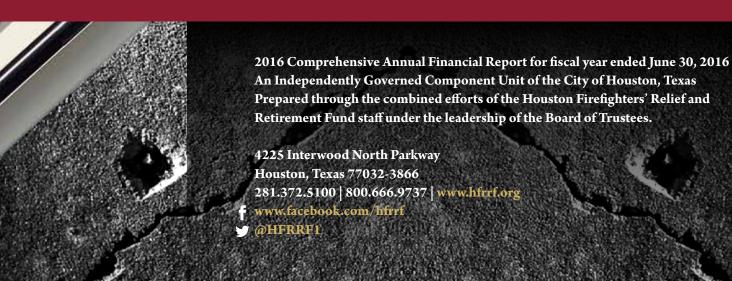




## HOUSTON FIREFIGHTERS' RELIEF AND RETIREMENT FUND

FISCAL YEAR 2016 COMPREHENSIVE ANNUAL FINANCIAL REPORT (Period beginning July 1, 2015 to June 30, 2016)



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## **INTRODUCTION**

## Letter of **Transmittal**



**Investing for Firefighters** and Their Families®

4225 Interwood North Parkway Houston, Texas 77032-3866 Tel 281.372.5100 Fax 281.372.5101 1.800.666.9737 www.hfrrf.org

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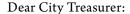
**Earnest W. Wotring** Mayor's Representative

Albertino "Al" Mays Citizen Member

The Honorable Carroll G. Robinson Citizen Member

December 13, 2016

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





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, 2016, 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 currently, Article 6243e.2(1) governs only firefighters employed by the City of Houston. Firefighters in the City of Houston are not covered by Social Security.

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 6,000 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 33<sup>rd</sup> 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 2016.

#### **ADMINISTRATION, STAFF AND PROFESSIONAL SERVICES**

At fiscal year-end, the Fund staff was made up of 29 full-time and 4 part-time employees. The following professionals were employed by the Board of Trustees ended June 30, 2016, to provide specialty services:

- Bank of New York Mellon is the custodian bank.
- McConnell & Jones, LLP, serves as the auditor.
- Buck Consultants, 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 45.

#### **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.

Contributions to the Fund are based on the principles of level cost financing, with current services financed on a current basis and prior services amortized over a 30-year rolling period. The Fund has ended its fiscal year on June 30 since 1984. The Independent Auditors' Report from a certified public accountant and certification from the actuary of the Fund are included in this report.

#### **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 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 assets for fiscal years 2016, 2015, and 2014.

	2016 (MILLIONS)	2015 (MILLIONS)	2014 (MILLIONS)
Beginning Net Assets	\$3,878	\$3,913	\$3,430
Additions	72	170	678
Deductions	220	205	195
Net Change	(148)	(35)	483
ENDING NET ASSETS	\$3,730	\$3,878	\$ 3,913

#### **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. Additionally, the Fund's goal is to establish contributions that are an approximately level percentage of payroll for each generation of active members. Actuarial valuations measure the progress toward these goals, as well as test the adequacy of the contribution rate. The Fund's actuary assumes that the Fund's investments will return 8.5% each year. The Entry Age Actuarial Cost method is used to calculate the Fund's long-term funding needs. Under this method, the actuarial value of the anticipated benefit of each plan member is allocated on a level basis over the member's career.

For the July 1, 2013 valuation, past investment gains and losses were fully recognized in the actuarial value of assets. Therefore, both the market value of assets and the actuarial value of assets were \$3.43 billion; the actuarial accrued liability was \$3.96 billion. The funding ratio remained at 87% of the benefits accrued to date by active retired members and beneficiaries.

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

#### INDEPENDENT AUDIT

An audit was performed by McConnell & Jones, LLP, for the fiscal year ending June 30, 2016, 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. The financial section also contains a management discussion and analysis report that provides a narrative introduction, overview and analysis of the Financial statements.

#### 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, 2015. This was the 33rd 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,

David L. Keller, Jr.

Chair

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 Consultants, LLC

#### **AUDITOR**

McConnell & Jones, LLP

#### **FUND'S CUSTODIAN BANK**

Bank of New York Mellon



#### **Investment Advisors**

- 1. AllianceBernstein Institutional Investment Management
- 2. ARCIS Group, The
- 3. Ariel Capital Management
- 4. Aurora Investment Management L.L.C.
- 5. BlackRock, Inc.
- 6. Blackstone Group, The
- 7. Blue Point Capital Partners
- 8. Brera Capital Partners, LLC
- 9. Bridgewater Associates, LP
- 10. Brookfield Asset Mgmt Private Inst Cap Adv US, LLC
- 11. Capital Dynamics Inc.
- 12. Centennial Ventures
- 13. Coller Investment Management Limited
- 14. Drum Capital Management, LLC
- 15. Earnest Partners, LLC
- 16. Energy Spectrum Capital
- 17. Energy Trust, LLC
- 18. GCM Grosvenor Private Markets
- 19. Grosvenor Capital Management, L.P.
- 20. Harbourvest Partners, LLC
- 21. Hicks, Muse & Co. Partners, L.P.

24. Insignia Capital Partners GP, LLC

- 22. Horsley Bridge Partners, LLC
- 23. Industrial Growth Partners
- 25. Kildare Partners
- 26. KSL Capital Partners
- 27. Landmark Partners
- 28. Leonard Green & Partners, L.P.

- 29. Lexington Partners
- 30. Liquid Realty Partners
- 31. Lone Star Funds
- 32. Loomis Sayles & Company
- 33. McKinley Capital Management, Inc.
- 34. Mellon Capital Management
- 35. Metropolitan Real Estate Management
- 36. Mitchell Group, The
- 37. Permal Capital Management
- 38. Portfolio Advisors, LLC
- 39. Schroders Investment Management North America
- 40. Standish Mellon Asset Management
- 41. Stellex Management Partners LLC
- 42. Sterling Organization, The
- 43. TCW Group, The
- 44. Timberland Investment Resources
- 45. Torchlight Investors LLC

#### **NON-DISCRETIONARY CONSULTANTS**

- 46. Real Asset Portfolio Management
- 47. StepStone Group LP

Footnote: During fiscal year 2016 Mercator Asset Management (Mercator) was terminated by HFRRF. As a consequence, Mercator is not represented in the list above. However, at June 30, 2016 tax reclaims in the amount of \$114,787 continued to be outstanding and held in the account that was managed by Mercator. The tax reclaims are being managed by the Fund's 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 assets and changes in plan net assets 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 74.

#### STATEMENTS OF PLAN NET ASSETS

The statements of plan net assets 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, 2016 and 2015.

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 ASSETS**

The statements of changes in plan net assets 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, 2016 and 2015.

Additions to plan net assets 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 assets 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 56).

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

#### **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.



## **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, 2016 and 2015, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to financial

#### 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, 2016, and 2015 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 comprise 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.

Houston, Texas October 18, 2016

3040 Post Oak Blvd., Suite 1600

Houston, TX 77056 Phone: 713.968.1600 Fax: 713.968.1601

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McConnell & Jour UP

# 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, 2016, 2015 and 2014. 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 plan 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				
	FY2016	FY2015	FY2014	
Assets				
Investments	\$ 3,643,083,042	\$ 3,843,959,875	\$ 3,910,563,935	
Capital assets (net of depreciation):				
Land and Building	5,497,010	5,444,755	5,691,488	
Furniture, Fixtures and Equipment	226,973	214,404	258,176	
Other	171,246,207	288,430,546	183,106,359	
Total Assets	3,820,053,232	4,138,049,580	4,099,619,958	
Liabilities				
Short-Term Liabilities	90,383,223	260,399,064	186,794,680	
Total Liabilities	90,383,223	260,399,064	186,794,680	
NET POSITION	\$ 3,729,670,009	\$ 3,877,650,516	\$ 3,912,825,278	

Fiduciary net position at the end of fiscal year 2016, 2015, and 2014 totaled \$3,729,670,009, \$3,877,650,516 and \$3,912,825,278, respectively. The decrease in fiduciary net position for fiscal year 2016 was due to both the payment of \$220 million in benefits plus other expenses and investment performance that in aggregate resulted in net investment losses of \$47 million.

SUMMARY COMPARATIVE STATEMENT OF CHANGES IN FIDUCIARY NET POSITION				
	FY2016	FY2015	FY2014	
Beginning net position	\$ 3,877,650,516	\$ 3,912,825,278	\$ 3,430,436,708	
Additions (reductions) to net assets, net:				
Contributions	119,790,036	117,701,147	88,331,554	
Net appreciation (depreciation) in fair value of investments	(116,953,736)	(23,687,040)	504,461,380	
Interest income	57,621,249	57,318,547	59,395,942	
Dividends	16,298,917	25,615,080	29,493,785	
Net activity from securities lending	551,099	577,899	493,790	
Earnings from private equity and real estate investments	760,890	1,126,030	4,887,935	
Other income	1,699,257	373,816	485,993	
Less: Cost of investment services	(7,414,793)	(9,522,193)	(9,700,881)	
Net investment and other income	(47,437,117)	51,802,139	589,517,944	
Total additions to net assets, net	72,352,919	169,503,286	677,849,498	
Deductions from net assets:				
Benefits	211,127,901	195,493,351	186,332,755	
Contribution Refunds to Members	544,717	868,618	784,927	
Professional/Administrative Expenses	8,660,808	8,316,079	8,343,246	
Total deductions from net assets	220,333,426	204,678,048	195,460,928	
Change in net position	(147,980,507)	(35,174,762)	482,388,570	
ENDING NET POSITION	\$ 3,729,670,009	\$ 3,877,650,516	\$ 3,912,825,278	

#### **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 plan deductions. The amounts contributed by employee members for the last three fiscal years were \$25,510,801 (fiscal year 2016), \$25,091,582 (fiscal year 2015), and \$23,993,560 (fiscal year 2014). Employer contributions for the last three years were \$94,279,235 (fiscal year 2016), \$92,609,565 (fiscal year 2015), and \$64,337,994(fiscal year 2014).

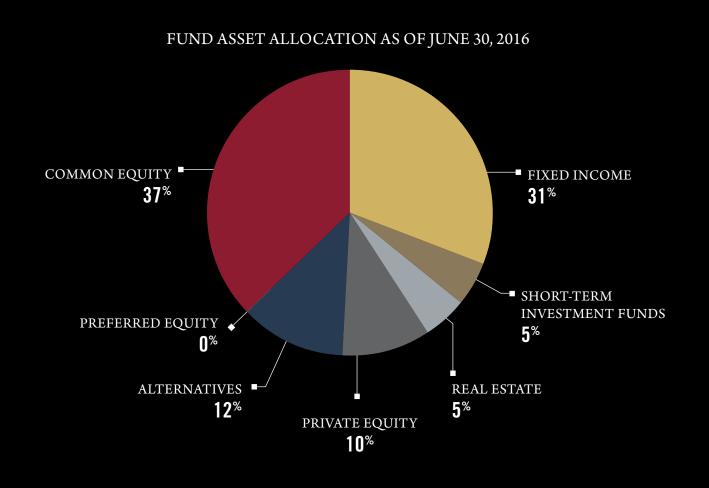
There was a slight increase in employer and employee contributions between fiscal years 2016 and 2015, due to an increase in the number of active members joining the Fund. The increase in the employer contributions in fiscal year 2015 when compared to fiscal year 2014 is due to an increase in the City's contribution rate from 23.9% of payroll to 33.2% effective July 1, 2014.

#### **NET INVESTMENT AND OTHER INCOME**

The Fund's investment portfolio shrank modestly in fiscal year 2016 with a total portfolio investment loss of -1.0% gross (-1.2% net). While the Fund's fixed income, private equity and real estate portfolios generated meaningful returns of 6.5%, 5.9% and 9.1% respectively, this was not enough to support the losses experienced in domestic equities (-2.7%), international equities (-13.8%) and hedge funds (-8.5%). As could be expected, the fixed income, private equity and real estate portfolios performed above their benchmarks of 5.8%, 3.2% and 7.0%. In addition, the modestly sized cash equivalents portfolio was also above its benchmark of 0.80% with returns of 3.7%. All other asset classes failed to beat their benchmarks.

