account when earned without regard to date of collection. Expenses are recorded when the corresponding liabilities are incurred, regardless of when payment is made. For an overview of the financial position of the Fund, please refer to the Management's Discussion and Analysis in the Financial section.

Employee contributions increased from 9.00% to 10.50% between fiscal years 2017 and 2018 as required by the passage of SB2190. Between fiscal years 2017 and 2016 the employee and employer contributions remained stable. Prior to the passage of SB2190, the Fund per Texas Government Code section 802.101, was required to employ an actuary to conduct an Actuarial Valuation at least once every three years. The information from the valuation was then used to determine and certify the City's contribution rate to the Fund.

INVESTMENTS

The Board of Trustees created the Investment Committee to oversee the investment portfolio. With guidance and advice from the Fund's professional staff, the Investment Committee determines policy, strategy and monitors the performance of the Fund.

Key components of the investment program that enable the Fund to achieve its target return are a diversified investment portfolio, a long-term outlook, and prudent risk-taking commensurate with fulfilling the return target of the program. The Fund's assets are invested in short-term instruments (cash and cash equivalents), fixed income securities, domestic and international equity securities, private equity, real estate and hedge funds. By investing in different types of assets, the impact that a downturn in one asset class would have on the Fund is minimized and the probability that the Fund will earn an adequate rate of return is improved. The Board maintains an investment outlook that emphasizes stability and long-term planning – because payments to participants and beneficiaries are long-term in nature – and avoids drastic asset shifts and market timing decisions.

Additional information regarding the investment results for the year is included on pages 56 and 57 in the Investment Information section of this report.

FINANCIAL HIGHLIGHTS

Additions to assets received by the Fund are used to fund current and future benefits for members and their beneficiaries. The primary sources of additions are contributions from active members, the City of Houston and investment income. Deductions from assets consist of benefits paid to retired members and their beneficiaries, fees for professional services, and operations costs.

The following table summarizes additions and deductions to plan net position for fiscal years 2018, 2017, and 2016.

	2018 (MILLIONS)	2017 (MILLIONS)	2016 (MILLIONS)
Beginning Net Position	$4,025	$3,730	$3,878
Additions	441	552	70
Deductions	296	257	218
Net Change	145	295	(148)
ENDING NET POSITION	$4,170	$4,025	$3,730

FUNDING STATUS

The funding objective of the Fund is to establish contributions which, when combined with present assets and future investment returns, will be sufficient to meet the financial obligations to present and future retirees and beneficiaries.

In May 2017 the Board adopted the July 1, 2016 actuarial valuation after careful consideration and analysis of an independent experience study. The July 1, 2016 actuarial report indicates the Fund has a funding ratio of 80.6%.

The Fund, per Texas Government Code section 802.101, is required to employ an actuary to conduct an Actuarial Valuation at least once every three years. Prior to the passage of SB2190, the information from the valuation, if adopted for certification purposes, was then used to determine and certify the City's contribution rate to the Fund. Above a minimum, however, the municipality's contribution could not be increased more than once in a three-year period.

Effective July 1, 2017, the passage of SB2190 in the Texas 85th legislature revised the Fund's statute (Vernon's Civil Statutes, Title 109, section 6243e.2(1)). The statute now requires the Fund and the City of Houston to independently conduct annual Risk Sharing Valuation Studies (RSVS). It should be noted for any Fund RSVS, the Actuarial Value of Assets is based on the difference between the actual rate of return and a legislatively mandated 7% assumed rate of return recognized incrementally over five years. One effect of SB2190 was to decrease the reported ratio of plan funding.

The RSVS process is now used to determine the City of Houston's Contribution rate to the Fund. The RSVS's must include some assumptions established by SB2190. If the difference between the City and the Fund's employer contribution rate falls at or below 2%, the Fund's RSVS will be used to determine the employer contribution rate for the fiscal year. If the difference is greater than 2%, the Fund's and the municipality's actuaries must reconcile the rates until the difference falls within 2%. If it cannot be reconciled, the arithmetic average will be used. Thus far, the arithmetic average has been used.

In accordance with SB 2190, the City's calculated plan contributions for the fiscal year ending June 30, 2018, is based on the arithmetic average between the Fund's actuary's and the municipal actuary's estimated contribution rate in their respective Initial Risk Sharing Valuation Studies. Based on the method described above, the municipality's determined contribution rate has decreased from 33.2% for fiscal year ending June 30, 2017, to 31.89% for fiscal year ending June 30,

2018. These percentages acknowledge an amortization deficit of the actuarial accrued liability over a closed amortization period of 30 years.

Additionally, the Fund's wishes, subject to the legislative regime, to establish contributions that are an approximate level percentage of payroll for each generation of active members. The effective members' contribution rate increased from 9% in fiscal year 2017 to 10.5% in fiscal year 2018, due to SB 2190. Actuarial valuations and the RSVS can measure the progress toward such goals, as well as help test the adequacy of the contribution rate.

Additional information regarding the financial condition of the Fund can be found in the Actuarial section of this report on page 58.

INDEPENDENT AUDIT

An audit was performed by McConnell & Jones, LLP, for the fiscal year ending June 30, 2018, and was conducted in accordance with auditing standards generally accepted in the United States of America. The Independent Auditors' Report is included in the financial section of this CAFR on page 13. The financial section also contains a management discussion and analysis report that provides a narrative introduction, overview and analysis of the financial statements which reflect Fund resources available for payment of benefits and other expenses.

CERTIFICATE OF ACHIEVEMENT

The Government Finance Officers Association (GFOA) of the United States and Canada awarded a Certificate of Achievement for Excellence in Financial Reporting to the Houston Firefighters' Relief and Retirement Fund, Houston, Texas, for its comprehensive annual financial report for the fiscal year ended June 30, 2017. This was the 35th year that the Fund has received this prestigious award. In order to be awarded a Certificate of Achievement, a governmental unit must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both GAAP and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate.

ACKNOWLEDGMENTS

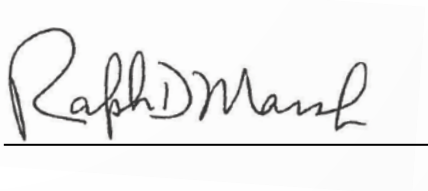
The compilation of this report reflects the combined effort of the Houston Firefighters' Relief and Retirement Fund staff under the leadership of the Board of Trustees. It is intended to provide complete and reliable information as a basis for making management decisions, as a means of determining compliance with legal provisions, and as a means of determining responsible stewardship for the assets contributed by the employee members and the City of Houston.

On behalf of the Board of Trustees, we would like to take this opportunity to express our appreciation to staff members and the many other professionals and participants who have worked so diligently to assure the successful operation of the Fund.

Sincerely,

Brett Robert Besselman
Chairman (since July 1, 2018)

Ralph D. Marsh,
Executive Director



Administrative Organization

EXECUTIVE DIRECTOR
Ralph D. Marsh

CHIEF INVESTMENT OFFICER
Ajit Singh, FRM, CAIA

CHIEF LEGAL OFFICER
Jonathan W. Needle

COMMITTEES
Pension Benefits
Investment
Budget and Audit
Personnel and Procedures
Legislative
Memorial

ACTUARY
Buck Global, LLC
(formerly known as Conduent, LLC)

AUDITOR
McConnell & Jones, LLP

FUND'S CUSTODIAN BANK
Bank of New York Mellon

Investment Advisors

1. AEW Capital Management, LP
2. AllianceBernstein Institutional Investment Management
3. ARCIS Group, The
4. Ariel Capital Management
5. Bertram Capital
6. BlackRock, Inc.
7. Blackstone Group, The
8. Blue Point Capital Partners
9. Brera Capital Partners, LLC
10. Bridgewater Associates, LP
11. Brookfield Asset Mgmt Private Inst Cap Adv US, LLC
12. Cabot Properties LP
13. Capital Dynamics Inc.
14. Coller Investment Management Limited
15. Delta-v Capital LLC
16. Drum Capital Management, LLC
17. Energy Spectrum Capital
18. Energy Trust, LLC
19. EQT Fund Management S.à r.l.
20. Glouston Capital Management
21. GCM Grosvenor Private Markets
22. Grosvenor Capital Management, L.P.
23. Harbourvest Partners, LLC
24. Horsley Bridge Partners, LLC
25. Industrial Growth Partners
26. Insignia Capital Partners GP, LLC
27. Kildare Partners
28. KKR Credit Advisors (US) LLC
29. KSL Capital Partners
30. Landmark Partners
31. Leonard Green & Partners, L.P.
32. Lexington Partners
33. LightBay Investment Partners UGP LLC
34. Liquid Realty Partners
35. Lone Star Funds
36. Loomis Sayles & Company
37. McKinley Capital Management, Inc.
38. Mellon Capital Management
39. Metropolitan Real Estate Management
40. Portfolio Advisors, LLC
41. Schroders Investment Management North America
42. Standish Mellon Asset Management
43. State Street Global Advisors
44. Stellex Management Partners LLC
45. Sterling Organization, The
46. TCW Group, The
47. Timberland Investment Resources
48. Torchlight Investors LLC

NON-DISCRETIONARY CONSULTANTS
49. Real Asset Portfolio Management
50. StepStone Group LP

Footnote: The following managers were terminated by HFRRF prior to fiscal year 2018: Mercator Asset Management (Mercator) and Earnest Partners. As a consequence, these advisors are not represented in the list above. However, at June 30, 2018 tax reclaims and dividends receivable in the amount of $53,902 and $8,603 respectively continued to be outstanding and held in the accounts that were managed by Mercator and Earnest Partners. The tax reclaims are managed by the Custodian.

FINANCIAL STATEMENT PREPARATION

AN OVERVIEW OF FINANCIAL STATEMENT PREPARATION

At the end of each fiscal year, the Board and staff members prepare financial statements showing the financial activity of the Fund. The financial statements include the statements of plan net position and changes in plan net position for the years presented. The notes are essential to the completeness of the information in the financial statements.

After the financial statements are prepared, an independent outside auditor hired by the Board reviews the systems and methods used to arrive at the information in the financial statements. A financial audit is then performed to determine if the financial statements are free of material misstatement. The audit includes examination, on a test basis, of evidence supporting the amounts and disclosures in the financial statements.

The audit is conducted in accordance with generally accepted auditing standards. If the auditor finds the financial statements free of material misstatement, the auditor issues an opinion such as that found on page 13, stating that the statements fairly present the financial position of the Fund in accordance with GAAP – generally accepted accounting principles.

Some of the terms used in this section are defined in the Glossary on page 77.

STATEMENTS OF PLAN NET POSITION

The statements of plan net position are statements of the financial condition of the Fund that show snapshots of Fund assets and liabilities at a specific point in time. In this case, it is the end of the fiscal year on June 30, 2018 and 2017.

The statements show assets, liabilities and the remaining Fund balance. An asset is anything having commercial, economic or exchange value. Assets include cash, receivables (interest and dividends earned by the investments of the Fund and employee member and employer contributions), investments, collateral on securities lending arrangements, and land.

Fund liabilities include money reserved for members who are entitled to benefits and obligations for professional services the Fund has used – but for which payment has not been made.

STATEMENTS OF CHANGES IN PLAN NET POSITION

The statements of changes in plan net position show the financial impact on the Fund of operations and investments during a period of time. In this case, it is the years ended June 30, 2018 and 2017. Additions to plan net position represent cash that came into, or is expected to come into, the Fund from events that take place during a fiscal year.

Additions include employee contributions, employer contributions and investment income. Investment gains are included because the increase (or decrease) in fair value of investments is shown as revenue since the investments are reported at fair value.

Deductions from plan net position represent the money that the Fund paid out or expects to pay out from events that take place during a fiscal year. Deductions include benefit payments to retirees and beneficiaries, refunds of contributions to firefighters who leave the Houston Fire Department, and professional and administrative expenses.

This statement provides useful information about what happened during a single year. Retirement funds, however, operate with a long-term strategy (see "An Overview on the Actuarial Valuation" on page 59).

Changes in plan net position at the end of the statement show the previous year's balance, plus revenues after expenses, to total the plan net position held in trust for pension benefits at fiscal year-end.

FINANCIAL STATEMENT PREPARATION

NOTES TO FINANCIAL STATEMENTS

The notes are an integral part of the financial statements. The notes include any information that might be needed to have an adequate understanding of the overall financial status of the Fund.

In this report, the notes include explanations of the payment and refund features of the governing statute of the Fund, the accounting methods used by the Fund, the funding methods used, the methods and assumptions the actuary uses to determine contribution requirements, and any significant changes that take place after fiscal year-end.

SUPPLEMENTARY INFORMATION

The supplementary 10-year trend information provides additional historical perspective. These charts show the progress toward reaching the goal of being totally funded, as well as sources of revenues and types of expenses of the Fund during the fiscal year. Other supplementary information provides additional details for analysis.

SECTION 02

FINANCIAL INFORMATION

INDEPENDENT AUDITORS' REPORT

Board of Trustees
Houston Firefighters' Relief and Retirement Fund:

REPORT ON THE FINANCIAL STATEMENTS

We have audited the accompanying basic financial statements of the Houston Firefighters' Relief and Retirement Fund (the Fund), which comprise the statements of fiduciary net position as of June 30, 2018 and 2017, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the basic financial statements.

FUND MANAGEMENT'S RESPONSIBILITY FOR THE FINANCIAL STATEMENTS

Fund management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America (US GAAP); this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the Fund's financial statements that are free from material misstatement, whether due to fraud or error.

AUDITORS' RESPONSIBILITY

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America (US GAAS). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the Fund's basic financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the Fund's basic financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the Fund's basic financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Fund's preparation and fair presentation of the basic financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Fund's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by Fund's management, as well as evaluating the overall presentation of the Fund's basic financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

OPINION

In our opinion, the Fund's basic financial statements referred to above present fairly, in all material respects, the financial status of the Fund as of June 30, 2018, and 2017 and changes therein for the years then ended, in accordance with US GAAP.

OTHER MATTERS

Required Supplemental Information

US GAAP requires that the Management's Discussion and Analysis and the Schedules of Changes in Net Pension Liability and Related Ratios, Employer Contributions, and Investment Returns, be presented to supplement the Fund's basic financial statements. Such information, although not a part of the Fund's basic financial statements, is required by the Governmental Accounting Standards Board, which considers it to be an essential part of financial reporting for placing the Fund's basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplemental information in accordance with US GAAS, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the Fund's basic financial statements, and other knowledge we obtained during our audit of the Fund's basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Additional Supplemental Information

Our audit was conducted for the purpose of forming an opinion on the basic financial statements as a whole. The additional supplemental information which comprises Schedule 4 and Schedule 5, as listed in the Table of Contents, is presented for the purpose of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of the Fund's management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in our audits of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or the basic financial statements themselves, and other additional procedures in accordance with US GAAS. In our opinion, the additional supplemental information is fairly stated in all material respects in relation to the basic financial statements as a whole.

McConnell & Jones LLP

Houston, Texas
October 16, 2018

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Houston, TX 77056
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Fax: 713.968.1601
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MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)

Management is pleased to present a discussion and analysis of the Houston Firefighters' Relief and Retirement Fund (the Fund) financial activity for the fiscal years ended June 30, 2018, 2017 and 2016. This discussion is intended to serve as an introduction to the Fund's basic financial statements which reflect Fund resources available for payment of benefits and other expenses. The basic financial statements consist of:

The Statements of Fiduciary Net Position which reflect a snapshot of the Fund's financial position and reflect resources available for the payment of benefits and other expenses at fiscal year end. The statements show the Fund's assets, liabilities and fiduciary net position available at the end of the fiscal year (Assets - Liabilities = Net Position).

The Statements of Changes in Fiduciary Net Position which reflect the results of all transactions that occurred during the fiscal year and show the fiscal year end additions to and deductions from the Fund (Additions - Deductions = Net Change in Net Position). Essentially, this statement shows what has happened to the Fund assets during the fiscal year. If change in net position increased, then additions were more than the deductions. If change in net position decreased, then additions to the Fund were less than the deductions from the Fund.

Notes to the Basic Financial Statements which are an integral part of the basic financial statements and include additional information that might be needed to have an adequate understanding of the overall financial status of the Fund.

Required Supplemental Information (Unaudited) and Additional Supplemental Information follows the *Notes to the Basic Financial Statements* and provides historical and additional information considered useful in reviewing the basic financial statements.

FINANCIAL HIGHLIGHTS

SUMMARY COMPARATIVE STATEMENTS OF FIDUCIARY NET POSITION			
	FY2018	FY2017	FY2016
Assets			
Investments	$ 4,146,031,957	$ 3,961,077,083	$ 3,643,083,042
Capital assets (net of depreciation):			
Land and Building	4,834,639	5,196,771	5,497,010
Furniture, Fixtures and Equipment	108,186	154,468	226,973
Other	109,662,625	314,292,975	171,246,207
Total Assets	4,260,637,407	4,280,721,297	3,820,053,232
Liabilities			
Short-Term Liabilities	90,283,442	255,631,630	90,383,223
Total Liabilities	90,283,442	255,631,630	90,383,223
NET POSITION	$ 4,170,353,965	$ 4,025,089,667	$ 3,729,670,009

Fiduciary net position at the end of fiscal year 2018, 2017, and 2016 totaled $4,170,353,965, $4,025,089,667, and $3,729,670,009, respectively. The increase in fiduciary net position for fiscal year 2018 is primarily due to gains in all asset classes resulting in net investment income of $322 million.

SUMMARY COMPARATIVE STATEMENT OF CHANGES IN FIDUCIARY NET POSITION			
	FY2018	FY2017	FY2016
Beginning net position	$ 4,025,089,667	$ 3,729,670,009	$ 3,877,650,516
Additions (reductions) to net position, net:			
Contributions	118,631,853	119,061,421	119,790,036
Net appreciation (depreciation) in fair value of investments	297,201,824	389,903,955	(116,953,736)
Interest income	26,478,055	42,964,571	57,621,249
Dividends	4,127,663	4,660,664	16,298,917
Net activity from securities lending	237,287	379,723	551,099
Earnings from private equity and real estate investments	841,776	1,289,404	760,890
Other income	319,007	583,284	1,699,257
Less: Cost of investment services	(6,899,091)	(6,833,460)	(9,854,548)
Net investment and other income	322,306,521	432,948,121	(49,876,872)
Total additions to net position, net	440,938,374	552,009,542	69,913,164
Deductions from net position:			
Benefits	287,499,240	248,353,664	211,127,901
Contribution Refunds to Members	1,608,192	1,040,443	544,717
Professional/Administrative Expenses	6,566,644	7,195,777	6,221,053
Total deductions from net position	295,674,076	256,589,884	217,893,671
Change in net position	145,264,298	295,419,658	(147,980,507)
ENDING NET POSITION	$ 4,170,353,965	$ 4,025,089,667	$ 3,729,670,009

ADDITIONS

CONTRIBUTIONS

The funds needed to finance retirement benefits are accumulated through the collection of employee and employer contributions and through income on investments. These are offset by deductions from net assets. The amounts contributed by employee members for the last three fiscal years were $35,621,787 (fiscal year 2018), $25,403,621 (fiscal year 2017), and $25,510,801 (fiscal year 2016). Employer contributions for the last three years were $83,010,066 (fiscal year 2018), $93,657,800 (fiscal year 2017), and $94,279,235 (fiscal year 2016).

The employer contribution decreased between fiscal years 2018 and 2017 as required by the passage of Texas Senate Bill 2190 (SB 2190) reducing the employer contribution rate from 33.20% to 31.89% and changing the calculation of pensionable pay by eliminating the inclusion of overtime pay. Employee contributions increased from 9.00% to 10.50% between fiscal years 2017 and 2018 as required by the passage of SB2190. Between fiscal years 2017 and 2016 the employee and employer contributions remained stable.

NET INVESTMENT AND OTHER INCOME

The Fund's investment portfolio grew in fiscal year 2018 with a total portfolio investment return of 8.3% gross (8.2% net). During the fiscal year, all seven asset classes in which the Fund invested appreciated in value. The best performing asset classes were domestic equity (13.9%) and private equity (13.9%). Fixed income, hedge funds, international equity, and real estate returned 0.2%, 8.0%, 7.5% and 7.1% respectively. In addition, the modestly sized cash equivalents portfolio returned 2.1%

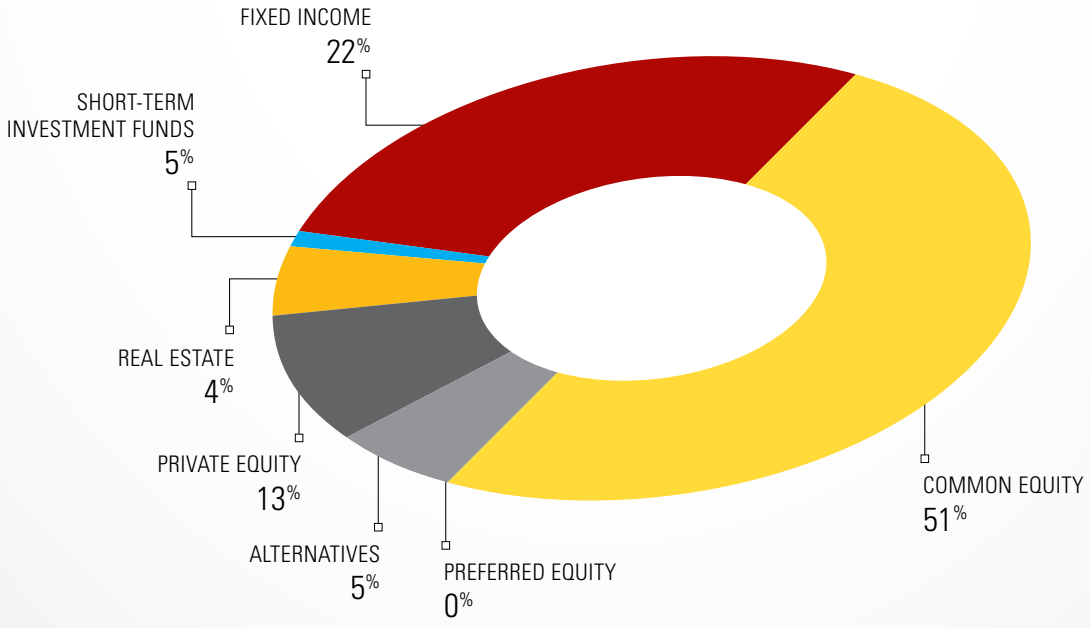
FUND TOTAL PORTFOLIO RISK STATICS As of 6/30/2018

Statistics	1 Year	3 Years	5 Years
Portfolio Return	8.3	6.3	7.5
Policy Benchmark Return	6.6	6.0	6.9
Excess Return over Policy Benchmark	1.7	0.3	0.6
Annualized Alpha	-0.7	-1.6	-1.8
Beta	1.5	1.4	1.4
Annualized Standard Deviation	4.6	5.5	5.4

In fiscal year 2018, the Fund's investment gains increased the portfolio by approximately $322.3 million (net).

At June 30, 2018, short-term investment funds represented 5% of the portfolio, fixed income securities represented 22%, domestic and international common equities represented 51%, domestic preferred equities represented about 0.03%, alternatives represented 5%, the private equity portfolio represented 13% and the real estate portfolio represented 4%.

FUND ASSET ALLOCATION AS OF JUNE 30, 2018



DEDUCTIONS

Most deductions from fiduciary net assets in a retirement fund relate to the purpose for which it has been created: the payment of benefits. Consequently, recurring benefit payments prescribed by the Fund, lump sum benefits, refunds of contributions to members, and the cost of administering the Fund comprise the total deductions.