In fiscal year 2016, the Fund's investment losses decreased the portfolio by approximately \$47.4 million (net).

At June 30, 2016, short-term investment funds represented 5% of the portfolio, fixed income securities represented 31%, domestic and international common equities represented 37%, domestic and international preferred equities represented about 0.1%, alternatives represented 12%, the private equity portfolio represented 10% and the real estate portfolio represented 5%.



#### **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 plan, refunds of contributions to members, and the cost of administering the Fund comprise the total deductions.

Deductions for fiscal years 2016, 2015, and 2014 totaled \$220,333,426, \$204,678,048, and \$195,460,928, respectively. This represents a net increase of approximately 7.65% between fiscal years 2016 and 2015, 4.72% between fiscal years 2015 and 2014, and 6.36% between fiscal years 2014 and 2013.

#### **Benefits Paid to Members**

The 8.0% increase of benefits paid to members during fiscal year 2016 is mainly due to the annual cost-of living adjustment of three percent, and an increase in the number of benefit recipients.

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

#### **Professional and Administrative Expenses**

Professional and administration deductions increased between fiscal years 2016 and 2015 by 4.15% and was stable between fiscal years 2015 and 2014. During fiscal year 2016, the increase was primarily due to an increase in legal services, actuarial expenses and office costs.

#### **NET POSITIONS**

Total additions to plan net assets for fiscal year 2016 were \$72,352,919 and total deductions were \$220,333,426, thereby decreasing the Fund's net position by \$147,980,507. The Fund's net position decreased by \$35,174,762 in fiscal year 2015 and increased by \$482,388,570 in fiscal year 2014.

#### **ACTUARIAL VALUATION INFORMATION**

The Fund, by statute, may adopt an actuarial valuation once every three years in order to establish the City's contribution rate. In March 2014, the Board of Trustees adopted and certified the finalized July 1, 2013 actuarial valuation, increasing the City's contribution rate to 33.2% effective July 1, 2014, while leaving the members' contribution rate at 9%. The July 1, 2013 actuarial report indicates the Fund has a funding ratio of 86.6%.

The Board adopted the July 1, 2013 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 8.5 percent assumed rate of return recognized in the actuarial value over five years. In the Actuarial Value of Assets at July 1, 2013, past investment gains and losses were fully recognized. New gains and losses will be recognized over five years beginning July 1, 2014.

The adoption of the July 1, 2013 actuary valuation for financial statement reporting purposes included a change to the a) mortality rates from the RP-2000 table projected to the valuation using Scale AA to the RP-2000 table projected to 2023 (ten years beyond the valuation date) using Scale AA b) retirement rates for ages 37 and above to better reflect the plan experience c) termination rates for ages 42 and above to better reflect the plan experience.

Other changes in assumptions and methods include a) past investment gains and losses were fully recognized in the Actuarial Value of Assets at July 1, 2013. Future investment gains and losses will be recognized over five years beginning July 1, 2014 b) valuation programming for benefits for participants in the DROP was adjusted based on a review of the assumptions and plan provisions.

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 (on page 40).

Annual required contributions of the employer and contributions made by the employer in relation to the actuarially determined contributions are provided in the Schedule of Employer Contributions - Unaudited (on page 41).

#### **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**

ASSETS	2016	2015
Investments, at Fair Value:	<u>'</u>	
Short-term investment funds	\$ 164,710,031	\$ 143,478,999
Fixed income:		
Domestic	944,480,391	996,946,410
International	194,186,978	219,975,61
Common equity:		
Domestic	827,230,598	739,234,68
International	526,015,947	758,274,16
Preferred equity:		
Domestic	3,067,508	4,699,90
International	1,527,708	1,590,49
Alternatives	420,142,464	459,202,55
Private equity	374,896,232	349,503,94
Real estate	186,825,185	171,053,10
TOTAL INVESTMENTS	\$ 3,643,083,042	\$ 3,843,959,87
Cash and cash equivalents	\$ 63,828,829	\$ 20,087,36
Receivables:		
Accrued interest	11,158,886	14,659,36
Due from broker recapture	6,893	7,59
Due from securities lending	22,327	53,88
Foreign funds contracts	22,892,671	3,723,76
Receivables for investments sold	35,901,629	8,243,09
Accrued dividends	768,813	2,324,37
City of Houston contributions	3,433,983	2,827,57
Member contributions	926,600	769,23
Other	655	20,78
TOTAL RECEIVABLES	\$ 75,112,457	\$ 32,629,67
Collateral on securities lending arrangements, at fair value	31,986,994	235,287,92
Land	483,325	483,32
Building, net	5,013,685	4,961,43
Furniture, fixtures and equipment, net	226,973	214,40
Prepaids (operating)	317,927	425,57
TOTAL ASSETS	\$ 3,820,053,232	\$ 4,138,049,58
Liabilities		
Accounts payable and accrued expenses	4,005,533	4,619,04
Payables for investments purchased	31,499,832	16,692,26
Foreign taxes payable	11,631	46,44
Interest payable	0	21,65
Foreign funds contracts payable	22,879,233	3,731,73
Collateral on securities lending arrangements, at fair value	31,986,994	235,287,92
TOTAL LIABILITIES	\$ 90,383,223	\$ 260,399,06
Net Position		
Net investment in capital assets	5,723,983	5,659,15
Restricted for self-insurance fund	5,000,000	5,000,00
Unrestricted	3,718,946,026	3,866,991,35
Plan net position - restricted for pension benefits	\$ 3,729,670,009	\$ 3,877,650,51

See accompanying notes to basic financial statements.

## Basic Financial **Statements**

STATEMENTS OF CHANGES IN FIDUCIARY NET POS (Fiscal Year Ended June 30, 2016 and 2015)	SITION			
	201	6	20	15
Additions (Reductions) to Plan Net Position, Net:				
Contributions:				
City of Houston	\$	94,279,235	\$	92,609,565
Members		25,510,801		25,091,582
TOTAL CONTRIBUTIONS	\$	119,790,036	\$	117,701,147
Net Investment Income (Loss):				
Net appreciation (depreciation) in fair value of investments		(116,953,736)		(23,687,040)
Interest		57,621,249		57,318,547
Dividends		16,298,917		25,615,080
Earnings from private equity		702,437		967,410
Earnings from real estate		58,453		158,620
Other		1,699,257		373,816
Securities lending arrangements:				
Earnings		253,620		235,556
Rebates and fees		297,479		342,343
TOTAL SECURITIES LENDING ARRANGEMENTS	\$	551,099	\$	577,899
Gross investment income (loss)		(40,022,324)		61,324,332
Less: investment services expense		(7,414,793)		(9,522,193)
Net investment income (loss)		(47,437,117)		51,802,139
TOTAL ADDITIONS (REDUCTIONS) TO PLAN NET	¢	72 252 010		160 E02 206
POSITION, NET	\$	72,352,919	\$	169,503,286
<b>Deductions From Plan Net Position:</b>				
Benefits paid to members		211,127,901		195,493,351
Contribution refunds to members		544,717		868,618
Professional services		1,889,650		1,675,931
Administrative expenses		6,771,158		6,640,148
TOTAL DEDUCTIONS FROM PLAN NET POSITION	\$	220,333,426	\$	204,678,048
Net increase (decrease) in plan net position	<u> </u>	(147,980,507)		(35,174,762)
Plan net position restricted for pension benefits, beginning of year		3,877,650,516		3,912,825,278
PLAN NET POSITION - RESTRICTED FOR PENSION BENEFITS, END OF YEAR	\$	3,729,670,009	\$	3,877,650,516

 $See\ accompanying\ notes\ to\ basic\ financial\ statements.$ 

### Notes to Basic **Financial Statements**

(Fiscal Year Ended June 30, 2016)

#### 1. DESCRIPTION OF PLAN

#### **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, 2016 and 2015, the membership of the Fund consisted of the following:

	2016	2015
Retirees and beneficiaries currently receiving benefits	3,134	3,056
Former members entitled to benefits but not yet receiving them	5	6
Active Members:		
Vested	2,501	2,508
Nonvested	1,608	1,431
TOTAL MEMBERS	7,248	7,001

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 actuarially determined and adopted by the Board, but not less than twice the members' contributions. For the fiscal years ended June 30, 2016 and 2015, 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.

Pensions are adjusted annually for a fixed annual cost-of-living adjustment of 3% for eligible benefit recipients.

Active members with 20 or more years of service are eligible to elect to establish a Deferred Retirement Option Plan (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 DROP participant will continue to receive the monthly benefit and earnings in the DROP account for DROP years 11, 12 and 13. The balance of the DROP account as of June 30, 2016 and 2015 was \$1,199,581,943 and \$1,096,051,646, 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 new 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 by calculating earnings compounded monthly at a rate based on the Fund's actual average rate of return over the preceding five years (minimum of five percent annually, maximum of ten percent annually).

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. Postretirement 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%. 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 (comingled/ 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 thirdparty 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 mangers 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 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 co-mingled 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, 2016 and June 30, 2015, 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 exdividend 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 September 6, 2013 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, 2016 and 2015, 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 February 2015, GASB issued Statement No. 72, Fair Value Measurement and Application. This Statement provides guidance for determining a fair value measurement for financial reporting purposes as well as guidance for applying fair value to certain investments and disclosures related to all fair value measurements. This Statement was adopted for the Fund's 2016 annual financial statements, and the implementation of this new standard did not significantly impact the Fund's financial statements.

In June 2015, GASB issued Statement No. 73, Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68. This Statement extends the approach to accounting and financial reporting established in Statement 68 to all pensions, and also requires that information similar to that required by Statement 68 be included in notes to financial statements and required supplementary information by all similarly situated employers and nonemployer contributing entities. This Statement will be effective for the Fund's 2017 annual financial statements. Management is currently evaluating the impact this new standard will have on the Fund's financial statements.

In June 2015, GASB issued Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other than Pension Plans. This Statement replaces Statements No. 43 and No. 57, and also includes requirements for defined contribution OPEB plans that replace the requirements for those OPEB plans in Statements No. 25, No. 43, and No. 50. This Statement will be effective for the Fund's 2017 annual financial statements. Management is currently evaluating the impact this new standard will have on the Fund's financial statements.

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 OPEB and establishes new accounting and financial reporting requirements for OPEB plans. This Statement will be effective for the Fund's 2018 annual financial statements. Management is currently evaluating the impact this new standard will have on the Fund's financial statements.

In June 2015, GASB issued Statement No. 76, The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments. This Statement supersedes Statement No. 55, reduces the GAAP hierarchy to two categories of authoritative GAAP, and addresses the use of authoritative and nonauthoritative literature in the event that the accounting treatment for a transaction or other event is not specified within a source of authoritative GAAP. This Statement was adopted for the Fund's 2016 annual statements, and the implementation of this new standard did not significantly impact the Fund's financial statements.

In March 2016, GASB issued Statement No. 82, Pension Issues and amendment of GASB Statements No. 67, No. 68, and No. 73. This Statement addresses issues regarding (1) the presentation of payrollrelated measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. This Statement will be effective for the Fund's 2017 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, 2016, were as follows:

Total pension liability	\$ 4,629,654
Plan fiduciary net position	(3,729,670)
City net pension liability	\$ 899,984
Plan fiduciary net position as a percentage of total pension liability	80.56%

#### **ACTUARIAL ASSUMPTIONS**

The total pension liability was determined by an actuarial valuation as of June 30, 2016, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.00%
Salary increases	3% to 7%, based on seniority and merit
Investment rate of return	8.50%, net of pension plan investment expense.
	This is based on an average inflation rate of return of 3.00% and a real rate of return of 5.50%

Census data was collected as of July 1, 2015. Liabilities measured as of the census date were projected to June 30, 2016 assuming no demographic gains or losses.

Mortality rates were based on the RP-2000 Mortality Table projected to year 2026 using Scale AA.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment 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 pension plan's target asset allocation as of June 30, 2016 are summarized in the following table (note that the rates shown below include the inflation component):

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment 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 pension plan's target asset allocation as of June 30, 2016 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	12.39%	17.10%
International equity	10.38%	17.04%
Fixed Income	4.87%	30.00%
Cash	3.95%	0.86%
Hedge Funds	7.76%	8.00%
Real Estate	9.99%	7.00%
Private Equity	15.48%	20.00%

#### **DISCOUNT RATE**

The discount rate used to measure the total pension liability was 8.50%. 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 pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members for all future years and hence, the blended GASB discount rate is equal to the long-term rate of return of 8.50%. Therefore, the long-term expected rate of return on pension plan investments of 8.50% was applied to all periods of projected benefit payments to determine the total pension liability. The long-term expected rate of return remained at 8.50% to reflect the expected asset allocation.

## 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 8.50%, as well as what the Fund's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (7.50%) or 1-percentage-point higher (9.50%) than the current rate:

	1% DECREASE (7.50%)	CURRENT DISCOUNT RATE (8.50%)	1% INCREASE (9.50%)
Net Pension Liability (\$000)	\$ 1,352,150	\$ 899,984	\$ 513,628

#### 4. CONTRIBUTIONS REQUIRED AND CONTRIBUTIONS MADE

Contribution rates are established to remain level over time as a percentage of active members' qualifying salaries. The contribution rate has been determined to provide for normal cost plus the level percentage of members' salaries required to amortize the unfunded actuarial accrued liability (or surplus) over a rolling 30 year period.

The City is required to contribute at a rate that has been actuarially determined and adopted by the Board, but not less than twice the members' contributions. Effective July 1, 2014, the City's actuarially determined contribution rate of 33.2% for fiscal years 2016 and 2015 was established pursuant to the July 1, 2013 actuarial report consisting of 19.4% of covered members' salaries (to pay normal costs), increased by 13.8% of amortization deficit of the actuarial accrued liability over a rolling 30 year period.

The effective members' contribution rate is 9%.

### ACTUARIALLY DETERMINED CONTRIBUTION REQUIREMENTS

	Ju	ne 30, 2016*
Employer normal cost	\$	55,119,914
Member normal cost		25,510,801
TOTAL NORMAL COST	\$	80,630,715
Plus: Amortization of Deficit		
Actuarial accrued liability		39,159,321
NET CONTRIBUTIONS REQUIRED		119,790,036
Employer contributions actually made		94,279,235
Member contributions actually made		25,510,801
TOTAL CONTRIBUTIONS	\$	119,790,036
	۳	,
		ne 30, 2015*
Employer normal cost		
	Ju	ne 30, 2015*
Employer normal cost	Ju	ne 30, 2015* 54,123,550
Employer normal cost  Member normal cost	Jui \$	ne 30, 2015* 54,123,550 25,091,582
Employer normal cost  Member normal cost  TOTAL NORMAL COST	Jui \$	ne 30, 2015* 54,123,550 25,091,582
Employer normal cost  Member normal cost  TOTAL NORMAL COST  Plus: Amortization of Deficit	Jui \$	54,123,550 25,091,582 79,215,132
Employer normal cost  Member normal cost  TOTAL NORMAL COST  Plus: Amortization of Deficit  Actuarial accrued liability	Jui \$	54,123,550 25,091,582 79,215,132 38,486,015
Employer normal cost  Member normal cost  TOTAL NORMAL COST  Plus: Amortization of Deficit  Actuarial accrued liability  NET CONTRIBUTIONS REQUIRED	Jui \$	54,123,550 25,091,582 79,215,132 38,486,015 117,701,147

 $<sup>^{*}</sup>$  Based on actuarial contribution rates as determined in the July 1, 2014 actuarial study.

#### **ACTUARIAL PROCESS**

The Fund, by statute, may adopt an actuarial valuation once every three years in order to establish the City's contribution rate. In March 2014, the Board of Trustees adopted and certified the finalized July 1, 2013 actuarial valuation, increasing the City's contribution rate to 33.2% effective July 1, 2014, while leaving the members' contribution rate at 9%. The City's contribution rate remained in effect until June 30, 2016. The July 1, 2013 actuarial report indicates the Fund has a funding ratio of 86.6%.

The Board adopted the July 1, 2013 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 8.5 percent assumed rate of return recognized in the actuarial value over five years. In the Actuarial Value of Assets at July 1, 2013, past investment gains and losses were fully recognized. New gains and losses will be recognized over five years beginning July 1, 2014.

The adoption of the July 1, 2013 actuary valuation for financial statement reporting purposes included a change to the a) mortality rates from the RP-2000 table projected to the valuation using Scale AA to the RP-2000 table projected to 2023 (ten years beyond the valuation date) using Scale AA; b) retirement rates for ages 37 and above to better reflect the plan experience; and c) termination rates for ages 42 and above to better reflect the plan experience.

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

The City is responsible for funding the deficiency, if any, between the amounts available to pay the Fund's benefits and the amount required to pay such benefits.

The July 1, 2013 actuarial valuation used the following significant assumptions:

Investment rate of return	8.5%, 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 30 years
Life expectancy	Based on RP-2000 Table projected to year 2023 using scale AA

#### **HISTORICAL TREND INFORMATION**

Historical trend information is provided as required supplemental information on pages 39 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 802.203 of the Government Code. The investment policy of the Board does not restrict the types of investments authorized to be made on behalf of the Fund; however, 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, 2016 and 2015, by type, are as follows:

	2016	2015
Short-term investment funds	\$ 164,710,031	\$ 143,478,999
Fixed Income-Government Securities	270,459,099	289,539,678
Fixed Income-Corporate Bonds	809,411,649	881,976,524
Fixed Income-Convertibles	58,796,621	45,405,832
Common equity	1,353,246,545	1,497,508,847
Preferred equity	4,595,216	6,290,393
Hedge Funds:		
Global Macro Hedge Fund	205,365,224	231,426,530
Multi-Strategy FOHFs	214,777,240	227,776,023
Private Equity:		
Buy out partnerships/Funds	106,731,762	90,468,500
Distressed Debt Partnerships/Funds	61,538,005	51,029,116
Direct Investments	1,075,000	1,075,000
Secondary Partnerships/ Funds	98,110,693	92,720,071
Special Situations Investments	24,003,747	27,126,421
Venture Capital Partnerships/ Funds	83,437,025	87,084,840
Real estate	186,825,185	171,053,101
TOTAL INVESTMENTS	\$ 3,643,083,042	\$ 3,843,959,875

#### **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, 2016 and 2015, 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) Cash, Fixed Income, Domestic Equities and International
  - a. The specific guidelines along with contractual requirements for each manager will be developed cooperatively by the Fund's investment staff, legal counsel, and the investment manager and shall be incorporated into an Investment Management Agreement or other binding agreement as is appropriate for the investment.
  - b. In case of conflict between the specific manager guidelines and the general guidelines, the specific guidelines, as approved by the Investment Committee, shall supersede. The general guidelines are as follows:
    - i. Manager investment philosophy, style, strategy, and structure shall remain consistent and shall not change without the Fund's Investment Committee's approval. The manager shall have discretion to manage the portfolio consistent with the style presented to the Investment Committee at the time of selection and further subject to the restrictions established by the policy herein.
    - ii. The following transactions are prohibited: short sales, selling on margin, put and call options and the use of derivatives for speculation unless authorized by the Investment Committee.
    - iii. Transactions that involve a broker acting as a principal, where such broker is also affiliated with the manager who is making the transaction are prohibited, unless specifically approved by the Investment Committee.
    - iv. Transactions shall be executed at competitive costs or best execution.
    - v. Managers shall maintain cash levels consistent with their style as presented to the Investment Committee at the time of selection. Any deviation shall be allowed only after notifying the Fund's Chief Investment Officer and should be related to unusual market conditions. The maximum cash level to be held by each manager will be addressed in the Investment Management Agreement or other binding agreement as is appropriate for the investment.

- 2) Hedge Funds, Private Equity and Real Estate
  - a. The investment specific guidelines for each manager will be incorporated in a Limited Partnership Agreement, Limited Liability Company Agreement, or other binding agreement as is appropriate for the investment.
  - b. In case of conflict between the specific manager guidelines and the general guidelines, the specific guidelines, as approved by the Investment Committee, shall supersede. The general guidelines are as follows:

Manager investment philosophy, style and strategy shall remain consistent and shall not change without the Investment Committee's approval. The manager shall have discretion to manage the portfolio consistent with the style presented to the Fund's Investment Committee at the time of selection and further subject to the restrictions established by the Fund's Investment Policy Statement.

As of June 30, 2016, more than 5% of the Fund's net assets are in the MCM ACWI Ex-U.S. FUND and MCM EB DV Broad Market Stock Index Fund. These investments represent 10.24% and 16.20%, respectively, of the Fund's net assets. As of June 30, 2015, the Fund investment portfolio had no single holdings in excess of 5% of Fund net assets.

#### **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 noninvestment 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, 2016, 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	2.54	\$ 131,395
Non-U.S. Corporate	4.25	12,255,583
Non-U.S. Treasuries	4.11	58,123,634
Taxable Municipals	9.79	11,964,420
U.S. Agencies	5.02	2,844,825
U.S. Collateralized	5.97	100,557,002
U.S. Convertibles	11.67	58,796,621
U.S. Corporate	11.03	684,503,249
U.S. Treasuries	4.63	209,490,640
TOTAL FIXED INCOME SECURITIES		\$ 1,138,667,369

#### At June 30, 2015, 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	3.54	\$ 178,103
Non-U.S. Convertibles	2.24	2,101,512
Non-U.S. Corporate	2.97	25,760,321
Non-U.S. Treasuries	4.85	56,698,770
Taxable Municipals	62.03	20,382,716
TIPS (Treasury Inflation Protected)	8.33	10,758,142
U.S. Agencies	6.01	2,697,398
U.S. Collateralized	9.16	43,745,387
U.S. Convertibles	12.88	43,304,320
U.S. Corporate	15.65	791,909,996
U.S. Treasuries	14.92	219,385,369
TOTAL FIXED INCOME SECURITIES		\$ 1,216,922,034

#### **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:

	2016	
QUALITY RATING	FAIR VALUE	PERCENTAGE OF HOLDINGS
AGY	\$ 2,844,825	0.08%
A1	26,297,475	0.71%
A2	53,522,806	1.44%
A3	111,824,550	3.02%
AA1	15,144,449	0.41%
AA2	1,577,730	0.04%
AA3	20,634,666	0.56%
AAA	126,413,932	3.41%
B1	18,075,250	0.49%
B2	23,357,217	0.63%
В3	44,402,739	1.20%
BA1	33,539,323	0.90%
BA2	36,180,332	0.98%
BA3	31,734,025	0.86%
BAA1	142,256,292	3.84%
BAA2	104,019,042	2.81%
BAA3	79,576,747	2.15%
С	873,130	0.02%
CA	1,346,338	0.04%
CAA1	20,219,754	0.55%
CAA2	13,251,347	0.36%
CAA3	12,308,843	0.33%
D	381,455	0.01%
DEF	74,165	0.00%
Not rated	9,320,297	0.25%
TOTAL CREDIT RISK DEBT SECURITIES*	\$929,176,729	25.09%

	2015	
QUALITY RATING	FAIR VALUE	PERCENTAGE OF HOLDINGS
AGY	\$ 2,697,398	0.07%
A1	23,156,422	0.60%
A2	61,224,852	1.58%
A3	176,091,402	4.56%
AA1	9,103,787	0.24%
AA2	14,151,703	0.37%
AA3	37,036,204	0.96%
AAA	72,615,614	1.88%
B1	39,629,165	1.03%
B2	31,615,449	0.82%
В3	27,930,630	0.72%
BA1	48,209,224	1.25%
BA2	56,051,626	1.45%
BA3	52,408,574	1.36%
BAA1	104,869,132	2.71%
BAA2	79,639,477	2.06%
BAA3	94,925,473	2.46%
С	49,491	0.00%
CA	546,222	0.01%
CAA1	26,442,388	0.68%
CAA2	10,881,459	0.28%
CAA3	9,071,230	0.23%
D	304,000	0.01%
DEF		
Not rated	8,127,600	0.21%
TOTAL CREDIT RISK DEBT SECURITIES*	\$986,778,522	25.54%