Deductions for fiscal years 2018, 2017, and 2016 totaled $295,674,076, $256,589,884, and $217,893,671 respectively. This represents a net increase of approximately 15.23% between fiscal years 2018 and 2017, 17.76% between fiscal years 2017 and 2016, and 7.65% between fiscal years 2016 and 2015

Benefits Paid to Members

The 15.76% increase of benefits paid to members during fiscal year 2018 is mainly due to the annual cost-of-living adjustment of 4%, an increase in the number of benefit recipients and an increase of total DROP/PROP distributions.

This growth in benefit payments is normal for a maturing pension fund.

Professional and Administrative Expenses

Professional and administration deductions decreased between fiscal years 2018 and 2017 by 8.74% and increased by 15.67% between fiscal years 2017 and 2016. During fiscal year 2018, the decrease was primarily due to less full-time employees working in fiscal year 2018 compared to fiscal year 2017 along with less furniture and equipment purchased in fiscal year 2018.

NET POSITIONS

Total additions to net assets for fiscal year 2018 were $440,938,374, and total deductions were $295,674,076, thereby increasing the Fund's net position by $145,264,298. The Fund's net position increased by $295,419,658 in fiscal year 2017 and decreased by $147,980,507 in fiscal year 2016.

ACTUARIAL VALUATION INFORMATION

The Fund, by statute, may adopt an actuarial valuation once every three years. In May 2017, the Board of Trustees adopted and certified the finalized July 1, 2016 actuarial valuation. The July 1, 2016 actuarial report indicates the Fund has a funding ratio of 80.6%.

The Board adopted the July 1, 2016 actuarial valuation after careful consideration and analysis of an independent experience study. It should be noted that the Actuarial Value of Assets is based on the difference between the actual rate of return and the 7.25% assumed rate of return recognized in the actuarial value over five years beginning July 1, 2014. Past gains and losses were fully recognized in the Actuarial Value of Assets at July 1, 2013.

The adoption of the July 1, 2016 actuary valuation for financial statement reporting purposes included the following changes in assumptions and methods since the prior year: a) the mortality rates applicable to active and non-disabled participants are based on the PR-2000 table projected 10 years from the valuation date. Therefore, the mortality rates have been updated from the PR-2000 table projected to 2025 using Scale AA. This increased the actuarial accrued liability by approximately $4 million. b) the assumed investment rate of return was changed from 8.5% to 7.25%. This change increased the actuarial accrued liability by approximately $504 million.

GASB 67 requires a disclosure of the Net Pension Liability (NPL). The NPL is the difference between the Total Pension Liability (TPL) and the fair value of assets. GASB 67 requires the determination for the TPL using the individual entry age method, level percent of pay actuarial cost method and a discounted rate. Information about whether the fiduciary's net positions are increasing or decreasing over time relative to the total pension liability is provided in the Schedule of Changes in the Fund's Net Pension Liability and Related Ratios - Unaudited.

Annual required contributions of the employer and contributions made by the employer in relation to the actuarially determined contributions per the July 1, 2016 actuarial valuation are provided in the Schedule of Employer Contributions - Unaudited. Effective July 1, 2017, the Fund's statute requires the Fund and the City of Houston to independently conduct annual Risk Sharing Valuation Studies (RSVS). The RSVS is now a component used to determine the City of Houston's Contribution rate to the Fund.

CONTACTING THE FUND'S FINANCIAL MANAGEMENT

This financial report is designed to provide our members, business partners, and taxpayers with a general overview of the Fund's financial activities. If you have questions about this report or need additional information, contact the Executive Director of the Houston Firefighters' Relief and Retirement Fund at 4225 Interwood North Parkway, Houston, Texas 77032.

BASIC FINANCIAL STATEMENTS

STATEMENTS OF FIDUCIARY NET POSITION (June 30, 2018 and 2017)		
ASSETS	2018	2017
Investments, at Fair Value:		
Short-term investment funds	$ 215,539,096	$ 59,704,445
Fixed income:		
Domestic	697,513,719	984,516,196
International	198,840,530	112,123,874
Common equity:		
Domestic	1,152,296,754	1,105,372,232
International	951,161,329	871,168,969
Preferred equity:		
Domestic	1,148,984	2,959,054
International	0	1,527,708
Alternatives	197,974,580	246,462,624
Private equity	540,225,448	382,575,202
Real estate	191,331,517	194,666,779
TOTAL INVESTMENTS	$ 4,146,031,957	$ 3,961,077,083
Cash and cash equivalents	$ 10,886,038	$ 15,826,792
Receivables:		
Accrued interest	6,532,966	8,412,603
Due from broker recapture	95,	466
Due from securities lending	14,978	40,021
Receivables for investments sold	8,234,139	86,520,276
Accrued dividends	397,701	395,314
City of Houston contributions	3,371,776	3,623,511
Member contributions	1,705,318	982,278
Other	79,104	6,345
TOTAL RECEIVABLES	$ 20,336,077	$ 99,980,814
Collateral on securities lending arrangements, at fair value	77,639,096	197,985,113
Land	483,325	483,325
Building, net	4,351,314	4,713,446
Furniture, fixtures and equipment, net	108,186	154,468
Prepaids (operating)	801,414	500,256
TOTAL ASSETS	$ 4,260,637,407	$ 4,280,721,297
Liabilities		
Accounts payable and accrued expenses	3,755,451	4,384,808
Payables for investments purchased	8,741,793	53,261,709
Interest payable	147,102	0
Collateral on securities lending arrangements, at fair value	77,639,096	197,985,113
TOTAL LIABILITIES	$ 90,283,442	$ 255,631,630
Net Position		
Net investment in capital assets	4,942,825	5,351,239
Restricted for self-insurance fund	5,000,000	5,000,000
Unrestricted	4,160,411,140	4,014,738,428
Plan net position - restricted for pension benefits	$ 4,170,353,965	$ 4,025,089,667

See accompanying notes to basic financial statements.

BASIC FINANCIAL STATEMENTS

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION (June 30, 2018 and 2017)	2018	2017
Additions (Reductions) to Plan Net Position, Net:		
Contributions:		
City of Houston	$ 83,010,066	$ 93,657,800
Members	35,621,787	25,403,621
TOTAL CONTRIBUTIONS	$ 118,631,853	$ 119,061,421
Net Investment Income (Loss):		
Net appreciation (depreciation) in fair value of investments	297,201,824	389,903,955
Interest	26,478,055	42,964,571
Dividends	4,127,663	4,660,644
Earnings from private equity	838,456	1,228,446
Earnings from real estate	3,320	60,958
Other	319,007	583,284
Securities lending arrangements:		
Earnings	544,765	339,129
Rebates and fees	(307,478)	40,594
TOTAL SECURITIES LENDING ARRANGEMENTS	$ 237,287	$ 379,723
Gross investment income (loss)	329,205,612	439,781,581
Less: investment services expense	(6,899,091)	(6,833,460)
Net investment income	322,306,521	432,948,121
TOTAL ADDITIONS (REDUCTIONS) TO PLAN NET POSITION, NET	$ 440,938,374	$ 552,009,542
Deductions From Plan Net Position:		
Benefits paid to members	287,499,240	248,353,664
Contribution refunds to members	1,608,192	1,040,443
Professional services	1,676,437	2,297,952
Administrative expenses	4,890,207	4,897,825
TOTAL DEDUCTIONS FROM PLAN NET POSITION	$ 295,674,076	$ 256,589,884
Net increase in plan net position	145,264,298	295,419,658
Plan net position held in trust for pension benefits, beginning of year	4,025,089,667	3,729,670,009
PLAN NET POSITION HELD IN TRUST FOR PENSION BENEFITS, END OF YEAR	$ 4,170,353,965	$ 4,025,089,667

See accompanying notes to basic financial statements.

NOTES TO BASIC FINANCIAL STATEMENTS

(Fiscal Year Ended June 30, 2018 and June 30, 2017)

1. DESCRIPTION OF FUND

GENERAL

The Houston Firefighters' Relief and Retirement Fund (the Fund) was created in 1937 by act of the 45th Legislature of the State of Texas (Article 6243e). The current governing statute is Article 6243e.2(1), Vernon's Texas Civil Statutes (the Act). The Fund is a single employer defined benefit pension plan covering all firefighters employed full time by the City of Houston (the City) and provides for service, disability, and death benefits for eligible members and their survivors. At June 30, 2018 and 2017, the membership of the Fund consisted of the following:

	2018	2017
Retirees and beneficiaries currently receiving benefits	3,307	3,260
Former members entitled to benefits but not yet receiving them	6	4
Active Members:		
Vested	2,525	2,417
Nonvested	1,516	1,608
TOTAL MEMBERS	7,354	7,361

The Fund is a local governmental plan and, therefore, is not subject to the Employee Retirement Income Security Act of 1974.

The Fund is a component unit of the City. The operation of the Fund is solely for the City of Houston firefighters. The Fund is governed by a Board of Trustees (the Board) and can only be terminated or amended by an act of the Legislature of the State of Texas. One member of the Board is either the City mayor or an appointed representative, five members are elected by active firefighters, one member is elected by retired firefighters, two members are citizen representatives, and one member is the City treasurer designee.

The following description of the Fund provides only general information. Members should refer to the Summary Plan Description for a more complete description of the Fund's provisions.

CONTRIBUTIONS

Active members are required to contribute to the Fund a certain percentage of qualifying salary. The City is required to contribute at a rate that has been agreed upon based on SB2190's specific criteria. For fiscal year ended June 30, 2018, the active members' contribution rate was 10.5% and the City's contribution rate was 31.89%. For fiscal year 2017, the active members' contribution rate was 9.00% and the City's contribution rate was 33.20%. The Fund's contributions are reduced by the contributions to the Houston Firefighters' Relief and Retirement Fund Section 415(m) Replacement Benefit Plan.

PENSION BENEFITS

All members who retired prior to November 1, 1997 should consult the Act in effect at the time of retirement to determine pension benefits.

Members with 20 or more years of service retiring on or after November 1, 1997, are entitled to a service retirement of 50% of average monthly salary (defined as the monthly average of their highest individual 78 pay periods), plus 3% of average monthly salary for each year of service in excess of 20 years until the member completes 30 years of service, for a total monthly pension not to exceed 80% of the member's average monthly salary for the highest 78 pay periods of the member's participation.

Effective July 1, 2017 modifications to the average monthly salary computation are as follows: For pre-July 1, 2017 members, highest 78 pay periods are used to determine benefit on retirement. Applicable pay periods considered prior to July 1, 2017 include over time (OT), while applicable pay periods considered after July 1, 2017 exclude OT) and applicable pay periods are capped at highest tested ranks salary. For post July 1, 2017 members, last 78 (OT excluded) and applicable pay periods are capped at highest tested ranks salary.

For members after July 1, 2017 the rule of 70 applies. For example, a member who has 20 years of service must be 50 years of age to retire since 50 (years of age) plus 20 (years of service) equal 70. Effective July 1, 2017 the member contribution rate increased from 9% to 10.50%. Modifications to accrual rates effective July 1, 2017 are as follows: (1) for pre July 1, 2017 members, service years 1-20 before July 1, 2017: 2.5% per year; (2) for pre July 1, 2017 members, service years after 20th year before July 1, 2017: 3% per year; (3) for pre July 1, 2017 members, service years 1-20 after July 1, 2017: 2.75% per year; (4) for pre July 1, 2017 members, service years after 20th year after July 1, 2017: 2.00% per year; (5) for post July 1, 2017 members service years 1-20: 2.25%; (6) for post July 1, 2017 members, service years after 20th year: 2.00% per year (7) capped at 80% for future members only, there is no benefit percentage cap for members pre July 1, 2017 members.

Prior to July 1, 2017, pension payments were adjusted annually for a fixed annual cost-of-living adjustment of 3% for eligible benefit recipients. COLA benefits are suspended for FY18-FY20 for all members except for members age 70+ and those on a general disability pension, regardless of age. Those members are entitled to receive a COLA equal to the 5-year average of the Fund's smoothed investment return minus 5% for FY18 and FY19 and are entitled to receive a COLA equal to the 5-year average of the Funds' smoothed investment return minus 4.75% for FY20 and later fiscal years. Effective FY21 and beyond, retirees 55 years or older are entitled to a COLA equal to the most recent 5-year smoothed investment return minus 4.75%. After July 1, 2017 all COLAs have a floor of 0% and a max of 4% and birthday COLAs are no longer granted. Active Deferred Retirement Option Plan (DROP) participants are not eligible for a COLA.

Active members with 20 or more years of service and hired prior to July 1, 2017, are eligible to elect to establish a DROP account. When the DROP election becomes effective, a DROP account is established for the member and is credited with the following amounts: the monthly pension allowance determined as if the member had left active service on the DROP effective date; amounts equal to the deductions made from the DROP participant's (or member's) salary under Section 13(c) of the Act (9% of the member's salary after June 30, 2004); and earnings on those amounts, compounded monthly at a rate based on the Fund's actual average rate of return over the preceding five years. A member may participate in the DROP for a maximum of ten years (see subsequent changes to maximum allowable DROP participation below). The participant's monthly benefit at actual retirement would be increased by 2% of original monthly benefit for every full year of DROP participation. (Beginning September 1, 2000, the percentage increase applied to monthly benefits at actual retirement was 1%, to be phased in at 0.5% beginning on September 1, 2000, and an additional 0.5% beginning September 1, 2001. The benefit increase was then changed effective September 1, 2001 to 2% per year.) A member may continue to be employed as a firefighter by the City after 10 years of participation in the DROP; however, the 9% deducted from the member's salary, the monthly pension allowance, and the earnings calculation would no longer be credited to the member's account. Effective September 1, 2003, the following three changes to the DROP were implemented: (1) the one percent annual administrative fee for retired members with DROP balances was removed; (2) a 5% floor and a 10% ceiling on annual DROP earnings rates was implemented; and (3) widows of deceased members with DROP account balances may choose to leave the DROP accounts with the Fund. Effective May 18, 2007, the following two changes to the DROP were implemented: (1) DROP participants have the option to designate one or more adult children as eligible children with respect to survivor benefits for the member's DROP funds; and (2) DROP participants receive a pro-rated portion of the 2% increase applied to the original benefit at retirement for completed months in the final year of DROP participation (0.166% per month). On November 1, 2007, the DROP period was extended to 13 years, with certain modifications for DROP years 11 to 13. The monthly pension contributions made by the member will not be posted to the DROP account after the tenth year of DROP participation. Upon retirement, the member will not receive the 2% per year calculation beyond the tenth year (maximum 20% of original benefit will be added to monthly DROP Benefit upon retirement). The 2% recalculation of monthly benefit while in DROP remains for those members in DROP as of July 1, 2017 or those that have at least 20 years of service as of July 1, 2017 (Max is 20%). The DROP participant will continue to receive the monthly benefit and earnings in the DROP account for DROP years 11, 12 and 13.

Effective July 1, 2017, the following modifications have been made to DROP: (1) Members hired before July 1, 2017 may participate in DROP for 13 years; (2) Member Contributions will not be credited to their DROP account; (3) DROP interest credit is credited to DROP account even if member remains in active service past the maximum DROP time allowed (13 years); however monthly benefit will cease if member remains active beyond 13th year in DROP; (4) DROP option is closed for firefighters hired on or after July 1, 2017; (5) DROP interest is based on 65% of the previous 5 year compounded average annual return with a minimum of 2.5% and no maximum ceiling; (6) Unused leave pay (mustering out pay) will be placed in member's DROP if member has an active account; and (7) Current 2% recalculation of monthly benefit while in DROP remains for those in DROP as of July 1, 2017 or those that have at least 20 years of service as of July 1, 2017 (Max is 20%). The balance of the DROP account as of June 30, 2018 and 2017 was $1,256,375,590 and $1,248,436,212 respectively.

Members or beneficiaries of members receiving pension or disability benefits (other than deferred retirees, survivors of deferred retirees, or active members who have elected the DROP) shall receive an additional monthly benefit payment of $150 along with their standard monthly benefit payment.

The Fund established a Post Retirement Option Plan (PROP) which became effective October 1, 2007. This benefit allows retired members and survivors who are receiving service retirement benefits or taxable disability pension benefits to have a portion of his or her monthly service pension or other taxable benefits issued by the Fund credited to a PROP account. The PROP account shall be credited with earnings in the same manner as the Fund's DROP program.

Effective July 1, 2000 a benefit enhancement was enacted by the Board under Section 10 of the Act to allow members or beneficiaries of members receiving pension, disability, or death benefits (other than deferred retirees, survivors of deferred retirees, or active

members who have elected the DROP) to receive a supplemental benefit payment each January. The aggregate amount of the annual supplemental benefit payment may not exceed $5 million in any one year and to receive the annual supplemental benefit payment, the retired member or eligible survivors must have been receiving benefits on June 30 of the year preceding the year in which the annual supplemental benefits are to be paid. The amount of the benefit enhancement that an individual receives is based on date of retirement and the amount of annual retirement benefit in comparison to an annual minimum income level.

DISABILITY BENEFITS

Service-connected disability benefits are 50% of average monthly salary (occupational), or 75% of average monthly salary (general), or the service retirement, if it is greater and if the member is eligible. Non service-connected disability benefits amount to 25% of average monthly salary, plus 2.5% of average monthly salary for each full year of service, up to a maximum of 50% of average monthly salary, or the service retirement, if it is greater and if the member is eligible.

DEATH BENEFITS

Death benefits are available to a surviving spouse, dependent children or dependent parents. Line-of-duty death benefits are payable at 100% of member's average monthly salary. If an active member dies who is eligible for a service, disability, or deferred pension, the member's eligible survivors are entitled to death benefits equal to the benefits the member would have been entitled to. Post-retirement death benefits are equal to the benefits being paid to the member upon his or her death. If there are no eligible survivors, the Fund will refund to the member's designated beneficiary or estate the amount of the member's contributions, with 5% simple interest, not compounded, for members with at least 10 years but less than 20 years of service and without interest for members with less than 10 years of service.

VESTING

Members who terminate employment with at least 10 years of service, but prior to becoming eligible for the service retirement, are entitled to 1.7% of their average monthly salary for each year of service, payable beginning at age 50, or an optional refund of contributions with simple interest at 5%.

Effective July 1, 2017 the following modifications have been made to Refunds and Deferred payments (1) members with at least 10 years of participation but less than 20 may elect a refund of contributions, with interest computed at 5% simple interest for member's contributions to the Fund made before July 1, 2017 and without interest for the members contributions to the Fund made on or after July 1, 2017; (2) Members hired prior to July 1, 2017 still have a Deferred Pension Option; and (3) Deferred Pension Option is closed for member hired on or after July 1, 2017.

Members who terminate their employment with less than 10 years of service may receive a refund of their contributions to the Fund, without interest. Members who terminated their employment prior to September 1, 1987 and prior to retirement for reasons other than death or disability forfeit their accumulated plan benefits, including their contributions to the Fund.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

BASIS OF PRESENTATION

The accompanying basic financial statements are presented in accordance with generally accepted accounting principles established by the Governmental Accounting Standards Board (GASB), which designates accounting principles and financial reporting standards applicable to State and local governmental units. The accompanying basic financial statements include solely the accounts of the Fund, which include all programs, activities and functions relating to the accumulation and investment of the net assets and related income necessary to provide the service, disability and death benefits required under the terms of the governing statutes and amendments thereto.

BASIS OF ACCOUNTING

The economic resources measurement focus basis of accounting is the method by which revenues and expenses are recognized in the accounts and reported in the basic financial statements. The accrual basis of accounting is used by the Fund. Under the accrual basis of accounting, revenues, which include contributions and investment income, are recognized when they are earned and collection is reasonably assured, and expenses are recognized when the liability is incurred. Member and employer contributions are recognized when due, pursuant to formal commitments according to Fund requirements and State statute. Benefits paid to members and contribution refunds are recognized when due and payable in accordance with the terms of the Fund. Accrued income, when deemed uncollectable, is charged to operations.

REPORTING ENTITY

The Fund is a component unit of the City and its basic financial statements and required supplemental information are included in the City's Comprehensive Annual Financial Report.

USE OF ESTIMATES

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the basic financial statements and the reported amounts of revenues and expenses during the reporting period. Accordingly, actual results could differ from those estimates.

CASH AND CASH EQUIVALENTS

The Fund considers only demand deposits as cash. Cash equivalent securities, which are composed of all highly liquid investments with a maturity of 90 days or less when purchased, are considered to be cash equivalents.

INVESTMENT VALUATION AND INCOME RECOGNITION

The Board has contracted with BNY Mellon (Custodian) to serve as custodian of the assets of the Fund. The Custodian has established and maintains a custodial account to hold, or directs its agents to hold, for the account of the Fund, certain assets that the Board deposits with the Custodian from time to time. The Custodian also serves as the record-keeper of non-custody assets (commingled/multi-investor funds managed by third-party managers, private equity and real estate). All rights, title and interest in and to the Fund's assets at all times vests with the Fund's Board.

In performing its contractual duties, the Custodian is to adhere to a fiduciary standard of care, skill, prudence and loyalty, as measured by the high commercial standards reasonably expected of prudent professional custodians of public pension funds who are held in the highest repute or who hold themselves out as such. Further, in performing these duties, the Custodian is to exercise the same care and diligence that a professional custodian engaged in the banking or trust company industry and having professional expertise in financial and securities processing transactions and custody would observe in these affairs.

Investments are reported at fair value. Directly held securities that trade on national or international exchanges are priced by the Custodian and are based primarily on prices from several third-party vendors. Data received from vendors is checked to test for possible errors, which are researched manually by the Custodian. Default values established by the Custodian are applied for missing and stale prices. Prices of these securities reported by external managers are reconciled vis-à-vis this process by the Custodian. Short-term investments held by the Fund are government and corporate bonds with a maturity of less than three years and are valued at cost which approximates fair value. Timber investments are valued by the investment manager and are based on annual independent appraisals. Directly held real estate is valued based on independent appraisals. With the exception of certain energy related private equity investments that are valued on an income tax basis, private equity and real estate partnerships/trusts, hedge fund accounts and other commingled accounts are valued at fair value as determined by the investment manager in accordance with the investment's governing documents. Investments that do not have an established market may be reported at their estimated fair values as determined by the investment manager.

Directly held private equity assets (excludes real estate) are valued at historical cost unless appraised by a third-party. If a third-party has made such an appraisal, the appraised value is used. As of June 30, 2018 and June 30, 2017, these assets were valued at $1,075,000.

Unrealized gains and losses are presented as net appreciation (depreciation) in fair value of investments on the statements of changes in fiduciary net position, along with gains and losses realized on sales of investments. Purchases and sales of investments and forward foreign exchange contracts are recorded on the trade date and reported as a payable or receivable until settlement. Gains or losses are recognized when the contract is complete. Dividend income is recorded on the ex-dividend date. Interest and income from other investments are recorded as earned.

BUILDING, FURNITURE, FIXTURES AND EQUIPMENT

Building, furniture, fixtures, and equipment are recorded at cost less accumulated depreciation. Depreciation and amortization expense is computed using the straight-line method over the estimated useful lives of the related assets ranging from three to 30 years. Any gain or loss on the retirement of assets is recognized currently. Major outlays for additions and improvements are capitalized if equal to or greater than $5,000. Maintenance and repairs are charged to expense.

ADMINISTRATIVE EXPENSES

The cost of administering the Fund is paid by the Fund from current earnings pursuant to an annual fiscal budget approved by the Board.

FEDERAL INCOME TAX

The Fund received a favorable letter of determination dated November 15, 2016 from the Internal Revenue Service stating that the Fund qualifies as a tax-exempt plan and trust. The Fund's management and Board believe that the Fund is currently designed and being operated in compliance with the applicable requirements of the Internal Revenue Code.

Accounting principles generally accepted in the United States of America require Fund's management to evaluate tax positions taken by the Fund and recognize a tax liability (or asset) if the Fund has taken an uncertain position that more likely than not would not be sustained upon examination by the Internal Revenue Service. Fund management has analyzed the tax positions taken by the Fund, and has concluded that as of June 30, 2018 and 2017, there are no uncertain positions taken or expected to be taken that would require recognition of a liability (or asset) or disclosure in the basic financial statements. The Fund is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress.

RECENT ACCOUNTING PRONOUNCEMENTS

In June 2015, GASB issued Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions. This Statement replaces the requirements of Statements No. 45 and No. 57 for other postemployment benefits (OPEB) and establishes new accounting and financial reporting requirements for OPEB plans. This Statement was adopted for fiscal year 2018 financial statements, and the implementation of this new standard did not significantly impact the Fund's financial statements.

In March 2017, GASB issued Statement No. 85, Omnibus 2017. This Statement addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits (pensions and OPEB). This Statement was adopted for fiscal year 2018 financial statements, and the implementation of this new standard did not significantly impact the Fund's financial statements.

In May 2017, GASB issued Statement No. 86, Certain Debt Extinguishment Issues. This Statement improves accounting and financial reporting for prepaid insurance on debt that is extinguished and notes to financial statements for debt that is defeased in substance. This Statement was adopted for fiscal year 2018 financial statements, and the implementation of this new standard did not impact the Fund's financial statements.

Not Yet Adopted

In June 2017, GASB issued Statement No. 87, Leases. The objective of this Statement is to meet the information needs of financial statement users by improving accounting and financial reporting for leases, enhancing the comparability of financial statements between governments, and also enhancing the relevance, reliability (representational faithfulness), and consistency of information about the leasing activities of governments. Under the previous guidance, leases were classified as either capital or operating depending on whether the lease met any of four tests. This Statement will be effective for the Fund's 2021 annual financial statements. Management is currently evaluating the impact this new standard will have on the Fund's financial statements.

3. NET PENSION LIABILITY OF EMPLOYERS

NET PENSION LIABILITY ($000)

The components of the net pension liability at June 30, 2018, were as follows:

Total pension liability	$ 4,815,054
Fund fiduciary net position	(4,170,354)
City net pension liability	$ 644,700
Fund fiduciary net position as a percentage of total pension liability	86.61%

ACTUARIAL ASSUMPTIONS

The actuarial cost method used to develop the total pension liability is the Entry Age Normal Cost-Level Percent of Pay method, as required by GASB Statement No. 67.

The total pension liability as of June 30, 2018 was determined by rolling forward the Fund's total pension liability as of July 1, 2017 to June 30, 2018 using the following actuarial assumptions, applied to all periods included in the measurement:

The Fund's staff recommended the use of the Board adopted 7.25% per annum rate of investment return assumption.

Mortality rates for active participants and non-disabled pensioners were based on the RP-2014 Mortality Tables with Blue Collar Adjustment and projected generational improvement using Scale MP-2017. Future improvements in longevity were applied by adjusting the RP-2014 tables back to 2006 with Scale MP-2014, and then applying generational projection from 2006 using Scale MP-2017.

Mortality rates for disabled pensioners were based on the RP-2014 Total Data Set for Disabled Lives Mortality Tables with projected generational improvement using Scale MP-2017. Future improvements in longevity were applied by adjusting RP-2014 tables back to 2006 with Scale MP-2014, and then applying generational projection from 2006 using Scale MP-2017.

All other methods and assumptions used to determine the total pension liability are consistent with the assumptions used for the July 1, 2017 actuarial valuation.

The long-term expected rate of return on the Fund's investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Fund investment expense and inflation) are developed for each major asset class.
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 rates of return for each major asset class included in the Fund's target asset allocation as of June 30, 2018 are summarized in the following table (note that the rates shown below include the inflation component):

TARGET ALLOCATIONS

ASSET CLASS	LONG-TERM EXPECTED RATE OF RETURN	TARGET ASSET ALLOCATION
Domestic equity	11.27%	17.00%
International equity	10.63%	17.00%
Fixed Income	4.10%	30.00%
Cash	3.45%	1.00%
Hedge Funds	7.54%	8.00%
Real Estate	9.54%	7.00%
Private Equity	14.86%	20.00%

DISCOUNT RATE

The discount rate used to measure the total pension liability was 7.25%. The projection of cash flows used to determine the discount rate assumed that the Fund's contributions will continue to follow the current funding policy. Based on those assumptions, the Fund's fiduciary net position was projected to be available to make all projected future benefit payments of current Fund members for all future years and hence, the blended GASB discount rate is equal to the long-term rate of return of 7.25%. Therefore, the long-term expected rate of return on Fund investments of 7.25% was applied to all periods of projected benefit payments to determine the total pension liability.

SENSITIVITY OF THE NET PENSION LIABILITY TO CHANGES IN THE DISCOUNT RATE

The following presents the net pension liability, calculated using the discount rate of 7.25%, as well as what the Fund's net pension liability would be if it were calculated using a discount rate that is one percentage-point lower (6.25%) or one percentage-point higher (8.25%) than the current rate:

	1% DECREASE (6.25%)	CURRENT DISCOUNT RATE (7.25%)	1% INCREASE (8.25%)
Net Pension Liability ($000)	$ 1,145,879	$ 644,700	$ 234,690

4. CONTRIBUTIONS REQUIRED AND CONTRIBUTIONS MADE

Prior to the passage of SB2190, the Fund per Texas Government Code section 802.101, was required to employ an actuary to conduct an Actuarial Valuation at least once every three years. The information from the valuation was then used to determine and certify the City's contribution rate to the Fund. Effective July 1, 2017, SB2190 revised the Fund's statute (Vernon's Civil Statutes, Title 109, section 6243e.2(1)). The statute now requires the Fund and the City of Houston to independently conduct annual Risk Sharing Valuation Studies (RSVS). The RSVS's must include state set assumptions. If the difference between the City and the Fund's employer contribution rate falls at or below 2%, the Fund's RSVS will be used to determine the employer contribution rate for the fiscal year. If the difference is greater than 2%, the actuaries must reconcile the rates until the difference falls within 2%. If it cannot be reconciled, the arithmetic average will be used. The annual RSVS will now be used to determine the City's contribution rate to the Fund.

Effective July 1, 2017, the City's determined contribution rate decreased from 33.2% for fiscal year 2017 to 31.89% in fiscal year 2018 as established pursuant to the annual RSVS consisting of 15.30% of covered members' salaries (to pay normal costs), increased by 16.59% of amortization deficit of the actuarial accrued liability over a closed amortization period of 30 years effective July 1, 2015.

The effective members' contribution rate increased from 9% in fiscal year 2017 to 10.5% in fiscal year 2018.

ACTUARIALLY DETERMINED CONTRIBUTION REQUIREMENTS

	June 30, 2018*
Employer normal cost	$ 39,423,222
Member normal cost	35,621,787
TOTAL NORMAL COST	$ 75,045,009
Plus: Amortization of Deficit	
Actuarial accrued liability	43,586,844
NET CONTRIBUTIONS REQUIRED	118,631,853
Employer contributions actually made	83,010,066
Pensionable Member contributions actually made	27,924,724
Non-Pensionable Member contributions actually made	7,697,063
TOTAL CONTRIBUTIONS	$ 118,631,853

	June 30, 2017**
Employer normal cost	$ 54,718,785
Member normal cost	25,403,621
TOTAL NORMAL COST	$ 80,122,406
Plus: Amortization of Deficit	
Actuarial accrued liability	38,939,015
NET CONTRIBUTIONS REQUIRED	119,061,421
Employer contributions actually made	119,061,421
Member contributions actually made	25,403,621
TOTAL CONTRIBUTIONS	$ 119,061,421

** Based on the arithmetic average of the Fund and the City of Houston's RSVS*
*** Based on actuarial contribution rates as determined in the July 1, 2013 actuarial study*

ACTUARIAL PROCESS

The Fund, by statute, may adopt an actuarial valuation once every three years. In May 2017, the Board of Trustees adopted and certified the finalized July 1, 2016 actuarial valuation. The July 1, 2016 actuarial report indicates the Fund has a funding ratio of 80.6%.

The Board adopted the July 1, 2016 actuarial valuation after careful consideration and analysis of an independent experience study. It should be noted that the Actuarial Value of Assets is based on the difference between the actual rate of return and the 7.25% assumed rate of return recognized in the actuarial value over five years beginning July 1, 2014.

The adoption of the July 1, 2016 actuary valuation for financial statement reporting purposes included the following changes in assumptions and methods since the prior year: a) the mortality rates applicable to active and non-disabled participants are based on the PR-2000 table projected 10 years from the valuation date. Therefore, the mortality rates have been updated from the PR-2000 table projected to 2025 using Scale AA. This increased the actuarial accrued liability by approximately $4 million. b) the assumed investment rate of return was changed from 8.5% to 7.25%. This change increased the actuarial accrued liability by approximately $504 million.

Accounting standards require that the statement of fiduciary net position state assets at fair value, and include only benefits and refunds due Fund members and beneficiaries, as well as accrued investment and administrative expenses as of the reporting date

The Fund's governing statute limits the City's contribution to within a range of plus or minus 5% of 31.89% of pensionable payroll to pay the Fund's benefits. If the City's contributions are determined to not be within the range, the governing statute provides that certain adjustments shall be made. The Board of Trustees and the City may enter into a written agreement in lieu of the statutorily required adjustments.

The July 1, 2016 actuarial valuation used the following significant assumptions:

Investment rate of return	**7.25%, net of expenses**
Salary increases	**3% to 7%, based on seniority and merit**
Payroll growth rate	**3% per year**
General inflation rate	**3% per year**
Cost of living adjustment	**3% annually**
Actuarial cost method	**Entry age method**
Amortization method	**Level percentage of payroll over a closed amortization period 30 years effective July 1, 2015**
Life expectancy	**Based on RP-2000 Table projected to year 2026 using scale AA**

HISTORICAL TREND INFORMATION

Historical trend information is provided as required supplemental information on pages 42 through 45. This information is intended to demonstrate progress the Fund has made in accumulating sufficient assets to pay benefits when due and the related actuarial assumptions used in determining the actuarially determined amounts.

5. INVESTMENTS

Statutes of the State of Texas authorize the Fund to invest surplus funds in the manner provided by the Government Code, Title 8, Subtitle A, Subchapter C. This subchapter provides for the investment of surplus assets as described in section 802.202 of the Government Code. The Board seeks to produce a return on investments that is based on prudent and reasonable investment risk and the cash flow requirements of the Fund given prevailing economic and capital market conditions. While the Board recognizes the importance of the preservation of capital, it also adheres to the theory of capital market pricing which maintains that varying degrees of investment risk should be rewarded with incremental returns. Consequently, prudent risk-taking is justifiable.

The Board manages the investment program of the Fund in compliance with all applicable Federal and State statutes and regulations concerning the investment of pension assets. The Board has adopted an Investment Policy Statement (Investment Policy) to set forth the factors involved in the management of investment assets for the Fund. The Board has established an Investment Committee to act on all matters related to investments.

The fair values of the Fund's investments as of June 30, 2018 and 2017, by type, are as follows:

	2018	2017
Short-term investment funds	$ 215,539,096	$ 59,704,445
Fixed Income-Government Securities	258,931,345	410,891,586
Fixed Income-Corporate Bonds	630,462,579	653,282,302
Fixed Income-Convertibles	6,960,325	32,466,182
Common equity	2,103,458,083	1,976,541,201
Preferred equity	1,148,984	4,486,762
Hedge Funds:		
Global Macro Hedge Fund	191,532,810	226,885,543
Multi-Strategy FOHFs	6,441,770	19,577,081
Private Equity:		
Buy out partnerships/Funds	205,959,590	124,454,196
Credit Partnerships/Funds	1,684,019	-
Distressed Debt Partnerships/Funds	81,867,123	64,345,065
Direct Investments	1,075,000	1,075,000
Secondary Partnerships/ Funds	112,747,422	85,490,185
Special Situations Investments	54,102,189	25,075,208
Venture Capital Partnerships/ Funds	82,790,105	82,135,548
Real estate	191,331,517	194,666,779
TOTAL INVESTMENTS	$ 4,146,031,957	$ 3,961,077,083

CUSTODIAL CREDIT RISK

Portions of the Fund's investments are classified as security investments. A security is a transferable financial instrument that evidences ownership or creditorship. Investments in companies, partnerships and real estate are investments that are evidenced by contracts rather than securities.

Custodial credit risk disclosures relate to securities. Custodial credit risk is the risk that, in the event of the failure of the counterparty, the Fund will not be able to recover the value of its securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are (i) uninsured, (ii) not registered in the name of the Fund, and (iii) are held by either the counterparty or the counterparty's trust department or agent but not in the Fund's name. At June 30, 2018 and 2017 the Fund's security investments (excluding cash) that were not subject to custodial credit risk were the investments not registered on an exchange.

CONCENTRATION OF CREDIT RISK

Concentration of credit risk is the risk of loss attributable to the magnitude of the Fund's investment in a single issue. The allocation of assets among various asset classes is set by the Board with the objective of optimizing the investment return of the Fund within framework of acceptable risk and diversification. For major asset classes (e.g., domestic equities, international equities, fixed income hedge funds, private equity and real estate), the Fund further diversifies by employing investment managers who implement the strategies selected by the Investment Committee. In addition, Exchange Traded Funds (ETFs) may be used.

Significant risk management asset allocation guidelines are as follows:

1) Investment Manager investment philosophy, style, strategy, and structure shall remain consistent and shall not change without the IC's approval. The Investment Manager shall have discretion to manage the portfolio consistent with the agreement(s) governing the Investment Manager's activity for the Fund, the style presented to the IC at the time of selection, or as revised by the IC, and further subject to the restrictions established by the policy herein.

2) The following transactions are prohibited by a fiduciary manager subject to an IMA acting directly on behalf of the Fund: short sales, selling on the Fund's margin, put and call options and the use of derivatives, unless expressly authorized by the IC by vote as to a particular manager, which authorization may be revoked as to new activity.

3) To the extent that any broker, custodian or other Investment Manager would be engaged in a transaction with the Fund in a capacity as a counterparty to the Fund (whether as a principal or on behalf of any other third party or any affiliate), such broker, custodian or other Investment Manager shall promptly disclose such transaction to the Fund and act in a manner that is fair and reasonable in all respects. Transactions shall be executed at competitive cost or best execution.

Specific guidelines for each Investment Manager shall be developed and negotiated by the Fund's investment staff and legal counsel and shall be incorporated into an IMA, and/or other binding written agreement as is appropriate for the investment.

Quantitative and qualitative performance measures, as well as Investment Manager adherence to applicable guidelines, shall be monitored as are appropriate to each investment. In the case of a conflict between the specific guidelines and the general guidelines, the specific guidelines shall supersede, or be accorded primary weight in any reconciliation.

As of Jun 30, 2018, more than 5% of the Fund's net assets are in the BlackRock Russell 3000 Fund (5.43%), MCM Broad Market Stock Index Fund (7.1%), MCM Dynamic U.S. Equity Fund (8.19%), and MCM ACWI Ex-U.S. Fund (16.81%). As of Jun 30, 2017, more than 5% of the Fund's net assets were in the MCM ACWI Ex-U.S. Fund (19.4%) and MCM Broad Market Stock Index Fund (16.71%).

INTEREST RATE RISK

The Fund invests in fixed income securities including, but not limited to, investments representing instruments with an obligated fixed rate of interest including public and private debentures, mortgages, investments in life insurance general accounts and guaranteed investment contracts, with maturities greater than one year, and options/futures. Instruments may have an investment grade or non-investment grade rating. Purchases and sales, investment selection and implementation of investment strategies are delegated to the discretion of external investment managers, subject to compliance with its investment management agreement and the Fund's Investment Policy.

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of the investment. Interest rate risk is the greatest risk faced by an investor in the fixed income market. The price of a fixed income security typically moves in the opposite direction of the change in interest rates. The weighted average maturity expresses investment time horizons (when the investment comes due and payable) in years, weighted to reflect the dollar size of individual investments within the investment type. The Fund does not have a formal investment policy that limits investment maturities as a means of managing its exposure to potential fair value losses arising from future changes in interest rates, but rather mandates such limits within the external manager's investment management agreement.

At June 30, 2018, the following table shows the Fund's investments by type, with weighted average maturity and fair value:

	WEIGHTED AVERAGE MATURITY	FAIR VALUE
Commingled Funds	5.70	$ 101,191,685
FNMA	29.51	34,761,602
Non-U.S. Collateralized	24.31	1,517,532
Non-U.S. Corporate	5.03	86,691,710
Non-U.S. Treasuries	3.24	9,439,603
Taxable Municipals	12.96	3,723,239
U.S. Collateralized	15.06	41,857,535
U.S. Convertibles	11.45	6,960,325
U.S. Corporate	7.71	395,480,878
U.S. Treasuries	11.59	214,730,140
TOTAL FIXED INCOME SECURITIES		$ 896,354,249

At June 30, 2017, the following table shows the Fund's investments by type, with weighted average maturity and fair value:

	WEIGHTED AVERAGE MATURITY	FAIR VALUE
Non-U.S. Collateralized	25.31	$ 1,778,755
Non-U.S. Convertibles	4.71	689,504
Non-U.S. Corporate	6.96	95,255,518
Non-U.S. Treasuries	5.16	14,400,097
Taxable Municipals	6.78	10,023,539
U.S. Collateralized	5.75	58,122,877
U.S. Convertibles	11.61	31,776,678
U.S. Corporate	7.39	488,101,613
U.S. Treasuries	8.40	396,491,489
TOTAL FIXED INCOME SECURITIES		1,096,640,070

CREDIT RISK

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The Fund does not have a formal policy limiting investment credit risk, but rather mandates such limits within the investment management agreement of each manager as may be appropriate to strategy. The Fund's exposure to investment credit risk in fixed income securities (which includes government securities, corporate bonds, convertibles) as of June 30 are as follows:

	2018		2017	
QUALITY RATING	FAIR VALUE	PERCENTAGE OF HOLDINGS	FAIR VALUE	PERCENTAGE OF HOLDINGS
AAA	119,573,505	2.88%	74,631,751	1.88%
AA1	8,435,736	0.20%	14,232,285	0.36%
AA2	-	-	892,042	0.02%
AA3	12,552,706	0.30%	29,101,109	0.73%
A1	22,396,497	0.54%	23,107,277	0.58%
A2	52,607,587	1.27%	52,898,173	1.33%
A3	46,337,256	1.11%	71,558,098	1.80%
BAA1	97,006,023	2.33%	119,834,335	3.01%
BAA2	67,604,498	1.63%	68,941,594	1.73%
BAA3	45,078,394	1.08%	55,228,813	1.39%
BA1	3,720,142	0.09%	6,870,944	0.17%
BA2	3,658,343	0.09%	22,295,266	0.56%
BA3	7,183,855	0.17%	22,189,322	0.56%
B1	2,180,001	0.05%	12,281,138	0.31%
B2	4,079,028	0.10%	9,732,887	0.24%
B3	6,968,357	0.17%	24,385,018	0.61%
B	101,191,685	2.43%	-	-
CAA1	5,779,773	0.14%	18,857,805	0.47%
CAA2	3,157,923	0.08%	5,029,073	0.13%
CAA3	1,539,294	0.04%	3,836,908	0.10%
CA	2,665,750	0.06%	2,216,573	0.06%
C	-	-	130,425	0.00%
D	-	-	680,788	0.02%
DEF	-	-	1,567,065	0.04%
Not rated	67,907,756	1.63%	59,649,892	1.50%
TOTAL CREDIT RISK DEBT SECURITIES*	$ 681,624,109	16.39%	$ 700,148,581	17.60%

**Obligations of the U.S. government or obligations explicitly guaranteed by the U.S. government are not considered to have credit risk and therefore, have not been included in this disclosure.*

FOREIGN CURRENCY RISK

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. Realized and unrealized gains and losses on investments which result from changes in foreign currency exchange rates have been included in the net appreciation (depreciation) in fair value of investments. The Fund's policy allows external investment managers to decide what action to take regarding their respective portfolio's foreign currency exposures subject to compliance with its respective investment management agreement of each manager as may be appropriate to strategy the Fund's Investment Policy Statement. The Fund's exposure to foreign currency fluctuation as of June 30 are as follows:

	2018		2017	
	FAIR VALUE	PERCENTAGE OF HOLDINGS	FAIR VALUE	PERCENTAGE OF HOLDINGS
EURO CURRENCY UNIT	$ 28,208,743	0.68%	$ 26,924,638	0.68%
MEXICAN PESO	4,603,112	0.11%	5,195,222	0.13%
NEW ZEALAND DOLLAR	3,517,964	0.08%	3,805,407	0.10%
NORWEGIAN KRONE	2,317,990	0.06%	2,332,916	0.06%
CANADIAN DOLLAR	2,076,066	0.05%	2,583,054	0.06%
BRAZIL REAL	1,079,223	0.03%	1,780,191	0.04%
POUND STERLING	606,133	0.01%	884,310	0.02%
SWISS FRANC	91,037	0.00%	94,393	0.00%
CZECH KORUNA	790	0.00%	19,921	0.00%
JAPANESE YEN	230	0.00%	227	0.00%
AUSTRALIAN DOLLAR	-	-	2,664,674	0.07%
TOTAL SECURITIES SUBJECT TO FOREIGN CURRENCY RISK	$ 42,501,288	1.02%	$ 46,284,953	1.16%

ALTERNATIVE INVESTMENTS

As of June 30, 2018 and 2017, the Fund was invested in various private equity funds and hedge funds as detailed in the following chart:

FAIR VALUE OF THE FUND'S INTEREST		
INVESTMENT TYPE	JUNE 30, 2018	JUNE 30, 2017
Private Equity	$ 540,225,448	$ 382,575,202
Hedge Funds	197,974,580	246,462,624
	$ 738,200,028	$ 629,037,826

The Fund has a mature private equity portfolio diversified by vintage year, strategy and manager.

In regard to hedge funds, as of June 30, 2018, the Fund had investments in two global macro hedge funds and one multi-strategy fund-of-hedge funds.

Hedge Funds are managed portfolios of investments using advanced investment strategies such as leverage, long, short and derivative positions in both domestic and international markets with the goal of generating uncorrelated positive returns over a specified market benchmark. For the most part, hedge funds are unregulated and carry liquidity restrictions for redemption. The Fund's staff monitors risk, guidelines and compliance.

The use of derivatives in a portfolio gives rise to various types of risks. The primary types of risk include market risk, liquidity risk, counterparty risk and operations risk.

Market risk - represents the risk of adverse movements in markets (including asset prices, volatility, changes in yield curve, implied option volatility or other market variables/forces) for the derivatives or the underlying asset, reference rate or index to which the derivative relates. "Interest rate risk" is a type of market risk.

Liquidity risk - There are generally two types of liquidity risk. The first is the risk that a responsible party may not be able to, or cannot easily, unwind or offset a particular position risk at or near the previous market price, because of inadequate market depth or because of disruptions in the market place. The second is the risk that the portfolio will not be able to meet its future financial obligations resulting from its derivative activities, such as margin calls on futures contracts.

Counterparty risk - is the risk that a counterparty (the other party with whom a derivatives contract is made) will fail to perform contractual obligations (i.e. default in either whole or part) under a contract and that this failure occurs at a time when the contract is in-the-money. This is also sometimes referred to as "credit risk".

Operations risk - is the risk that deficiencies in the effectiveness and accuracy of the information or internal controls will result in a material loss. This risk is associated with human error, Fund failures and inadequate procedures and internal management controls.

DERIVATIVE INVESTING

The Fund's investment managers may invest in derivatives as permitted by the investment management agreement of each manager as may be appropriate to strategy and the Fund's Investment Policy Statement. Derivatives are generally defined as contracts whose values depend on, or are derived from, the value of an underlying asset, reference rate or index. The Fund's exposure to derivatives may be indirect by way of the Fund's investments in commingled fund vehicles or directly held in separate accounts, if permitted.