<sup>\*</sup>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, 2016 are as follows:

2016			
		FAIR VALUE	PERCENTAGE OF HOLDINGS
Euro Currency Unit	\$	29,872,785	0.81%
Canadian Dollar		23,686,452	0.64%
Mexican Peso		13,273,318	0.36%
New Zealand Dollar		12,790,036	0.35%
Australian Dollar		6,084,612	0.16%
Norwegian Krone		5,130,377	0.14%
Pound Sterling		1,831,527	0.05%
Brazil Real		1,610,987	0.04%
Japanese Yen		1,487,877	0.04%
Swiss Franc		738,640	0.02%
Danish Krone		341,284	0.01%
Hong Kong Dollar		158,836	0.00%
Swedish Krona		129,182	0.00%
Czech Koruna		18,711	0.00%
Singapore Dollar		74	0.00%
South Korean Won			
Thailand Baht			
Israeli Shekel			
Indonesian Rupiah			
New Turkish Lira			
TOTAL SECURITIES SUBJECT TO FOREIGN CURRENCY RISK	\$	97,154,698	2.62%

	2015	
	FAIR VALUE	PERCENTAGE OF HOLDINGS
Euro Currency Unit	\$ 162,389,573	4.20%
Canadian Dollar	38,264,911	0.99%
Mexican New Peso	15,516,271	0.40%
New Zealand Dollar	12,181,119	0.32%
Australian Dollar	12,684,882	0.33%
Norwegian Krone	11,326,653	0.29%
Pound Sterling	60,037,325	1.55%
Brazil Real	3,758,358	0.10%
Japanese Yen	84,995,157	2.20%
Swiss Franc	46,362,657	1.20%
Danish Krone	12,634,552	0.33%
Hong Kong Dollar	18,966,733	0.49%
Swedish Krona	9,517,683	0.25%
Czech Koruna	911,431	0.02%
Singapore Dollar	1,444,455	0.04%
South Korean Won	12,540,623	0.32%
Thailand Baht	6,315,330	0.16%
Israeli Shekel	2,738,191	0.07%
Indonesian Rupiah	1,975,405	0.05%
New Turkish Lira	1,962,234	0.05%
TOTAL SECURITIES SUBJECT TO FOREIGN CURRENCY RISK	\$ 516,523,543	13.37%

Summary of Investment and Professional Services on page 45 lists the Fund's investment and professional service providers.

#### **ALTERNATIVE INVESTMENTS**

As of June 30, 2016 and 2015, 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, 2016	JUNE 30, 2015
Private Equity	\$ 374,896,232	\$ 349,503,948
Hedge Funds	420,142,464	459,202,553
	\$ 795,038,696	\$ 808,706,501

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

In regard to hedge funds, as of June 30, 2016, the Fund had investments in two multi-strategy funds-of-hedge funds (both separate accounts) and positions in two global macro hedge funds (co-mingled 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, 2016 and 2015, the Fund's directly held derivative investments included only foreign exchange contracts.

#### 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 \$558,736 in fiscal year 2016 and a loss of \$110,881 in fiscal year 2015.

As of June 30 of each fiscal year, the Fund's positions in these foreign exchange contracts are summarized below:

	Fair Value at June 30		
FOREIGN EXCHANGE CONTRACTS - RECEIVABLES	2016	2015	
Canadian Dollar	\$ 16,309	-	
Euro Currency Unit	-	1,198,818	
Norwegian Krone	-	606,811	
Swiss Franc	22,396	-	
U.S. Dollar	22,853,966	1,918,138	
	\$ 22,892,671	\$ 3,723,767	

	Fair Value at June 30		
FOREIGN EXCHANGE CONTRACTS - PAYABLES	2016	2015	
Euro Currency Unit	\$ (3,254,639)	\$ (745)	
Japanese Yen	(19,586,002)	(213,491)	
Pound Sterling	-	(1,692,865)	
Swiss Franc	-	(8,647)	
U.S. Dollar	(38,592)	(1,815,982)	
	(22,879,233)	(3,731,730)	
FOREIGN EXCHANGE CONTRACTS - NET	\$ 13,438	\$ (7,963)	

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 such credit risk losses occurred during fiscal years 2016 and 2015.

No active investment manager was employed by the Fund during fiscal year 2016 or 2015 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.

#### 6. FAIR VALUE MEASUREMENTS

In Fiscal Year 2016, the Fund adopted GASB 72. GASB 72 was issued to address accounting and financial reporting issues related to fair value measurements.

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.

#### GASB 72 HIERARCHY TABLE

	Fair Value Measurements Using			
	6/30/2016	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	\$ 164,710,031	164,710,031		
DEBT SECURITIES				
Government Securities	270,459,099	209,490,640	60,968,459	
Corporate bonds	809,411,649	-	809,411,649	
Convertibles	58,796,621	2,798,778	55,997,843	
TOTAL FIXED INCOME SECURITIES	1,138,667,369	212,289,418	926,377,951	
EQUITY SECURITIES				
Common	260,897,406	260,897,406		
Preferred	4,595,216		4,595,216	
TOTAL EQUITY SECURITIES	265,492,622	260,897,406	4,595,216	
PRIVATE INVESTMENTS				
Real Estate	1,135,000			1,135,000
Private Equity - Energy	3,170,135			3,170,135
TOTAL PRIVATE INVESTMENTS	4,305,135			4,305,135
Total Investments By Fair Value Level	\$ 1,573,175,157	\$ 637,896,855	\$ 930,973,167	\$ 4,305,135
Investments measured at net asset value (NAV)				
COMINGLED INVESTMENT FUNDS	\$ 1,092,349,139			
HEDGE FUNDS	\$ 420,142,464			
PRIVATE EQUITY FUNDS	\$ 371,726,097			
REAL ESTATE FUNDS	\$ 185,690,185	-		
Total Investments Measured at NAV	\$ 2,069,907,885			
TOTAL INVESTMENTS	\$ 3,643,083,042			

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
COMINGLED INVESTMENT FUNDS (A)	\$ 1,092,349,139		NR	0 - 15 Days
HEDGE FUNDS (B)	\$ 420,142,464		NR - Monthly	0 - 5 Days
PRIVATE EQUITY FUNDS (C)	\$ 371,726,097	\$ 492,056,566		
REAL ESTATE FUNDS (D)	\$ 185,690,185	\$ 158,327,764		
Total Investments Measured at NAV	\$ 2,069,907,885			

<sup>\*</sup>NR is used to denote no contractual restriction

A. COMINGLED INVESTMENT FUNDS. This type includes six comingled (multi-asset) accounts managed by three 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 of these accounts (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, 2016. It is uncertain if these positions can be exited at their June 30, 2016 fair value. Four of the comingled investment funds held by the Fund are funds that may invest in securities or other collective funds to track the performance of their respective public market index. The last of these investments is an interest in a fund that invests both long and short in U.S. and non U.S. securities.

B. HEDGE FUNDS. This type includes two multi-strategy hedge funds managed by a single manager and two multi-strategy hedge fund-of-funds (both separate accounts) managed by two different managers. 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 multi-strategy hedge funds have monthly redemption allowances and five business day notice periods. While the two hedge fund-of-funds do not have redemption gates, the Fund's ability to effect withdrawals is dependent on the hedge fund-of-fund's ability to redeem its interests in underling positions. That said, in April 2016, the manager of one of these hedge fund-of-funds advised the Fund of the termination of its business. Consequently, on the instruction of the Fund, the manager initiated redemption actions. Redemption

proceeds are expected after June 30, 2016. Given the redemption gates and other liquidity provisions of the underlying positions, the manager expects that redemption proceeds will be received during the remainder of 2016 (97.7%), calendar year 2017 (1.8%) and thereafter (0.5%). As of October 13, 2016 this manager

has distributed \$89.6 million in redemption proceeds to the Fund (85% of the hedge fund-of-funds' \$105,298,478 million June 30, 2016 fair value). Other than seeking and executing redemptions, this hedge fund-of-funds manager is not actively trading on behalf of the Fund. The second of these hedge fund-of-funds was terminated by the Fund's Investment Committee in June 2016. Redemption proceeds are expected after June 30, 2016. As is the case with the Fund' other hedge funds-of-funds, the Fund's ability to effect withdrawals is dependent on this hedge fund-offund's ability to redeem its interests in underling positions. As a consequence, the manager expects that redemption proceeds will be received during the remainder of 2016 (54.5%), calendar year 2017 (36%), calendar year 2018 (4.3%) and thereafter (5.2%). As of October 13, 2016, this manager has distributed \$22.7 million in distribution proceeds to the Fund (almost 21% of the hedge fund-of-funds \$109,478,763 million June 30, 2016 fair value). Other than seeking and executing redemptions, this hedge fund-of-funds manager is not actively trading on behalf of the Fund. 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, 2016 fair values due to market conditions.

C. PRIVATE EQUITY FUNDS. This type includes sixty-nine 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 the next 1 to 15 years.

D. REAL ESTATE FUNDS. This type includes sixteen 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 the next 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, 2016 and 2015, the Fund's cash deposits in bank accounts totaled \$63,828,829 and \$20,087,368, 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 \$63,578,829 and \$19,837,368 as of June 30, 2016 and 2015, 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, 2016:

	BEGINNING BALANCE	INCREASES	DECREASES	ENDING BALANCE
Building	\$ 9,385,652	403,301	-	9,788,953
Office furnishings and equipment	618,946	-	-	618,946
Computer software and hardware	2,945,722	112,710	54,216	3,004,216
Building furniture, fixtures and equipment subject to depreciation	12,950,320	516,011	_	13,412,115
Less accumulated depreciation and amortization	(7,774,486)	(448,848)	51,877	(8,171,457)
TOTAL BUILDING FURNITURE, FIXTURES AND EQUIPMENT, NET	\$ 5,175,834	67,163	2,339	5,240,658

Building furniture, fixtures and equipment are comprised as follows at June 30, 2015:

	BEGINNING BALANCE	INCREASES	DECREASES	ENDING BALANCE
Building	\$ 9,304,155	81,429	_	9,385,652
Office furnishings and equipment	663,602	_	44,656	618,946
Computer software and hardware	3,032,123	96,230	182,631	2,945,722
Building furniture, fixtures and equipment subject to depreciation	12,999,880	177,727	227,287	12,950,320
Less accumulated depreciation and amortization	(7,533,541)	(240,945)	_	(7,774,486)
TOTAL BUILDING FURNITURE, FIXTURES AND EQUIPMENT, NET	\$ 5,466,339	(63,218)	227,287	5,175,834

#### 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:

	2016		2015	
	SECURITIES LENT	COLLATERAL HELD	SECURITIES LENT	COLLATERAL HELD
Fixed income	\$ 30,884,221	\$ 31,646,002	\$ 204,316,894	\$ 209,874,667
Common and preferred stocks	326,772	340,992	23,829,692	25,413,262
	\$ 31,210,993	\$ 31,986,994	\$ 228,146,586	\$ 235,287,929

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, 2016 and 2015 the Fund was not exposed to borrower credit risk as collateral held as a percentage of the securities loaned was 102.5% and 103.1%, 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 \$31,986,994 and \$235,287,929 as of June 30, 2016 and 2015, respectively. Cash collateral from the securities lending program (\$29,152,715 as of June 30, 2016 and \$75,571,868 as of June 30, 2015) is invested in the Custodian's collateral investment pools. These pools are not considered to be securities.

## 11. RELATED PARTY

During fiscal years 2016 and 2015, the Plan utilized the services of investment management companies in which the Plan owns an interest. Manager fees of approximately \$411,000 and \$484,000 were paid in fiscal years 2016 and 2015, 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 2016 and 2015, the Fund contributed \$440,511 and \$439,745, 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, 2016 and 2015, aggregate contributions from active members of the Fund with less than ten years of service were \$34,048,444 and \$30,998,655, respectively. Contributions for employees with 10 to 20 years of service have not been determined. As of June 30, 2016 and 2015, 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 \$650,384,330 and \$485,755,963 as of June 30, 2016 and 2015, respectively.

Pursuant to the May 23, 1993 revision of Section 2(1), 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 plan net assets by the Board. As of June 30, 2016 and 2015, 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 events of the global financial crisis, the U.S. real estate market adjustments, and more recent decline in the price of oil resulted in dramatic changes in economic conditions, including interest rate, currency, equity and credit conditions. The effect of those events on the Fund's investment portfolio is mitigated by the diversification of its holdings.

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 18, 2016, which is the date the financial statements were available to be issued. Management has determined that no subsequent events require disclosure in these financial statements.



# REQUIRED SUPPLEMENTAL **INFORMATION**

## **SCHEDULE 1**

SCHEDULE OF CHANGES IN THE FUND'S NET PENSION LIABILITY AND RELATED RATIOS (\$000) (UNAUDITED)								
Total Pension Liability		2016		2015		2014		
Service cost		\$ 76,407		\$ 68,145	;	72,333		
Interest		369,708		353,405		334,818		
Changes of benefit terms		-		-		-		
Differences between expected and actual experience		(63,047)		(28,536)		-		
Changes of assumptions		2,918		2,801		3,264		
Benefit payments		(211,673)		(196,362)		(187,118)		
Net change in total pension liability		174,313		199,453		223,297		
TOTAL PENSION LIABILITY-BEGINNING	\$	4,455,341	\$	4,255,888	\$	4,032,591		
TOTAL PENSION LIABILITY-ENDING (a)	\$	4,629,654	\$	4,455,341	\$	4,255,888		
Plan Fiduciary Net Pension								
Contributions-employer		94,279		92,610		64,338		
Contributions-employee		25,511		25,092		23,994		
Net investment income		(47,437)		51,801		589,518		
Benefit payments, including refunds of employee contributions		(211,673)		(196,362)		(187,118)		
Administrative expense		(6,771)		(6,640)		(6,884)		
Other (Professional services)		(1,890)		(1,676)		(1,459)		
Net change in plan fiduciary net position		(147,981)		(35,175)		482,389		
PLAN FIDUCIARY NET POSITION-BEGINNING	\$	3,877,651	\$	3,912,826	\$	3,430,437		
PLAN FIDUCIARY NET POSITION-ENDING (b)	\$	3,729,670	\$	3,877,651	\$	3,912,826		
City's net pension liability-ending (a)-(b)		899,984		577,690		\$ 343,062		
Plan fiduciary net position as a percentage of the total pension liability		80.56%		87.03%		91.94%		
Covered-employee payroll		280,436		277,745		268,424		
Net pension liability as a percentage of Covered-employee payroll		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 Employee Payroll	Actuarially Determined Contribution	Contributions Related to the Actuarially Determined Contribution	Contribution Deficiency (Excess)	Contribution as a Percentage of Covered Payroll			
2016	\$ 280,436	\$ 87,464	\$ 94,279	\$ (6,815)	33.62%			
2015*	-	-	-	-	-			
2014	\$ 268,424	\$ 83,480	\$ 64,338	\$ 19,142	23.97%			

<sup>\*</sup>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*				
2016	(1.29%)				
2015	1.28%				
2014	17.53%				

<sup>\*</sup>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 REQUIRED SUPPLEMENTAL SCHEDULES FOR YEAR ENDED JUNE 30, 2016

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

A. Benefit changes: None

B. **Changes in Assumptions:** The mortality rate used at June 30, 2016 include an additional year of mortality improvement over that used in the development of the TPL at June 30, 2015 in accordance with the stated assumptions.

## NOTES TO SCHEDULE OF FUND CONTRIBUTIONS:

None

## **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:

	T
Valuation date	July 1, 2015
Actuarial cost method	Entry age method
Amortization method	Level percentage of payroll over 30 years
Remaining amortization period	Rolling 30 year
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 investment 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	8.5% per year, net of 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	RP-2000 Table projec using Scale AA	ted to year 2025			
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	Percentage of participants electing retirement at the specified duration			
	0	0%			
	3 0%				
	5	5%			
	8	30%			
	10	65%			

The following changes in assumptions and methods have taken place since the July 1, 2013 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 2023 using scale AA to the RP-2000 table projected to 2025 using Scale AA. This increased the actuarial accrued liability by \$2.5M.

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.



# **ADDITIONAL** SUPPLEMENTAL **INFORMATION**

**SCHEDULE 4** 

Investment, Professional Services and Administrative Expenses Fiscal Year Ended June 30, 2016 and 2015

	2016	2015
Investment Services:		
Custodial Services	\$ 281,664	\$ 335,553
Money management services	7,133,129	9,186,640
TOTAL INVESTMENT SERVICES	\$ 7,414,793	\$ 9,522,193
Professional services:		
Actuarial services	239,819	162,466
Audit and accounting services	33,961	32,703
Consulting and professional services	511,896	515,748
Government relations	466,500	444,000
Legal services*	623,197	502,725
Medical examinations	14,277	18,289
TOTAL PROFESSIONAL SERVICES	\$ 1,889,650	\$ 1,675,931
Administrative expenses:		
Depreciation	448,848	430,702
Continuing education	220,317	209,482
Furniture, equipment and supplies	166,776	140,761
Insurance	835,717	810,631
Investment research	133,122	172,212
Office cost	4,666,651	4,562,059
Facility maintenance	148,327	138,226
Utilities	151,400	176,075
TOTAL ADMINISTRATIVE EXPENSES	\$ 6,771,158	\$ 6,640,148

See accompanying independent auditors' report.

<sup>\*</sup>Included Governmental Relations Consulting

**SCHEDULE 5** 

Summary of Investment and Professional Services Fiscal Year Ended June 30, 2016

INDIVIDUAL OR FIRM NAME	AMOUNT	NATURE OF SERVICES
Mellon Trust	\$ 281,664	Custodial
Ariel Capital Management	586,014	Money management
AllianceBernstein	1,094,273	Money management
The Mitchell Group	261,653	Money management
Mercator	706,023	Money management
Earnest Partners	346,580	Money management
McKinley Capital	761,091	Money management
Mellon Capital LCV	34,870	Money management
Mellon Capital EM	41,616	Money management
Mellon Capital BM	63,124	Money management
Mellon Capital ACWI	93,413	Money management
Mellon Super Stiff/Standish	158,850	Money management
Victory Capital	330,045	Money management
GW Capital	246,050	Money management
Loomis Sayles "A" and "B"	1,112,613	Money management
STW Fixed Income Mgmt "A"	755,682	Money management
STW Fixed Income Mgmt "B"	155,978	Money management
Texas Forest Partners	346,964	Money management
Energy Trust	38,292	Money management
TOTAL INVESTMENT SERVICES	\$ 7,414,793	
Buck Consultants, LLC	239,819	Actuarial
McConnell & Jones, LLP	31,790	Audit
VR Election Services	2,171	Audit-Trustee Elections
	287,500	
StepStone Group LLP  Paul A goat Portfolio Management		Consulting
Real Asset Portfolio Management  EFL Associates	125,000	Consulting
	27,458	Consulting
The Retirement Plan Company, LLC	15,999	Consulting
Levi, Ray & Shoup, Inc.	12,670	Consulting
Cushman & Wakefield	6,000	Consulting
Adjacent Technologies, Inc	4,380	Consulting
Media Masters	4,275	Consulting
BEMA	2,000	Consulting
Various Consulting groups	547	Consulting
Limb Design, Inc.	14,211	Consulting, printing, and design
Bayside Printing Company, Inc	11,857	Consulting, printing, and design
Locke Lord, LLP	322,500	Government relations
Williams & Jensen, PLLC	144,000	Government relations
Baker Botts LLP	279,689	Legal
Jackson Walker, LLP	146,895	Legal
Strasburger & Price, LLP	180,261	Legal
Winstead PC	10,481	Legal
United States Treasury	5,000	Legal
Various other legal	872	Legal
Baylor Occupational Health Program	4,200	Medical examinations
William K. Drell, MD	3,290	Medical examinations
Walter R. Sassard MD	2,700	Medical examinations
Various other medical physicians	1,587	Medical examinations
Southwest Orthopedic	1,500	Medical examinations
Jeffrey D Britton MD	1,000	Medical examinations
TOTAL PROFESSIONAL SERVICES	\$ 1,889,650	



## **INVESTMENT INFORMATION**

# Report of the Chief Investment Officer and **Outline of Investment Policies**

### 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 8.5% 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<sup>1</sup>**

The Houston Firefighters' Relief and Retirement Fund's investment portfolio fell modestly in fiscal year ending June 30, 2016 with a total portfolio investment returns of -1.01% gross (-1.23% net). While the Fund's private equity and real estate portfolios generated meaningful returns of 5.89% and 9.11% respectively, all other asset classes combined ended the year at -2.25%. The most meaningful detractor to the investment portfolio on an absolute return basis, impacted significantly due to Brexit Vote on June 23, 2016, was international equities. Trailing its benchmark (-9.80%), international equities ended the year at -13.83%. The modestly sized cash equivalents portfolio was also above its benchmark of 0.64% with returns of

3.67%. The Fixed Income asset class returned 6.54%, outperforming its benchmark return of 5.82%. This year's performance brings our seven-year annualized return to 9.40% (net), exceeding the 8.50% target return and exceeding the policy benchmark return of 8.43%. The Fund's ten-year return continues to rank in the top 20% among 119 public pension funds according to the Wilshire's Trust Universe Comparison's Report.<sup>2</sup>

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 <sup>1</sup>	9.7%	6.4%
Standard & Poor's 500 Index	14.9%	7.4%
Barclays Universal Index	5.04%	5.30%
Public Pension Fund Peers - Median <sup>2</sup>	9.7%	5.9%

- 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 MARKE	TS		
Cash	0.5% - 2%	1%	BofA ML 9-12 Mo. US Treasury Index*
Fixed Income	30% - 40%	35%	Barclays U.S. Universal Index
Domestic Equities	12% - 25%	17%	Russell 3000 Index
International Equities	12% - 25%	17%	MSCI All Country World Ex-US Index
Hedge Funds	10% - 20%	12%	Libor plus 3%

#### **PRIVATE MARKETS**

Private Equity	11% - 18%	12%	Cambridge US Private Equity 1QA
Real Estate	4% - 7%	6%	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 - 07/01/2013); BofA Merrill Lynch 9-12 Month US Treasury Index (07/01/2013 - Present).

\*\*NCREIF Timber/Property: National Council of Real Estate Investment Fiduciaries (NACREIF) Timberland Index / Property Index with a 70/30 split (Inception to 6/30/08); 50/50 split (July 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.<sup>1</sup>

## **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 AWC xUS 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 (IPS Section 9.0 B) 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. IPS Section 9.0 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

<sup>1.</sup> 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, 2016 (fiscal year 2017).

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 timeweighted 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)

	2016 FAIR VALUE¹	PERCENT	2015 FAIR VALUE¹	PERCENT
Cash Equivalents	\$ 31	1%	\$ 73	2%
Domestic Equity	\$1,260	34%	801	21%
International Equity	\$830	22%	727	19%
Fixed Income	\$620	17%	1,292	33%
Hedge Funds	\$420	11%	459	12%
Private Equity	\$375	10%	350	9%
Real Estate	\$187	5%	171	4%
	\$ 3,723	100%	\$ 3,873	100.0%

<sup>1.</sup> 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.