As of June 30, 2018 and 2017, the Fund held no derivative investments directly.

FORWARD FOREIGN EXCHANGE CONTRACTS

A currency forward is a contractual agreement between two parties to pay or receive specific amounts of foreign currency at a future date in exchange for another currency at an agreed upon exchange rate. Forward foreign exchange contracts are recorded on the trade date and reported as a payable or receivable until settlement. Recognition of realized gain or loss depends on whether the currency exchange rate has moved favorable or unfavorable to the contract holder upon termination of the contract. Prior to termination of the contract, the Fund records the unrealized currency translation gain or loss based on the applicable forward exchange rates.

The fund reported a gain of $599,204 in fiscal year 2018 and a loss of $278,869 in fiscal year 2017.

As of June 30, 2018 and 2017, the Fund held no positions in these foreign exchange contracts.

Forward commitments are not standardized and carry credit risk due to the possible nonperformance by one of the counter parties. The maximum potential loss is the aggregate face value in U.S. dollars at the time the contract was opened; however, the likelihood of such loss is remote.

No active investment manager was employed by the Fund during fiscal year 2018 or 2017 for the sole purpose of managing foreign currency risk. External investment managers, investing on the Fund's behalf, may enter into forward foreign currency contracts to facilitate security transactions in international markets.

Summary of Investment and Professional Services on page 48 lists the Fund's investment and professional service providers.

6. FAIR VALUE MEASUREMENTS

Investments are recorded at fair value in accordance with the GASB Statement No. 72, Fair Value Measurement and Application.

The Fund categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs other than quoted market prices for similar assets; Level 3 inputs are significant unobservable inputs.

The Fund has the following recurring fair value measurements as of June 30, 2018:

GASB 72 HIERARCHY TABLE

		Fair Value Measurements Using		
	6/30/2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level				
SHORT-TERM INVESTMENT FUNDS	$ 215,539,096	215,539,09		
DEBT SECURITIES				
Government Securities	258,931,345	214,730,140	44,201,205	
Corporate bonds	474,544,149	8,909,830	465,634,319	
Convertibles	6,960,325	349,458	6,610,867	
TOTAL FIXED INCOME SECURITIES	740,435,819	223,989,428	516,446,391	
EQUITY SECURITIES				
Common	186,371,050	186,371,050		
Preferred	1,148,984		1,148,984	
TOTAL EQUITY SECURITIES	187,520,034	186,371,050	1,148,984	
PRIVATE INVESTMENTS				
Private Equity - Energy	3,868,125			3,868,125
Real Estate	1,135,000			1,135,000
TOTAL PRIVATE INVESTMENTS	5,003,125			5,003,125
Total Investments By Fair Value Level	$ 1,148,498,074	$ 625,899,574	$ 517,595,375	$ 5,003,125
Investments measured at net asset value (NAV)				
COMMINGLED INVESTMENT FUNDS	$ 2,073,005,463			
HEDGE FUNDS	197,974,580			
PRIVATE EQUITY FUNDS	536,357,323			
REAL ESTATE FUNDS	190,196,517			
Total Investments Measured at NAV	2,997,533,883			
TOTAL INVESTMENTS	$ 4,146,031,957			

The Fund had the following recurring fair value measurements as of June 30, 2017:

GASB 72 HIERARCHY TABLE

		Fair Value Measurements Using		
	6/30/2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level				
SHORT-TERM INVESTMENT FUNDS	$ 59,704,445	59,704,445		
DEBT SECURITIES				
Government Securities	410,891,586	396,491,489	14,400,097	
Corporate bonds	606,173,529	2,875,875	603,297,654	
Convertibles	32,466,182	1,801,730	30,664,452	
TOTAL FIXED INCOME SECURITIES	1,049,531,297	401,169,094	648,362,203	
EQUITY SECURITIES				
Common	176,977,034	176,977,034		
Preferred	4,486,762		4,486,762	
TOTAL EQUITY SECURITIES	181,463,796	176,977,034	4,486,762	
PRIVATE INVESTMENTS				
Private Equity - Energy	4,190,972			4,190,972
Real Estate	1,135,000			1,135,000
TOTAL PRIVATE INVESTMENTS	5,325,972			5,325,972
Total Investments By Fair Value Level	$ 1,296,025,510	$ 637,850,573	$ 652,848,965	$ 5,325,972
Investments measured at net asset value (NAV)				
COMMINGLED INVESTMENT FUNDS	$ 1,846,672,940			
HEDGE FUNDS	246,462,624			
PRIVATE EQUITY FUNDS	378,384,230			
REAL ESTATE FUNDS	193,531,779			
Total Investments Measured at NAV	2,665,051,573			
TOTAL INVESTMENTS	$ 3,961,077,083			

Short-term investments held by the Fund classified in Level 1 are government and corporate bonds with a maturity of less than three years, and are valued at cost which approximates fair value. Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Debt and equity securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Real estate classified in Level 3 includes real estate held directly by the Fund. The property was valued by an independent appraiser using the sales comparison method as of June 30, 2015. The private equity (energy) assets classified in Level 3 includes an externally managed pool of net profit oil and gas interests valued by the manager based on third-party independent engineering reports and market data. The private equity (energy) assets also include an interest in the net operating profits of an investment management company. This interest is valued at its historical cost in the absence of significant observable inputs. It is uncertain if this position can be exited at its historical cost.

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) is presented on the following table.

INVESTMENTS MEASURED AT THE NAV

	Fair Value	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
COMMINGLED INVESTMENT FUNDS [(A)]	$ 2,073,005,463		NR - Quarterly	0 - 60 days
HEDGE FUNDS [(B)]	$ 197,974,580		NR - Monthly	0 - 5 days
PRIVATE EQUITY FUNDS [(C)]	$ 536,357,323	$ 725,488,737		
REAL ESTATE FUNDS [(D)]	$ 190,196,517	$ 201,756,513		
Total Investments Measured at NAV	$ 2,997,533,883			

**NR is used to denote no contractual restriction*

A. COMMINGLED INVESTMENT FUNDS. This type includes twelve commingled (multi-asset) accounts managed by seven separate managers. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the investments. One account (representing less than $100,000 of the Fund's investment fair value) is in liquidation and continues to hold a number of private or thinly traded securities from which the manager has not been able to exit as of June 30, 2018. It is uncertain if these positions can be exited at their June 30, 2018 fair value. One account is an interest in a fund that invests both long and short in U.S. and non U.S. securities. One account is a limited partnership that invests in fixed income. Three accounts are low-volatility commingled investment funds that invest in U.S. and non-U.S. securities. Five accounts are commingled investment funds that may invest in securities or other collective funds to track the performance of their respective public market index. The last of these accounts is a global tactical asset allocation account, a portion of which is invested in U.S and non-U.S collective investment trusts.

B. HEDGE FUNDS. This type includes two global macro hedge funds managed by a single manager and one multi-strategy fund-of-hedge funds. These funds pursue multiple hedge fund strategies. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the investments. The two global macro hedge funds have monthly redemption allowances and five business day notice periods. While the fund-of-hedge funds does not have redemption gates, the Fund's ability to effect withdrawals is dependent on the fund-of-hedge fund's ability to redeem its interests in underling positions. That said, in June 2016, the Investment Committee terminated the fund-of-hedge funds. Consequently, on the instruction of the Fund, the manager initiated redemption actions in August 2016. As of June 30, 2018, HFRRF has received approximately 99% of the expected proceeds. Other than seeking and executing redemptions, the fund-of-hedge funds manager is not actively trading on behalf of the Fund. Subsequent redemption proceeds received by the Fund will be determined by the NAV of the underlying positions liquidated by the managers, which may differ from the June 30, 2018 fair values due to market conditions.

C. PRIVATE EQUITY FUNDS. This type includes sixty-four private equity funds that invest globally in private assets and funds (or other funds that in turn invest in other private equity funds on a primary or secondary basis). The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the Fund's ownership interest in partners' capital. These investments can never be redeemed with the funds. Instead, the nature of the investments in this type is that distributions are received through the liquidation of the underlying assets of the fund. It is expected that the underlying assets of the funds will be liquidated over 1 to 18 years.

D. REAL ESTATE FUNDS. This type includes twenty-one real estate funds that invest globally in commercial real estate (or other funds that in turn invest in other real estate funds on a primary or secondary basis) and two funds that invest in U.S. timberland. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the Fund's ownership interest in partners' capital. These investments can never be redeemed with the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the underlying assets of the funds will be liquidated over 1 to 15 years.

7. CASH AND CASH EQUIVALENTS

The Fund's deposits are held by the Custodian. As such, the Fund's cash deposits and cash equivalents beyond coverage by Federal depository insurance carries with it custodial risk; the risk that in the event of a bank failure, the Fund's deposits may not be returned to it. As of June 30, 2018 and 2017, the Fund's cash deposits in bank accounts totaled $10,886,038 and $15,826,792, respectively. These amounts are in demand deposit accounts subject to coverage by Federal depository insurance but not collateralized. The Fund's cash balances exceeded Federal depository insurance limits by $10,636,038 and $15,576,792 as of June 30, 2018 and 2017, respectively. The Fund does not have a deposit policy for custodial credit risk; however, management believes that the Fund's credit risk exposure for amounts not covered by Federal depository insurance is mitigated by the financial strength of the banking institution in which the deposits are held.

8. LAND

In February 1998, the Fund purchased land for $483,325 to use in the construction of a new office building for its operations and its members. This land is not depreciated.

9. BUILDING, FURNITURE, FIXTURES AND EQUIPMENT

In April of 2001, the construction of the new building was completed. All capitalized costs associated with the building have been classified as building in the statements of fiduciary net position. This cost is being depreciated over 30 years. All other fixed assets are depreciated between 3 and 5 years.

Building, furniture, fixtures and equipment are comprised as follows at June 30, 2018:

	BEGINNING BALANCE	INCREASES	DECREASES	ENDING BALANCE
CAPITAL ASSETS BEING DEPRECIATED:				
Building	$ 9,847,715			9,847,715
Office furnishings and equipment	618,946			618,946
Computer software and hardware	3,033,627	102,525		3,136,152
Total assets being depreciated	13,500,288	102,525		13,602,813
LESS ACCUMULATED DEPRECIATION FOR:				
Building	$ (5,134,305)	(362,096)		(5,496,401)
Office furnishings and equipment	(598,055)	(14,643)		(612,698)
Computer software and hardware	(2,900,014)	(134,200)		(3,034,214)
Total assets being depreciated	(8,632,374)	(510,939)		(9,143,313)
TOTAL BUILDING FURNITURE, FIXTURES AND EQUIPMENT, NET	$ 4,867,914	(408,414)		4,459,500

Building, furniture, fixtures and equipment are comprised as follows at June 30, 2017:

	BEGINNING BALANCE	INCREASES	DECREASES	ENDING BALANCE
CAPITAL ASSETS BEING DEPRECIATED:				
Building	$ 9,788,953	58,762		9,847,715
Office furnishings and equipment	618,946			618,946
Computer software and hardware	3,004,216	31,237	1,826	3,033,627
Total assets being depreciated	13,412,115	89,999	1,826	13,500,288
LESS ACCUMULATED DEPRECIATION FOR:				
Building	$ (4,775,268)	(359,037)		(5,134,305)
Office furnishings and equipment	(581,827)	(16,228)		(598,055)
Computer software and hardware	(2,814,362)	(85,652)		(2,900,014)
Total accumulated depreciation	(8,171,457)	(460,917)		(8,632,374)
TOTAL BUILDING FURNITURE, FIXTURES AND EQUIPMENT, NET	$ 5,240,658	(370,918)	1,826	4,867,914

10. SECURITIES LENDING ARRANGEMENTS

The Fund had the following securities on loan and held the following related cash collateral balances, at fair value, as of June 30:

	2018		2017	
	SECURITIES LENT	COLLATERAL HELD	SECURITIES LENT	COLLATERAL HELD
Fixed income	$ 52,512,004	53,618,432	$ 178,474,137	181,900,074
Common and preferred stocks	23,436,707	24,020,664	15,743,906	16,085,039
	$ 75,948,711	77,639,096	$ 194,218,043	197,985,113

Board policies, as filed with the Texas Pension Review Board, reflect the Fund's practice of lending its securities for the purpose of generating income from the investment of the related collateral. The Custodian as lending agent executes a securities lending program on behalf of the Fund.

Borrower credit risk is limited by the amount of collateral required. Concurrent with the loan, the collateral obtained is to equal 102% to 105% of the fair value (including any accrued interest) of the loaned securities. The percentage may vary within this allowance based on the types of securities lent. Thereafter, collateral value equaling 100% of the fair value of the loaned amount is to be maintained. Although security loans can be terminated on demand by the Fund, should the collateral value fall below 100% and the full value of the securities loaned not recovered, the Fund will incur losses. As of June 30, 2018 and 2017 the Fund was not exposed to borrower credit risk as collateral held as a percentage of the securities loaned was 102.2% and 101.9%, respectively. The securities lending income is divided between the Fund and the securities lending agent.

Borrower credit risk is also limited by the type of collateral permitted. Unless otherwise agreed by the Fund and the Custodian, collateral is to include U.S. dollars, securities issued or guaranteed by U.S. government entities, or irrevocable letters of credit issued by banks (independent of the borrower).

The collateral held at the Fund's Custodian is exposed to custodian credit risk. Collateral held had a fair value of $77,639,096 and $197,985,113 as of June 30, 2018 and 2017, respectively. Cash collateral from the securities lending program ($29,311,793 and $35,817,033 as of June 30, 2018 and 2017, respectively) is invested in the Custodian's collateral investment pools. These pools are not considered to be securities.

11. RELATED PARTY

During fiscal years 2018 and 2017, the Fund utilized the services of investment management companies in which the Fund owns an interest. Manager fees of approximately $940,000 and $665,000 were paid in fiscal years 2018 and 2017, respectively, to these companies.

12. BENEFIT PLANS

The Fund offers its employees a deferred compensation plan (the Plan) created in accordance with Internal Revenue Code 457. The Plan, available to all employees of the Fund, permits employees to defer a portion of their salary until future years. The deferred compensation is not available to employees until termination, retirement, death or unforeseeable emergency.

The Fund also offers its full-time employees a Profit Sharing Plan which is a qualified retirement plan under Section 401(a) of the Internal Revenue Code of 1986, as amended. The Fund maintains the Profit Sharing Plan to provide a tax-deferred way for it to contribute to its employees' savings for retirement, disability, death, and other major life events. The Fund contributes into the Profit Sharing Plan 16% of a participating employee's qualified yearly salary. During fiscal years 2018 and 2017, the Fund contributed $487,460 and $493,092 respectively, to the Profit Sharing Plan.

Both of the benefit plans are administered by an outside party, with the related amounts held in trust. Accordingly, these benefit plans are not reflected in the accompanying basic financial statements in accordance with GASB Statement No. 32.

13. COMMITMENTS AND CONTINGENCIES

As described in Note 1, certain members of the Fund are entitled to refunds of their accumulated contributions upon termination of employment with the City, prior to being eligible for pension benefits.

As of June 30, 2018 and 2017, aggregate contributions from active members of the Fund with less than ten years of service were $33,457,269.94 and $36,399,315 respectively. Contributions for employees with 10 to 20 years of service have not been determined. As of June 30, 2018 and 2017, interest payable related to these contributions has not been accrued.

The Fund had outstanding investment commitments to various limited partnerships and investment advisors of approximately $927,245,250 and $815,412,748 as of June 30, 2018 and 2017, respectively.

Pursuant to the May 23, 1993 revision of Section 2(l), Chapter 432, Acts of the 64th Legislature, 1973 (Article 6243e.2, Vernon's Texas Civil Statutes), the Board may, from Fund assets, establish a self-insurance fund to pay certain claims for indemnification. On June 17, 1993, the Board voted to adopt this subsection allowing for the establishment of a self-insurance fund from Fund assets. The self-insurance fund is a designation of Fund net assets by the Board. As of June 30, 2018 and 2017, cumulative contributions made to the self-insurance fund by the Fund have been approximately $5,000,000.

The Fund is a party to various claims and legal actions arising in the ordinary course of its business which, in the opinion of management, will not have a material effect on the Fund's financial position.

14. RISKS AND UNCERTAINTIES

The Fund invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. The sudden rise of market risk in late January 2018 due to increased trade conflicts with dominant economies persisted throughout the current fiscal year and is expected to persist for foreseeable future. The effect of those events on the Fund's investment portfolio is mitigated by the diversification of its holding defensive strategies and tactical asset allocation.

However, it is at least reasonably possible that changes in the value of the Fund's investment securities may occur over the course of different economic and market cycles.

The Fund's contribution rates and the actuarial information included in the notes and Schedules 1 and 2 (unaudited) are based on certain assumptions pertaining to interest rates, inflation rates and participant demographics, all of which are subject to change. Due to uncertainties inherent in the estimations and assumptions process, it is at least reasonably possible that changes in these estimates and assumptions in the near term could be material to the financial statements.

15. SUBSEQUENT EVENTS

Management of the Fund has evaluated subsequent events through October 16, 2018, which is the date the financial statements were available to be issued. Management has determined that no subsequent events require disclosure in these financials statements.

SECTION 02

REQUIRED SUPPLEMENTAL INFORMATION

SCHEDULE 1

SCHEDULE OF CHANGES IN THE FUND'S NET PENSION LIABILITY AND RELATED RATIOS ($000) (UNAUDITED)					
Total Pension Liability	**2018**	**2017**	**2016**	**2015**	**2014**
Service cost	$ 52,579	$ 80,002	$ 76,407	$ 68,145	$ 72,333
Interest	332,357	389,938	369,708	353,405	334,818
Changes of benefit terms	-	(645,971)	-	-	-
Differences between expected and actual experience	62,117	(65,194)	(63,047)	(28,536)	-
Changes of assumptions	(16,572)	534,646	2,918	2,801	3,264
Benefit payments	(289,108)	(249,394)	(211,673)	(196,362)	(187,118)
Net change in total pension liability	141,373	44,027	174,313	199,453	223,297
TOTAL PENSION LIABILITY-BEGINNING	$ 4,673,681	$ 4,629,654	$ 4,455,341	$ 4,255,888	$ 4,032,591
TOTAL PENSION LIABILITY-ENDING (a)	$ 4,815,054	$ 4,673,681	$ 4,629,654	$ 4,455,341	$ 4,255,888
Fiduciary Net Pension					
Contributions-employer	83,010	93,658	94,279	92,610	64,338
Contributions-employee	35,622	25,404	25,511	25,092	23,994
Net investment income	322,306	432,948	(47,437)	51,801	589,518
Benefit payments, including refunds of employee contributions	(289,108)	(249,394)	(211,673)	(196,362)	(187,118)
Administrative expense	(4,890)	(4,898)	(6,771)	(6,640)	(6,884)
Other (Professional services)	(1,676)	(2,298)	(1,890)	(1,676)	(1,459)
Net change in fiduciary net position	$ 145,264	$ 295,420	$ (147,981)	$ (35,175)	$ 482,389
FIDUCIARY NET POSITION-BEGINNING	$ 4,025,090	$ 3,729,670	$ 3,877,651	$ 3,912,826	$ 3,430,437
FIDUCIARY NET POSITION-ENDING (b)	$ 4,170,354	$ 4,025,090	$ 3,729,670	$ 3,877,651	$ 3,912,826
City's net pension liability-ending (a)-(b)	644,700	648,591	899,984	$ 577,690	$ 343,062
Fiduciary net position as a percentage of the total pension liability	86.61%	86.12%	80.56%	87.03%	91.94%
Covered payroll	260,345	289,947	280,436	277,745	268,424
Net pension liability as a percentage of Covered payroll	247.63%	223.69%	320.92%	207.99%	127.81%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

SCHEDULE 2

SCHEDULE OF EMPLOYER CONTRIBUTIONS ($000) (UNAUDITED)					
Year Ended June 30	**Covered Payroll**	**Actuarially Determined Contribution**	**Contributions Related to the Actuarially Determined Contribution**	**Contribution Deficiency (Excess)**	**Contribution as a Percentage of Covered Payroll**
2018	260,301	$ 96,530*	$ 83,010**	$ 13,520	31.89%
2017	$ 289,947	$ 88,745	$ 93,658	$ (4,913)	32.30%
2016	$ 280,436	$ 87,464	$ 94,279	$ (6,815)	33.62%
2015***	-	-	-	-	-
2014	$ 268,424	$ 83,480	$ 64,338	$ 19,142	23.97%

** Please see the July 1, 2017 Risk Sharing Valuation Study (published December 2017)*

*** In accordance with SB 2190, the City's fiscal year ending 2018 contributions is based on the mid-point between the Fund's actuary's and the municipal actuary's July 1, 2016 Initial Risk Sharing Valuation contribution rates.*

****A funding valuation was not performed as of July 1, 2014; therefore, no actuarially determined contribution was calculated for the period July 1, 2014 to June 30, 2015*

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

SCHEDULE 3

SCHEDULE OF INVESTMENT RETURNS (UNAUDITED)	
Year Ended June 30	**Annual Money-Weighted Rate Of Return, Net Of Investment Expense* ** **
2018	8.27%
2017	11.87
2016	(1.29%)
2015	1.28%
2014	17.53%

** The money-weighted rate of return is the internal rate of return (IRR) on the Fund's investments, net of the Fund's investment expense, adjusted for the changing amounts actually invested. Accordingly, this calculation takes into account the effects of transactions that increase the amount of the Fund's investments (such as investment returns and contributions from employers and plan members) and those that decrease the amount of pension plan investments (such as benefit payments and Fund/investment expenses).*

***Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.*

NOTES TO SCHEDULE OF CHANGES IN THE FUND'S NET PENSION LIABILITY AND RELATED RATIOS:

A. **Benefit changes:**

- None

B. **Changes in Assumptions:**

- Mortality rates for active participants and non-disabled pensioners were based on the RP-2014 Mortality Table with Blue Collar Adjustment and generational improvement using Scale MP-2017. Projected longevity improvements were applied by adjusting the RP-2014 tables back to 2006 using Scale MP-2014, and then applying generational projection from 2006 forward using Scale MP-2017.
- Mortality rated for disabled pensioners were based on the RP-2014 Total Data Set for Disabled Lives Mortality Table and generational improvement using Scale MP-2017. Projected longevity improvements were applied by adjusting the RP-2014 tables back to 2006 using Scale MP-2014, and then applying generational projection from 2006 forward using Scale MP-2017.

NOTES TO SCHEDULE OF FUND CONTRIBUTIONS:

The Contributions related to the actuarially determined contribution is in accordance with Texas Senate Bill 2190 (SB2190), which was adopted May 31, 2017. Effective July 1, 2017, SB2190 requires the Fund actuary and City actuary to separately prepare a draft of a Risk Sharing Valuation Study (RSVS).

The initial RSVS is dated as of July 1, 2016 and each RSVS use the following assumptions:

- Use of an investment return assumption of not more than 7.00%;
- Ultimate Entry Age Method with liabilities allocated from date of entry to expected payment of benefit. Under this method, future normal cost for active employees is calculated based on the Fund provisions in effect for the most recently hired employees;
- An asset valuation method that recognizes gains and losses on the market value of assets (based on the difference between the actual rate of return and the assumed rate of return) over five years. Past gains and losses were fully recognized in the Actuarial Value of Assets at July 1, 2016. New gains and losses will be recognized over five years beginning July 1, 2017;
- The use of a 30-year, closed, level percent of payroll amortization period, in which new gain/loss amortization bases are established each year. The Unfunded Actuarial Accrued Liability at July 1, 2016 is amortized as a level percentage of payroll over a closed amortization period of 30 years with payments effective for fiscal year beginning July 1, 2017. Additional actuarial experience losses will be amortized over a closed amortization period of 30 years in future valuations. If in any given year the Fund experiences an actuarial gain, any such gain will be used to offset the largest outstanding loss amortization base, if applicable;
- Payroll growth rate assumption of 2.75%, not to exceed 3% in future RSVS.