## **INVESTMENT RESULTS TOTAL FUND RETURN VS POLICY BENCHMARK**

(Period ended June 30, 2016)

	2016	2015	2014	2013	2012	3 Year	5 Year	7 Year	10 Year
HFRRF - Total Portfolio	-1.0	1.5	17.8	11.5	2.1	5.8	6.2	9.7	6.4
Policy Benchmark	2.1	3.5	13.0	8.9	2.9	6.1	6.0	8.4	6.2

Returns by Asset Class	2016	2015	2014	2013	2012	3 Year	5 Year	7 Year	10 Year
HFRRF - Cash	3.7	2.0	4.2	3.9	26.7	3.3	7.7	5.9	6.5
Custom Benchmark	0.8	0.5	0.4	0.2	0.4	0.6	0.5	0.6	1.8
HFRRF - Domestic Equity	-2.7	0.4	27.0	26.8	-7.5	7.5	7.8	13.8	6.4
Russell 3000	2.1	7.3	25.2	21.5	3.8	11.1	11.6	15.0	7.4
HFRRF - Fixed Income	6.5	0.2	11.9	3.5	10.8	6.1	6.5	9.4	7.9
Barclays Capital Universal Index	5.8	1.6	5.2	0.2	7.4	4.2	4.0	5.0	5.3
HFRRF - International Equity	-13.8	-3.9	22.9	16.6	-16.3	0.6	-0.1	5.1	1.0
MSCI All Country World Ex-US Index	-9.8	-4.9	22.3	14.1	-14.1	1.6	0.6	5.8	2.3
HFRRF - Hedge Funds	-8.5	2.6	9.8	4.1	3.5	1.0	2.1	6.1	5.6
LIBOR + 3%	3.5	3.3	3.2	3.3	3.4	3.3	3.4	3.3	4.4
HFRRF - Private Equity	5.9	13.6	22.7	11.9	17.9	13.9	14.3	15.1	12.2
CA US Private Equity 1QA	3.2	10.6	18.9	12.9	11.1	10.9	11.5	14.4	10.8
HFRRF - Real Estate	9.1	14.0	13.0	8.2	8.6	12.0	10.6	7.5	6.0
50% NCREIF Timberland / 50% NCREIF Property"	7.0	11.5	10.6	10.1	6.5	9.7	9.1	7.6	7.4

<sup>\* \*</sup>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 - 07/01/2013); BofA Merrill Lynch 9-12 Month US Treasury Index (07/01/2013 - Present).

<sup>\*\* \*\*</sup>NCREIF Timber/Property: National Council of Real Estate Investment Fiduciaries (NACREIF) Timberland Index / Property Index with a 70/30 split (Inception to 6/30/08); 50/50 split (July 1, 2008 to present).

## **COMPARISON OF INVESTMENT RETURNS** TOTAL FUND RETURN VS POLICY BENCHMARK<sup>1</sup>

(Period ending June 30, 2016)

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
2000	10.3	10.0	(1.4)	9.6	7.3	4.8	4.8	4.3	22.1	16.6	17.2
2001	(1.1)	(4.7)	11.2	(13.9)	(14.8)	5.2	10.8	11.1	(22.2)	(25.4)	(24.8)
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	9.5	18.6	8.1	6.3	14.3	7.4	7.3	16.1	14.6	13.6
2006	14.5	9.3	16.5	9.6	8.6	1.4	(0.3)	(1.5)	27.9	26.9	26.6
2007	17.0	16.4	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)	(17.0)	(38.3)	(26.6)	(26.2)	0.0	4.9	5.3	(36.3)	(30.5)	(31.4)
2010	17.3	12.5	22.3	15.7	14.4	23.0	10.6	9.7	8.9	10.9	5.9
2011	20.6	20.1	39.0	32.4	30.7	11.0	4.8	3.7	30.6	30.3	30.4
2012	2.1	1.5	(7.5)	3.8	5.4	10.8	7.4	8.8	(16.3)	(14.1)	(13.8)
2013	11.5	11.3	26.8	21.5	20.6	3.5	0.2	(0.6)	16.6	14.1	18.6
2014	17.8	15.7	27.0	25.2	24.6	11.9	5.2	4.3	22.9	22.3	23.6
2015	1.5	2.9	0.4	7.3	7.4	0.2	1.6	1.7	-3.9	-4.9	-4.2
2016	-1.0	0.9	-2.7	2.1	4.0	6.5	5.8	6.7	-13.8	-9.8	-10.2

<sup>\*</sup>Trust Universe Comparison Service report (TUCS) as of June 30, page I-3 ('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	0.3	2.0	(1.2)	4.7	5.7	3.3	3.7	4.2
3-YEAR	5.8	6.8	7.4	11.1	11.7	6.1	4.2	4.2
5-YEAR	6.2	6.8	7.8	11.6	12.1	6.5	4.0	4.1
7-YEAR	9.7	9.7	13.8	15.0	14.9	9.4	5.0	4.8
10-YEAR	6.4	5.9	6.4	7.4	7.4	7.9	5.3	5.2

<sup>\*</sup>Trust Universe Comparison Service report (TUCS) as of June 30, page XV-2 ('Total Returns of Master Trusts - Public').

#### TEN LARGEST EQUITY INVESTMENT HOLDINGS

DESCRIPTION	FAIR VALUE	PERCENT OF Total Fair Value
SIMON PROPERTY GROUP INC	\$4,992,821.10	0.14%
FIRST AMERICAN FINANCIAL CORP	3,818,486.80	0.10%
ZIMMER BIOMET HOLDINGS INC	3,045,614.00	0.08%
AFLAC INC	2,908,048.00	0.08%
LABORATORY CORP OF AMERICA HOL	2,592,373.00	0.07%
BRISTOL-MYERS SQUIBB CO	2,508,055.00	0.07%
ANIXTER INTERNATIONAL INC	2,406,391.20	0.07%
NORTHERN TRUST CORP	2,358,856.00	0.06%
STANLEY BLACK & DECKER INC	2,351,190.80	0.06%
KENNAMETAL INC	2,321,550.00	0.06%

To allow for greater disclosure, the following ETFs and their fair values as of June 30, 2016 are disclosed via this footnote rather than the table above: Ishares Edge MSCI MF USA - \$22,403,500 (.615%), Ishares Edge MSCI MF INTL - \$20,097,000 (.552%), Ishares Edge MSCI MF EM MKT -\$7,615,300 (.209%), and Ishares Edge MSCI MF US SMCP - \$7,385,000 (.203%). Additionally, the following managed commingled funds and their fair values as of June 30, 2016 are disclosed via this footnote rather than the table above: EB DV BROAD MARKET SIF - \$604,178,315 (16.584%), EB DV ACWI EX-US FUND - \$381,895,392 (10.483%), MCKINLEY 130/30 - \$91,141,459 (2.502%), EB DV LGE CAP VALUE SIF - \$8,346,860 (.229%), and EB DV EMERGING MKTS SIF - \$6,713,139 (.184%).

## **TEN LARGEST BOND INVESTMENT HOLDINGS**

DESCRIPTION	DETAILED DESCRIPTION	FAIR VALUE	PERCENT OF TOTAL FAIR VALUE
U S TREASURY NOTE	0.875% 03/31/2018 DD 03/31/16	\$148,219,800.00	4.07%
DISCOVER CARD EXECUTION A2 A2	VAR RT 09/15/2021 DD 04/19/16	18,073,800.00	0.50%
SYNCHRONY CREDIT CARD MAST 1 A	2.370% 03/15/2023 DD 03/17/15	17,505,410.00	0.48%
U S TREASURY BOND	2.500% 02/15/2046 DD 02/15/16	17,493,672.00	0.48%
U S TREASURY NOTE	1.625% 05/15/2026 DD 05/15/16	16,792,187.14	0.46%
CABELA'S CREDIT CARD 1A A 144A	2.710% 02/17/2026 DD 03/07/13	14,873,204.50	0.41%
BANK OF AMERICA CORP	4.200% 08/26/2024 DD 08/26/14	13,785,689.92	0.38%
COOPERATIEVE RABOBANK UA	4.625% 12/01/2023 DD 11/29/13	12,649,782.00	0.35%
JPMORGAN CHASE & CO	3.875% 09/10/2024 DD 09/10/14	12,424,080.00	0.34%
SYNCHRONY CREDIT CARD MAST 6 A	1.360% 08/17/2020 DD 08/29/12	11,869,955.20	0.33%

<sup>\*</sup>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.

## **FEES FOR INVESTMENT SERVICES**

	ASSETS UNDER Management	FEES	BASIS POINTS			
Investment Management Fees						
Cash Equivalents Manager <sup>1</sup>	\$ 164,710,031	\$ 158,849.81	0.0964%			
Domestic Equity Managers	830,298,106	2,369,978.77	0.2854%			
International Equity Managers	527,543,655	1,948,722.12	0.3694%			
Fixed Income Managers	1,138,667,369	2,270,322.26	0.1994%			
Hedge Funds	420,142,464	N/A	N/A			
Private Equity	374,896,232	38,292.00	0.0102%			
Real Estate Investments	186,825,185	346,964.00	0.1857%			
Other Investment Services						
Custodian Bank	3,643,083,042	281,664.36	0.0077%			
TOTAL FEES FOR INVESTMENT SERVICES	3,643,083,042	\$7,414,793	0.2035%			

 $<sup>^{1}</sup>$  Includes residual cash from separate accounts, which is swept daily and included in the Super STIF cash management portfolio.



## **2016 BROKERAGE COMMISSIONS**

**Top 25 Broker Commission Paid** 

BROKER NAME	BASE COMMISSION
INVESTMENT TECHNOLOGY GROUP LTD, DUBLIN	\$ 88,771
CAP INSTL SVCS INC-EQUITIES, DALLAS	80,462
PERSHING LLC, JERSEY CITY	71,565
DEUTSCHE BK SECS INC, NY (NWSCUS33)	54,608
MELLON FINANCIAL MRKTS LLC, JERSEY CITY	50,894
BNY CONVERGEX / LJR, HOUSTON*	50,618
MERRILL LYNCH & CO INC ATLAS GLOBAL, NY	50,558
J P MORGAN SECURITIES INC, BROOKLYN	40,888
BARCLAYS CAPITAL LE, JERSEY CITY	38,023
BROADCOURT CAP CORP/SUB OF MLPF&S,NY	37,499
MERRILL LYNCH GILTS LTD, LONDON	36,531
MORGAN STANLEY & CO INC, NY	34,131
CREDIT SUISSE, NEW YORK (CSUS)	33,818
JEFFERIES & CO INC, NEW YORK	33,813
MERRILL LYNCH PIERCE FENNER, WILMINGTON	33,727
MERRILL LYNCH PIERCE FENNER SMITH INC NY	26,092
CLSA SINGAPORE PTE LTD (CHV), SINGAPORE	24,616
GOLDMAN SACHS & CO, NY	24,554
CITATION GROUP/BCC CLRG, NEW YORK	23,476
CAPITAL ONE SOUTHCOAST INC, NEW ORLEANS	22,488
UBS SECURITIES LLC, STAMFORD	19,376
BNY CONVERGEX EXECUTION SOL, NEW YORK	19,245
INSTINET EUROPE LIMITED, LONDON	19,160
PICKERING ENERGY PARTNERS, HOUSTON	16,825
CONVERGE LLC, NEW YORK	15,023
OTHER	442,671
TOTAL	\$ 1,389,431

<sup>\*</sup>Commission recapture broker

During Fiscal Year 2016, nearly 3.7% of all trading activity was executed through the commission recapture broker (ConvergEx Group, LLC).



# **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.

## **FUNDING FOR A DEFINED BENEFIT PLAN**

Adequate funding of a defined benefit plan is necessary because employees are promised a specific benefit at retirement (based on the plan formula). Therefore, there must be enough money in the plan to pay the benefits that have been promised.

The exact amount of money required to provide future benefits cannot be determined without making some assumptions. It is necessary for an actuary (a person trained to calculate these types of risks) to make specific assumptions. The actuary must then determine a cost method to assure adequate funding so the Fund can provide promised benefits.

## **ACTUARIAL COST METHOD**

Using an actuarial cost method involves estimating the ultimate cost of the plan, then establishing a systematic way to cover a proportionate part of the estimated cost each year through advance funding. The ultimate cost of a plan includes all specific benefits that are promised to be paid, plus all administrative expenses, less any investment earnings realized

over the total life of the plan. Since the exact ultimate cost of the plan cannot be determined until the last retired member of a plan dies, it must be actuarially estimated by forecasting the plan's expenses and investment return. The necessary funding, or contribution amount, is established from these estimates.

Estimating the total amount of benefits that will be paid to members requires the use of statistical methods, because the estimate depends on assumptions about the actual number of people who will receive benefits and the amount of the benefits. Therefore, assumptions must be made about the number of active members and beneficiaries who will receive benefits or become disabled, the duration of retirement and disability payments, amounts paid at different ages, mortality rates, pay raises, terminations, and layoffs — for all the years the plan is in existence.

Administrative expenses must also be estimated. This requires specific accounting and managerial expertise. Investment analysis and forecasting are also required to estimate earnings on plan assets.

### **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, 2013.





October 10, 2016

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

Dear Board Members:

#### Re: Actuarial Certification

We certify that the information contained in the Actuarial Report dated August 2016 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, 2015. The HFRRF retained Buck Consultants to perform this actuarial valuation for the purposes of determining the funded status as of the valuation date and adequacy of current funding for the plan year July 1, 2015 through June 30, 2016.

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.

HFRRF staff prepared the supporting schedules in the actuarial section of the Comprehensive Annual Financial Report, and the trend tables in the financial section are based on information supplied in prior actuarial reports, as well as our July 1, 2015 actuarial valuation 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 actuarial valuation. 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 valuation are dependent on the accuracy of the data.

David Kent. **FSA, EA, MAAA** 

Director

Buck Consultants, LLC A Xerox Company 14911 Quorum Drive Suite 200 Dallas, TX 75254

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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.

The Board of Trustees selected the actuarial methods and assumptions used in the valuation on the basis of an experience study covering the five-year period ending June 30, 2013. The Board has sole authority to determine the expected investment return and other actuarial assumptions. In our opinion, the actuarial assumptions used are appropriate for purposes of the valuation and are reasonably related to the experience of the Fund and to reasonable long-term expectations. The mortality improvement assumption was updated in accordance with Actuarial Standard of Practice No. 35.

The plan provisions are the same as those used in the previous valuation.

This report was prepared under the supervision of David Driscoll and David Kent. They are Fellows of the Society of Actuaries and Members of the American Academy of Actuaries. They 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 they are available to answer questions about it.

Buck Consultants, LLC

David L. Driscoll, FSA, EA, MAAA, FCA

David I. Drivell

\HFRR100616DK\mg

David Kent, FSA, EA, MAAA

### **SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS JULY 1, 2013**

#### **Investment Return**

Eight-and-a-half percent per year, net of administrative and investment expenses.

## **Payroll Growth Rate**

Three percent per year

### Inflation

Three percent per year

Inc	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			

The actuarial assumptions and methods were adopted by the Board of Trustees in March 2014, for use in the July 1, 2013 valuation and all following valuations of the Fund. The adoption of the July 1, 2011 actuarial valuation included a change from the use of The 1994 Group Annuity Mortality Table to the RP-2000 Mortality Table. The RP-2000 Mortality Table is used to determine the mortality assumptions of the plan, including the probability of ceasing active service due to death.

	Termination Rates
Age	Probability of Terminating Service (for Reasons Other Than Death, Disability or Retirement) Within One Year After Attaining Age Shown
20	1.3%
25	1.3
30	1.2
35	0.7
40	0.4
45	0.0
50	0.0

For participants 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

	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	4.1	2.6			
55	5.3	3.0			
60	6.5	3.4			

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

<sup>\* 1%</sup> 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**

Ninety percent married, with husbands assumed to be three years older than wives. No beneficiaries other than spouse assumed.

## **ACTUARIAL VALUE OF ASSETS**

Gains and losses in the market 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.

## **ACTUARIAL COST METHOD**

Entry Age Method with liabilities allocated from date of entry to expected payment of benefit. The Unfunded Actuarial Accrued Liability (Surplus), including the effects of actuarial gains and losses, is amortized as a level percentage of payroll over 30 years. The contribution is increased for interest for one-half a year to reflect timing of payment.

Active Member and DROP Participant Valuation Data									
VALUATION DATE	NUMBER	PERCENTAGE INCREASE IN AVERAGE SALARY							
7-1-06	3,796	41.2	218,746	52,731	6.8%				
7-1-07	3,819	40.5	232,397	57,581	9.2%				
7-1-08	3,876	40.2	239,172	59,909	4.0%				
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%				

	Retirees and Beneficiaries Added To and Removed From Rolls									
	AI	DDED TO ROLLS	REMO <sup>°</sup>	VED FROM ROLLS	ROLLS ROLLS-END OF YEAR					
YEAR ENDED	NO.	ANNUAL ALLOWANCES	NO.	ANNUAL ALLOWANCES	NO.	ANNUAL ALLOWANCES	PERCENTAGE INCREASE IN ANNUAL ALLOWANCES	AVERAGE ANNUAL ALLOWANCES		
6-30-06	195	7,231,000	60	1,437,000	2,268	70,420,000	12.0%	31,050		
6-30-07	106	3,822,000	59	1,407,000	2,315	74,948,000	6.4%	32,375		
6-30-08	166	9,334,000	21	828,000	2,460	98,216,000	31.0%	39,925		
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		

## LOAD OF NATURE OF AVERAGE **MONTHLY SALARIES**

Active liabilities and normal costs were increased 5% to account for differences between the plan's definition of average monthly salary (average of the highest 78 pay periods), and the average of the final 78 pay periods.

## **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 stop once the child beneficiary reaches age 23.

## **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.

## **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 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	

<sup>\*\*</sup>Non-recurring items reflect changes in actuarial assumptions, methods and plan provisions.

<sup>\*</sup>No valuation was prepared for 2014

## SUMMARY OF PLAN PROVISIONS JULY 1, 2013

#### **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**

The average of the highest 36 months of salary (or 78 pay periods), including base pay and overtime, before reduction for pre-tax employee contributions and salary deferrals.

#### STANDARD SERVICE PENSION

Eligibility: 20 years of service.

## **Benefit**

- For retirement on or after November 1, 1997, 50% of average monthly salary, plus 3% 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 25 years.

#### **Maximum**

- 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.

#### 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 Board of Trustees to all retirees and survivors.

## **DEFERRED RETIREMENT OPTION PLAN** (DROP)

**Eligibility:** 20 years of service.

**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
- The member's contribution to the Retirement Fund
- Investment earnings/losses as the rate of the Retirement Fund's earnings/losses averaged over a five-year period

A benefit equal to the DROP account balance will be paid at the time the member leaves active service. The payment will be made as a single lump sum or as three annual installments, if the member chooses.

Effective 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 three 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 participants at actual retirement will increase 2% for every year of DROP participation (Phased in at 1% effective September 1, 2000 and 1% effective September 1, 2001).

Members can remain in the DROP for 13 years. However, the member's contribution to the Fund will only be credited to his DROP account for the first ten years. Additionally, a maximum of 20% will be added to his benefit at actual retirement.

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:** At least 10 but less than 20 years of service.

**Benefit:** 1.7% of average monthly salary per year of service, payable beginning at age 50, or optional refund of contributions with interest at a flat rate of 5% not compounded.

### **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 a in college.

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

**Postretirement:** Monthly benefit which was 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: 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: 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 adjustment for participants who retire or terminate with a vested benefit on or after October 1, 2000, 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.

### **CONTRIBUTION RATES**

**Members:** Nine percent of salary. Refund of contributions without interest in the event of termination before 10 years of service.

**City:** Beginning in 1983, the rate required to fund the Retirement Fund on an actuarial reserve basis. However, a minimum contribution of twice the employee contribution rate is required by Statute.

#### **CHANGES IN PLAN PROVISIONS**

Plan provisions reflected in the July 1, 2013 valuation are the same as those in the prior valuation.





# **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, 2016.

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

The Expenses by Type presents the benefits, refunds of contributions and administrative expenses for the 10 years ending June 30, 2016. The Fund's benefits payments have the most significant impact on the total deductions from plan net assets.

The Benefit Expenses by Type presents the amount of benefit payments and refunds by type for the 10 years ending June 30, 2016. Most benefit types are monthly retirement benefits.

The Statement of Changes in Plan Net Assets is a schedule combining the additions to and deductions from plan net assets from the schedule of Revenue by Source and schedule of Expenses by Type to arrive at net increase/decrease to changes in plan net assets for the 10 years ending June 30, 2016.

### **REVENUE CAPACITY**

The Schedule of Investment Income presents the details of the total net investment gain/loss for the 10 years ending June 30, 2016. 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, 2016.

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, 2016.

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, 2016.

Some of these terms are used in the Investment section, beginning on page 47. 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 as a Percentage of Annual Covered Payroll Fair Value  Employer Contributions (or Loss) Based on Covered Payroll Fair Value		Other	TOTAL					
2016	\$25,511	\$94,279	33.20%	\$(47,437)	N/A	\$72,353				
2015	25,092	92,609	33.20%	51,802	N/A	169,503				
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)				
2008	20,431	54,051	23.80%	108,407	N/A	182,889				
2007	19,982	52,821	23.80%	426,976	1,273†	501,052				

Contributions were made in accordance with actuarially determined contribution requirements as adopted by the Board of Trustees.

<sup>+</sup> Represents proceeds from court judgment regarding lawsuit concerning prior service credit to firefighters.

	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						
2016	\$211,128	\$8,660	\$545	\$ 220,333						
2015	195,493	8,316	869	204,678						
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						
2008	112,164	7,301	347	119,812						
2007	100,965	7,687	203	108,855						

Contributions were made in accordance with actuarially determined contribution requirements as adopted by the Board of Trustees.

## **BENEFIT EXPENSES BY TYPE**

	2016	2015	2014	2013	2012
Refunds of Contributions	\$544,717	\$868,618	\$784,927	\$530,855	\$250,284
Death Benefits	70,000	201,307	275,000	230,000	140,000
Deferred Retirees	734,911	714,034	664,105	634,839	590,919
Off-Duty Disabilities	1,340,299	1,304,230	1,365,538	1,637,878	1,388,323
Annual Supplemental Benefit Payments	4,784,758	4,677,602	4,734,007	4,964,072	4,873,736
On-Duty Disabilities	14,058,318	13,740,358	13,036,729	13,124,891	11,564,820
Survivors	22,388,261	20,659,074	19,259,056	19,921,710	16,658,280
DROP Distributions	62,900,364	55,070,516	54,680,454	52,595,304	49,601,265
PROP Distributions	4,013,603	3,866,657	2,982,844	2,845,353	1,979,547
Service Retirees	100,837,387	95,259,573	89,335,022	79,274,499	75,458,262
TOTAL	\$211,672,618	\$196,361,969	\$187,117,682	\$175,759,402	\$162,505,436
	2011	00/0	0000	0000	0000
	2011	2010	2009	2008	2007
Refunds of Contributions	2011 \$332,417	2010 \$277,483	2009 \$321,282	2008 \$347,112	2007 \$202,679
Refunds of Contributions  Death Benefits					
	\$332,417	\$277,483	\$321,282	\$347,112	\$202,679
Death Benefits	\$332,417 165,000	\$277,483 255,000	\$321,282 190,000	\$347,112 190,000	\$202,679 225,000
Death Benefits  Deferred Retirees	\$332,417 165,000 578,900	\$277,483 255,000 534,566	\$321,282 190,000 529,374	\$347,112 190,000 602,773	\$202,679 225,000 471,176
Death Benefits  Deferred Retirees  Off-Duty Disabilities	\$332,417 165,000 578,900 1,509,244	\$277,483 255,000 534,566 1,299,525	\$321,282 190,000 529,374 1,619,676	\$347,112 190,000 602,773 1,692,026	\$202,679 225,000 471,176 1,385,834
Death Benefits  Deferred Retirees  Off-Duty Disabilities  Annual Supplemental Benefit Payments	\$332,417 165,000 578,900 1,509,244 4,809,178	\$277,483 255,000 534,566 1,299,525 4,828,773	\$321,282 190,000 529,374 1,619,676 4,905,980	\$347,112 190,000 602,773 1,692,026 4,938,010	\$202,679 225,000 471,176 1,385,834 4,996,204
Death Benefits  Deferred Retirees  Off-Duty Disabilities  Annual Supplemental Benefit Payments  On-Duty Disabilities	\$332,417 165,000 578,900 1,509,244 4,809,178 9,479,863	\$277,483 255,000 534,566 1,299,525 4,828,773 8,464,130	\$321,282 190,000 529,374 1,619,676 4,905,980 6,944,883	\$347,112 190,000 602,773 1,692,026 4,938,010 5,973,929	\$202,679 225,000 471,176 1,385,834 4,996,204 5,962,452
Death Benefits  Deferred Retirees  Off-Duty Disabilities  Annual Supplemental Benefit Payments  On-Duty Disabilities  Survivors	\$332,417 165,000 578,900 1,509,244 4,809,178 9,479,863 16,450,190	\$277,483 255,000 534,566 1,299,525 4,828,773 8,464,130 16,728,231	\$321,282 190,000 529,374 1,619,676 4,905,980 6,944,883 14,626,579	\$347,112 190,000 602,773 1,692,026 4,938,010 5,973,929 13,568,613	\$202,679 225,000 471,176 1,385,834 4,996,204 5,962,452 12,864,154
Death Benefits  Deferred Retirees  Off-Duty Disabilities  Annual Supplemental Benefit Payments  On-Duty Disabilities  Survivors  DROP Distributions	\$332,417 165,000 578,900 1,509,244 4,809,178 9,479,863 16,450,190 52,235,851	\$277,483 255,000 534,566 1,299,525 4,828,773 8,464,130 16,728,231 42,468,145	\$321,282 190,000 529,374 1,619,676 4,905,980 6,944,883 14,626,579 34,744,795	\$347,112 190,000 602,773 1,692,026 4,938,010 5,973,929 13,568,613 28,939,800	\$202,679 225,000 471,176 1,385,834 4,996,204 5,962,452 12,864,154