Upon completion of an annual RSVS, each actuary shall review and compare its counterpart's draft RSVS. If the difference between the two resulting City contribution rates is at or below 2%, the Fund actuary's RSVS will be used to determine the contribution rate for the fiscal year. If the difference is greater than 2%, the actuaries will have 20 business days to reconcile the contribution rates until the difference falls within 2%. If, however, the contribution rates cannot be reconciled, the arithmetic average will be used.

ACTUARIAL ASSUMPTIONS:

The information presented in the required supplemental schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	July 1, 2016	
Actuarial cost method	Entry age method	
Amortization method	Level percentage of payroll over a closed amortization period 30 years effective July 1, 2015	
Remaining amortization period	28 years	
Asset valuation method	Gains and losses in the fair value of assets, based on the difference between the actual rate of return and the assumed rate of return, are recognized in the actuarial value over five years. Past gains and losses were fully recognized in the Actuarial Value of Assets at July 1, 2013. New gains and losses will be recognized over five years beginning July 1, 2014.	
Investment rate of return	7.25% per year, net of expenses Investment Returns prior to July 1, 2016 are assumed to be 8.5%. Expected future investment returns are assumed to be net of administrative and investment expenses	
Payroll growth rate	3% per year	
Salary increases	3% to 7%, based on seniority and merit	
General inflation rate	3% per year	
Cost of living adjustment	3% annually	
Mortality rates	Active participants and non-disabled pensioners: RP-2000 Table projected to year 2016 using Scale AA. Note: the RP-2000 Mortality Table projected to year 2026 using Scale AA is used to determine the mortality assumptions for the plan, including the probability of ceasing active service due to death Disabled Pensioners: Graduated rates Disability Rates: Graduated rates	
Future DROP interest credits	Floor of 5% and a ceiling of 10%. Interest is assumed to be credited at 8% to reflect an expected average 0.5% net gain due to asset performance outside this range.	
DROP Duration	Duration of DROP at Retirement 0 3 5 8 10	Percentage of participants electing retirement at the specified duration 0% 0% 5% 30% 65%

The following changes in assumptions and methods have taken place since the July 1, 2015 valuation:

- In general, the mortality rates applicable to active and non-disabled participants are based on the RP-2000 table projected 10 years from the valuation date. Therefore, the mortality rates have been updated from the RP-2000 table projected to 2025 using scale AA to the RP-2000 table projected to 2026 using Scale AA. This increased the actuarial accrued liability by approximately $4 million.

- The assumed investment rate of return was changed from 8.5% to 7.25%. This change increased the actuarial accrued liability by approximately $504,000,000.

SECTION 02

ADDITIONAL SUPPLEMENTAL INFORMATION

SCHEDULE 4

Investment, Professional Services and Administrative Expenses Years Ended June 30, 2018 and 2017

	2018	2017
Investment Services:		
Custodial services	$ 218,852	$ 225,686
Money management services	4,120,481	3,866,908
Consulting	500,453	456,750
Legal	260,740	154,733
Investment research	93,544	106,621
Department operating expenses	1,705,021	2,022,762
TOTAL INVESTMENT SERVICES	$ 6,899,091	$ 6,833,460
Professional services:		
Actuarial services	325,224	555,880
Audit and accounting services	33,726	36,495
Consulting and professional services	134,352	135,473
Government relations	721,414	770,855
Legal services*	431,986	792,814
Medical examinations	29,735	6,435
TOTAL PROFESSIONAL SERVICES	$ 1,676,437	$ 2,297,952
Administrative expenses:		
Depreciation	510,977	460,917
Continuing education	141,455	153,080
Furniture, equipment and supplies	103,348	127,225
Insurance	703,120	669,865
Office cost	3,191,680	3,264,621
Facility maintenance	109,463	106,304
Utilities	130,164	115,813
TOTAL ADMINISTRATIVE EXPENSES	$ 4,890,207	$ 4,897,825

See accompanying independent auditors' report.

**Included Governmental Relations Consulting*

SCHEDULE 5

Summary of Investment and Professional Services Fiscal Year Ended June 30, 2018

INDIVIDUAL OR FIRM NAME	AMOUNT	NATURE OF SERVICES
The Bank of New York Mellon	$ 218,852	Custodial
Ariel Investments, LLC	51,493	Money management
AllianceBernstein L.P.	273,177	Money management
BlackRock Institutional Trust Company, N.A.	30,539	Money management
Mellon Capital Management Corporation	1,290,022	Money management
Standish Mellon Asset Management	184,198	Money management
Loomis, Sayles & Company L.P.	453,389	Money management
State Street Global Advisors	586,362	Money management
Schroder Investment Management North America, Inc.	907,059	Money management
Timberland Investment Resources, LLC	241,347	Money management
Blackstone Management Partners L.L.C.	76,663	Money management
Energy Trust LLC	26,232	Money management
Hamilton Lane Advisors LLC	186,818	Consulting
StepStone Group LLP	313,635	Consulting
DLA Piper LLP	31,226	Legal
Jackson Walker, LLP	229,328	Legal
Strasburger & Price, LLP	186	Legal
Bloomberg Financial LP	25,530	Investment Research
Crain Communications Inc	1,528	Investment Research
Informa Investment Solutions	24,034	Investment Research
Institutional Limited Partners Association	5,000	Investment Research
The Burgiss Group, LLC	37,452	Investment Research
Other	1,705,021	Department Operating Expenses
TOTAL INVESTMENT SERVICES	$ 6,899,091	
Conduent HR Consulting, LLC	325,224	Actuarial Services
McConnell & Jones LLP	33,726	Audit
Adjacent Techonologies, Inc	1,950	Consulting
BEMA Information Technologies	4,253	Consulting
Cornerstone Government Affairs, Inc	15,289	Consulting
Data Vox	350	Consulting
g3 Public Relations	32,505	Consulting
Global Governance Advisors LLC	40,778	Consulting
Great West Financial	10,143	Consulting
Information Network International	620	Consulting
Levi, Ray & Shoup, Inc	18,737	Consulting
Media Masters	787	Consulting
Payscale	2,160	Consulting
Bayside Printing Company, Inc	2,692	Consulting, printing, and design
Firefighters Print & Design	88	Consulting, printing, and design
Limb Design, Inc.	4,000	Consulting, printing, and design
Andy Taylor & Associates, PC	3,871	Government Relations
Cornerstone Government Affairs, Inc	360,000	Government Relations
Delisi Communications, Inc.	89,250	Government Relations
One World Strategy Group, LLC	123,750	Government Relations
Williams & Jensen, PLLC	144,543	Government Relations
Baker Botts LLP	60,604	Legal
Clark Hill Strasburger	6,691	Legal
Conduent HR Consulting, LLC	1,857	Legal
Conner & Winters, LLP	396	Legal
McGinnis Lochridge	63,200	Legal
McGlinchey Stafford	12,645	Legal
Shipley Snell Montgomery LLP	259,425	Legal
Strasburger & Price L.L.P.	9,432	Legal
The Potter Law Firm, PLLC	3,240	Legal
Winstead PC	14,496	Legal
Athletic Ortho Knee	1,800	Medical Examinations
Colin M. Barker M.D.	2,500	Medical Examinations
Exam Coordinators Network	25,435	Medical Examinations
TOTAL PROFESSIONAL SERVICES	$ 1,676,437	

See accompanying independent auditors' report

SECTION 03

INVESTMENT INFORMATION

REPORT OF THE CHIEF INVESTMENT OFFICER AND OUTLINE OF INVESTMENT POLICIES

Ajit Singh, Frm, Caia

REPORT OF CHIEF INVESTMENT OFFICER

The primary goal of the Houston Firefighters' Relief and Retirement Fund's (Fund) investment program is to grow the assets of the Fund while maintaining the ability to pay the benefits promised to retirees and beneficiaries. This shall be achieved by earning an average annual return of 7.25% over a 10-year period.

The internal objective of the Fund's investment program is to generate an aggregate return in excess of the Fund's Policy Benchmark over a five-year period. The secondary objective is to continually improve the administration, oversight, and Trustee education of the Fund's investment program.

PORTFOLIO RESULTS[1]

The Houston Firefighters' Relief and Retirement Fund's investment portfolio grew in fiscal year ending June 30, 2018 with a total portfolio investment return of 8.3% gross (8.2% net), exceeding the benchmark returns of 6.6% by 1.7%. Public equities ended the year with 10.7%, fixed income with 0.2%, hedge funds with 8.0%, private equity with 13.9% and real estate with 7.1%. The Fund maintained overweight position in public equities and underweight position in fixed income and hedge funds. The investment strategy focused on maximizing returns within the risk budget and maintained slightly higher risk profile than the benchmark to take advantage of rising equities and rising interest rates. The Fund returns over five-year 7.5% (benchmark 6.9%), ten-year 6.4% (benchmark 6.0%) and fifteen-year 9.0% (benchmark 7.6%) are exceeding the benchmark returns reflecting the long term sustainable outperformance. The Fund's ten-year return and policy benchmark rank in the third quartile according to the Wilshire Trust Universe Comparison Report[2].

The Fund, managed by an internal staff of investment professionals, is well-diversified among a variety of asset classes, including global stocks and bonds, private equity, absolute return strategies, real estate and cash. The investment team seeks to meet its investment goals through prudent asset allocation policy, risk management and disciplined manager selection. Even as uncertainties remain in the economy and capital markets, the investment portfolio is well positioned to continue achieving its long-term targets.

	7-YEAR	10-YEAR
HFRRF Total Fund[1]	7.3%	6.4%
Standard & Poor's 500 Index	13.2%	10.2%
Barclays Universal Index	2.9%	4.1%
Public Pension Fund Peers – Median[2]	8.0%	7.1%

[1] This information is gross of Fund expenses and investment fees (with the exception of commingled funds and partnerships whose fair value is reported as net asset values) and as such inclusive of management fees and expenses.

[2] Source: June 30, Wilshire Trust Universe Comparison Services report (TUCS)

OUTLINE OF INVESTMENT POLICIES

The purpose of the Investment Policy Statement is to assist the Board of Trustees (Board) of the Houston Firefighters' Relief and Retirement Fund (Fund) in the investment management of the Fund's assets. The authority to amend these policies and procedures rests solely with the Board. The Investment Committee is a committee of the whole Board and has the authority to act on all matters related to investments.

INVESTMENT PHILOSOPHY

In developing the investment program, the Investment Committee is guided by a set of precepts from which all investment decisions are made and establishes the foundation and direction for all future activity. These precepts are applied by the Investment Committee, knowing the importance of asset allocation and the benefits of diversification. These guiding precepts are the following: long-term focused, value-driven, relationship-driven, opportunistic, contrarian and active management.

ASSET ALLOCATION AND REBALANCING

The Investment Committee establishes the Fund's asset allocation targets, ranges, and benchmarks. Below are the asset allocation targets, ranges, and benchmarks as of the latest revision to this Policy.

ASSET CLASS	RANGE	TARGET	BENCHMARK
PUBLIC MARKETS			
Cash & Cash Equivalents	0.5% - 2%	1%	**BofA ML 9-12 Mo. US Treasury Index***
Fixed Income	20% - 35%	30%	**Bloomberg Barclays US Aggregate Bond Index****
Domestic Equity	12% - 30%	17%	**Russell 3000 Index**
International Equity	12% - 30%	17%	**MSCI All Country World Ex-US Index**
Hedge Funds	4% - 12%	8%	**LIBOR + 3%**
PRIVATE MARKETS			
Private Equity	11% - 25%	20%	**Cambridge US Private Equity 1QA**
Real Estate	4% - 10%	7%	**50% NCREIF Timberland /50% NCREIF Property*****

**Cash benchmark: Citigroup 3-month T-bill (4/30/1988 - 8/31/1997); ML 90-day T-bill Index (9/30/1997 - 5/31/2000); ML 1-Yr T-bill Index (6/1/2000 - 11/30/2009); 50% Barclays Capital 3-mo Tr Bill / 50% Barclays Capital 1-3 Yr Tr (12/01/2009 - 6/30/2013); BofA Merrill Lynch 9-12 Month US Treasury Index (7/01/2013 - Present).*
***Fixed Income benchmark: Bloomberg Barclays US Universal Index (1/1/1990 - 6/30/2016); Bloomberg Barclays US Aggregate Bond Index (7/1/2016 - Present).*
****NCREIF Timber/Property: National Council of Real Estate Investment Fiduciaries (NCREIF) Timberland Index / Property Index with a 70/30 split (Inception to 6/30/2008); 50/50 split (7/1/2008 to present).*

When necessary (usually appropriate every three to five years) the Investment Committee will undertake a comprehensive review of the Fund's asset allocation targets and ranges. This may involve an asset-liability study that places the development of investment policy into the context of future benefit payments, liabilities, required funding and the prospective funded status of liabilities. The Fund undertook an Asset-Liability and Investment Strategy Project in the last quarter of the fiscal year ending on June 30, 2016. [1]

Public Market Rebalancing

The Investment Committee has allocated the assets of the Fund to several asset classes with the objective of optimizing the investment return of the Fund within the framework of acceptable risk and diversification. Each asset class is allowed to operate within its specific range established by the Investment Committee. In addition, a target allocation has been established for each asset class for the purpose of performance evaluation and rebalancing. If a public, noncash asset class reaches an endpoint of its allocation range; the Chief Investment Officer (CIO), with the approval of the Chairman is allowed the discretion to effect a rebalance to within 2.5% of the target allocation.

Cash Management

The CIO with the Chairman's approval is allowed the discretion to use the public markets portfolio, excluding hedge funds, to manage the cash level within the established asset class range set forth in the HFRRF Investment Policy Statement (IPS). If the cash balance rises/falls above/below the asset class range limit or if there is expected to be a near-term large cash outflow, the short-intermediate bond, the Russell 3000 Index, the MSCI ACWI ex-US Index and the MSCI EM Stock Index will be bought/sold (after any index rebalancing considerations) to rebalance cash..

RISK MANAGEMENT

The Fund ensures adequate risk control through the following means:

Diversification

The Investment Committee shall diversify the investment portfolio in order to minimize the impact of the loss from individual investments as may be relevant to an asset class. In addition to achieving diversification by asset class, the Investment Committee shall pay careful attention to diversification within each asset category and subcategory.

Portfolio Guidelines

Every portfolio that is a part of the Fund's overall investment portfolio shall operate under written guidelines approved by the Investment Committee, which are designed to ensure that the portfolio meets its objective and operates within acceptable risk parameters.

MANAGER SELECTION

To assist the Investment Committee in the investment management of the Fund's assets, professional investment managers will be retained to implement the strategies selected by the Investment Committee. The IPS describes generally the manager screening and selection process (due diligence), the guidelines applicable to managers hired by the Fund, and the review and retention procedures for managers retained by the Investment Committee.

The appropriateness of seeking a new or replacement investment manager will be determined by the Fund's most current investment strategy, philosophy, asset class ranges, capital availability or the need to replace an existing manager in accordance with the IPS.

1. Although this study was conducted within fiscal year 2016 and changes ultimately made to Fund's target asset allocation, these changes became effective on July 1, 2017 (fiscal year 2018).

The investment staff with input from the Investment Committee shall use a disciplined due diligence process to screen and select managers consistent with the asset class placement under consideration. The Fund's investment staff shall develop and keep written records of the internal due diligence process. Additionally, the investment staff shall update and educate the Investment Committee of any changes to the process each time the Investment Committee engages in a manager search and selection.

No manager shall be given consideration by the Investment Committee until/unless the manager has been placed through the Fund's formal due diligence process. The Investment Committee or the Chief Investment Officer may engage an external consultant to assist with a search. All new or replacement investment managers shall be approved by the Investment Committee along with funding/commitment level subject to conclusion of any further appropriate negotiations or discovery.

PORTFOLIO PERFORMANCE MEASURES

To measure the performance of the overall Fund, the Investment Committee has established a Policy Benchmark, which is reflective of an approved asset allocation study.

The reported investment performance of the Fund will be calculated by the Fund's custodian bank, an unaffiliated organization, with recognized expertise in this field and fiduciary level reporting responsibility to the Fund's Investment Committee. A calculation will be made for the Fund's aggregate, asset class, and investment manager performance using the Global Investment Performance Standards (GIPS®) or a similar standard. Additionally, each investment manager is required to keep performance records and report periodically to the Fund's custodian, internal investment staff, and third-party auditor. Separately, internal calculations of the Fund's investment manager performance shall be developed by the Fund's investment staff. A time-weighted rate of return calculation shall be used for all public market investment managers. Private equity and real estate investments shall be calculated using an internal rate of return.

The fiscal year of the Fund shall begin on July 1st and end on June 30th. The fair value of the Fund's investments shall be maintained on an accrual basis in compliance with Government Accounting Standards Board Statements, industry guidelines, state statutes, or whichever is applicable. The Fund's financial statements and investment returns shall be audited each fiscal year-end by an independent accounting firm in accordance with the Fund's Administrative Policies.

CORPORATE GOVERNANCE

The Board of Trustees recognizes its fiduciary obligation to cast its votes in corporate affairs. Thus, the Board has adopted a written Corporate Governance Policy. As a matter of procedure, the Board has delegated the authority to sign and submit proxy material on behalf of the Fund to external managers, respectively.

FAIR VALUE AND CURRENT ASSET ALLOCATION

(Dollars In Millions)

	June 30, 2018 FAIR VALUE[1]	PERCENT	June 30, 2017 FAIR VALUE[1]	PERCENT
Cash Equivalents	$ 214	5%	$ 48	1%
Fixed Income	916	22%	1,140	28%
Domestic Equity	1,155	28%	1,034	26%
International Equity	948	23%	974	24%
Hedge Funds	198	5%	246	6%
Private Equity	540	13%	383	10%
Real Estate	191	4%	195	5%
	$ 4,163	100%	$ 4,019	100%

1. The fair value shown in this report includes accrued interest/dividends and payables/receivables on pending trades. In the Report of Plan Net Assets, these additional values are included in the "Other" category. Values shown above will differ from total assets shown on Statement of Net Assets for HFRRF Total Portfolio by the amount of land, building, furniture, fixtures, and equipment as well as non-investments related payables/receivables.

INVESTMENT RESULTS
TOTAL FUND RETURN VS POLICY BENCHMARK

(Period ended June 30, 2018)

	2018	2017	2016	2015	2014	3 Year	5 Year	7 Year	10 Year
HFRRF - Total Portfolio	8.3	12.0	-1.0	1.5	17.8	4.0	8.1	9.0	5.9
Policy Benchmark	6.6	9.5	2.1	3.5	13.0	5.0	7.3	8.0	5.5

Returns by Asset Class	2018	2017	2016	2015	2014	3 Year	5 Year	7 Year	10 Year
HFRRF - Cash	2.1	2.1	3.7	2.0	4.2	2.6	3.2	5.8	5.8
BofA ML 9-12 Mo. US Treasury Index*	0.7	0.2	0.8	0.5	0.4	0.5	0.4	0.5	1.3
HFRRF - Domestic Equity	13.9	18.1	-2.7	0.4	27.0	4.9	13.2	13.2	6.3
Russell 3000	14.8	18.5	2.1	7.3	25.2	9.1	14.6	15.3	7.3
HFRRF - Fixed Income	0.2	5.0	6.5	0.2	11.9	3.9	5.4	6.9	7.5
Bloomberg Barclays US Aggregate Bond Index**	-0.4	-0.3	5.8	1.6	5.2	2.3	2.5	3.5	4.6
HFRRF - International Equity	7.5	19.4	-13.8	-3.9	22.9	-0.4	7.2	6.5	0.2
MSCI All Country World Ex-US Index	7.8	21.0	-9.8	-4.9	22.3	1.3	7.7	7.1	1.6
HFRRF - Hedge Funds	8.0	9.1	-8.5	2.6	9.8	0.8	3.2	5.2	5.8
LIBOR + 3%	4.7	4.0	3.5	3.3	3.2	3.6	3.5	3.4	4.0
HFRRF - Private Equity	13.9	10.6	5.9	13.6	22.7	10.0	12.8	14.1	11.1
CA US Private Equity 1QA	16.2	17.3	3.2	10.6	18.9	10.2	12.4	13.7	9.7
HFRRF - Real Estate	7.1	2.8	9.1	14.0	13.0	8.5	9.3	9.1	4.7
50% NCREIF Timberland / 50% NCREIF Property***	5.4	5.2	7.0	11.5	10.6	7.9	8.8	8.4	6.6

**Cash benchmark: Citigroup 3-month T-bill (4/30/1988 - 8/31/1997); ML 90-day T-bill Index (9/30/1997 - 5/31/2000); ML 1-Yr T-bill Index (6/1/2000 - 11/30/2009); 50% Barclays Capital 3-mo Tr Bill / 50% Barclays Capital 1-3 Yr Tr (12/01/2009 - 6/30/2013); BofA Merrill Lynch 9-12 Month US Treasury Index (7/01/2013 - Present).*

*** Fixed Income benchmark: Bloomberg Barclays US Universal Index (1/1/1990 - 6/30/2016); Bloomberg Barclays US Aggregate Index (7/1/2016 - Present).*

****NCREIF Timber/Property: National Council of Real Estate Investment Fiduciaries (NACREIF) Timberland Index / Property Index with a 70/30 split (Inception to 6/30/2008); 50/50 split (7/1/2008 to present).*

COMPARISON OF INVESTMENT RETURNS
TOTAL FUND RETURN VS POLICY BENCHMARK[1]

(Period ending June 30, 2018)

YEAR	TOTAL FUND	MEDIAN TOTAL FUND*	FUND DOMESTIC EQUITY INV	RUSSELL 3000 STOCK IND	S&P 500	FUND FIXED INCOME INV	BARCLAYS CAPITAL UNIVERSAL	BARCLAYS CAPITAL GOV/CREDIT	FUND INTL EQUITY	MSCI ALL COUNTRY WORLD EX US	MSCI EAFE
2002	(2.4)	(6.0)	(1.0)	(17.3)	(18.0)	1.8	7.7	8.2	(8.1)	(9.4)	(9.5)
2003	6.5	3.9	(1.8)	0.8	0.3	26.8	11.5	13.1	(6.9)	(5.6)	(6.1)
2004	18.4	15.8	30.9	20.5	19.1	4.7	1.0	(0.7)	34.3	32.0	32.4
2005	19.1	9.4	18.6	8.1	6.3	14.3	7.4	7.3	16.1	14.6	13.6
2006	14.5	9.4	16.5	9.6	8.6	1.4	(0.3)	(1.5)	27.9	26.9	26.6
2007	17.0	16.1	19.6	20.1	20.6	9.0	6.6	6.0	29.1	30.1	27.0
2008	4.0	(4.5)	2.2	(12.7)	(13.1)	4.3	6.2	7.2	(5.2)	(8.8)	(10.6)
2009	(20.0)	(17.1)	(38.3)	(26.6)	(26.2)	0.0	4.9	5.3	(36.3)	(30.5)	(31.4)
2010	17.3	12.7	22.3	15.7	14.4	23.0	10.6	9.7	8.9	10.9	5.9
2011	20.6	21.1	39.0	32.4	30.7	11.0	4.8	3.7	30.6	30.3	30.4
2012	2.1	1.2	(7.5)	3.8	5.4	10.8	7.4	8.8	(16.3)	(14.1)	(13.8)
2013	11.5	12.4	26.8	21.5	20.6	3.5	0.2	(0.6)	16.6	14.1	18.6
2014	17.8	16.9	27.0	25.2	24.6	11.9	5.2	4.3	22.9	22.3	23.6
2015	1.5	3.4	0.4	7.3	7.4	0.2	1.6	1.7	-3.9	-4.9	-4.2
2016	-1.0	1.1	-2.7	2.1	4.0	6.5	5.8	6.7	-13.8	-9.8	-10.2
2017	12.0	12.4	18.1	18.5	17.9	5.0	0.9	-0.4	19.4	19.5	20.3
2018	8.3	8.6	13.9	14.8	14.4	0.2	-0.3	-0.6	7.5	7.0	6.8