## STATEMENT OF CHANGES IN PLAN NET POSITION LAST 10 FISCAL YEARS

	2016	2015	2014	2013	2012
Additions					
Employer Contributions	\$94,279,235	\$92,609,565	\$64,337,994	\$62,128,451	\$61,319,983
Member Contributions	25,510,801	25,091,582	23,993,560	23,382,322	23,090,070
Net Investment Income (net of expenses)	(47,437,117)	51,802,139	589,517,944	353,563,220	57,535,053
TOTAL ADDITIONS	\$72,352,919	\$169,503,286	\$677,849,498	\$439,073,993	\$141,945,106
Deductions					
Total Benefit Expenses (see Benefit Expenses by Type)	211,672,618	196,361,969	187,117,682	\$175,759,402	162,505,436
Administrative & Professional Expense	8,660,808	8,316,079	\$8,343,246	\$8,009,239	7,388,675
TOTAL DEDUCTIONS	\$220,333,426	\$204,678,048	\$195,460,928	\$183,768,641	\$169,894,111
Change in Plan Net Positions	(147,980,507)	(35,174,762)	482,388,570	255,305,352	(27,949,005)
Net Position Held in Trust, Beginning of Year	3,877,650,516	3,912,825,278	3,430,436,708	3,175,131,356	3,203,080,361
Net Position Held in Trust, End of Year	\$3,729,670,009	\$3,877,650,516	\$3,912,825,278	\$3,430,436,708	\$3,175,131,356

	2011	2010	2009	2008	2007
Additions					
<b>Employer Contributions</b>	\$75,751,401	\$74,226,664	\$71,032,653	\$54,051,414	\$52,821,473
Member Contributions	23,262,706	22,728,287	21,858,574	20,431,049	19,981,657
Net Investment Income (net of expenses)	545,937,273	400,468,020	(623,611,871)	108,407,295	426,975,567
Other					1,273,490*
TOTAL ADDITIONS	\$644,951,380	\$497,422,971	\$(530,720,644)	\$182,889,758	\$501,052,187
Deductions					
Total Benefit Expenses (see Benefit Expenses by Type)	156,937,006	138,574,910	122,935,352	112,510,948	101,168,010
Administrative & Professional Expense	6,571,307	6,171,647	6,541,676	7,301,986	7,686,795
TOTAL DEDUCTIONS	\$163,508,313	\$144,746,557	\$129,477,028	\$119,812,934	\$108,854,805
Change in Plan Net Positions	481,443,067	352,676,414	(660,197,672)	63,076,824	392,197,382
Net Position Held in Trust, Beginning of Year	2,721,637,294	\$2,368,960,880	3,029,158,552	2,966,081,728	2,573,884,346
Net Position Held in Trust, End of Year	\$3,203,080,361	\$2,721,637,294	\$2,368,960,880	\$3,029,158,552	\$2,966,081,728

<sup>\*</sup> Court judgment income

## **SCHEDULE OF INVESTMENT INCOME LAST 10 FISCAL YEARS**

	2016	2015	2014	2013	2012		
Investment Gain (Loss)							
Net appreciation/(depreciation)							
in fair value of investments	\$(116,953,736)	\$(23,687,040)	\$504,461,380	\$272,673,315	\$(35,011,612)		
Interest	\$57,621,249	57,318,547	59,395,942	58,307,673	62,244,100		
Dividends	\$16,298,917	25,615,080	29,493,785	24,692,127	21,646,704		
Earnings from private equity	\$702,437	967,410	4,681,493	3,703,269	5,861,009		
Earnings from real estate	\$58,453	158,620	206,442	1,442,371	2,413,935		
Miscellaneous	\$1,699,257	373,816	485,993	904,044	361,051		
	\$(40,573,423)	\$60,746,433	\$598,725,035	\$361,722,799	\$64,515,187		
Investment expenses	\$(7,414,793)	(9,522,193)	(9,700,881)	(8,687,653)	(7,553,775)		
Net gain (loss) from investing activities	\$(47,988,216)	51,224,240	589,024,154	353,035,146	56,961,412		
From Securities Lending Arrangements:							
Earnings	\$253,620	235,556	120,060	183,530	296,536		
Rebates and fees	\$297,479	342,343	373,730	344,544	277,105		
Loss on default in collateral pool							
Net income from securities lending activities	\$551,099	577,899	493,790	528,074	573,641		
TOTAL NET INVESTMENT GAIN (LOSS)	(\$47,437,117)	\$51,802,139	\$589,517,944	\$353,563,220	\$57,535,053		

	2011	2010	2009	2008	2007		
Investment Gain (Loss)							
Net appreciation/(depreciation)							
in fair value of investments	\$462,347,334	\$320,274,882	\$(708,952,033)	\$22,032,928	\$328,607,064		
Interest	61,368,886	59,421,505	65,169,217	66,866,092	57,664,859		
Dividends	22,548,215	18,157,970	19,478,031	20,052,418	31,620,176		
Earnings from private equity	4,718,560	6,345,116	4,765,446	4,372,152	11,690,766		
Earnings from real estate	2,574,744	2,798,466	2,936,962	2,217,799	3,198,074		
Miscellaneous	409,183	861,008	372,184	1,256,464	3,092,051		
	\$553,966,922	\$407,858,947	\$(616,230,193)	\$116,797,853	\$435,872,990		
Investment expenses	(8,664,197)	\$(7,854,253)	(6,781,837)	(9,986,181)	(10,182,092)		
Net gain (loss) from investing activities	545,302,725	400,004,694	(623,012,030)	106,811,672	425,690,898		
From Securities Lending Arrangements:							
Earnings	784,926	613,308	2,401,121	15,021,367	31,784,258		
Rebates and fees	(150,378)	(149,982)	(1,388,442)	(13,425,744)	(30,499,589)		
Loss on default in collateral pool			(1,612,520)				
Net income from securities lending activities	634,548	463,326	(599,841)	1,595,623	1,284,669		
TOTAL NET INVESTMENT GAIN (LOSS)	\$545,937,273	\$400,468,020	\$(623,611,871)	\$108,407,295	\$426,975,567		

## NUMBER OF BENEFIT RECIPIENTS BY TYPE AND MONTHLY BENEFIT AMOUNT

(as of June 30, 2016)

MONTHLY BENEFIT Amount	TOTAL NUMBER OF BENEFIT RECIPIENTS	SERVICE	DISABILITY	WIDOWS	CHILDREN	DEPENDENT PARENT	DEFERRED	INACTIVE DEFERRED*
\$1 - \$200	1	0	0	1	0	0	0	0
\$201 - \$400	12	0	0	4	3	0	5	0
\$401 - \$600	41	0	0	12	5	0	24	0
\$601 - \$800	37	0	0	8	7	0	22	1
\$801 - \$1,000	25	0	0	5	6	0	14	2
\$1,001 - \$1,200	18	0	0	7	1	0	10	2
\$1,201 - \$1,400	14	3	1	9	0	0	1	0
\$1,401 - \$1,600	38	3	5	18	9	0	3	0
\$1,601 - \$1,800	42	4	13	22	2	0	1	0
\$1,801 - \$2,000	52	15	12	23	2	0	0	0
OVER \$2,000	2,853	2,126	286	423	17	0	1	0
TOTAL	3,133	2,151	317	532	52	0	81	5



## **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 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
July 2007 - June 2008				1			
Number of Service Retirements	0	0	0	0	6	34	80
Average Monthly Benefits	\$0	\$0	\$0	\$0	\$3,714	\$2,901	\$4,045
Average Final Average Salary	\$0	\$0	\$0	\$0	\$4,934	\$4,196	\$4,186
July 2006 - June 2007							
Count	0	0	0	2	4	20	37
Average Monthly Benefits	\$0	\$0	\$0	\$2,465	\$2,986	\$2,737	\$3,719
Average Final Average Salary	\$0	\$0	\$0	\$4,786	\$4,770	\$4,125	\$4,019

## **PARTICIPATING EMPLOYER AND ACTIVE MEMBERS**

CITY OF Houston	ACTIVE MEMBERS	PERCENTAGE OF COVERED EMPLOYEES
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%
2008	3,876	100%
2007	3,820	100%
2006	3,796	100%

## Glossary

Some of these terms are used in the Investment section, beginning on page 47. Others are used throughout this report. Definitions are provided as they relate to the Houston Firefighters' Relief and Retirement Fund.

#### **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.

#### **ASSET**

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

#### **COMPOUND OR COMPOUNDING**

The process of calculating and adding current interest to the principal and interest of a previous period(s). For example, compound interest is the interest earned on the principal plus interest earned earlier. If \$100 is deposited in a bank account that earns 10% interest, the account will have \$110 at the end of the first year and \$121 at the end of the second year. The extra \$1, earned on the \$10 interest from the first year, is the compound interest. This example assumes interest is compounded annually. Interest can also be compounded on a daily, quarterly or other-time basis.

#### **COMPOUND RETURN**

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

## **DIVERSIFICATION**

Spreading of risk by putting assets in several different categories of investments, such as stocks, bonds, cash, high-yield and hedge funds. Further diversification is accomplished by using different investment managers with different management styles within each category.

## **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.

## **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 — for example, corporate or government bonds.

#### INSTITUTIONAL INVESTOR ORGANIZATION

An organization that invests and trades large volumes of securities (stocks and bonds). Some examples are retirement funds, insurance companies, banks, mutual funds and college endowment funds. Typically, between 50% and 70% of the daily trading at the New York Stock Exchange is on behalf of institutional investors across the country. The Fund is an institutional investor.

#### 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).

#### **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.

#### **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. For the Fund, this management approach describes a universe of assets, determines how assets are to be distributed among security types such as stocks and bonds, and determines a risk/return relationship for investments.

#### **RECEIVABLES**

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

#### **TOTAL FUND**

All the investments of the Fund, including stocks, bonds, cash equivalents, highyield bonds, private equity, real estate and hedge funds.

#### **UNIVERSE**

A total number of facts or events to which a specific fact or event is compared. For example, a database of investment portfolio returns of organizations, like the Fund, can be used to compare investment performance.