**Median total fund returns are provided by Wilshire Trust Universe Comparison Service (TUCS) as of June 30. Fiscal years 2004-2018 are 'Total Returns of Master Trusts - Public'. Fiscal years 2002-2003 are 'Total Returns of Master Trusts - All Plans'.*

ANNUALIZED RETURNS

	TOTAL FUND	MEDIAN TOTAL FUND*	FUND DOMESTIC EQUITY INV	RUSSELL 3000 STOCK INDEX	S&P 500 STOCK INDEX	FUND FIXED INCOME INV	BARCLAYS UNIVERSAL	BARCLAYS CAPITAL GOV/CREDIT
2-YEAR	10.1	10.6	16.0	16.6	16.1	2.6	0.3	-0.5
3-YEAR	6.3	7.3	9.4	11.6	11.9	3.9	2.1	1.8
5-YEAR	7.5	8.4	10.8	13.3	13.4	4.7	2.6	2.3
7-YEAR	7.3	8.0	10.1	13.0	13.2	5.4	2.9	2.8
10-YEAR	6.4	7.1	7.5	10.2	10.2	7.0	4.1	3.8

**Median total fund returns are provided by Wilshire Trust Universe Comparison Service (TUCS) as of June 30, 'Total Returns of Master Trusts - Public'.*

TEN LARGEST EQUITY INVESTMENT HOLDINGS

(Excluding Commingled Funds)

DESCRIPTION	AIR VALUE	PERCENT OF TOTAL FAIR VALUE
CORNING INC	$661,147.83	0.02%
BRISTOL-MYERS SQUIBB CO	$605,198.24	0.01%
FORD MOTOR CO	$524,440.80	0.01%
FIRST AMERICAN FINANCIAL CORP	$477,670.50	0.01%
LABORATORY CORP OF AMERICA HOL	$430,872.00	0.01%
ZIMMER BIOMET HOLDINGS INC	$409,104.90	0.01%
AFLAC INC	$395,270.00	0.01%
NORTHERN TRUST CORP	$386,928.00	0.01%
ANIXTER INTERNATIONAL INC	$381,410.00	0.01%
STERLING BANCORP/DE	$380,693.00	0.01%

To allow for greater disclosure, the following ETFs, CTFs, and commingled funds and their fair values as of June 30, 2018 are disclosed via this footnote rather than the table above: MCM ACWI Ex-U.S. Fund - $701,176,241 (16.91%), MCM Dynamic U.S. Equity Fund - $341,497,117 (8.24%), MCM Broad Market Stock Index Fund - $296,039,760 (7.14%), BlackRock Russell 3000 Fund - $226,467,429 (5.46%), McKinley Non-U.S. 130/30 Growth Fund - $111,606,151 (2.69%), MCM Emerging Markets Stock Index Fund - $47,420,414 (1.14%), Schroder CIT U.S. Risk Managed Equity Trust I - $43,327,335 (1.05%), Schroder CIT International Risk Managed Equity Trust I - $41,135,534 (.99%), iShares Edge MSCI Multifactor USA ETF - $37,736,173 (.91%), iShares Edge MSCI Multifactor International ETF - $35,142,183 (.85%), Russell 1000 (R) Index NL CTF - $20,736,919 (.5%), Energy Select Sector SPDR - $18,558,521 (.45%), Consumer Discretionary Select Sector SPDR - $15,909,708 (.38%), iShares Edge MSCI Multifactor USA Small-Cap ETF - $13,291,358 (.32%), Materials Select Sector SPDR - $13,161,217 (.32%), Global Defensive Equity NL CTF - $11,258,216 (.27%), iShares Edge MSCI Multifactor Emerging Markets ETF - $11,215,579 (.27%), FTSE RAFI Developed 1000 Index NL CTF - $11,066,942 (.27%), MSCI Europe Index NL CTF - $10,547,813 (.25%), MSCI Emerging Markets Index NL CTF - $10,179,157 (.25%), MSCI JPY Index NL CTF - $8,053,566 (.19%), Russell 2000 (R) Index NL CTF - $6,912,154 (.17%), Global LargeMidCap Natural Resources Index NL CTF - $6,867,805 (.17%), Bloomberg Roll Select Commodity Index NL CTF - $4,936,248 (.12%), MSCI AUD Index NL CTF - $2,497,285 (.06%), Technology Select Sector SPDR - $2,294,038 (.06%), Industrial Select Sector SPDR - $2,264,869 (.05%), U.S. TIPS Index NL CTF - $2,259,110 (.05%), MSCI CAD Index NL CTF - $2,061,851 (.05%), MSCI EAFE Index NL CTF - $1,432,834 (.03%), MSCI HKD Index NL CTF - $1,128,476 (.03%), and iShares Russell Mid-Cap Value ETF - $484,217 (.01%).

The complete list of portfolio holdings can be obtained through a submission of a public information request for the HFRRF's comprehensive integrated itemization of the portfolio.

TEN LARGEST BOND INVESTMENT HOLDINGS

DESCRIPTION	DETAILED DESCRIPTION	FAIR VALUE	PERCENT OF TOTAL FAIR VALUE
U.S. Treasury Note	1.250% 04/30/2019 DD 04/30/12	$32,263,885.50	0.78%
U.S. Treasury Note	2.625% 02/28/2023 DD 02/28/18	28,888,399.90	0.70%
U.S. Treasury Bond	4.375% 05/15/2040 DD 05/15/10	23,738,227.24	0.57%
U.S. Treasury Bond	4.625% 02/15/2040 DD 02/15/10	20,120,944.66	0.49%
U.S. Treasury Note	2.000% 01/15/2021 DD 01/15/18	18,584,455.40	0.45%
U.S. Treasury Note	2.375% 01/31/2023 DD 01/31/18	18,173,149.87	0.44%
U.S. Treasury Note	2.750% 02/15/2028 DD 02/15/18	16,314,309.75	0.39%
U.S. Treasury Bond	3.000% 05/15/2047 DD 05/15/17	15,083,064.27	0.36%
FNMA POOL #0BJ3619	3.500% 01/01/2048 DD 01/01/18	15,018,922.30	0.36%
FNMA POOL #0BH9215	3.500% 01/01/2048 DD 01/01/18	14,965,303.63	0.36%

To allow for greater disclosure, the following commingled fund and its fair value as of June 30, 2018 is disclosed via this footnote rather than the table above: U.S. Aggregate Bond Index NL CTF - $54,726,745 (1.32%).

FEES FOR INVESTMENT SERVICES

	ASSETS UNDER MANAGEMENT	FEES	BASIS POINTS
Investment Management Fees			
Cash Equivalents Manager[1]	$ 215,539,096	$ 184,198	0.0855%
Domestic Equity Managers	1,001,531,387	1,167,369	0.1166%
International Equity Managers	947,696,102	477,862	0.0504%
Fixed Income Managers	835,970,520	1,360,448	0.1627%
Hedge Funds	197,974,580	N/A	N/A
Private Equity	540,225,448	26,232	0.0049%
Real Estate Investments	191,331,517	241,347	0.1261%
Global Tactical Asset Allocation	$ 215,763,306	$ 586,363	0.2718%
Other Investment Services			
Custodian Bank	$ 4,146,031,956	$ 218,852	0.0053%
TOTAL FEES FOR INVESTMENT SERVICES	$ 4,146,031,956	$ 4,262,670	0.1028%

[1] *Includes residual cash from separate accounts, which is swept daily and included in the Super STIF cash management portfolio.*

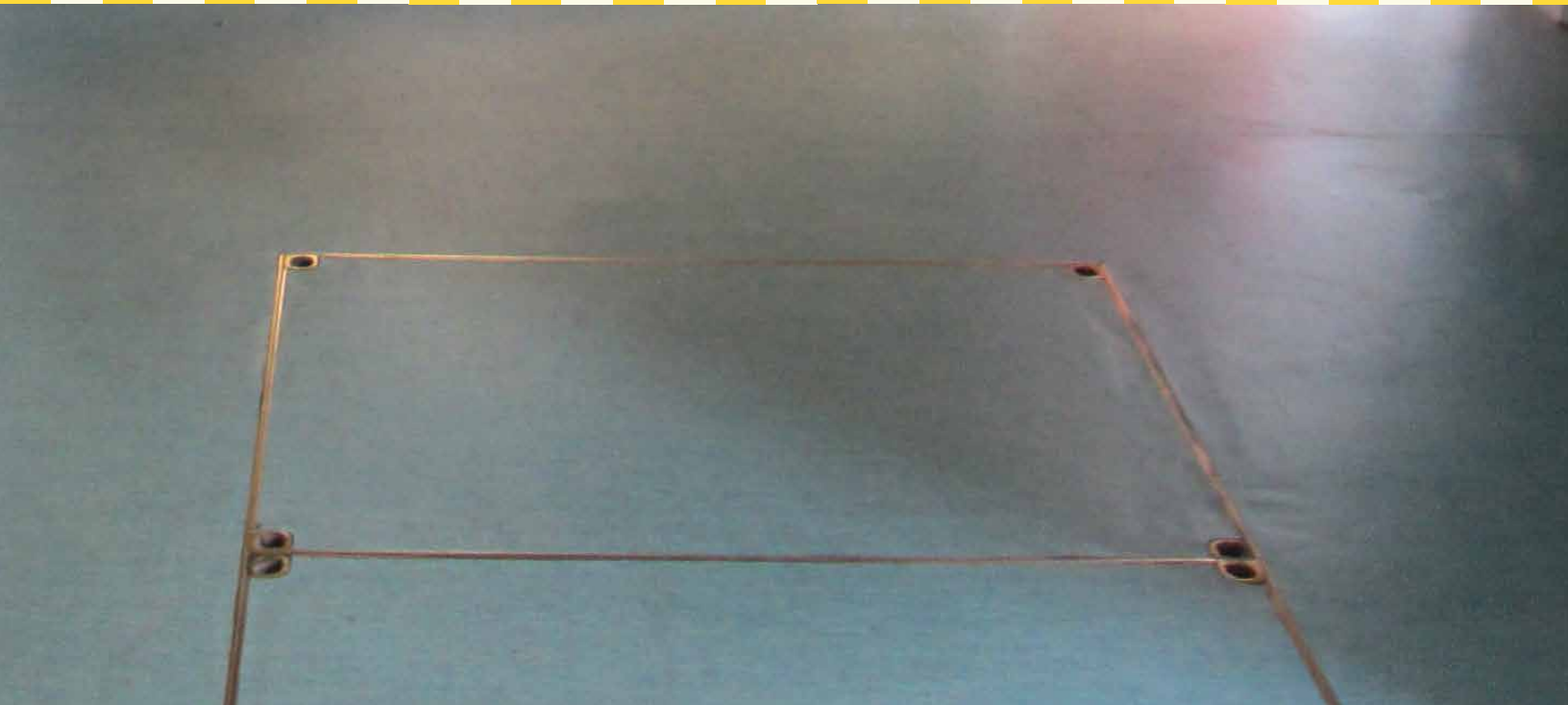
BROKERAGE COMMISSIONS - FISCAL YEAR 2018

Top 25 Broker Commission Paid

BROKER NAME	BASE COMMISSION
CITIGROUP GBL MKTS INC, NEW YORK	$ 7,369
COWEN AND CO LLC, NEW YORK	5,785
COWEN AND COMPANY, LLC, JERSEY CITY	2,903
GOLDMAN SACHS & CO, NY	2,821
DEUTSCHE BK SECS INC, NY (NWSCUS33)	2,653
MERRILL LYNCH PIERCE FENNER SMITH INC NY	1,998
CREDIT SUISSE, NEW YORK (CSUS)	1,822
MORGAN STANLEY & CO INC, NY	1,566
UBS SECURITIES LLC, STAMFORD	1,531
NATIONAL FINL SVCS CORP, NEW YORK	1,501
J.P MORGAN SECURITIES INC, NEW YORK	1,115
CANTOR FITZGERALD & CO INC, NEW YORK	1,090
PERSHING LLC, JERSEY CITY	672
CITATION GROUP BCC CLRG, NEW YORK	630
RBC CAPITAL MARKETS LLC, NEW YORK	405
BARCLAYS CAPITAL LE, NEW YORK	386
JONESTRADING INST SVCS LLC, NEW YORK	274
LIQUIDNET INC, NEW YORK	267
BMO CAPITAL MARKETS CORP, NEW YORK	223
OPPENHEIMER & CO INC, NEW YORK	217
BARCLAYS CAPITAL INC./LE, NEW JERSEY	124
INSTINET CLEARING SER INC, NEW YORK	120
ITG INC, NEW YORK	84
BARRINGTON RESEARCH ASSOC INC, NEW YORK	76
BAIRD, ROBERT W & CO INC, MILWAUKEE	56
OTHER	283
TOTAL	$ 35,971

SECTION 04

ACTUARIAL INFORMATION



An Overview of the Actuarial Valuation

There are several types of retirement plans, each designed to provide income security after retirement. How each type of plan is funded varies depending on the type of plan. The Houston Firefighters' Relief and Retirement Fund is a single-employer defined benefit plan, which requires an actuarial valuation to determine the amount of funding required to pay benefits. Another type of plan, a defined contribution plan, does not require an actuarial valuation.

TYPES OF RETIREMENT PLANS

Defined contribution plans accumulate contributions (employee only, or employee and employer). The plan then provides a benefit based on the actual investment growth (or decline) of those contributions. A specific benefit is not promised. Adequate funding is accomplished simply by making the required contributions.

The Houston Firefighters' Relief and Retirement Fund is a defined benefit plan. Defined benefit plans represent a promise to pay specific benefits to employees. The benefit to employees and their survivors is usually much more than the combined contributions of the employee (if specified) and the employer. Determining adequate funding requires making a variety of assumptions to assure full payments can be made from the plan.

BASIS FOR ASSUMPTIONS

The economic and demographic assumptions used in the study (except for the investment return assumption) were adopted by the Board in consultation with Buck. Senate Bill 2190 requires that an actuarial experience study be performed in order to review the experience of the Fund at least once every four years to determine if any changes to the valuation assumptions are warranted. In general, the assumptions used in the valuation are based on recommendations made and approved by the Board as part of an Experience Study covering plan years from July 1, 2009 through June 30, 2013. The mortality assumption used in this study is based on the most recent base mortality table published by the Society of Actuaries and the projection scale MP-2017, which was published in 2017. Senate Bill 2190 requires the use of an investment return assumption of not more than 7.00%.

ACTUARIAL VALUE OF ASSETS

Senate Bill 2190 requires the use of an asset valuation method that recognizes gains and losses on the market value of assets (based on the difference between the actual rate of return and the assumed rate of return) over five years. Past gains and losses were fully recognized in the Actuarial Value of Assets at July 1, 2016. New gains and losses will be recognized over five years beginning July 1, 2017.

ACTUARIAL COST METHOD

Senate Bill 2190 requires the use of the Ultimate Entry Age Method with liabilities allocated from date of entry to expected payment of benefit. Under the Ultimate Entry Age Method, future normal cost for active employees is calculated based on the Fund provisions in effect for the most recently hired employees.

Senate Bill 2190 also requires the use of a 30-year, closed, level percent of payroll amortization period, in which new gain/loss amortization bases are established each year. The Unfunded Actuarial Accrued Liability at July 1, 2016 was amortized as a level percentage of payroll over a closed amortization period of 30 years with payments effective for fiscal year beginning July 1, 2017. Additional actuarial experience losses will be amortized over a closed amortization period of 30 years in future valuations. If, in any given year, the Fund experiences an actuarial gain, any such gain will be used to offset the largest outstanding loss amortization base, if applicable.

Actuary's Report

The information that follows was determined using specific actuarial methods, which have been generally described above. The methods were applied to census data about active firefighters, retirees and beneficiaries of the Fund as of July 1, 2016.

Buck
500 Plaza Drive
Secaucus, New Jersey 07096

October 23, 2018

Board of Trustees
Houston Firefighter's Relief and Retirement Fund
4225 Interwood North Parkway
Houston, TX 77032-3866

Re: Actuarial Certification

Dear Board Members:

The information contained herein is based on the Risk Sharing Valuation Study (RSVS) dated December 15, 2017. Effective with the fiscal year ending June 30, 2018, the Actuarial City Contribution Rate is determined by an annual RSVS based on the funding and benefit provisions of Senate Bill 2190 in lieu of an annual actuarial valuation. We certify that the information contained in the RSVS has been prepared in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information fairly presents the actuarial position of the Houston Firefighters' Relief & Retirement Fund as of July 1, 2017. The HFRRF retained Buck Global, LLC (Buck), formerly known as Conduent HR Consulting, LLC, to perform this RSVS for the purposes of determining the funded status as of the RSVS valuation date and adequacy of current funding for the plan year July 1, 2017 through June 30, 2018.

The Board of Trustees of the Fund can use the report for determining the Actuarial City Contribution Rate. Use of this report for any other purpose or by anyone other than the Board 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. Because of the risk of misinterpretation of actuarial results, Buck recommends requesting it to perform an advance review of any statement, document, or filing based on information contained in this report. Buck will accept no liability for any such statement, document or filing made without prior review by Buck.

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 valuation.

The supporting schedules in the actuarial section and the trend tables in the financial section of the Comprehensive Annual Financial Report are based on information supplied in prior actuarial reports, as well as our July 1, 2017 RSVS report. As you know, a separate report providing information required under GASB Statement No. 67 has been issued.

In preparing the actuarial results, we have relied upon information provided by the Board of Trustees regarding plan provisions, plan participants, plan assets, contribution rates and other matters used in the RSVS. Although we did not audit the data, we reviewed the data for reasonableness and consistency with the prior year's information. The results of the RSVS are dependent on the accuracy of the data.

Board of Trustees October 23, 2018
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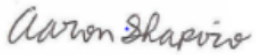
The prior actuaries prepared historical information for 2004 and prior fiscal years. We did not verify or provide an actuarial review of this historical information.

Except as prescribed in Senate Bill 2190 (as noted in Appendix A of the July 1, 2017 RSVS report), the Board of Trustees has sole authority to determine the actuarial assumptions and has selected the actuarial methods and assumptions used in this valuation. In our opinion, those actuarial assumptions selected by the Board are reasonably related to the experience of the Fund and to reasonable long-term expectations. The actuarial assumptions prescribed by Senate Bill 2190 have been reflected in this valuation. The assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice.

The plan provisions are described in Appendix B of the July 1, 2017 RSVS report.

This report was prepared under my supervision. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Academy's Qualification Standards to issue this Statement of Actuarial Opinion. This report has been prepared in accordance with all applicable Actuarial Standards of Practice and I am available to answer questions about it.

Buck Global, LLC



Aaron Shapiro, FSA, EA, MAAA

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SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS JULY 1, 2016

Investment Return

Real Rate of Return 4.00%
Price Inflation 3.0%
Total Nominal Rate 7.00%
Investment Returns prior to July 1, 2016 are assumed to be 8.5%. Expected future investment returns are assumed to be net of administrative and investment expenses.

Individual Salary Increases	
Age	**Annual Salary Increase Rate**
20	7.00%
25	6.25
30	5.50
35	5.00
40	4.00
45	3.70
50	3.40
55 and over	3.00

Mortality Rates (Non-Disabled) RP-2000 Mortality Table Probability of Death Within One Year After Attaining Age Shown		
Age	**Male**	**Female**
20	0.03%	0.02%
25	0.04	0.02
30	0.04	0.03
35	0.07	0.05
40	0.10	0.07
45	0.15	0.11
50	0.21	0.17
55	0.36	0.27
60	0.67	0.50

Active participants and nondisabled pensioners

Based on the RP-2014 Mortality Table with Blue Collar Adjustment with generational improvement using MP-2017. Changes have been applied by adjusting RP-2014 backward to 2006 with MP-2014, and then applying generational projection from 2006 using MP-2017. Note: These mortality rates are used to determine the mortality assumptions for the Fund, including the probability of ceasing active service due to death.

Disabled pensioners

Based on the RP-2014 Total Data Set for Disabled Lives Mortality Table with generational improvement using MP-2017. Changes have been applied by adjusting RP-2014 backward to 2006 with MP-2014, and then applying generational projection from 2006 using MP-2017.

Payroll Growth Rate

Three percent per year

Wage and Price Inflation

Three percent per year

Termination Rates	
Age	**Probability of Terminating Service (for Reasons Other Than Death, Disability or Retirement) Within One Year After Attaining Age Shown**
20	1.30%
25	1.30
30	1.18
35	0.70
40	0.40
45	0.45
50	0.00

For members hired prior to July 1, 2017 who are terminating with at least 10 years but less than 20 years of service:

- 50% will elect a contribution refund
- 50% will elect a deferred monthly pension benefit

For members hired on or after July 1, 2017 who terminate with at least 10 years of service, but who whose age plus service is not at least 70, they are assumed to elect a monthly pension benefit deferred to the year in which their age plus service equals 70.

Disability Rates	
Age	**Probability of Becoming Totally Disabled Within One Year After Attaining Age Shown**
20	0.75%
25	0.75
30	0.75
35	1.50
40	1.50
45	1.50
50	1.50
55	1.50
60	3.00

Disabled Mortality Rates After Becoming Disabled, Probability of Death Within One Year After Attaining Age Shown		
Age	**Male**	**Female**
20	2.3%	0.7%
25	2.6	1.3
30	2.9	1.9
35	2.8	2.2
40	3.1	2.3
45	3.5	2.3
50	4.0	2.6
55	5.3	3.0
60	6.5	3.4

Percentage of Death and Disability in Line of Duty		
Age	**Death**	**Disability***
25	100%	60%
35	100	60
45	42	34
55	20	25

* 1% of firefighters who become disabled in the line of duty are assumed to be incapable of performing any substantial gainful activity.

Retirement Rates	
Number of Years of Service	**Probability of Retiring Within One Year**
20	1.00 %
25	5.0
30	15.0
35	25.0
40+	100.0

DROP Duration	
Duration of DROP at Retirement	**Percentage of Participants Electing Retirement at the Specified Duration**
0	0%
3	0
5	5
8	30
10	65

Sample Rates					
Number of Years of Service at Actual Retirement	**Percentage of Participants Retiring with Specific DROP Duration**				
	0 yrs	3 yrs	5 yrs	8 yrs	10 yrs
20	0%	0%	0%	0%	0%
25	0	0	100	0	0
30	0	0	5	30	65
35	0	0	5	30	65
40+	0	0	0	0	100

PERCENTAGE MARRIED

90% of participants are assumed to be married.
No beneficiaries other than the spouse assumed.

AGE DIFFERENCE

Husbands assumed to be three years older than wives.

ADJUSTMENT TO REFLECT DEFINITION OF AVERAGE MONTHLY SALARY

For members hired prior to July 1, 2017, active liabilities were increased 5% to account for differences between the plan's definition of average monthly salary, the average of the highest 78 pay periods, and the compensation data available for the valuation.

DEVELOPMENT OF VALUATION PAY

Valuation pay is developed by increasing the prior year's pay with the nominal individual pay increase rate.

AGE AT WHICH BENEFITS END FOR CHILD BENEFICIARIES

Benefits are assumed to end once the child beneficiary reaches age 23.

FUTURE DROP RETURNS

Future DROP interest crediting rates are assumed to be equal to 4.55% (65% of the assumed asset return of 7%)

FUTURE COST-OF-LIVING ADJUSTMENTS

COLAs paid in October 2018 are assumed to be equal to 2% (the assumed asset return of 7% less 5%). COLAs paid after October 2018 are assumed to be equal to 2.25% (the assumed asset return of 7% less 4.75%).

CENSUS DATES

All dates in the census used to calculate liabilities are set as July 1st in the year of the event.

Active Member and DROP Participant Valuation Data					
VALUATION DATE	NUMBER	AVERAGE AGE	ANNUAL PAYROLL (DOLLARS IN MILLIONS)	ANNUAL AVERAGE SALARY	PERCENTAGE INCREASE IN AVERAGE SALARY
7-1-09	3,949	40.3	258,949	61,053	1.9%
7-1-10	3,911	40.5	265,836	63,296	3.7%
7-1-11	3,861	40.5	272,462	65,712	3.8%
7-1-12	3,788	40.8	270,873	66,631	1.0%
7-1-13	3,745	40.4	271,828	67,746	1.2%
7-1-14	3,826	40.6	278,166	70,586	4.2%
7-1-15	3,938	40.1	292,489	69,343	(1.8%)
7-1-16	4,094	40.2	296,778	70,380	1.5%

Retirees and Beneficiaries Added To and Removed From Rolls								
	ADDED TO ROLLS		REMOVED FROM ROLLS		ROLLS-END OF YEAR			
YEAR ENDED	NO.	ANNUAL ALLOWANCES	NO.	ANNUAL ALLOWANCES	NO.	ANNUAL ALLOWANCES	PERCENTAGE INCREASE IN ANNUAL ALLOWANCES	AVERAGE ANNUAL ALLOWANCES
6-30-09	133	3,369,000	43	2,081,000	2,550	94,536,000	(3.7)%	37,073
6-30-10	162	7,159,000	103	2,886,000	2,609	96,580,000	2.2%	37,018
6-30-11	181	8,905,000	64	1,489,000	2,726	106,832,000	10.6%	39,190
6-30-12	141	7,042,000	77	2,398,000	2,790	114,176,000	6.8%	40,923
6-30-13	170	8,286,000	54	1,837,000	2,906	124,080,000	8.7%	42,698
6-30-14	162	7,772,000	70	1,401,000	2,998	132,749,000	7.0%	44,279
6-30-15	147	7,273,000	85	383,000	3,060	140,629,000	5.9%	45,957
6-30-16	138	7,496,000	60	2,302,000	3,138	150,005,000	6.7%	47,803

PAY FOR NEW HIRES
None were missing.

EMPLOYEE CONTRIBUTIONS
Based on the prior year's contribution and current year's pay.

AGE AT FIRST PAYMENT FOR VESTED TERMINATIONS
50

BENEFITS NOT VALUED
The proportional retirement program between the Houston municipal, police and fire pension funds which allows for combining service credit from two or more City of Houston pension plans was not valued because its impact is expected not to be material.

SUMMARY OF CHANGES FROM THE JULY 1, 2017 VALUATION
The mortality improvement scale applied to healthy and disabled lives was updated from the MP-2016 projection scale to the MP-2017 projection scale to reflect additional information published by the Society of Actuaries subsequent to the initial publication of the RP-2014 and MP-2014 tables and subsequent studies. This change decreased the actuarial accrued liability by approximately $17.0M.

SOLVENCY TEST AND ANALYSIS OF FINANCIAL EXPERIENCE* (DOLLARS IN THOUSANDS)

Solvency Test							
Valuation Date	Active Member Contributions	Retirees, Beneficiaries and Vested Participants	Active Participants (City- Financed Portion)	Actuarial Value of Assets	Percentage of Actuarial Accrued Liability Covered by Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
7-1-06	354,007	1,162,755	1,154,138	2,324,999	100%	100%	70%
7-1-07	408,856	1,245,485	1,237,951	2,633,625	100%	100%	79%
7-1-08	431,132	1,568,566	1,080,789	2,945,086	100%	100%	87%
7-1-09	484,085	1,599,862	1,125,723	3,062,174	100%	100%	87%
7-1-10	504,946	1,737,648	1,094,879	3,116,848	100%	100%	80%
7-1-11	487,277	1,971,360	1,099,573	3,222,288	100%	100%	69%
7-1-12	491,509	2,157,908	1,103,490	3,263,265	100%	100%	56%
7-1-13	469,528	2,361,270	1,132,284	3,430,437	100%	100%	53%

Analysis of Financial Experience								
Gain (or Loss) During Year From Financial Experience:	Year Ended July 1, 2013	Year Ended July 1, 2012	Year Ended July 1, 2011	Year Ended July 1, 2010	Year Ended July 1, 2009	Year Ended July 1, 2008	Year Ended July 1, 2007	Year Ended July 1, 2006
From Liability Sources	$32,910	$18,328	$(2,184)	$27,205	$76,701	$13,952	$(30,485)	$(25,268)
From Asset Sources	(111,583)	(151,503)	(99,107)	(162,222)	(101,923)	127,248	140,572	52,355
Total	$(78,673)	$(133,175)	$(101,291)	$(135,017)	$(25,222)	$141,200	$110,087	$27,087
Non-Recurring Items**	65,007	(2,962)	(24,044)	50,8881	0	0	0	(12,459)
Composite Gain (or Loss) During Year	(13,666)	(136,137)	(125,335)	(84,136)	(25,222)	141,200	110,088	14,628

***Non-recurring items reflect changes in actuarial assumptions, methods and plan provisions.*

**No valuation was prepared for 2014*

Senate Bill 2190 requires that an actuarial experience study be performed in order to review the experience of the Fund at least once every four years to determine if any changes to the valuation assumptions are warranted. In general, the assumptions used in the valuation are based on recommendations made and approved by the Board as part of an Experience Study covering plan years from July 1, 2009 through June 30, 2013.

SUMMARY OF PLAN PROVISIONS JULY 1, 2017

MEMBERSHIP

Any firefighter who has not reached the age of 36 at the time he or she first enters employment shall automatically become a participant in the Fund upon completing the training period. Before October 1, 1990, the eligibility age was age 31. Before 1984, participants entered the Fund on January 1 or July 1.

AVERAGE SALARY

For members hired prior to July 1, 2017, the average of the highest 36 months of pensionable pay (or 78 pay periods). For members hired on or after July 1, 2017, the average of the final 36 months of pensionable pay (or 78 pay periods).

PENSIONABLE PAY

Pensionable pay prior to July 1, 2017 includes base pay and overtime, before reduction for pre-tax employee contributions and salary deferrals. Pensionable pay after July 1, 2017 includes base pay, before reduction for pre-tax employee contributions and salary deferrals.

STANDARD SERVICE PENSION MEMBERS HIRED PRIOR TO JULY 1, 2017

Eligibility: 20 years of service.

Benefit

- For retirement on or after November 1, 1997 and applicable for service accrued prior to July 1, 2017, 50% of average monthly salary; plus 3% of average monthly salary per year of service in excess of 20 years. For service accrued after July 1, 2017, 2.75% of average monthly salary per year of service for the member's first 20 years of service; plus 2.00% of average monthly salary per year of service in excess of 20 years.
- For retirement on or after November 1, 1996 and prior to November 1, 1997, 48.334% of average monthly salary, plus 2.834% of average monthly salary per year of service in excess of 20 years.
- For retirement on or after November 1, 1995 and prior to November 1, 1996, 46.667% of average monthly salary, plus 2.667% of average monthly salary per year of service in excess of 20 years.
- For retirement on or after September 1, 1991 and prior to November 1, 1995, 45% of average monthly salary, plus 2.5% of average monthly salary per year of service in excess of 20 years, up to 30 years, plus 1.0% of average monthly salary in excess of 30 years.
- For retirement on or after September 1, 1989 and prior to September 1, 1991, 45% of average monthly salary, plus 2.5% of average monthly salary per year of service in excess of 20 years.
- For retirement on or after September 1, 1987 and prior to September 1, 1989, 45% of average monthly salary, plus 2% of average monthly salary per year of service in excess of 20 years.
- For retirement on or after July 1, 1986 and prior to September 1, 1987, 40% of average monthly salary plus 2% of average monthly salary per year of service in excess of 20 years.
- For retirement on or after January 1, 1970 and prior to July 1, 1986, 35% of average monthly salary plus 3% of average monthly salary per year of service in excess of salary per year of service in excess of 25 years.

Maximum

- For retirement on or after July 1, 2017, none.
- For retirement on or after September 1, 1991, 80% of average monthly salary.
- For retirement on or after September 1, 1989, and prior to September 1, 1991, 70% of average monthly salary.
- For retirement on or after September 1, 1987, and prior to September 1, 1989, 65% of average monthly salary.
- For retirements on or after January 1, 1970, and prior to September 1, 1987, 60% of average monthly salary.

In addition a member will receive a $5,000 lump sum payment upon retirement.

STANDARD SERVICE PENSION MEMBERS HIRED PRIOR TO JULY 1, 2017

Eligibility: Age at which the sum of the member's age and service equals 70.

Benefit

2.25% of average monthly salary per year of service for the member's first 20 years of service; plus 2.00% of average monthly salary per year of service in excess of 20 years

Maximum

80% of average monthly salary.
In addition, a member will receive a $5,000 lump sum payment upon retirement.

ALTERNATE SERVICE PENSION

Eligibility: Firefighters who became participants prior to September 1, 1987 and who attain age 50 with 20 years of service will receive the greater of the standard or alternate pension.

Benefit: 50% of average monthly salary plus 1% of average monthly salary per year of service after becoming eligible to retire on an alternate pension.

Maximum: 65% of average monthly salary.

SUPPLEMENTAL BONUS CHECK

Supplemental payments totaling up to $5 million will be payable on a prorated basis determined by the Boardof Trustees to all retirees and survivors.

DEFERRED RETIREMENT OPTION PLAN (DROP)

Eligibility: 20 years of service. Members hired on or after July 1, 2017 are not eligible to enter DROP.

Benefit: Effective July 1, 2000, eligible participants may elect to participate in the DROP for up to ten years or until they leave active service. The member's standard or alternate service pension (whichever is greater) will be calculated based on service and earnings at the time the DROP is elected.

A notional account will be maintained for each DROP participant. This account will be credited with the following amounts while the member is a participant of the DROP:

- The member's monthly retirement pension, including applicable cost-of-living adjustments (no cost-of-living adjustments will be granted while a member is a participant in DROP after July 1, 2017),
- The member's contributions to the Retirement Fund contributed prior to July 1, 2017, and
- Investment earnings/losses at the rate of the Retirement Fund's earnings/losses averaged over a five-year period. Effective July 1, 2017, investment earnings will be contributed to a member's DROP account at the rate of 65% of the Retirement Fund's earnings/losses averaged over a five-year period.

A benefit equal to the DROP account balance would be paid at the time the member leaves active service. The payment would be made as a single lump sum or as the member chooses.

Effective on July 1, 2000, a three-year back DROP is available for all eligible participants. The DROP account would be recalculated based on what the account balance would have been had the participant elected the DROP up to 3 years earlier than he/she actually did. The initial DROP entry date cannot be backdated prior to September 1, 1995, or prior to 20 years of credited service, and must be on the first of the month selected.

The monthly benefit for a participant at actual retirement will increase 2% for every year of DROP participation, not to exceed 10 years.

Members can remain in the DROP for 13 years. If a member remains in active service after 13 years in DROP, no further deposits other than unused leave pay will be made to the DROP account, but the DROP account will continue to accrue interest.

If a DROP participant suffers an on-duty disability resulting in the inability to perform any gainful activity or dies in the line of duty, the death or disability annuity benefit would be calculated as though the participant had not entered the DROP. In addition, the DROP account would be payable to the participant or beneficiary..

SERVICE-CONNECTED DISABILITY PENSION

Eligibility: No age or service requirements.

Benefit: 50% of average monthly salary or service pension if greater and eligible. Firefighters who are not capable of performing any substantial gainful activity will receive 75% of average monthly salary, or service pension, if greater and eligible.

In addition a member will receive a $5,000 lump sum payment upon retirement.

NON-SERVICE-CONNECTED DISABILITY PENSION

Eligibility: No age or service requirements.

Benefit: 25% of average monthly salary, plus 2.5% of average monthly salary per year of service.

Maximum: 50% of average monthly salary or service pension, if greater and eligible.

In addition a member will receive a $5,000 lump sum payment upon retirement.

VESTED PENSION

Eligibility: For members hired prior to July 1, 2017, at least 10 but less than 20 years of service. For members hired on or after July 1, 2017, at least ten years of service but less than the age at which the sum of the member's age and service equals 70.

Benefit: For members hired prior to July 1, 2017, 1.7% of average monthly salary per year of service payable beginning at age 50. For members hired on or after July 1, 2017, the benefit is equal to their accrued service pension benefit deferred to the age at which the sum of the member's age and service equals 70. Members may also receive an optional refund of contributions with interest credited at a flat rate of 5% not compounded on contributions made prior to July 1, 2017.

DEATH BENEFITS

Payable as specified below if survived by a spouse, dependent children, or dependent parents. Effective November 1, 1997 dependent children can continue to receive benefits between the ages of 18 and 22 if they are in college.

Non-service-connected: Monthly benefit that would have been payable had the participant retired for non-service-connected disability on the date of his or her death (or service pension if greater).

Postretirement: Monthly benefit payable to the participant prior to his or her death. Effective July 1, 1998, a "graded" postretirement death benefit is payable to a surviving spouse if the retiree was not married at the time of retirement. This "graded" benefit is equal to 20% of the postretirement death benefit for each year of marriage to a maximum 100% after five years of marriage.

Preretirement: In the case of the death of an active firefighter in the line of duty, eligible survivor will receive a benefit equal to 100% of the decedent's average monthly salary. Refund of contributions made if no eligible survivors. If death occurs after 10 years of service, interest is credited on the contributions at the flat rate of 5% not compounded. If death occurs before 10 years of service, no interest is credited.

Lump sum: A one-time $5,000 lump-sum death benefit for any active or retired firefighter. This benefit applies to active members, current retirees, and disabled participants.

ADDITIONAL BENEFIT

Effective on or after July 1, 2001, an extra monthly benefit of $150 is payable for life to any retired or disabled member or to an eligible survivor of a deceased member. Deferred retirees and survivors of deferred retirees are not eligible. This benefit is not subject to the post-retirement adjustment.

EXCESS BENEFIT

Benefit equal to the excess of any member's standard service pension benefit over the limit imposed by Section 415 of the code.

POST-RETIREMENT ADJUSTMENT

Prior to October 1, 1990: Pensions adjusted each year based on changes in the CPI-U, but not below original amount or above original amount increased 3% each year, not compounded.

Pension adjustments for participants who retire after March 1, 1982, begin at age 55.

Pension adjustments begin immediately for participants whose benefits become payable on or after July 1, 1986, and are based upon 30 or more years of service.

On or after October 1, 1990, and prior to November 1, 1997: Pensions adjusted each year based on changes in the CPI-U. The adjustment is based on the amount of benefits payable at the time of adjustment. The maximum annual increase shall be 3% of the benefits payable at the time of adjustment.

Pension adjustments begin immediately for participants whose benefits become payable on or after July 1, 1986, and are based upon 30 or more years of service.

On or after November 1, 1997 and prior to October 1, 2017
Pensions adjusted each year at a fixed rate of 3%. The adjustment is based on the amount of benefits payable at the time of adjustment.

Pension adjustments for participants who retire or terminate with a vested benefit after March 1, 1982 begin at age 48. Pension adjustments begin immediately for participants who become disabled and cannot perform any substantial gainful activity (current and future) and qualify for general on-duty disability benefits. Participants whose benefits become payable on or after July 1, 1986 and are based upon 30 or more years of service are also eligible for pension adjustments to begin immediately.

On or after October 1, 2017 and prior to October 1, 2019
Pensions adjusted each year at a rate equal to the Fund's most recent five fiscal years' smoothed return minus 5% (but not less than 0% nor greater than 4%). The adjustment is based on the amount of benefits payable at the time of adjustment. Pension adjustments only paid to members who are at least 70 years old.

On or after October 1, 2019
Pensions adjusted each year at a rate equal to the Fund's most recent five fiscal years' smoothed return minus 4.75% (but not less than 0% nor greater than 4%). The adjustment is based on the amount of benefits payable at the time of adjustment. Pension adjustments only paid to members who are at least 70 years old in October 2019. Pension adjustments only paid to members who are at least 55 years old after October 2019.

CONTRIBUTION RATES

Members: 10.5% of salary effective July 1, 2017. Members receive a refund of contributions without interest in the event of termination before 10 years of service. Members who elect a refund of contributions after attaining 10 years of service receive interest only on contributions made prior to July 1, 2017.

City: Effective for fiscal year ending 2018, city contribution rates will be made in accordance with the annual risk sharing valuation study. The city contribution rate in any fiscal year will not be greater than the city contribution rate projected in the initial risk sharing valuation study for that fiscal year plus 5%. The city contribution rate in any fiscal year will not be less than the city contribution rate projected in the initial risk sharing valuation study for that fiscal year minus 5%.

CHANGES IN PLAN PROVISIONS

Plan provisions reflected in the July 1, 2016 valuation are the same as those in the prior valuation.

SECTION 05

STATISTICAL INFORMATION

Statistics

INTRODUCTION

The Statistical section of the Houston Firefighters' Relief and Retirement Fund's Comprehensive Annual Financial Report presents detailed information related to the financial statements. The schedules within the Statistical section are classified into the following three categories: Financial Trends, Revenue Capacity and Operating Information. All information was derived from Audited Annual Financials and/or our member services database system.

FINANCIAL TRENDS

The Revenue by Source presents the member and employer contributions, as well as the net investment income/loss for the 10 years ending June 30, 2018.

The Fund's investment returns have the most significant impact on the additions to plan net position.

The Expenses by Type presents the benefits, refunds of contributions and administrative expenses for the 10 years ending June 30, 2018. The Fund's benefits payments have the most significant impact on the total deductions from plan net position.

The Benefit Expenses by Type presents the amount of benefit payments and refunds by type for the 10 years ending June 30, 2018. Most benefit types are monthly retirement benefits.

The Statement of Changes in Plan Net Position is a schedule combining the additions to and deductions from plan net position from the schedule of Revenue by Source and schedule of Expenses by Type to arrive at net increase/decrease to changes in plan net position for the 10 years ending June 30, 2018.

REVENUE CAPACITY

The Schedule of Investment Income presents the details of the total net investment gain/loss for the 10 years ending June 30, 2018. The Fund has two outside sources of revenue and one own-source (internal) of revenue. Employer contributions and member contributions, provided in the schedule of Revenue by Source, are the two outside sources of revenue, and investment income is the Fund's own-source revenue. Since investment income is the largest source of revenue to the Fund, this schedule provides more detail on the major components of the investment income, which is also disclosed in total on the schedule of Revenue by Source.

OPERATING INFORMATION

The schedule of Retired Members by Type of Benefit presents, for given benefit ranges, the total number of retirees, total monthly benefits and total number of retirees by retirement type as of June 30, 2018.

The schedule of Average Monthly Benefit Payments and Average Final Average Salary of Retired Members presents, in five-year increments of credited service, the average monthly benefit, the average final average salary and the number of retired members for the 10 years ending June 30, 2018.

The schedule of Participating Employers and Active Members provides the number of covered employees and the corresponding percentage of participation who work within the City of Houston for the 10 years ending June 30, 2018.

Some of these terms are used in the Investment section, beginning on page 49. Others are used throughout this report. Definitions are provided as they relate to the Houston Firefighters' Relief and Retirement Fund.

REVENUES BY SOURCE — ACCRUAL BASIS
(DOLLARS IN THOUSANDS)

Fiscal Year (Ending June 30)	Employee Contributions	Employer Contributions	Employer Contributions as a Percentage of Annual Covered Payroll	Investment Income (or Loss) Based on Fair Value	Other	TOTAL
2018	$ 35,622	$ 83,010	31.89%	$ 322,306	N/A	$ 40,938
2017	$ 25,404	$ 93,658	33.20%	$ 432,948	N/A	$ 552,010
2016	$ 25,511	$ 94,279	33.20%	$ (49,877)	N/A	$ 69,913
2015	$ 25,092	$ 92,609	33.20%	$ $49,538	N/A	$ 167,239
2014	$ 23,994	$ 64,338	23.90%	$ 589,518	N/A	$ 677,850
2013	$ 23,382	$ 62,129	23.90%	$ 353,563	N/A	$ 439,074
2012	$ 23,090	$ 61,320	23.90%	$ 57,535	N/A	$ 141,945
2011	$ 23,263	$ 75,751	29.40%	$ 545,937	N/A	$ 644,951
2010	$ 22,728	$ 74,227	29.40%	$ 400,468	N/A	$ 497,423
2009	$ 21,859	$ 71,033	29.40%	$ (623,612)	N/A	$ (530,720)

EXPENSES BY TYPE — ACCRUAL BASIS
(DOLLARS IN THOUSANDS)

Fiscal Year (Ending June 30)	Benefit Payments (excludes contribution refunds)	Professional and Administrative Expenses	Contribution Refunds	TOTAL
2018	$ 287,499	$ 6,567	$ 1,608	$ 295,674
2017	$ 248,354	$ 7,196	$ 1,040	$ 256,590
2016	$ 211,128	$ 6,221	$ 545	$ 217,894
2015	$ 195,493	$ 6,052	$ 869	$ 202,414
2014	$ 186,333	$ 8,343	$ 785	$ 195,461
2013	$ 175,229	$ 8,009	$ 531	$ 183,769
2012	$ 162,255	$ 7,389	$ 250	$ 169,894
2011	$ 156,605	$ 6,571	$ 332	$ 163,508
2010	$ 138,297	$ 6,172	$ 277	$ 144,746
2009	$ 122,614	$ 6,542	$ 321	$ 129,477

BENEFIT EXPENSES BY TYPE

	2018	2017	2016	2015	2014
Refunds of Contributions	$ 1,608,192 .00	$ 1,040,443.00	$ 544,717.00	$ 868,618.00	$ 784,927
Death Benefits	$ 257,834.00	$ 192,500.00	$ 70,000.00	$ 201,307.00	$ 275,000
Deferred Retirees	$ 797,865.00	$ 768,216.00	$ 734,911.00	$ 714,034.00	$ 664,105
Off-Duty Disabilities	$ 1,394,832.00	$ 1,345,691.00	$ 1,340,299.00	$ 1,304,230.00	$ 1,365,538
Annual Supplemental Benefit Payments	$ 4,921,757.00	$ 4,627,341.00	$ 4,784,758.00	$ 4,677,602.00	$ 4,734,007
On-Duty Disabilities	$ 15,078,051.00	$ 14,097,847.00	$ 14,058,318.00	$ 13,740,358.00	$ 13,036,729
Survivors	$ 25,720,614.00	$ 23,749,166.00	$ 22,388,261.00	$ 20,659,074.00	$ 19,259,056
DROP Distributions	$ 107,379,424.00	$ 88,239,148.00	$ 62,900,364.00	$ 55,070,516.00	$ 54,680,454
PROP Distributions	$ 6,603,511.00	$ 5,712,650.00	$ 4,013,603.00	$ 3,866,657.00	$ 2,982,844
Service Retirees	$ 125,345,352.00	$ 109,621,105.00	$ 100,837,387.00	$ 95,259,573.00	$ 89,335,022
TOTAL	$ 89,107,432.00	$ 249,394,107.00	$ 211,672,618.00	$ 196,361,969.00	$ 187,117,682

	2013	2012	2011	2010	2009
Refunds of Contributions	$ 530,855	$ 250,284	$ 332,417	$ 277,483	$ 321,282
Death Benefits	$ 230,000	$ 140,000	$ 165,000	$ 255,000	$ 190,000
Deferred Retirees	$ 634,839	$ 590,919	$ 578,900	$ 534,566	$ 529,374
Off-Duty Disabilities	$ 1,637,878	$ 1,388,323	$ 1,509,244	$ 1,299,525	$ 1,619,676
Annual Supplemental Benefit Payments	$ 4,964,072	$ 4,873,736	$ 4,809,178	$ 4,828,773	$ 4,905,980
On-Duty Disabilities	$ 13,124,891	$ 11,564,820	$ $ 9,479,863	$ 8,464,130	$ 6,944,883
Survivors	$ 19,921,710	$ 16,658,280	$ 16,450,190	$ 16,728,231	$ 14,626,579
DROP Distributions	$ 52,595,304	$ 49,601,265	$ 52,235,851	$ 42,468,145	$ 34,744,795
PROP Distributions	$ 2,845,353	$ 1,979,547	$ 2,020,965	$ 1,230,880	$ 282,917
Service Retirees	$ 79,274,499	$ 75,458,262	$ 69,355,398	$ 62,488,177	$ 58,769,866
TOTAL	$ 175,759,402	$ 162,505,436	$ 156,937,006	$ 138,574,910	$ 122,935,352

STATEMENT OF CHANGES IN PLAN NET POSITION LAST 10 FISCAL YEARS

	2018	2017	2016	2015	2014
Additions					
Employer Contributions	$ 83,010,066	$ 93,657,800	$ 94,279,235	$ 92,609,565	$ 64,337,994
Member Contributions	$ 35,621,787	$ 25,403,621	$ 25,510,801	$ 25,091,582	$ 23,993,560
Net Investment Income (net of expenses)	$ 322,306,521	$ 432,948,121	$ (49,876,872)	$ 49,538,145	$ 589,517,944
Other					
TOTAL ADDITIONS	$ 440,938,374	$ 552,009,542	$ 69,913,164	$ 167,239,292	$ 677,849,498
Deductions					
Total Benefit Expenses (see Benefit Expenses by Type)	$ 289,107,432	$ 249,394,107	$ 211,672,618	$ 196,361,969	$ 187,117,682
Administrative & Professional Expense	$ 6,566,644	$ 7,195,777	$ 6,221,053	$ 6,052,085	$ 8,343,246
TOTAL DEDUCTIONS	$ 295,674,076	$ 256,589,884	$ 217,893,671	$ 202,414,054	$ 195,460,928
Change in Plan Net Positions	$ 145,264,298	$ 295,419,658	$ (147,980,507)	$ (35,174,762)	$ 482,388,570
Net Position Held in Trust, Beginning of Year	$ 4,025,089,667	$ 3,729,670,009	$ 3,877,650,516	$ 3,912,825,278	$ 3,430,436,708
Net Position Held in Trust, End of Year	$ 4,170,353,965	$ 4,025,089,667	$ 3,729,670,009	$ 3,877,650,516	$ 3,912,825,278

	2013	2012	2011	2010	2009
Additions					
Employer Contributions	$ 62,128,451	$ 61,319,983	$ 75,751,401	$ 74,226,664	$ 71,032,653
Member Contributions	$ 23,382,322	$ 23,090,070	$ 23,262,706	$ 22,728,287	$ 21,858,574
Net Investment Income (net of expenses)	$ 353,563,220	$ 57,535,053	$ 545,937,273	$ 400,468,020	$ (623,611,871)
Other					
TOTAL ADDITIONS	$ 439,073,993	$ 141,945,106	$ 644,951,380	$ 497,422,971	$ (530,720,644)
Deductions					
Total Benefit Expenses (see Benefit Expenses by Type)	$ 175,759,402	$ 162,505,436	$ 156,937,006	$ 138,574,910	$ 122,935,352
Administrative & Professional Expense	$ 8,009,239	$ 7,388,675	$ 6,571,307	$ 6,171,647	$ 6,541,676
TOTAL DEDUCTIONS	$ 183,768,641	$ 169,894,111	$ 163,508,313	$ 144,746,557	$ 129,477,028
Change in Plan Net Positions	$ 255,305,352	$ (27,949,005)	$ 481,443,067	$ 352,676,414	$ (660,197,672)
Net Position Held in Trust, Beginning of Year	$ 3,175,131,356	$ 3,203,080,361	$ 2,721,637,294	$ 2,368,960,880	$ 3,029,158,552
Net Position Held in Trust, End of Year	$ 3,430,436,708	$ 3,175,131,356	$ 3,203,080,361	$ 2,721,637,294	$ 2,368,960,880

SCHEDULE OF INVESTMENT INCOME LAST 10 FISCAL YEARS

	2018	2017	2016	2015	2014
Investment Gain (Loss)					
Net appreciation/(depreciation) in fair value of investments	$ 297,201,824	$ 389,903,955	$ (116,953,736)	$ 23,687,040)	$ 504,461,380
Interest	$ 26,478,055	$ 42,964,571	$ 57,621,249	$ 57,318,547	$ 59,395,942
Dividends	$ 4,127,663	$ 4,660,644	$ 16,298,917	$ 25,615,080	$ 29,493,785
Earnings from private equity	$ 838,456	$ 1,228,446	$ 702,437	$ 967,410	$ 4,681,493
Earnings from real estate	$ 3,320	$ 0,958	$ 8,453	$ 158,620	$ 6,442
Miscellaneous	$ 319,007	$ 583,284	$ 1,699,257	$ 373,816	$ 485,993
	$ 28,968,325	$ 39,401,858	$ 40,573,423)	$ 60,746,433	$ 98,725,035
Investment expenses	$ (6,899,091)	$ (6,833,460)	$ (9,854,548)	$ (11,786,187)	$ (9,700,881)
Net gain (loss) from investing activities	$ 322,069,234	$ 432,568,398	$ (50,427,971)	$ 48,960,246	$ 589,024,154
From Securities Lending Arrangements:					
Earnings	$ 544,765	$ 339,129	$ 253,620	$ 235,556	$ 120,060
Rebates and feesRebates and fees	$ (307,478)	$ 40,594	$ 297,479	$ 342,343	$ 373,730
Net income from securities lending activities	$ 237,287	$ 379,723	$ 551,099	$ 577,899	$ 493,790
TOTAL NET INVESTMENT GAIN (LOSS)	$ 322,306,521	$ 432,948,121	$ 9,876,872)	$ 49,538,145	$ 589,517,944

	2013	2012	2011	2010	2009
Investment Gain (Loss)					
Net appreciation/(depreciation) in fair value of investments	$ 272,673,315	$ (35,011,612)	$ 462,347,334	$ 320,274,882	$ (708,952,033)
Interest	$ 58,307,673	$ 69,244,100	$ 61,368,886	$ 59,421,505	$ 65,169,217
Dividends	$ 24,692,127	$ 21,646,704	$ 22,548,215	$ 18,157,970	$ 19,478,031
Earnings from private equity	$ 3,703,269	$ 5,861,009	$ 4,718,560	$ 6,345,116	$ 4,765,446
Earnings from real estate	$ 1,442,371	$ 2,413,935	$ 2,574,744	$ 2,798,466	$ 2,936,962
Miscellaneous	$ 904,044	$ 361,051	$ 409,183	$ 861,008	$ 372,184
	$ 361,722,799	$ 64,515,187	$ 553,966,922	$ 407,858,947	$ (616,230,193)
Investment expenses	$ 8,687,653)	$ (7,553,775)	$ (8,664,197)	$ (7,854,253)	$ (6,781,837)
Net gain (loss) from investing activities	$ 353,035,146	$ 56,961,412	$ 545,302,725	$ 400,004,694	$ (623,012,030)
From Securities Lending Arrangements:					
Earnings	$ 183,530	$ 296,536	$ 784,926	$ 613,308	$ 2,401,121
Rebates and fees	$ 344,544	$ 277,105	$ (150,378)	$ (149,982)	$ (1,388,442)
Net income from securities lending activities	$ 528,074	$ 573,641	$ 634,548	$ 463,326	$ 1,012,679
TOTAL NET INVESTMENT GAIN (LOSS)	$ 353,563,220	$ 57,535,053	$ 545,937,273	$ 400,468,020	$ (621,999,351)

NUMBER OF BENEFIT RECIPIENTS BY TYPE AND MONTHLY BENEFIT AMOUNT

(as of June 30, 2018)

MONTHLY BENEFIT AMOUNT	TOTAL BENEFIT RECIPIENT COUNT	SERVICE	DISABILITY	WIDOWS	CHILDREN	DEPENDENT PARENT	DEFERRED	INACTIVE DEFERRED*
$1 - $200	1	0	0	1	0	0	0	0
$201 - $400	9	0	0	3	2	0	4	0
$401 - $600	42	0	0	12	5	0	25	0
$601 - $800	34	0	0	9	7	0	18	1
$801 - $1,000	26	0	0	4	5	0	17	2
$1,001 - $1,200	18	0	0	4	4	0	10	1
$1,201 - $1,400	13	2	1	6	2	0	2	0
$1,401 - $1,600	33	3	3	17	7	0	3	0
$1,601 - $1,800	37	2	11	21	2	0	1	0
$1,801 - $2,000	43	10	11	21	1	0	0	0
OVER $2,000	3,003	2,257	284	444	16	0	2	0
TOTAL	3,259	2,274	310	542	51	0	82	4

AVERAGE MONTHLY BENEFIT PAYMENTS OF RETIRED MEMBERS

EFFECTIVE RETIREMENT DATE	YEARS OF CREDITED SERVICE						
	0-5	6-10	11-15	16-20	21-25	26-30	Over 30
July 2017 - June 2018							
Number of Service Retirements	0	0	0	4	16	11	62
Average Monthly Benefits	$0	$0	$0	$3,275	$3,951	$4,472	$5,862
Average Final Average Salary	$0	$0	$0	$6,182	$6,735	$6,163	$5,862
Average DROP Balance	$0	$0	$0	$23,430	$180,986	$412,063	$785,241
July 2016 - June 2017							
Number of Service Retirements	0	0	0	3	11	11	134
Average Monthly Benefits	$0	$0	$0	$4,199	$4,123	$3,934	$5,458
Average Final Average Salary	$0	$0	$0	$8,057	$6,691	$5,761	$5,637
July 2015 - June 2016							
Number of Service Retirements	0	0	0	1	3	4	86
Average Monthly Benefits	$0	$0	$0	$3,674	$3,276	$4,570	$5,110
Average Final Average Salary	$0	$0	$0	$6,899	$5,580	$5,908	$5,284
July 2014 - June 2015							
Number of Service Retirements	0	0	0	1	6	3	76
Average Monthly Benefits	$0	$0	$0	$3,682	$3,394	$3,585	$4,854
Average Final Average Salary	$0	$0	$0	$7,063	$5,398	$4,736	$5,166
July 2013 - June 2014							
Number of Service Retirements	0	0	0	2	4	5	97
Average Monthly Benefits	$0	$0	$0	$3,199	$4,773	$3,826	$4,288
Average Final Average Salary	$0	$0	$0	$6,099	$7,726	$4,975	$4,715
July 2012 - June 2013							
Number of Service Retirements	0	0	0	0	1	13	106
Average Monthly Benefits	$0	$0	$0	$0	$4,356	$3,666	$4,490
Average Final Average Salary	$0	$0	$0	$0	$7,603	$4,901	$4,717
July 2011 - June 2012							
Number of Service Retirements	0	0	0	0	2	12	76
Average Monthly Benefits	$0	$0	$0	$0	$3,364	$3,788	$4,172
Average Final Average Salary	$0	$0	$0	$0	$5,902	$4,981	$4,446
July 2010 - June 2011							
Number of Service Retirements	0	0	0	5	1	22	99
Average Monthly Benefits	$0	$0	$0	$3,195	$3,402	$3,372	$4,108
Average Final Average Salary	$0	$0	$0	$5,982	$5,428	$4,535	$4,332
July 2009 – June 2010							
Number of Service Retirements	0	0	0	1	1	23	85
Average Monthly Benefits	$0	$0	$0	$3,371	$2,507	$3,137	$3,921
Average Final Average Salary	$0	$0	$0	$6,742	$4,324	$4,470	$4,354
July 2008 – June 2009							
Number of Service Retirements	0	0	0	0	3	29	49
Average Monthly Benefits	$0	$0	$0	$0	$3,253	$5,287	$80,424
Average Final Average Salary	$0	$0	$0	$0	$3,327	$4,539	$322,088

PARTICIPATING EMPLOYER AND ACTIVE MEMBERS

CITY OF HOUSTON	ACTIVE MEMBERS	PERCENTAGE OF COVERED EMPLOYEES
2018	4,041	100%
2017	4,097	100%
2016	4,109	100%
2015	3,939	100%
2014	3,835	100%
2013	3,750	100%
2012	3,788	100%
2011	3,861	100%
2010	3,911	100%
2009	3,943	100%

Glossary

Some of these terms are used in the Investment section, beginning on page 50. Others are used throughout this report. Definitions are provided as they relate to the Houston Firefighters' Relief and Retirement Fund.

DEFINITIONS.

ACCRUAL BASIS OF ACCOUNTING
Accounting method in which income and expense transactions are recognized when they are earned or incurred rather than when they are settled. The Fund uses this method of accounting.

ACTUARIAL DATA
(A) the census data, assumption tables, disclosure of methods, and financial information that are routinely used by the fund actuary for the fund's valuation studies or an actuarial experience study; and (B) other data that is reasonably necessary.

ACTUARIAL EXPERIENCE STUDY
has the meaning assigned by Section 802.1014, Government Code.

AMORTIZATION PERIOD
means the time period necessary to fully pay a liability layer.

AMORTIZATION RATE
means the sum of the scheduled amortization payments for a given fiscal year for the current liability layers divided by the projected pensionable payroll for that fiscal year.

ASSET
Anything having commercial or exchange value that is owned by the Fund.

ASSUMED RATE OF RETURN
means the assumed market rate of return on fund assets, which is seven percent per annum unless adjusted.

AVERAGE MONTHLY SALARY
means, if the member has participated in the fund for:

(A) three or more years, the total salary received by a member as a firefighter over the member's:

(i) highest 78 biweekly pay periods for a member hired before the year 2017 effective date, including a member who was hired before the year 2017 effective date and who involuntarily separated from service but was retroactively reinstated in accordance with an arbitration, civil service, or court ruling; or

(ii) last 78 biweekly pay periods ending before the earlier of the date the member terminates employment with the fire department, divided by 36, or the member began participation in the DROP, divided by 36; or

(B) fewer than three years, the total salary paid to the member for the periods the member participated in the fund divided by the number of months the member has participated in the fund.

If a member is not paid on the basis of biweekly pay periods, "average monthly salary" is determined on the basis of the number of pay periods under the payroll practices of the municipality sponsoring the fund that most closely correspond to 78 biweekly pay periods.

BENEFICIARY ADULT CHILD
means a child of a member by birth or adoption who:

(A) is not an eligible child; and

(B) is designated a beneficiary of a member's DROP account by valid designation.

BOARD or **BOARD OF TRUSTEES**
means the board of trustees of a firefighters' relief and retirement fund.

BOOK VALUE
The value (cost) at which an asset is carried on a balance sheet.

CASH BASIS OF ACCOUNTING
Accounting method in which revenue and expense transactions are recognized when they are paid for (settled), rather than when they are incurred.

CODE
means the federal Internal Revenue Code of 1986, as amended.

COMPOUND OR COMPOUNDING
The process of calculating and adding current interest to the principal and interest of a previous period(s).

COMPOUND RETURN
Profit on an investment, usually expressed as an annual percentage rate.

CONFIDENTIALITY AGREEMENT
means a letter agreement sent from the municipal actuary or an independent actuary in which the municipal actuary or the independent actuary, as applicable, agrees to comply with.

CORRIDOR
means the range of municipal contribution rates that are:

(A) equal to or greater than the minimum contribution rate; and

(B) equal to or less than the maximum contribution rate.

CORRIDOR MARGIN
means five percentage points.

CORRIDOR MIDPOINT
means the projected municipal contribution rate specified for each fiscal year for 31 years in the initial risk sharing valuation study, and as may be adjusted, and in each case rounded to the nearest hundredths decimal place.

DEFERRED RETIREE
means a member who is eligible for a benefit under Section 8(a).

DIVERSIFICATION
Spreading of risk by putting assets in several different categories of investments, such as stocks, bonds, cash, high-yield and hedge funds.

DROP
means the deferred retirement option plan.

DROP ACCOUNT
means the notional account established to reflect the credits, contributions, and earnings of a member who has made a DROP election.

EMPLOYER NORMAL COST RATE
means the normal cost rate minus the member contribution rate.

ESTIMATED MUNICIPAL CONTRIBUTION RATE
means the municipal contribution rate estimated in a final risk sharing valuation study.

FAIR VALUE
The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

FIREFIGHTER
means a full-time, fully paid, active, classified member of a regularly organized fire department of an incorporated municipality with a fund, including a member who has made a DROP election.

FISCAL YEAR
means a fiscal year beginning on July 1 and ending on June 30.

FUND
means a firefighters' relief and retirement fund established under this article.

FUND EQUITY (STOCK) INVESTMENTS
The portion of the total Fund that is invested in ownership interest in corporations, usually in common stock.

FUND FIXED-INCOME (BOND) INVESTMENTS
The portion of the total Fund that is invested in debt instruments that usually pay a fixed rate of interest or dividends over a specified period of time.

FUNDED RATIO
means the ratio of the fund's actuarial value of assets divided by the fund's actuarial accrued liability.

INSTITUTIONAL INVESTOR ORGANIZATION
An organization that invests and trades large volumes of securities (stocks and bonds). The Fund is an institutional investor.

LEGACY LIABILITY
means the unfunded actuarial accrued liability:

(A) for the fiscal year ending June 30, 2016, reduced to reflect:

(i) changes to benefits or contributions under this article that took effect on the year 2017 effective date; and

(ii) payments by the municipality and earnings at the assumed rate of return allocated to the legacy liability from July 1, 2016, to July 1, 2017, excluding July 1, 2017; and

(B) for each subsequent fiscal year:

(i) reduced by the contributions for that year allocated to the amortization of the legacy liability; and

(ii) adjusted by the assumed rate of return.

LEVEL PERCENT OF PAYROLL METHOD
means the amortization method that defines the amount of the liability layer recognized each fiscal year as a level percent of pensionable payroll until the amount of the liability layer remaining is reduced to zero.

LIABILITY
Any debt of the Fund giving a creditor a claim on the assets of the Fund (i.e., the money has not yet been paid, but the event causing the obligation has already occurred).

LIABILITY GAIN LAYER
means a liability layer that decreases the unfunded actuarial accrued liability.

LIABILITY LAYER
means the legacy liability established in the initial risk sharing valuation study and the unanticipated change as established in each subsequent risk sharing valuation study prepared.

LIABILITY LOSS LAYER
means a liability layer that increases the unfunded actuarial accrued liability.

MAXIMUM CONTRIBUTION RATE
means the rate equal to the corridor midpoint plus the corridor margin.

MEAN RETURN
The average return.

MEDIAN RETURN
The midpoint return when all returns are ranked from highest to lowest — and there is an equal number of returns above and below.

MEDIAN TOTAL FUND RETURN
The midpoint return for all assets in all plans in a universe of plans.

MEMBER
means a firefighter or former firefighter who has satisfied the eligibility requirements and who has not yet received a distribution of the entire benefit to which the person is entitled.

MINIMUM CONTRIBUTION RATE
means the rate equal to the corridor midpoint minus the corridor margin.

MUNICIPALITY
means a municipality in this state having a population of more than 2 million.

MUNICIPAL CONTRIBUTION RATE
means a percent of pensionable payroll that is the sum of the employer normal cost rate and the amortization rate for liability layers, except as determined otherwise under the express provisions of Sections 13E and 13F of this article.

NORMAL COST RATE
means the salary weighted average of the individual normal cost rates determined for the current active population plus an allowance for projected administrative expenses. The allowance for projected administrative expenses equals the administrative expenses divided by the pensionable payroll for the previous fiscal year, provided the administrative allowance may not exceed 1.25 percent of the pensionable payroll for the current fiscal year unless agreed to by the municipality.

NORMAL RETIREMENT AGE
means:

(A) a member, including a member who was hired before the year 2017 effective date and who involuntarily separated from service but has been retroactively reinstated in accordance with an arbitration, civil service, or court ruling, hired before the year 2017 effective date, the age at which the member attains 20 years of service; or

(B) a member hired or rehired on or after the year 2017 effective date, the age at which the sum of the member's age, in years, and the member's years of participation in the fund equals at least 70.

PAYOFF YEAR
means the year a liability layer is fully amortized under the amortization period.

PENSIONABLE PAYROLL
means the aggregate salary of all the firefighters on active service, including all firefighters participating in an alternative retirement plan in an applicable fiscal year.

PORTFOLIO
Combined holding of more than one stock, bond or other asset by an individual or institutional investor.

PORTFOLIO MANAGEMENT
The process of selecting, monitoring and changing assets within a portfolio or account to meet defined investment objectives.

PRICE INFLATION ASSUMPTION
means:

(A) the most recent headline consumer price index 10-year forecast published in the Federal Reserve Bank of Philadelphia Survey of Professional Forecasters; or

(B) another standard as determined by mutual agreement between the municipality and the board.

PROJECTED PENSIONABLE PAYROLL
means the estimated pensionable payroll for the fiscal year beginning 12 months after the date of the risk sharing valuation study at the time of calculation by:

(A) projecting the prior fiscal year's pensionable payroll forward two years using the current payroll growth rate assumptions; and

(B) adjusting, if necessary, for changes in population or other known factors, provided those factors would have a material impact on the calculation, as determined by the board.

PROP
means the post-retirement option plan.

PROP ACCOUNT
means the notional account established to reflect the credits and contributions of a member or surviving spouse who made a PROP election before the year 2017 effective date.

RECEIVABLES
Assets to which the Fund is entitled — but has not received.

THIRD QUARTER LINE RATE
means the corridor midpoint plus 2.5 percentage points.

TOTAL FUND
All the investments of the Fund, including stocks, bonds, cash equivalents, high-yield bonds, private equity, real estate and hedge funds.

ULTIMATE ENTRY AGE NORMAL
means an actuarial cost method under which a calculation is made to determine the average uniform and constant percentage rate of contributions that, if applied to the compensation of each member during the entire period of the member's anticipated covered service, would be required to meet the cost of all benefits payable on the member's behalf based on the benefits provisions for newly hired employees.

UNFUNDED ACTUARIAL ACCRUED LIABILITY
means the difference between the actuarial accrued liability and the actuarial value of assets. For purposes of this definition:

(A) "actuarial accrued liability" means the portion of the actuarial present value of projected benefits attributed to past periods of member service based on the cost method used in the risk sharing valuation study; and

(B) "actuarial value of assets" means the value of fund investments as calculated using the asset smoothing method used in the risk sharing valuation study.

UNANTICIPATED CHANGE
means, with respect to the unfunded actuarial accrued liability in each subsequent risk sharing valuation study prepared, the difference between:

(A) the remaining balance of all then-existing liability layers as of the date of the risk sharing valuation study; and

(B) the actual unfunded actuarial accrued liability as of the date of the risk sharing valuation study.

UNIVERSE
A total number of facts or events to which a specific fact or event is compared.

YEAR 2017 EFFECTIVE DATE
means the date on which S.B. No. 2190, Acts of the 85th Legislature, Regular Session, 2017, took effect.

YEARS OF PARTICIPATION
means the number of years that a member has participated in the fund by making the contributions required, as determined under rules established by the board.

HOUSTON FIREFIGHTERS' RELIEF AND RETIREMENT FUND
FISCAL YEAR 2018 COMPREHENSIVE ANNUAL FINANCIAL REPORT

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